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**System for Environmental and Agricultural Modelling;
Linking European Science and Society**

**The environmental component, the farming systems
component and the socio-economic component of the final
version of the SEAMLESS database**

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General part

Objective within the project

The objective of this report is to provide documentation of technical specifications, data processing, database schema, metadata, uncertainty, quality assurance, stand alone version and maintenance plan for the final version of the final version of the SEAMLESS database. The deliverable also includes the database and a description of the database in html files that will be made publically available.

General Information

Task(s) and Activity code(s):	4.3, 4.4 and 4.5
Input from (Task and Activity codes):	4.7
Output to (Task and Activity codes):	WP2 and WP3, several tasks and activities
Related milestones:	

Executive summary

This report accompanies **the** SEAMLESS database, final version for the SEAMLESS project. In the current version, the database consists of 376 tables including 2 386 different fields and with 486 relations between the tables. The number of records in the database exceeds 12 millions. Two important characteristics of the SEAMLESS database are 1) that all data for the SEAMLESS project is in one database and 2) the database schema is generated from the ontology.

The final integrated database includes all model input and output data, contextual data and spatial information for assessment and visualization of indicators. The database is implemented and managed in the open source object-relational database management system Postgres with an extension to handle geographical data using PostGIS¹ and Geoserver². It is expected that the Web Feature Service (WFS) established will be used in later versions of the SEAMLESS-IF to visualize model results.

The final database can be accessed at seamless.slnet.dk. A description of how to access and navigate through the database is described in this report (section 10).

The database schema is generated directly from the ontology including the following database components:

- Schema

¹ <http://postgis.refractory.net/>

² <http://geoserver.org/>

- Tables
- Fields
- Data types
- Primary keys
- Indexes
- Relations
- Constraints (not null and unique)
- Table comments

In SEAMLESS the data base is only planned to be accessed through the Graphical User Interface (GUI) of the SEAMLESS-IF. However, a stand-alone version of the database is also available, although this was not initially planned. The stand alone version differs from the version integrated in SEAMLESS-IF in a few aspects (see also Section 9). It is not foreseen to develop new tools for the stand alone version of the database. Information on how to access the database, explore data and export data to other file formats are given in Section 10. This information is based on existing tools such as PGadmin³ (free) or SQLmanager⁴ (available at low cost). For the future it is still under consideration if it is possible to offer more advanced search functions than PGadmin (none) or SQLmanager (table names). An optimal solution would allow text searches in comments to allow the user to find relevant variables in a fast and flexible way. Additionally it is also considered to offer access to pre-defined downloads of the database in easily accessible formats (e.g. excel, access). Further information on the stand alone version is given in section 9.

The key data included in the database and how they were processed to be included is described in this deliverable. It includes:

- the farm typology used to structure the statistical data on farm resources
- the spatial framework combining biophysical characteristics and administrative borders
- the method to link the farm type information to the spatial framework
- a more conceptual description of the links between the farm types and the biophysical and administrative regions
- the selection of sample regions to collect additional farm management information
- the approach to supply a full coverage of the agricultural area by farm types respecting the disclosure rules in the original data.
- a description of policy data used in the database
- a description of the global data component of the database.
- a description of the regional typologies provided as context for assessments in SEAMLESS.

³ <http://www.pgadmin.org/>

⁴ <http://www.sqlmanager.net/en/products/studio/postgresql>

In section 5 an overview is given of the database and the schema is described including diagrams of the selected tables and their relations.

In section 6 it is described which metadata are delivered with the final version of the database. Metadata on the original data sources have already been elaborated earlier in ISO/INSPIRE adapted format. Additional metadata, especially in relation to model inputs and outputs have also been added. For some variables, the ones where the information is required to be visible from SEAMLESS-IF, the metadata is included as normal fields in the database. For others the metadata has been entered in the ontology as descriptions and generated to the database as table and field comments.

Finally there are two sections that discuss the strategies to handle uncertainty (section 7) and quality assurance of data (section 8). As for uncertainty the basic principle for dealing with uncertainty in the data in the SEAMLESS database is that we distinguish between uncertainty in the original data and uncertainties that stems from the processing of data in SEAMLESS. As for quality assurance the basic principle is the distinction between original data and processed data (as with uncertainty). The latter refers to the cases where the original data sets are processed, for example by aggregating single farm data to farm types or by transforming grid data to polygons.

Specific part

1 Introduction

The delivered version of the SEAMLESS database consists of 376 tables including 2 386 different fields and with 486 relations between the tables. The number of records in the database exceeds 12 millions.

Some important achievements that have been reached in the development from the Prototype 1, 2 and 3 versions to the final version are:

- All data are in **one** database – the database(s) for Prototype 1 consisted of 9 databases
- The database schema are now generated from the ontology – for Prototype 1 the database was built directly in Postgres
- The schema has been made more consistent
- Additional simple survey data has been included
- Indicator data has been added
- Input data for APES have been improved

It was originally planned to deliver four different components of the database individually:

- The environmental component
- The farming system component
- The socio-economic component
- The global data component

However, with the integration of all components into one database as from Prototype 2, it was decided to report on the three first components in the same deliverable. The last component is not included in the SEAMLESS database and is reported in Verhoog and Andersen, 2009.

Apart from this report the deliverable consists of the database that can be accessed at seamless.slnet.dk (see also section 10) and a set of html files that provide a more flexible navigation through the database schema.

The final version of the database for the SEAMLESS project was frozen in the beginning of February 2009.

The SEAMLESS database will be developed further and the maintenance of the database is ensured until end 2011. Upcoming versions of the database will also be publically available (see Sections 11 and 12).

2 Technical specifications of the SEAMLESS database

In SEAMLESS it is the prime aim to develop one integrated database in which to store all data used in the project including model input and output data, contextual data and spatial information for assessment and visualization of indicators. The database is implemented and managed in the open source object-relational database management system Postgres⁵ with an extension to handle geographical data using PostGIS⁶ and Geoserver⁷. However, the spatial extension is currently not used in the SEAMLESS-IF, but used externally only for the visualization of background maps by a Web Mapping Service (WMS). The relations between farm type information and information on administrative and biophysical regions, for example, are all included in the database enabling spatially explicit analyses directly from the data. It is expected that a Web Feature Service (WFS) will be used in future versions of the database to visualize model results. The master version of the database is currently running on a dedicated Windows Server accessible on seamless.slnet.dk based at the institute of Forest & Landscape, University of Copenhagen. Working copies of the database are also installed at the University of Lund and used for testing and hacking by different model teams. In the near future the Lund server will be substituted by a server in Wageningen.

As explained in the introduction, it was decided early in 2007 that the database schema should be generated directly from the ontology using Hibernate to facilitate the mapping between models and data⁸. This meant that radical changes had to be implemented between Prototype 1 and Prototype 2 of the database. In Prototype 1 the database was build directly in Postgres and was actually split up in 9 different databases. There were also some attempts to build a generic tables structure with fields and variable codes inspired by the HarmoniRIB project⁹.

For the final version the complete database schema is generated directly from the ontology including the following database components:

- Schema
- Tables
- Fields
- Data types
- Primary keys
- Indexes
- Relations
- Constraints (not null and unique)
- Table comments

⁵ <http://www.postgresql.org/>

⁶ <http://postgis.refrains.net/>

⁷ <http://geoserver.org/>

⁸ See also SEAMLESS PD1.4.2

⁹ <http://www.harmonirib.com/>

The radical change of the database schema naturally required a lot of data processing of the original data to be able to populate the database. Firstly, because the structure of the database schemas for Prototype 1 matched the original data better. Secondly, because unique IDs had to be added to the original data. Thirdly, because a lot of the values in the original data had to be recoded to allow linkages between the different tables. And, finally, the mapping between original variables and the SEAMLESS variables was more complicated since it was decided that the variable names for SEAMLESS needed to be easily understood and therefore needed to be carefully selected.

For Prototype 3 it was planned to further explore the option of including comments in the ontology and using these to generate table and field comments in the database. At table level this is planned to include information on data source, a short description, a web-link to ISO-formatted metadata, a web-link to a data provider if applicable and a contact persons will be appointed in SEAMLESS which can provide support to users of the data. At field level it is planned to include units, a short description and an original reference code where applicable. It is not strictly required for SEAMLESS purposes to generate this information to the database as the information is already accessible in the ontology. However, it is required to deliver a stand alone version of the database and this will require some adaptations to make it all more user friendly (see below). Another limitation in the approach taken is that it is not possible to include the minimum/maximum value constraints that were included in Prototype 1, as these cannot be generated from the ontology.

The SEAMLESS database is still under development and population and will be transferred to the SEAMLESS-Association as from 1st of April 2009. In the final project version the database consists already of 376 tables including 2 386 fields with 486 relations between the tables. The number of records in the database now exceeds 12 millions.

In SEAMLESS the data base is only accessible through the Graphical User Interface (GUI) of the SEAMLESS-IF. The following simplified schematic example illustrates the process:

- the user defines her project: This information is stored to the database
- the user initiates model runs: The models gets and stores information to the database in an iterative process
- the user visualises the results in tables, diagrams or maps: The indicator values are retrieved from the database and displayed accordingly

This means that the user of SEAMLESS-IF does not directly access the database when operating from the GUI. This again means that the database can be optimised for this purpose focusing on data to model (or GUI) linkages rather than on issues such as accessibility and user friendliness. For expert users only access to some of the intermediate data is possible in ZIP-files generated for the specific model runs.

Initially it was not foreseen to deliver the SEAMLESS database in a stand alone version. However, after recommendations from the Scientific Advisory Board, it was decided to do so, although priority still needs to be given to deliver the integrated version of the database of SEAMLESS-IF. Developing a stand alone version from the present database will still require substantial additional effort because it only includes a variable name and values and the rest of the required information such as metadata is available in the ontology. So far, the only measure taken to facilitate the delivery of the stand alone version is to make sure that the required metadata will be available generated from the ontology (see above). It is not foreseen to develop new tools for the stand alone version of the database. Information on how

to access the database, explore data and export data to other file formats are given in Section 10. This information is based on existing tools such as PGAdmin¹⁰ (free) or SQLmanager¹¹ (available at low cost). It is still under consideration if it is possible to offer more advanced search functions than PGAdmin (none) or SQLmanager (table names). An optimal solution would allow text searches in comments to allow the user to find relevant variables in a fast and flexible way. Additionally it is also considered to offer access to pre-defined downloads of the database in easily accessible formats (e.g. excel, access). Further information on the stand alone version is given in section 9.

¹⁰ <http://www.pgadmin.org/>

¹¹ <http://www.sqlmanager.net/en/products/studio/postgresql>

3 A description of the process resulting in the data base schema

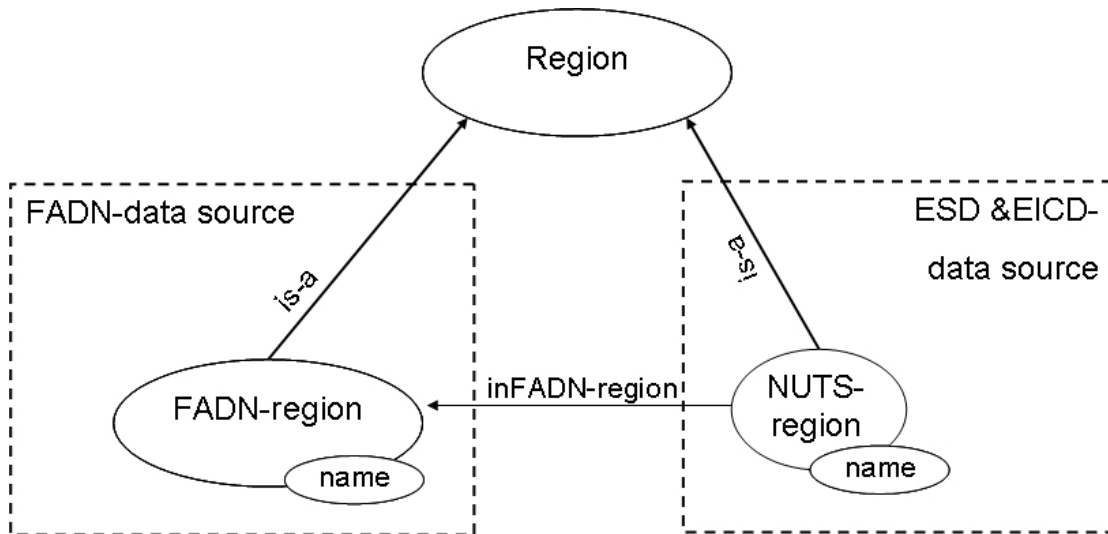
This section has been submitted as part of a paper in a special issue of Environmental Science and Policy (Janssen et al., 2009):

Sander Janssen, Erling Andersen, Ioannis N. Athanasiadis and Martin K. van Ittersum: An European database for policy evaluation and assessment of agricultural systems

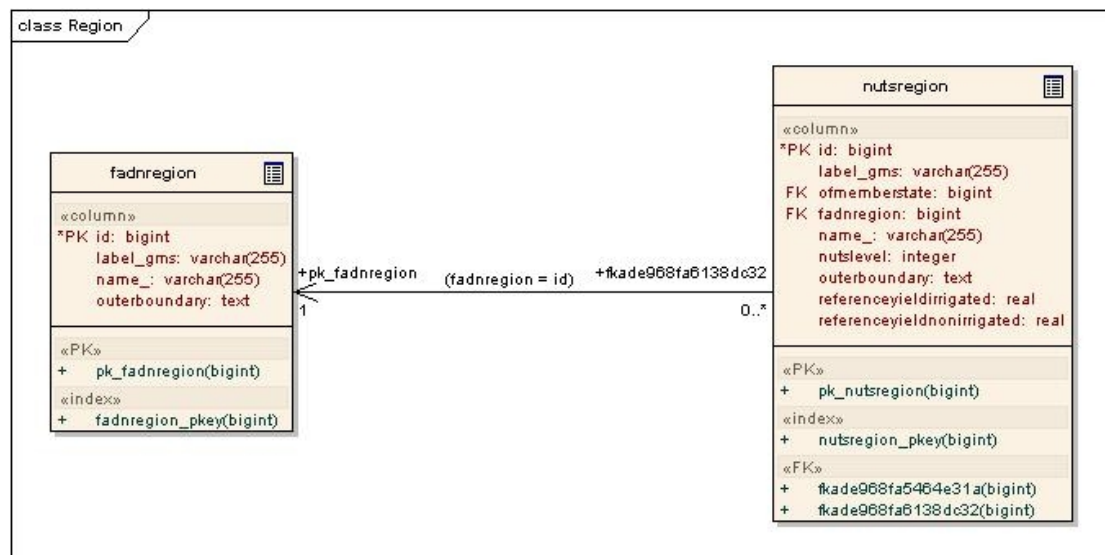
3. Database development, data consistency and integration

3.1. Process of database development

To ensure consistency between the different data sources and their easy access, we integrated them into a single database schema, while taking under account the heterogeneity of the original database schemas. For example, Farm Accountancy Data Network (FADN), European Soil Database (ESD) and European Interpolated Climate Data (EICD) all refer to a “Region” entity. In the case of FADN, the definition of regions is different than in the ESD and EICD. ESD and EICD refer to NUTS regions (Fig 3a), while FADN uses a delineation of regions that is specific to FADN, and these regions are referred to as FADN-regions in this paper. In integrating the data sources in one database schema, these data sources have to be adapted to shared concepts, to respect geographical entities and to be aligned in time, e.g. covering overlapping time periods. Integrating the data sources into one database is a time consuming and challenging task that requires collaboration of scientists from agricultural economy, environmental science, agronomy and information technology, with dissimilar education and research experience.



a. the different definitions of the concept Region between data sources



b. The representation of the relationships between FADN-region and NUTS-region in a relational database

Figure 3. The different types of Regions in the integrated database in an ontology schema (a) and a relational database schema (b). The same relationship is represented in a. and b. between NUTS-region and FADN-region, with the difference that the relationship in the ontology schema (a) has a name ('inFADN-Region') and definition, while this is not the case in the relational database (b). ESD = European Soil Database; EICD = European Interpolated Climate Data

To tackle the heterogeneity of the constituent data schemas, we developed an overall ontology, covering the union of the constituent data sources and domains. An ontology is the appropriate tool for defining a shared conceptual schema, as ontologies consist of a finite list of concepts and the relationships between these concepts (Antoniou and van Harmelen, 2004), and they are expressive enough for defining equivalent entities, hierarchies, complements, unions or intersections, based on description logics. This was particularly useful for marking and resolving ambiguities across the original schemas.

A shared ontology is an ontology that is jointly developed between a group of researchers. In developing the shared ontology for the different data sources in our project, a collaborative approach was used. A collaborative approach is based on ‘development as a joint effort reflecting experiences and viewpoints of persons who intentionally cooperate to produce it’ and it thus requires a consensus-building mechanism (Holsapple and Joshi, 2002). As part of this collaborative approach, an inductive approach was used (Holsapple and Joshi, 2002). In our inductive approach, the shared ontology was developed by examining and analyzing the initial data sources and extracting relevant properties or discussing the relationships between concepts in these data sources.

3.2. Technical implementation

The shared ontology was subsequently translated into a relational database schema. A relational database schema provides the structure of the database, in which the data from the different data sources can be entered. This translation from ontology to relational database schema was done based on the conventions of the Semantic-Rich Development Architecture (SeRiDA) (Athanasiadis, et al., 2007a; Athanasiadis, et al., 2007b), which acts as a bridge between different programming paradigms, e.g. object-oriented programming, relational databases and ontologies (Athanasiadis, et al., 2007a). Object-oriented programming is used in SEAMLESS for model and application development, relational databases for persistent storage of data and ontologies for defining and storing knowledge.

We preferred the use of ontologies over relational data base schemas for integration, (i) as ontologies are richer in their representation of relationships between concepts than relational database schemas (Fig. 3), e.g. relationships have a direction and can be defined, re-used and restricted; (ii) as ontologies have a strong inter-operability, for example, two ontologies developed in separate efforts can easily be linked to each other by investigating the semantic relationships between their concepts (El Gohary and El Diraby, 2005); (iii) as ontologies can be connected to description logic and reasoning, can thus validated on logic and data can be imported into an ontology according to the logic of the ontology; (iv) as the ontologies are envisioned to realise the semantic web objectives (Berners Lee, et al., 2006); (v) as ontologies allow to capture knowledge on the system under study as a distinct product. For example, in this paper an ontology is described for data on agricultural systems, which documents the type of data available and which can be re-used for other databases to store data on agricultural systems.

4 A brief description of the processing of data for the SEAMLESS database

Almost all the data that are included in the SEAMLESS database are either processed from the original datasets and adapted to the use in the SEAMLESS project or gathered specifically for the project. Providing a further explanation of how this data was processed is important for better understanding the structure of the database and the links between the different data on farming, the environment and on socio-economic issues. In this section the processing of some of the key data are thus described.

- In section 4.1 the farm typology used to structure the statistical data on farm resources is described.
- Section 4.2 includes a presentation of the spatial framework combining biophysical characteristics and administrative borders are described.
- In Section 4.3 the method to link the farm type information to the spatial framework is outlined.
- Section 4.4 provides a more conceptual description of the links between the farm types and the biophysical and administrative regions are given.
- In Section 4.5 the selection of sample regions to collect additional farm management information is described.
- Section 4.6 elaborates on the approach to supply a full coverage of the agricultural area by farm types respecting the disclosure rules in the original data.
- Section 4.7 gives a brief description of the policy data used in the database.
- In Section 4.8 a brief description is given of the global data component of the database.
- Finally, Section 4.9 is used to describe the regional typologies provided as context for assessments in SEAMLESS.

4.1 The farm typology

In SEAMLESS the data on farming stemming from the EU dataset Farm Accountancy Data Network (FADN) have been aggregated to farm types. This is based on a farm typology elaborated in earlier projects and adapted to SEAMLESS. The typology is based on a combination of three different dimensions, size, combined specialisation and land use and intensity. An example of a SEAMLESS farm type is thus large scale-medium intensity-arable/cereal farm – the most dominant type managing 15% of the utilised agricultural area in EU15 in 2004. One of the main reasons that the single farms included in FADN are aggregated to farm types is the disclosure rules that specify that FADN information can only be displayed if it is representing a minimal of 15 or more sample farms. More information on the processing of data to the farm typology can be found on the public portal in report no. 12: http://www.seamless-ip.org/Reports/Report_12_PD4.4.2.pdf

The state of the art in our typology work is the farm typology that is currently being implemented in the SEAMLESS project. The different discriminating variables and the specific threshold values determining the classes in the 4 dimensions of the typology build on earlier work and include consultations with Member State experts as well as statistical

analysis. In SEAMLESS further consultations with experts have been used to improve the typology. The typology is now used as the basis for linking environmental and economic models both on the input and the output side of the model chains to do the integrated impact assessments. In the following paragraphs the different typology dimensions are further described.

The size dimension

In SEAMLESS and in the previous projects several methods for differentiating farms according to size have been discussed: Total number of hectares, herd size in livestock units or heads, output in tonnes or in Euros, output in real figures or calculated standards. In the ELPEN project the size dimension was defined according to the number of livestock units per farm but this was changed in the later projects as the typology should facilitate assessments across all different sectors. It was therefore decided to use the economic output as a basis for this dimension of the typology. Furthermore, to facilitate the link to the existing definitions already implemented in the agricultural statistics it was decided to base this dimension on the calculated standard gross margins (SGM), which can be used to determine the economic size of farms. In the FADN data standard sets based on either 10 or 6 size classes are used, in SEAMLESS these classes are regrouped into 3 for simplification and, more technically, to be able to generate data at the regional level without violating the disclosure rules of FADN (see Table 4.1.1). It might be argued that the calculated SGMs do not reflect the diversity in output of the farms as this is blurred by using standard values in the calculations. However, in the SEAMLESS typology this aspect is taken into account through the intensity dimension as becomes clear in the next section.

Table 4.1.1: The size dimension and definitions

Size dimension	Definition
Small scale	< 16 European size units (ESU) 1)
Medium scale	=> 16 ESU and < 40 ESU
Large scale	=> 40 ESU

1) European Size Units The economic size of farms is expressed in terms of European Size Units (ESU). The value of one ESU is defined as a fixed number of EUR/ECU of Farm Gross Margin. Over time the number of EUR/ECU per ESU has changed to reflect inflation. In 2003 1 ESU corresponded to 1200 €

The intensity dimension

Also the intensity of farming can be measured in different ways: Level of inputs, level of outputs or yields. Firstly, to allow comparison across different agricultural sectors it was decided to use economic values instead of for example yields in tonnes of wheat or milk. Secondly, and again to facilitate comparisons across sectors, it was decided to base the dimension on output instead of inputs. On the input side there is a big difference between for example arable systems, where the input intensity is linked to specific land management and use of fertilisers and crop protection, and livestock systems, where the intensity is linked to stocking density and feeding strategies. The total output is defined as the total of output of crops and crop products, livestock and livestock products and other output in monetary terms. In contrast to the SGM used to define the size types, this is based on the real figures per farm. To define the types the output is related to the agricultural area and expressed as output per

ha. It should be mentioned that with the FADN variables it is not possible to establish a causal link between the level of intensity and the impact on the environment. The intensity dimension should therefore not be interpreted as an impact indicator, but rather as a means to categorise farm according to environmental pressure. The selection of the specific threshold values between the categories could therefore also be arbitrary to some degree. To reach 3 different intensity levels we aimed to have threshold values around 75% below average and 50% above average total output per hectare in 2003 for whole EU-15 (see Table 4.1.2). When applying the typology to other years than 2003 the threshold values are adjusted for the specific years according to producer price indices for total agricultural production in EU-15 to take into account the change in prices over time.

Table 4.1.2: The intensity dimension and definitions

Intensity dimension	Definition
Low intensity	Output per ha < 500 €(2003)
Medium intensity	Output per ha => 500 €and < 3000 €
High intensity	Output per ha => 3000 €

The specialisation and land use dimension

As for the size dimension we have decided to base the specialisation information on the currently used EU typology to facilitate the linkages both to external SEAMLESS work and to enhance the integration of modelling within SEAMLESS, where one of the model components is the CAPRI model¹² that has been developed to analyse the EU farm types. In the currently used EU typology specialisation is detailed in four hierarchical levels depending on the degree of specialisation or on specific agricultural activities. In SEAMLESS we have chosen to include information from only the two highest levels of the EU typology and the level used differs per farm type. This again was a decision taken to keep the total number of farm types manageable and at the same time aiming to include the heterogeneity of farming across the territory of the EU. However, from an environmental point of view it is a weakness that the specialisation types can be very heterogeneous regarding land use. We have therefore decided to split 5 of the 9 specialisation types further according to land use. Note that the remaining 4 types are not divided further which is mainly because the FADN sample includes relatively few farms of these types. Also, in the combined specialisation/land use dimension only the relevant land use types have been applied to the specific specialisation types – the grassland issue is only relevant on farms with grazing livestock etc. The 21 farm types in the specialisation/land use dimension of the typology are shown in Table 4.1.3.

Table 4.1.3: Specialisation and land use dimensions and definitions

Specialisation/land dimension	use	Specialisation definition	Land use dimension definition
Arable/Cereal		1+6	(Utilised agricultural area (UAA) > 0 or Livestock units (LU)/ha<5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and < 50% of UAA in grass and

¹² See http://www.agp.uni-bonn.de/agpo/rsrch/capri/capri_e.htm

		< 12.5% Fallow) and \geq 50% Cereals
Arable/Fallow	1+6	(UAA > 0 or LU/ha<5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and < 50% of UAA in grass and \geq 12.5% Fallow)
Arable/Others	1+6	Not cereal, fallow or specialised
Arable/Specialised crops	1+6	(UAA > 0 or LU/ha <5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and < 50% of UAA in grass and < 12.5% Fallow) and < 50% Cereals and \geq 25% of arable land in specialised crops.
Beef and mixed cattle/Land independent	4.2+4.3	UUA = 0 or LU/ha \Rightarrow 5
Beef and mixed cattle/Others	4.2+4.3	Not land independent, permanent grass or temporary grass
Beef and mixed cattle/Permanent grass	4.2+4.3	(UAA > 0 or LU/ha <5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and \geq 50% of UAA in grass and < 50% Temporary grass)
Beef and mixed cattle/Temporary grass	4.2+4.3	(UAA > 0 or LU/ha <5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and \geq 50% of UAA in grass and \geq 50% Temporary grass)
Dairy cattle/Land independent	4.1	UUA = 0 or LU/ha \Rightarrow 5
Dairy cattle/Others	4.1	Not land independent, permanent grass or temporary grass
Dairy cattle/Permanent grass	4.1	(UAA > 0 or LU/ha<5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and \geq 50% of UAA in grass and < 50% Temporary grass)
Dairy cattle/Temporary grass	4.1	(UAA > 0 or LU/ha <5) and < 50% of UAA in horticultural crops and < 50% of UAA in permanent crops and \geq 50% of UAA in grass and \geq 50% Temporary grass)
Horticulture	2	All
Mixed farms	7	All
Mixed livestock	8	All
Permanent crops	3	All
Pigs/Land independent	5.1	UUA = 0 or LU/ha \Rightarrow 5
Pigs/Others	5.1	Not land independent
Poultry and mixed pigs/poultry	5.2	All
Sheep and goats/Land independent	4.4	UUA = 0 or LU/ha \Rightarrow 5
Sheep and goats/Others	4.4	Not land independent

The gams code used to process the single farm data from FADN to the SEAMLESS farm types are included in Appendix 1.

4.2 The agri-environmental zonation

The Agri-Environmental Zonation (AEnZ) is a framework which is needed to assess the impacts of agricultural policies covering the wide biophysical variation in which agricultural activities take place in Europe. The main objective of building this AEnZ was therefore to stratify Europe on the main biophysical factors that determine the agronomic production capacity in Europe. The agri-environmental zones are based on a combination of biophysical characteristics and aiming to identify regions where the biophysical conditions for farming are relatively homogenous. At the same time the link to the marked level modelling was ensured by the inclusion of the administrative regions (NUTS regions). The combination of agri-environmental zones with the administrative NUTS boundaries resulted in spatial units called SeamZones¹³.

To delineate the SeamZones we have made an overlay of:

- Administrative regions (NUTS2 (for United Kingdom NUTS1))
- 12 environmental zones (Homogenous climate conditions)
- 7 soil types (Homogenous soil conditions)

An example of the resulting agri-environmental zones is shown in Figure 4.2.1 for Denmark, where the entire country is a NUTS2 region. For Denmark, the agri-environmental zones and the SeamZones are the same. This is further divided in 2 environmental zones with different climatic conditions: The North Atlantic and the Continental zones. Each of these 2 environmental zones holds 7 different soil types, resulting in a total of 14 agri-environmental zones in Denmark. A very close look at the map reveals that the environmental zones are continuous in space with the Continental zone in the Eastern and Northern part of the country and that the soil types, and thus the agri-environmental zones, are scattered in patches within the environmental zones.

¹³ Note that these are termed agrienvironmentalzones in the database.

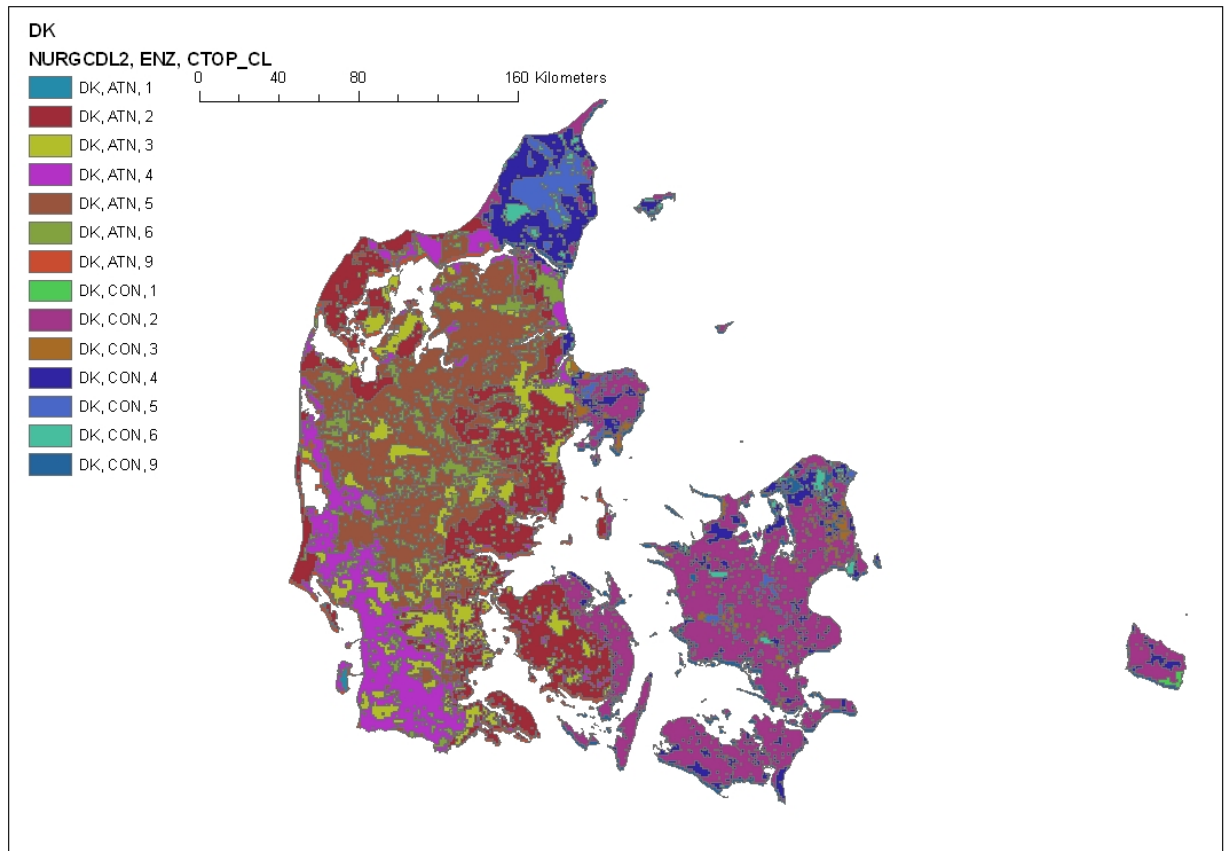


Figure 4.2.1: The agri-environmental zones in Denmark. The environmental zones are Atlantic north (ATN) and Continental (CON) and the numbers refer to the soil types.

For EU25 in total the delineation results in 3 513 SeamZones with an average size of 132 013 ha, ranging from 1 ha and up to 7 599 200 ha. More information on the approach to delineate the agri-environmental zones can be found on the public portal in report no. 14: http://www.seamless-ip.org/Reports/Report_14_PD4.3.3.pdf.

The NUTS regions, the climate zones and the agri-environmental zones used in the SEAMLESS spatial framework are shown in Figures 4.2.2. 4.2.3 and 4.2.4.

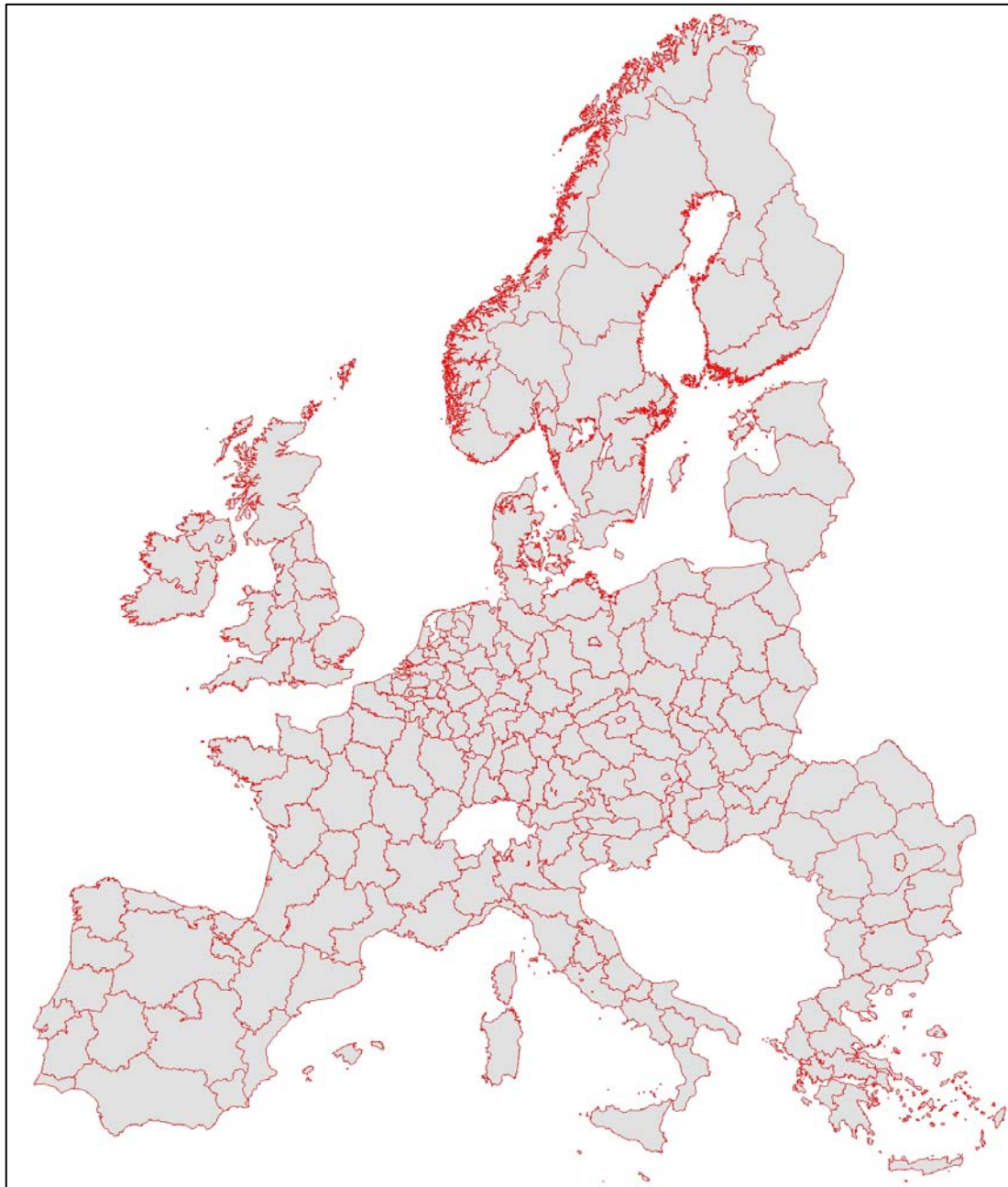


Figure 4.2.2 The NUTS region used in the SEAMLESS project.

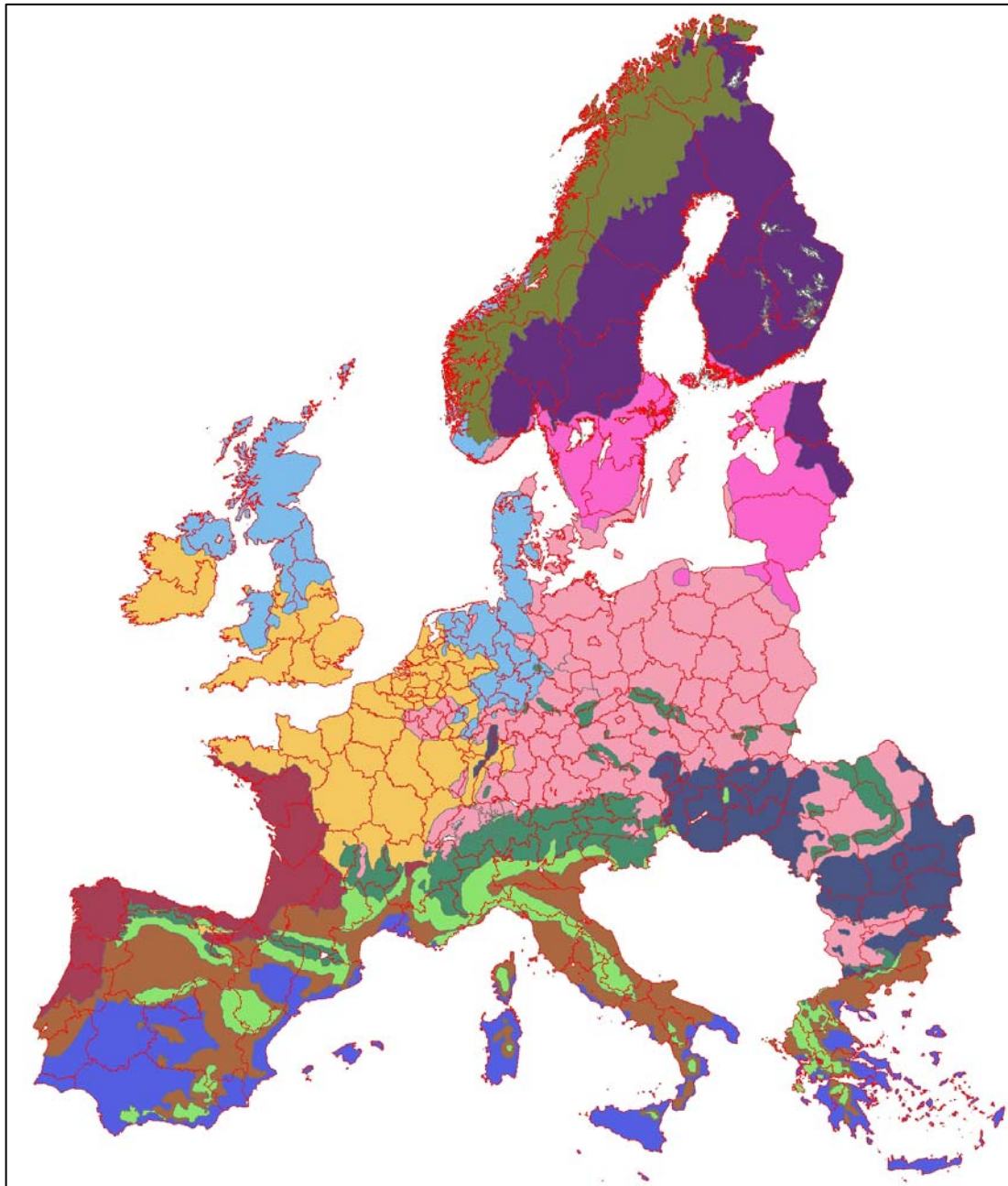


Figure 4.2.3 The climate zones used in the SEAMLESS project. The climate zones are a combination of the NUTS regions (red borders) and Environmental zones (colours).



Figure 4.2.4 The agri-environmental zones used in the SEAMLESS project. The agri-environmental zones are a combination of the NUTS regions, environmental zones and soil types based in Carbon content in topsoil.

4.3 The allocation of farm types to agri-environmental zones

In order to use the farm type information as input data for the bio-economic models additional information on the location of the farm types was added to all farm types making it possible to aggregate the farm types both to natural and to administrative regions. This locational dimension is a reference to either a Homogenous Spatial Mapping Unit (HSMU) or a Farm Mapping Unit (FMU) (a cluster of HSMUs). The spatially allocated farm types facilitate the model linking of bio-economic/physical models (FSSIM), in which the farm in its bio-physical environment is central, to the market model (CAPRI), in which the market share of a specific farm type in a region is a crucial model input and output. Since HSMUs can be clustered to administrative or bio-physical entities the farms can also be grouped to these different spatial entities. For the presentation of the farm type information in the database we have chosen to group the farms to Agri-environmental zones (AEnZ). The spatial allocation of FADN farms is done using 2 inputs:

- The allocation of crops to the so-called homogenous spatial mapping units (HSMUs) elaborated in the Dynaspat project.¹⁴
- The allocation of farms to altitude zones and less favoured areas based on the information included in the FADN data.

This procedure then combines a logit model with a Bayesian highest posterior density estimator. The HSMUs are defined by homogeneous production conditions rather than administrative boundaries. For the spatial allocation of the FADN farm information the land use information and other attributes assigned to the HSMUs in the Dynaspat project are taken as the main input basis. The optimal match of farm cropping patterns and yield levels are then identified. The result of this is a calculated probability that a certain farm manages land in a certain area. In the SEAMLESS database the allocation information is included by first aggregating the farm information assigned to all HSMUs making up the agri-environmental zone. After this aggregation information is available on the SEAMLESS farm types managing an agri-environmental zone. This information is merely a calculated probability and is not linked to the specific FADN variables as such. This means that the information can be included without violating the disclosure rules. More information on the allocation of farm types to bio-physical units can be found on the public portal in report no. 19: http://www.seamless-ip.org/Reports/Report_19_PD4.7.1.pdf

The spatially allocated farm type information together with the AEnZ facilitate the modelling of environmental effects but also the linking of different models for which different scales need to be linked together but also different domains (administrative, environmental, social).

4.4 The linkages between farm type data and biophysical data

The relations and descriptions of farm types and agri-environmental zones in the SEAMLESS database are summarised in Figure 4.4.2. The information for farm types in agri-environmental zones includes only one variable: The area managed. However, for the farm types present in FADN data with more than 15 sample farms a whole range of variables is available in the database. The area within one agri-environmental zone is managed by several

¹⁴ See http://www.ilr1.uni-bonn.de/agpo/rsrch/dynaspat/dynaspat_e.htm

farm types and one farm type in most cases will manage land in different agri-environmental zones. This information on the distribution of farm types within agri-environmental zones is linked to one agri-environmental zone with a specific description of soil and climate characteristics. The relation to the more detailed descriptions of the farm types is more complicated. This information comes from the FADN data that have been processed to the SEAMLESS farm typology and are included at the level of the FADN regions, but of course only for farm types based on more than 15 sample farms. One description of a farm type in the FADN regions represents this specific farm type wherever it occurs in an agri-environmental zone within this FADN region. Presently, these links between farm types in the agri-environmental zones and at the FADN region level are only included in the database for farm types with more the 15 sample farms at FADN region level. However, we are presently exploring the options to link additional farm types at agri-environmental zone level to the detailed descriptions. Several options are explored including linking to farm types at national level or linking to less detailed farm types, both options in an attempt to exceed the threshold of 15 sample farms (see also section 4.6).

The database schema for the part of the database with these data is described in section 5.4.

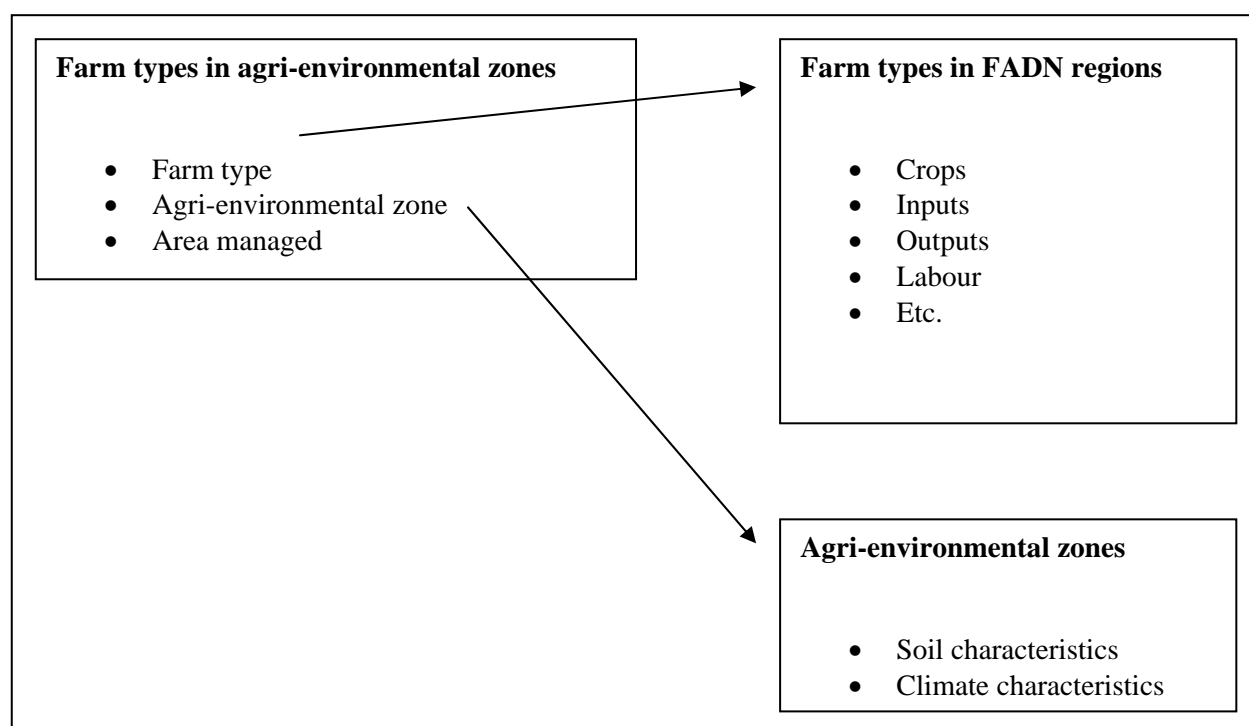


Figure 4.4.2: Illustration of the links and descriptive variables available for farm types and agri-environmental zones in the SEAMLESS database.

4.5 The simple survey regions

In the SEAMLESS project the SeamZones (see Section 4.2) have been used as a framework for selection of sample regions. Sample regions are used to collect detailed information on farm management not available in the European level statistical sources (See also Zander et al., 2009) This again enables detailed modelling at crop and farm type level within these

regions. The starting point for the selection of sample regions was that NUTS2 regions should be selected as this is the level for market modelling in SEAMLESS. Furthermore, a total number of sample regions of 20-25 was targeted as this were judged to be feasible for modelling purposes. Finally, the selection of the regions should also take into account that the collection of data had to prioritize 7-8 regions, where a more detailed set of data could be collected. As the first step it was decided to aim for that the 7-8 detailed sample regions should represent the variation in biophysical conditions for farming across EU25. An optimal solution for this would be to select regions that could represent each of the 12 environmental zones (see also Section 4.2). However, some of the environmental zones on the one hand occur in complex patterns (this is the case for the zones highly influenced by altitude rather than latitude/longitude) and on the other hand some of the environmental zones are less important from an agricultural point of view. This is the case for the zones Alpine south, Alpine north and Mediterranean mountains. Optimally, there should be one detailed sample region within the 9 remaining environmental zones. As a second step it was decided to aim for that the remaining sample regions should ensure representation of the variation in farm types within the environmental zones. This was done by selecting regions that together included the most important farm types in terms of area farmed within the regions in the entire environmental zones. Typically, this resulted in selection of regions that differed in terms of for example arable versus livestock farms and in terms of small versus large farms. The soil dimension of the SeamZones was not as such used in the selection of the sample regions. In average 5.9 SeamZones are found within the combinations of NUTS2 regions and environmental zones, meaning that an average of 5.9 soil types are found in the NUTS2/Environmental zone combinations out of the 7 possible (6 soil types plus no data). It can therefore be concluded that the variation in soil types are well represented, at least in terms of the carbon content as this is the soil characteristic explaining most of the variation in other soil characteristics in the European soil map as was shown in the principle component analysis applied to create the agri-environmental zones (see PD4.3.3). To sum up, the SeamZones were used as a basis for the selection of sample regions that ensures a good representation of the variation in conditions for farming across EU25. This again ensures that the different modelling approaches in SEAMLESS can be combined and facilitates the scaling of model results.

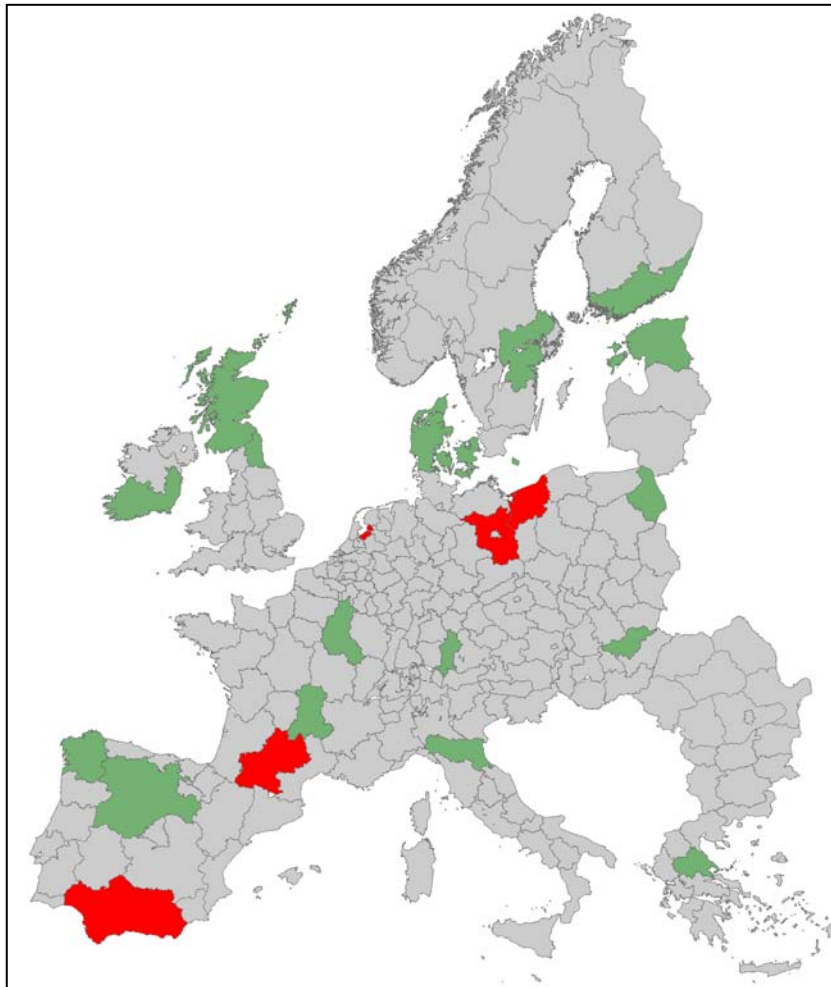


Figure 4.5.1 The sample regions of SEAMLESS. In green the simple survey regions and in red the detailed survey regions.

4.6 The area coverage problem

At the moment the agricultural area represented at the regional level in the SEAMLESS farm typology is too low because the regulation on use of FADN data only allows use of aggregates that are based on at least 15 sample farms. This is a problem that will not be solved in the duration of the project, but will be pursued later.

Initially we estimated that 80% of the agricultural area should be represented at the regional level when applying the typology, but this is not the case in the present dataset where all dimensions of the farm types (Size, intensity and specialisation/land use) is included and taken into account the threshold level of 15 sample farms. Only in 37 of the 117 FADN regions we have more than 75% of the area represented (see table 4.6.1). In 33 of the regions less than 50% of the area is represented. For FSSIM and EXPAMOD modelling it is needed to increase the represented area.

Table 4.6.1 The share of the agricultural area covered when applying the SEAMLESS farm typology at the regional level respecting the disclosure rules of FADN

Area coverage	FADN region
0-24%	Baleares, Alentejo-Algarve, Madrid, Kozep-Magyarország, Cantabria, Lisboa e Vale do Tejo (Ribatejo e Oeste), Pohjanmaa (Vali-Suomi), Corse
25-49%	Sodra och Mellersta Sveriges skogs- och mellanbygdsland, Saarland, Cyprus, Eszák-Magyarország, Provence-Alpes-Cote-d'Azur, Murcia, Sisa-Suomi (Ita-Suomi), Molise, Extremadura, Lazio, Liguria, Kozep-Dunantul, Rhone-Alpes, Pohjois-Suomi, Acores-Madeira, Estonia, Abruzzo, Languedoc-Roussillon, Toscana, Eszák-Alfold, Basilicata, Alsace, Navarra, Campania, Lan i Norra Sverige
50-74%	Haute-Normandie, Andalucia (incluido Ceuta & Melilla), Midi-Pyrenees, Pais Vasco, Northern Ireland, Marche, Del-Alfold, Umbria, Slovenia, Friuli-Venezia Giulia, Aquitaine, Etela-Suomi, Veneto, Limousin, Basse-Normandie, Rheinland-Pfalz/Del-Dunantul, Lombardia, Calabria, Sodra och Mellersta Sveriges slattbygdsland, Brandenburg, Valle d'Aosta, Mecklenburg-Vorpommern, Sicilia, Sardegna, Comunidad Valenciana, Asturias, Poitou-Charentes, Aragon, Piemonte, Nyugat-Dunantul, Auvergne, Pays-de-la-Loire, Bourgogne, England-West, Franche-Comte, Galicia, Sachsen, Slovakia, Sterea Ellas-Nissi Egaeou-Kriti, La Rioja, Thessalia, Hessen, Picardie, Trentino-Alto Adige, Lorraine, Lithuania, Baden-Wurtemberg, Norte-Centro (PT)
75-100%	Nord-Pas-de-Calais, Puglia, Latvia, Centre (FR), Bretagne, Thuringen, Netherlands, Nordrhein-Westfalen, Luxembourg, England-East, Schleswig-Holstein, Sachsen-Anhalt, Castilla-La Mancha, England-North, Castilla y Leon, Bayern, Belgium, Malopolska-Pogorze, Makedonia-Thraki, Ipiros-Peloponnisos-Nissi Ioniou, Austria, Ile-de-France, Hamburg, Bremen, Berlin, Niedersachsen, Emilia-Romagna, Czech republic, Scotland, Pomorze-Mazury, Denmark, Canarias, Champagne-Ardenne, Wales, Ireland, Mazowsze-Podlasie, Wielkopolska-Slask

There are 4 types of solutions to the area coverage problem:

- Option 1 is to merge all farm types with less than 15 sample farms into one or more aggregated farm types. This will keep the information on farm types that are already represented, but it will also create some new aggregated farm types that will be very heterogeneous.
- Option 2 is to skip one or more dimensions of the farm types in the critical regions. This will mean that we will lose the details on some of the farm types already represented, but that we will increase the area represented.
- Option 3 is to keep the farm types that already have more than 15 sample farms and add the farm types that have less than 15 sample farms by letting these be represented by farms of the same type in neighbouring regions.
- Option 4 would be to try to elaborate a method to add and describe the farm types based on the method for spatial allocation of farm types. This has already been used on the agricultural area, so that the data in the database will include all farm types present at the regional level and information on the area they manage.

Presently, the solution to be pursued is planned to be a variant of option 3. The farm type information will be aggregated for ‘agro-management zones’ i.e. for each of the 13 environmental zones used in the biophysical typology. This approach is also used in relation to alternative activities, where rotation constraints are gathered for these regions. It will thus fit in the overall spatial framework. This should get an area coverage very close to 100% in all regions – if not we will handle the specific problems individually to reach 100% coverage.

For modelling purposes this means that:

- If more than 15 sample farms are available to describe a farm type at FADN region level, this information will be used in modelling.
- If less than 15 sample farms are available to describe a farm type at FADN region level, information that describes the farm type at environmental zone level will be used.

This is of course not an optimal solution, where for example farm type information from Northern England will be used to describe farm types in Denmark and vice versa. But, it is the best possible solution that respects the disclosure rules.

4.7 Policy data from COCO/CAPREG

In the SEAMLESS database a number of policy variables are included at Member State and at regional level. These data stems from the COCO/CAPREG dataset (Britz, et al., 2007). This dataset is based on NewCronos and FAOSTAT and contains complete and mutually consistent time series for hectares/herd size, output coefficients, production, market balances, economic accounts and unit value prices (incl. consumer prices). For SEAMLESS, the relevant part of the COCO/CAPREG is the data on agricultural policies and prices for which 16 variables have been included. The data provides the data on agricultural policies and prices for the 27 Member States since 1985, e.g. subsidies given to farmers for different regions, cuts of subsidies given to farmer, coupling degrees and prices per Member State, subsidized exports and tariff agreements between European Union and trading blocks.

For a fuller description of the processing of the data from the original sources to the COCO/CAPREG dataset see Britz et al., (2007).

4.8 The global data

The global data, that is data for use by the GTAP¹⁵ model, has not been integrated in the SEAMLESS database. The reason for this is that it has been decided that the GTAP model will not be integrated in SEAMLESS-IF within the duration of the project and because of the legal restrictions on the dissemination of the GTAP data. However, the GTAP data is still available for use inside the project, in the global data component of the first version of the SEAMLESS database.

¹⁵ www.gtap.agecon.purdue.edu

The GTAP model and GTAP database is developed by an international GTAP consortium (Hertel, 1997). The GTAP model is based on a database with world coverage and which provides detailed information at the country- and sector level in an economically consistent way. The database combines national economic statistics with data on bilateral trade flows, protection and energy. The basis of the GTAP database is formed by the input-output tables of 87 individual countries. Macro-economic aggregates (GDP, private- and government consumption and investment), mainly taken from the World Bank, are used for updating the input-output tables to a common reference year. The trade data are based on the United Nations COMTRADE data. For domestic support data are taken from the OECD PSSE/CSE database.

The original idea was to provide the complete GTAP database with all the possible regional and sectoral detail in the SEAMLESS database and ultimately to the public. It turned out however that there were important legal restrictions to make the full GTAP database available. The conditions on the use and supply of the GTAP6 data package are laid down in a license agreement. The GTAP consortium is organised in such a way that the model code is available through the internet while the database needed to run the model has to be bought. In practise only aggregations of maximum 10 sectors by 10 countries can be supplied to third parties outside the GTAP consortium. For the SEAMLESS-project this is not a workable aggregation in the linking with CAPRI. When we only want to link the 25 EU member states we are already beyond the limitations of the GTAP licence. This limitation thus had some important consequences for the SEAMLESS project. For the time being we have chosen for the option to aggregate the GTAP database in order to present fewer regions and fewer sectors. Besides an important decision was made to make the GTAP database only internally available in the SEAMLESS project until some agreement is found with the GTAP consortium.

The GTAP data are available for 57 sectors and 87 regions. A full list of the regions and the sectors can be found in respectively Annex 1 and Annex 2 of SEAMLESS PD 4.6.2. For the SEAMLESS project it became clear that some aggregation was necessary to have a link with the CAPRI data. The GTAP data are stored in a lot of two dimensional Header Array files (HAR), which is used by the General Equilibrium Modelling Package (GEMPACK) and for which a licence is needed. These HAR-files can be opened through the special ViewHAR software delivered by the GTAP consortium. The information stored into the HAR-files is not easily understood by non GTAP specialists. For this reason we have chosen to transform the GTAP HAR-files into one social accounting matrix (SAM) for each region that is still fully consistent with the structure of the price and tax systems found in the GTAP model. The SAM structure follows the United Nations System of National Accounts. A SAM basically consists of a number of accounts. First we identify production account with the activities. These activities use intermediate inputs (commodities), which are either from domestic origin or imported. Besides this they are using production factors like: land, labour (unskilled and skilled), capital and natural resources. These transactions are all recorded in so called selling prices or market prices, which mean that for each of the commodities and factor inputs used there are taxes involved. On the output side of the production account there is supply of commodities to private households, government, investment, global transport and other regions. A more detailed description on the transformation of the GTAP database into Social Accounting Matrixes can be found in McDonald, Scott and Karen Thierfelder, 2004.

The GTAP data available inside the project includes information on Social Accounting Matrixes (SAM) for the entire Earth on 40 regions and 11 sectors.

Further information on the GTAP data can be found in Verhoog and Andersen, 2009.

4.9 The socio-economic typologies

The SEAMLESS database includes regional typologies based on socio-economic indicators in the EU25 that can serve as contextual information for assessments in SEAMLESS. The selection and design of these typologies is based on a review of regional typologies in the EU used in previous studies (Terluin and Verhoog, 2006).

In the current version of the database we only included typologies on:

- The share of agriculture in total employment
- Rurality derived from population density
- Leading and lagging regions derived from employment growth
- Livestock density

Further typologies have been developed but are not included in the final version of the database. The full list of typologies is:

- Population density (i.e. rurality)
- Population growth plus rurality
- Employment growth plus rurality
- Share agriculture in total employment plus rurality
- Unemployment rates plus rurality
- GDP/capita plus rurality
- % LFA plus rurality
- Ha per farm plus rurality
- ESU per ha plus rurality
- ESU per holding plus rurality
- Farm holders >65 years plus rurality
- Part time farm holders plus rurality
- Female farm holders plus rurality
- Livestock density

On the whole, these typologies are designed at HARM2 level, which is broadly speaking, a mix of NUTS 2 and NUTS 3 regions in the EU (see Terluin and Verhoog, 2006 for a detailed description of the HARM2 regional classification). It has to be noted that up scaling of the HARM2 regional level to the NUTS2 level has some major drawbacks, as many details at a lower regional level are lost as a higher aggregation level is used. Moreover, the relatively large NUTS 2 regions are not always the most appropriate territorial units for socio-economic analyses. This is one of the reasons why all typologies are not included in the final version of the database. However, the database schema has been built in a way so that additional regional typologies can be added without changing the schema.

The regional typologies are included in the database as well as on a WMS server, from which the typologies can be chosen as background illustration for mapping of model results.

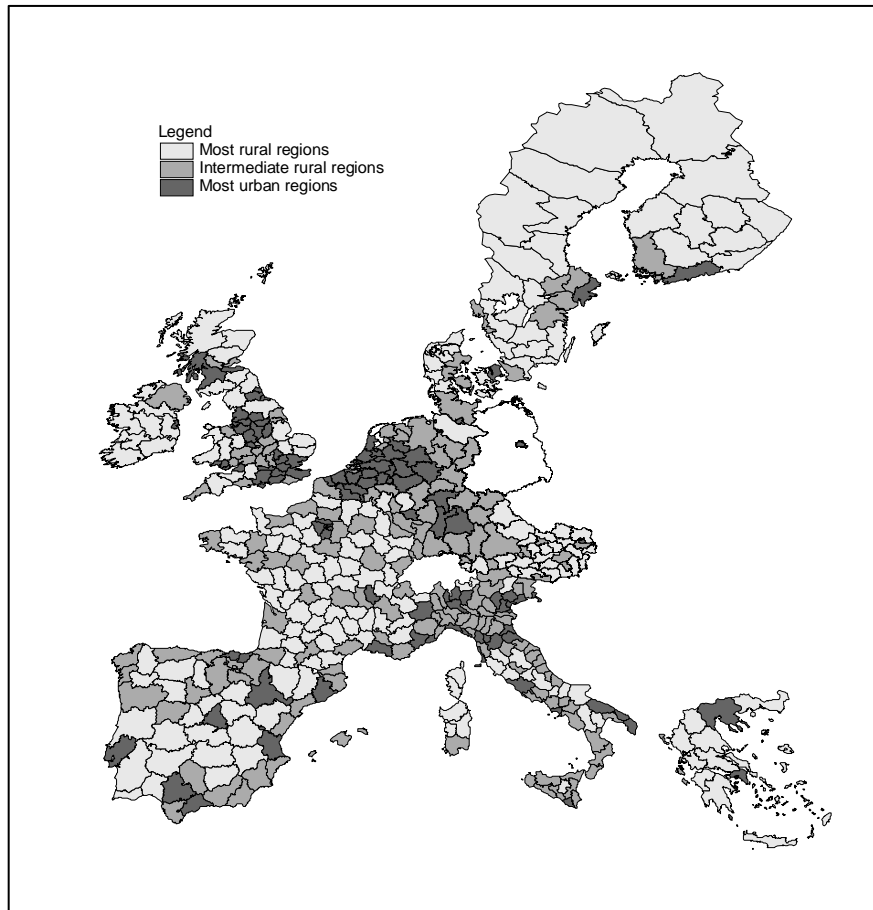


Figure 4.8.1 An example of a regional typology: Degree of rurality of the EU15 regions, 1998. Excluding regions in the former DDR.

5 Guide to selected parts of the SEAMLESS database schema

This section describes selected parts of the database including diagrams of tables and relations. It only provides a description of selected, and in some cases simplified, parts of the database, that gives the user some ‘entry-points’ to explore the real data base. Furthermore, it is not possible to provide a full description of the data base due to the limitations given by the A4 format. In general this means that we cannot show the linkage of tables at field level, but only at table level. It is thus the purpose of this section only to give a first introduction to the schema. For full descriptions see Appendix 1 with the SQL-script of the database schema.

5.1 Simple survey data

In Figure 5.1 the main tables including the data of the simple survey is shown. These table include information on crop management (simplecropmanagement), dairy cattle management (simplecurrentdairyactivity), beef cattle management (simplecurrentbeefactivity), small ruminants management split on dairy and beef (simplecurrentsmalldairyruminant and simplecurrentsmallbeefruminant) and grassland management (grassmanagement). In Figure 5.1 the fields with the different included variables can also be seen.

In Figure the 5.2 the linkage of the tables with simple survey data is shown. As it can be seen the tables including the data and livestock activities are linked to the table nutsregions. This is the case as the database includes one set of livestock data per NUTS region. The crop data in the table simplecropmanagement are linked to the table regionalagromanagementzones. This is the case as the database includes on set of crop management data per each of the regionalagromanagementzones. The regional agromanagementzones are one or more agrienvironmentalzones, that is zones with homogenous biophysical endowment, per NUTS 2 region. Finally, cropmanagement is also linked to the table simplesurveyrotationelement. This is the case as each crop management is linked to one or more rotations. These rotations are linked to the table nutsregions, as the rotations are defined per NUTS region.

public.simplecurrentsmalldairyruminantactivity	
id	int8
ageatfirstbirth	int4
ageofadulffemaleatselling	float4 (4)
amountofconcentrates	float4 (4)
costsofconcentrates	float4 (4)
costsofinsemination	float4 (4)
costsofreplacement	float4 (4)
costsofveterinary	float4 (4)
grossmargin	float4 (4)
region	int8
herdsize	float4 (4)
id_zalf	float4 (4)
isgoats	int4
lossrate	float4 (4)
milkproduction	float4 (4)
numberofbirthsperadulffemale	float4 (4)
othervariablecosts	float4 (4)
priceformilk	float4 (4)
priceofadulffemaleatselling	float4 (4)
priceoffemalelamborgoatingatselling	float4 (4)
priceofmalelamborgoatingatselling	float4 (4)
priceofyoungfemaleatselling	float4 (4)
replacementrate	float4 (4)
revenuesfromadulffemale	float4 (4)
revenuesfromlamborgoatings	float4 (4)
revenuesfrommilk	float4 (4)
soldmilk	float4 (4)
sumofvariablecosts	float4 (4)
totalrevenues	float4 (4)
weightatmaturity	float4 (4)
weightoflamborgoatingatbirth	float4 (4)
weightoflamborgoatingatselling	float4 (4)
weightofyoungfemaleatselling	float4 (4)

public.simplecurrentsmallbeefruminants	
id	int8
ageofsheeporgoatsatselling	float4 (4)
amountofconcentrates	float4 (4)
costsofbreeding	float4 (4)
costsofconcentrates	float4 (4)
costsofveterinary	float4 (4)
dailyweightgain	float4 (4)
gainpersheeporgoat	float4 (4)
grossmargin	float4 (4)
region	int8
herdsize	float4 (4)
id_zalf	float4 (4)
isgoats	int4
lengthoffatteningperiod	int4
lossrate	float4 (4)
othervariablecosts	float4 (4)
priceforlamborgoating	float4 (4)
priceofadulffemaleatselling	float4 (4)
revenuesfromadulffemale	float4 (4)
sumofvariablecosts	float4 (4)
totalrevenues	float4 (4)
weightatbeginningoffattening	float4 (4)
weightatendoffattening	float4 (4)
weightofcarcass	float4 (4)

public.simplecropmanagement	
id	int8
label_gms	varchar (255)
costsfertilizer	float4 (4)
costsofcropprotection	float4 (4)
fungicideapplicationingredient	float4 (4)
fungicideapplicationnumber	int4
grossmargin	float4 (4)
growthregulationapplicationingredient	float4 (4)
growthregulationapplicationnumber	int4
herbicideapplicationingredient	float4 (4)
herbicideapplicationnumber	int4
insecticideapplicationingredient	float4 (4)
insecticideapplicationnumber	int4
irrigationmeanapplicationnumber	float4 (4)
irrigationmeanwateruse	float4 (4)
othervariablecosts	float4 (4)
perennialsbeginningofperiod	float4 (4)
perennialsendofperiod	float4 (4)
phosphorususe	float4 (4)
potassiumuse	float4 (4)
pricebyproduct	float4 (4)
sowingdate	int4
sumofvariablecosts	float4 (4)
totalrevenue	float4 (4)
yieldbyproduct	float4 (4)
product	int8
labour	float4 (4)
nitrogenuse	float4 (4)
price	float4 (4)
yield	float4 (4)
nitrogenuseorganic	float4 (4)

public.simplecurrentdairyactivity	
id	int8
ageatfirstbirth	int4
ageofadulffemaleatselling	float4 (4)
amountofconcentrates	float4 (4)
costsofconcentrates	float4 (4)
costsofinsemination	float4 (4)
costsofreplacement	float4 (4)
costsofveterinary	float4 (4)
grossmargin	float4 (4)
region	int8
herdsize	float4 (4)
id_zalf	float4 (4)
lossrate	float4 (4)
milkproduction	float4 (4)
numberofbirthsperadulffemale	float4 (4)
othervariablecosts	float4 (4)
priceoffemalecalvesatselling	float4 (4)
priceofmalecalvesatselling	float4 (4)
priceformilk	float4 (4)
priceofcowatselling	float4 (4)
priceofheiferatselling	float4 (4)
replacementrate	float4 (4)
revenuesfromcalve	float4 (4)
revenuesfromcow	float4 (4)
revenuesfrommilk	float4 (4)
soldmilk	float4 (4)
sumofvariablecosts	float4 (4)
totalrevenues	float4 (4)
weightatmaturity	float4 (4)
weightofcalveatselling	float4 (4)
weightofcalvesatbirth	float4 (4)
weightofheiferatselling	float4 (4)

public.grassmanagement	
id	int8
label_gms	varchar (255)
beginofgrazingperiod	int4
biomassoffreshfodder	float4 (4)
biomassforhay	float4 (4)
biomassforpasturegrazing	float4 (4)
biomassforilage	float4 (4)
endofgrazingperiod	float4 (4)
numberofcuts	int4
overallbiomass	float4 (4)
variablecostsconcerninggrasslandwithoutcostsofharvest	float4 (4)
variablecostsofharvestingoffreshfodder	float4 (4)
variablecostsofharvestingofhay	float4 (4)
variablecostsofharvestingofpastureforgrazing	float4 (4)
variablecostsofharvestingofilage	float4 (4)
nutregion	int8
nitrogenuse	float4 (4)
nitrogenuseorganic	float4 (4)

public.simplecurrentbeefactivity	
id	int8
ageofcattleatselling	int4
amountofconcentrates	float4 (4)
costsofbreeding	float4 (4)
costsofconcentrates	float4 (4)
costsofveterinary	float4 (4)
dailyweightgain	float4 (4)
gainpercattle	float4 (4)
grossmargin	float4 (4)
region	int8
herdsize	float4 (4)
id_zalf	float4 (4)
lengthoffatteningperiod	int4
lossrate	float4 (4)
othervariablecosts	float4 (4)
priceforcalve	float4 (4)
priceofcattleatselling	float4 (4)
revenuesfromcattle	float4 (4)
sumofvariablecosts	float4 (4)
totalrevenues	float4 (4)
weightatbeginningoffattening	float4 (4)
weightatendoffattening	float4 (4)
weightofcarcass	float4 (4)

Figure 5.1 The main tables with the simple survey data.

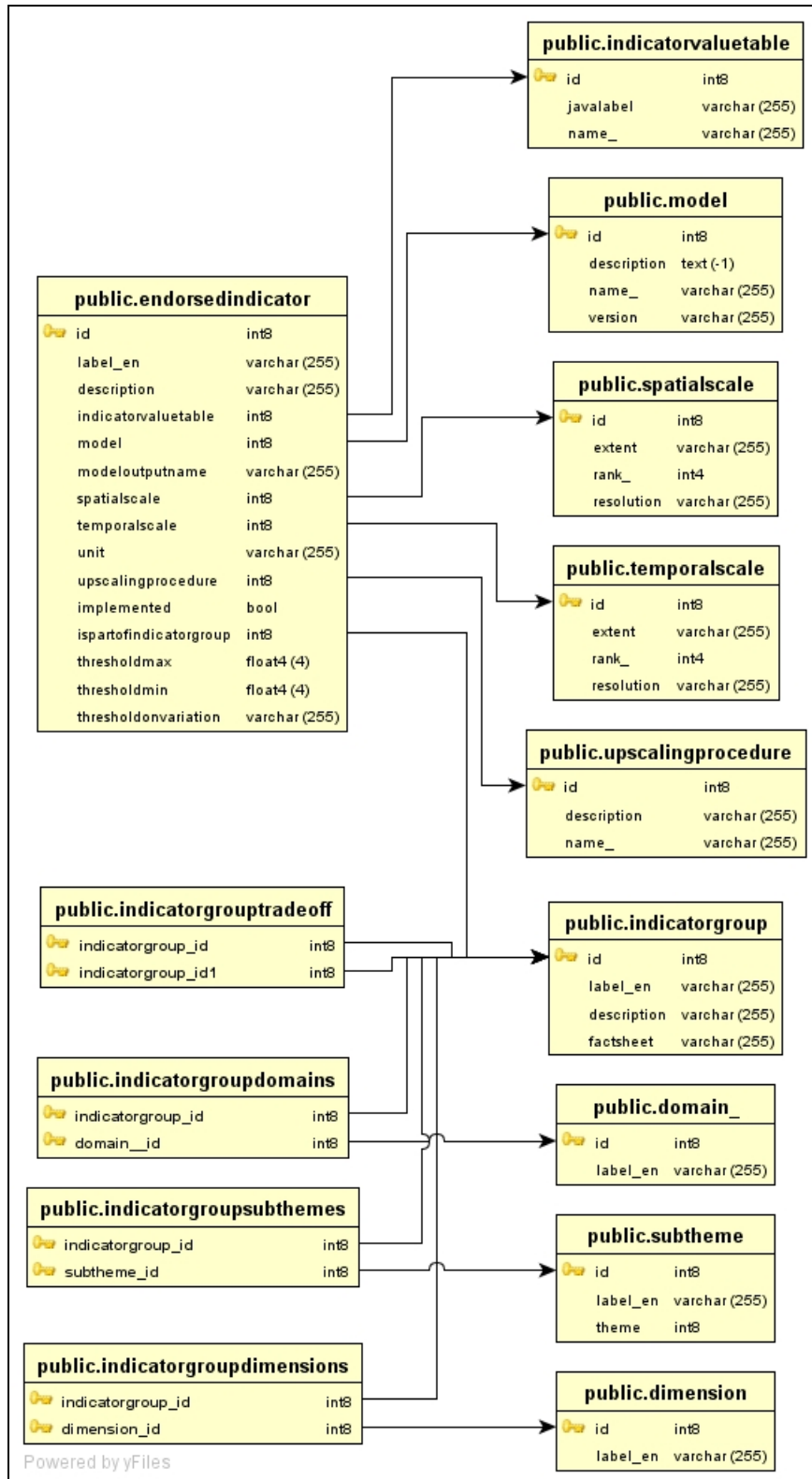


Figure 5.3 The tables containing the information on the nature of the indicators.

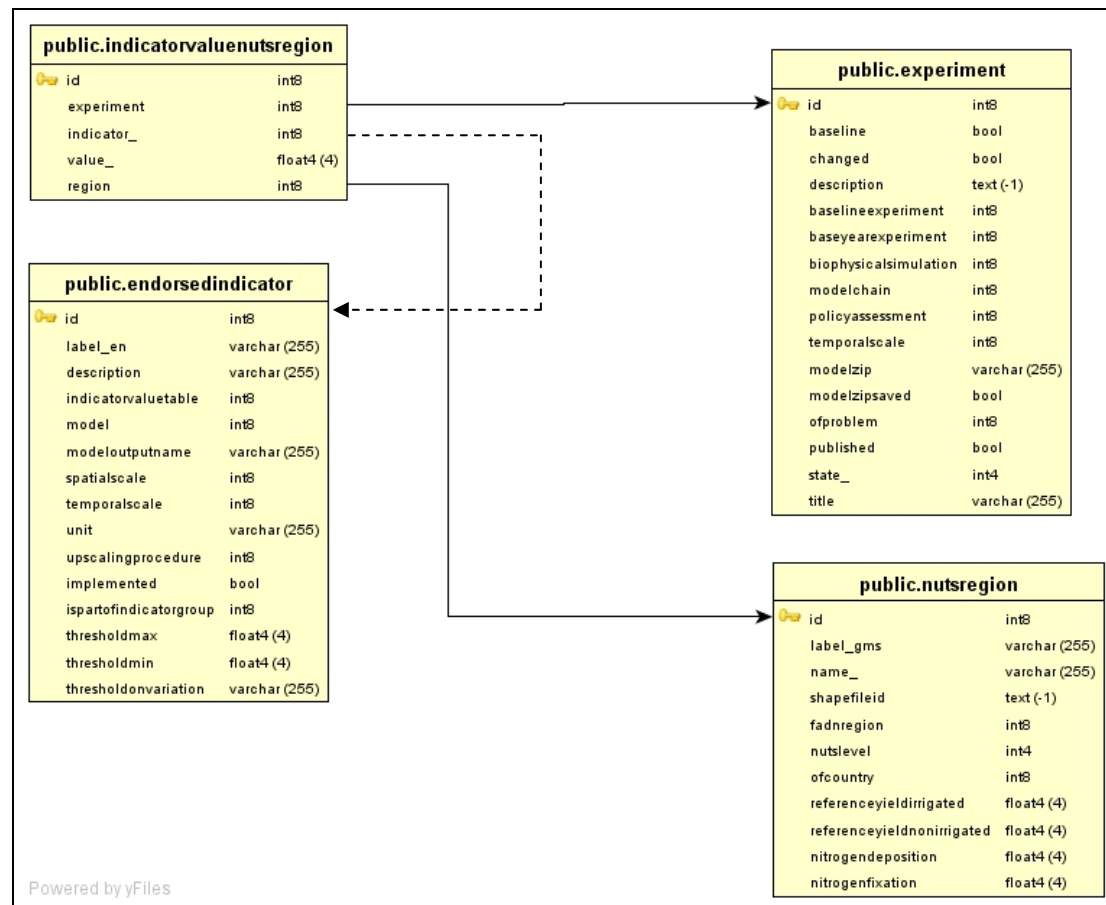


Figure 5.4 An example of how the indicator values are stored. The example refers to indicator values at the level of NUTS regions.

Figure 5.4 contains an example of one of the tables that holds the actual indicator values. The indicator values are stored in different tables according to a certain level of aggregation – the example used here are the indicatorvaluenutsregion. As can be seen from the Figure the table contains links to a specific experiment, a specific endorsedindicator and a specific NUTS region and includes of course the value. Similar tables are in the database that contains indicators at other levels of aggregation:

- indicatorvalueactivity
- indicatorvalueactivitygroupcountry
- indicatorvalueactivitygroupcountryaggregate
- indicatorvalueactivitygroupnutsregion
- indicatorvaluebetweencountryaggregates
- indicatorvaluecountry
- indicatorvaluecountryaggregate
- indicatorvaluecrop
- indicatorvaluefarm

- indicatorvaluefarmagrienvironmentalzone
- indicatorvalueinputgroupcountry
- indicatorvalueinputgroupcountryaggregate
- indicatorvalueinputgroupnutsregion
- indicatorvaluenutsregion
- indicatorvalueproductgroupcountry
- indicatorvalueproductgroupcountryaggregate
- indicatorvalueproductgroupnutsregion

5.3 Spatial units in the database

The relations between the spatial units in the SEAMLESS database are illustrated in Figure 5.5. Parts of this issue are also described in section 4.2. The smallest unit in the SEAMLESS database is the agri-environmental zones that can be found in the table `agrienvironmentalzones`. The agri-environmental zones are described by one only set of soil data. Each of the agri-environmental zones are described by one only set of data on agricultural activities from the regional agro-management zones in the table `regionalagromanagementzones`. One set of data on an agro-management zone can be linked to one or more agri-environmental zones. Each agri-environmental zone is linked to one only climate zone in the table `climatezone`. A climatezone can link to several agri-environmental zones and is described by one time series of climate data. One climate zones is within one NUTS region only. Each agri-environmental zone is also linked to one only NUTS region in the table `nutsregions` and all NUTS regions links to more than one agri-environmental zone. Each NUTS region belongs to one only FADN region establishing the link to the agricultural data from FADN. Each NUTS region also belongs to one only Country. The countries include one or more NUTS regions. Finally, all countries are can be grouped in different aggregations like EU25, LDC, ACP, etc... These aggregations are included in the table `countryaggregates` together with other regions covering the entire world.

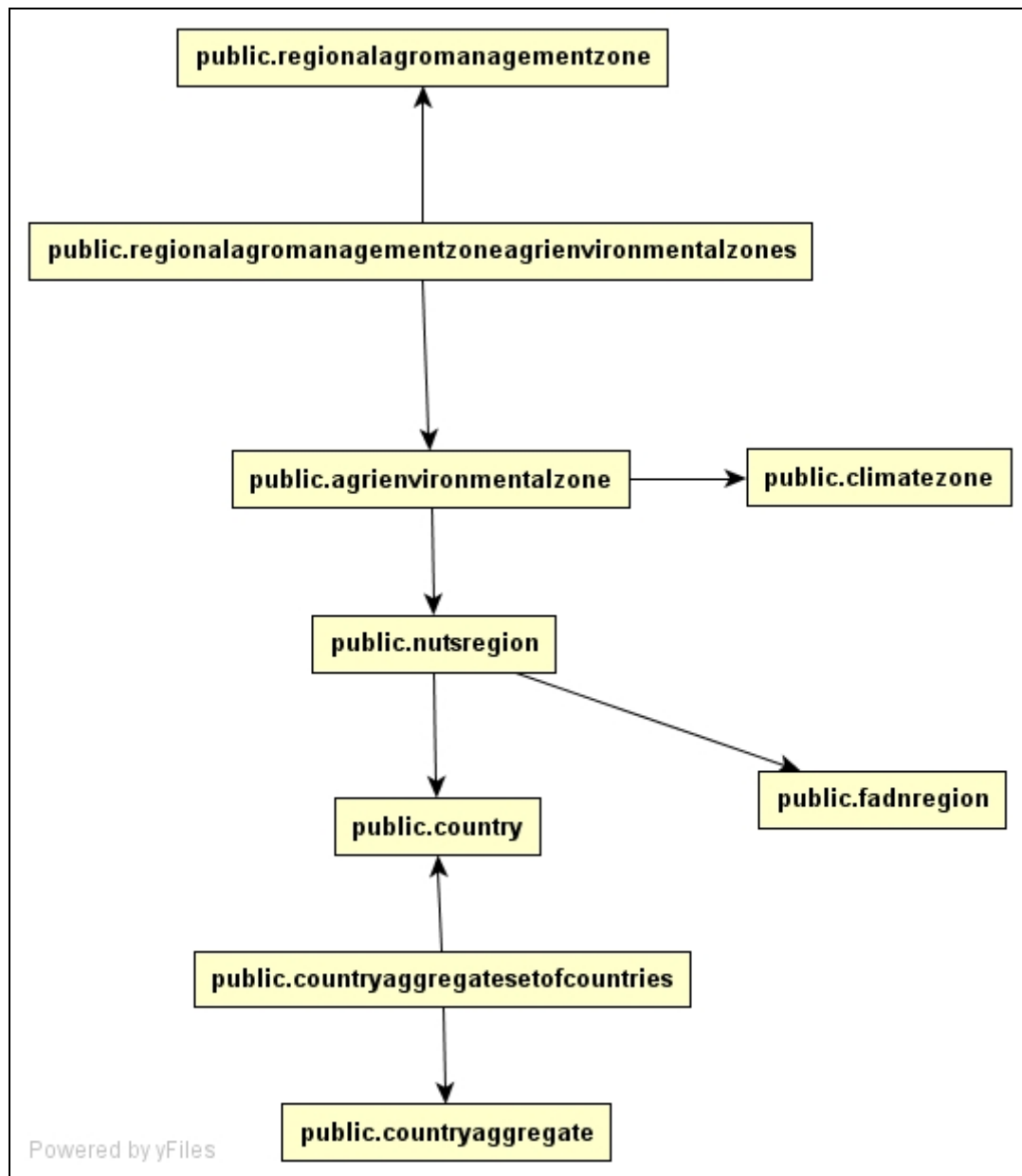


Figure 5.5 The links between the tables referring to spatial units in the SEAMLESS database

5.4 Farm type information

The farm type information in the SEAMLESS database consists of three groups of data:

- 1) data on farm resources aggregated from FADN data
- 2) data on the allocation of farm types in agri-environmental zones
- 3) data on structural change of farm types

An overview of these data is shown in Figure 5.6.

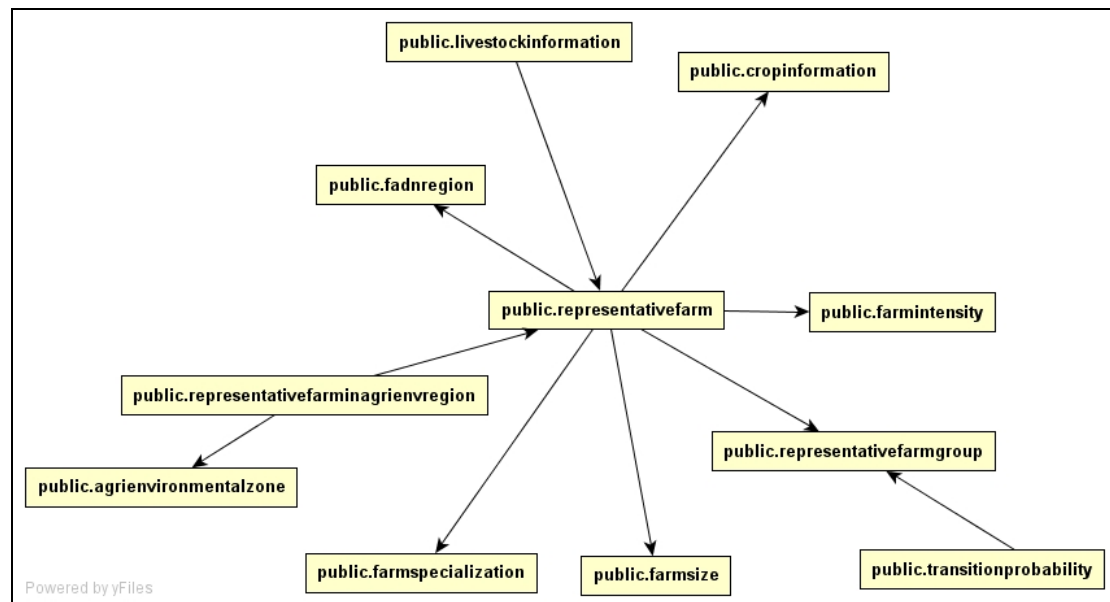


Figure 5.6 Overview of the tables related to farm type information in the SEAMLESS database.

The core table is representativefarm that includes 170 variables on general economics and resources of the farm types aggregated from FADN. This table also links to the three table that defines the SEAMLESS typology: farmintensity, farmsize and farmspecialization and to the table with the so called FADN regions, which is the originally spatial level of the FADN data. The FADN data related to crops (area yields, output) are stored in the table cropinformation, which includes 223 variables for each farm type. The FADN data related to livestock (numbers, yields, outputs) are stored in the table livestockinformation that includes 171 variables per farm type. This is the part of the data that are directly aggregated from the FADN data.

The data on the spatial allocation of farm types are included in the tables representativefarminagrienvregion. As can be seen in Figure 5.7 this table links the farm types in the table representativefarm to the agri-environmentalzones in the table agri-environmentalzones. As can also be seen the table includes information on the area a specific farm types manages in a specific agri-environmentalzone.

The data on structural change are included in the tables transitionprobability and representativefarmgroup. The transitionprobability table includes the transition probabilities, that is the probability that one farm type will change into another farm type. However, the probabilities are only provided for groups of farm types (basically including only the size and specialization dimensions), so these are linked to the farm types in representativefarm through the table representativefarmgroup. One farm type belongs to one only farm type group.

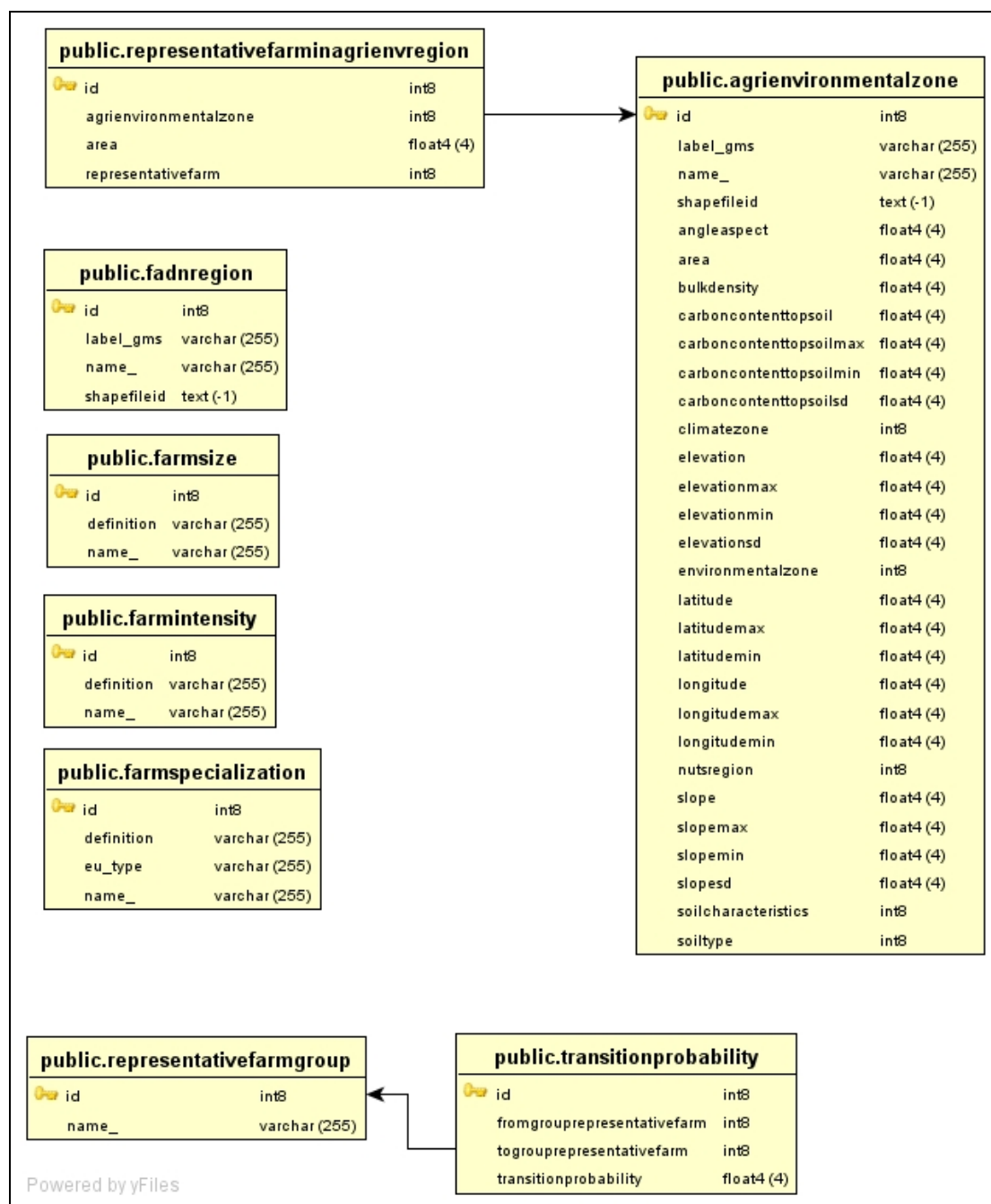


Figure 5.7 The tables in the database linking to farm type information. The tables representativefarm, cropinformation and livestockinformation are not included as they have 170 variables or more. Details on these tables can be found in Appendix 3.

5.5 Experiments, projects, policy options and indicators

A project in SEAMLESS is an application of framework to evaluate one problem, which can be based on a series of experiments. In the database this is structured around the tables project and experiments as can be seen in Figure 5.8.

Firstly, an experiment is one run of the models within the SEAMLESS-IF. In the upper right corner of Figure 5.8 it can be seen that the experiments are linked to problems and projects. A project is one application of the SEAMLESS-IF with one problem that is the question the user wants to have an answer to. One project can (and in most cases do) include more experiments.

Each experiment is based on a set of policy parameters within a given timeframe. This is illustrated in the lower right corner where the experiments are linked to the policyoptions (= the set of policy parameters). In the Figure the example of basicpremiums are included, in the data base additional 15 policy parameters are included.

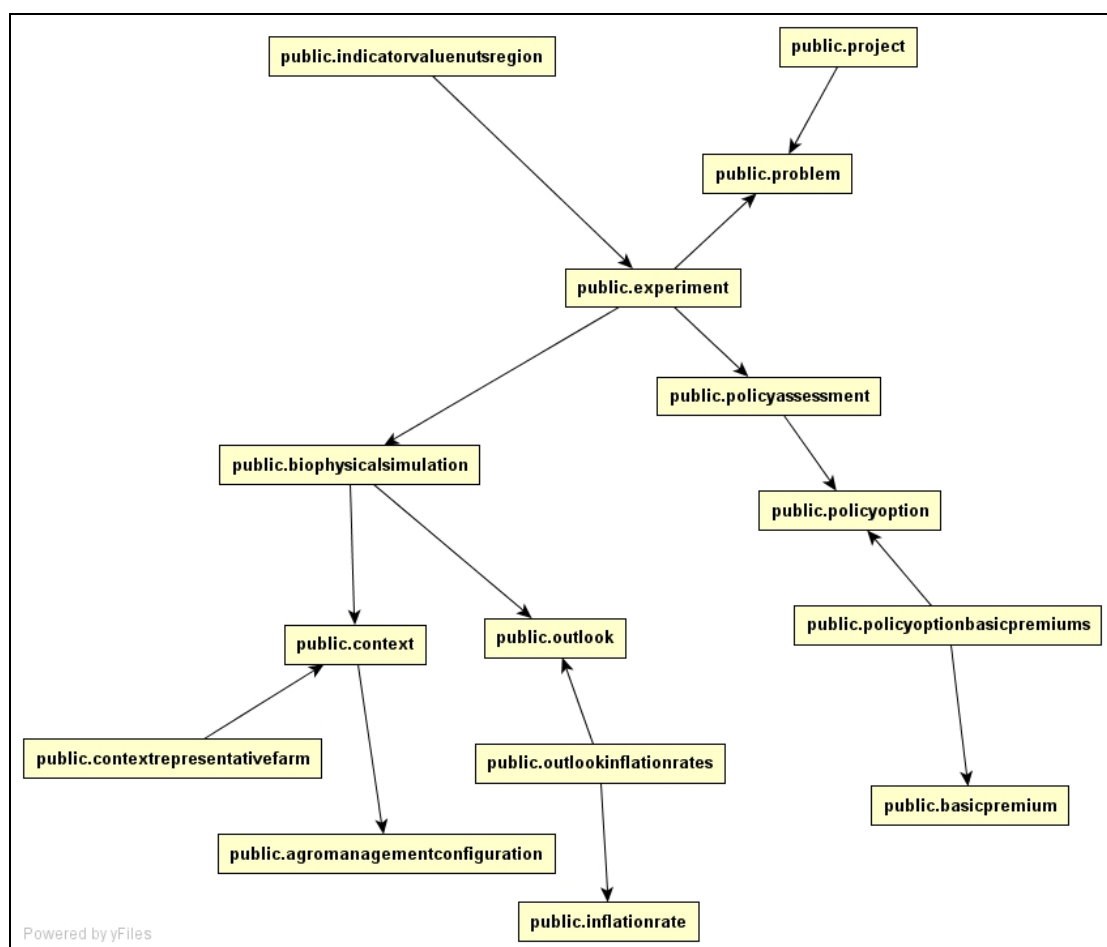


Figure 5.8 Simplified overview of the database schema for experiments, projects, indicators, context and outlooks and policies.

In the lower left corner the experiment are linked to contexts, outlooks and agromanagementconfiguration. Context is the object of interest and its boundary conditions, which is delimited by the boundaries to the biophysical and agro-management system. For example, arable farms in the Flevoland region with 5 different crops. Here the example of representativefarm, which is the farm type is included, in the data base 4 additional variables is linked to the context. The outlook is a description of future trends and/or trend deviations in society at large, which affect the results produced by SEAMLESS-IF, but which are not

forecasted by SEAMLESS-IF. These outlooks discuss trends and trend deviations exogenous to SEAMLESS. In the Figure the example of inflation rate is included, in the database 6 additional variables are used to describe the outlooks. Agromanagementconfiguration includes user selected characteristics of or limitations for agricultural management.

Finally, in the upper left corner the output of the experiments in terms of indicators are shown. The example shown is the indicators for nutsregion. As described in Section 5.2 in total 17 different tables with different aggregation levels for indicators are in the data base.

5.6 Biophysical data

The biophysical data included in the data base are provided for agrienvironmental zones and climate zones as described in Section 5.3. A full overview is given in Figure 5.9.

The smallest spatial unit in the SEAMLESS database is the agri-environmentalzone. The table agrienvironmentalzone itself contains some descriptive variables that are unique for each agri-environmentalzone. This includes Carbon content in topsoil, elevation, latitude, longitude and slope. Further information on soils are included in the table soilcharacteristics that includes some soil related data that are not unique per agri-environmentalzone (more specifically these data are linked to so-called Soil Typological Units in the European soil database – see also Appendix 3). These data includes information on texture classes, thickness of layers and content of stones. Finally, some information on soils is included as default values per texture class. These data are included in the table textureclasssoil and includes variables related to water content and hydraulics.

The climate data in the database are linked to the so-called climate zones (see also Section 5.3). The table climatezone includes a few standard values on aridity and precipitation, but the climate data are mainly in the table dailyclimate. This table includes a set of daily values for each climate zone 1982 to 2006. As can be seen it is average daily values on temperature, rainfall and wind speed plus some derivatives that are included. These data comes from the JRC/MARS database.

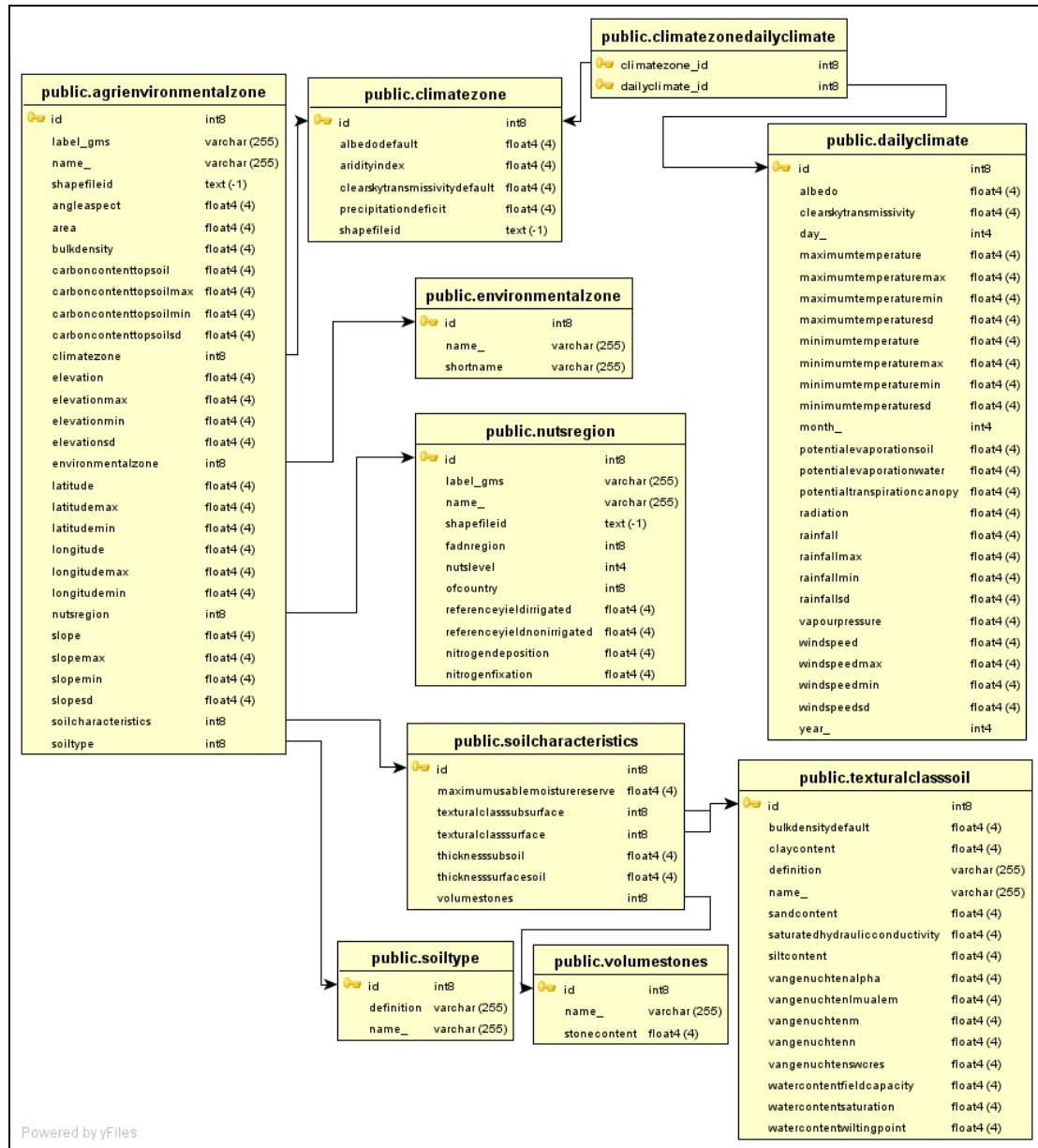


Figure 5.9 The biophysical data in the SEAMLESS database.

6 Metadata issues

The metadata issue can be split into two: 1) metadata on the original dataset and 2) metadata for the (processed) data in the SEAMLESS database. Already in the first year of the project a PD was delivered describing some of the key original datasets in a format adapted from ISO data and following the INSPIRE¹⁶ standards (see Appendix 3 to this report).

For the SEAMLESS database the metadata are included at three different levels.

1) For some variables the metadata has been included in the database as variables/fields. This is the case when the metadata must be accessible by the user directly from SEAMLESS-IF. This is for example the case for the indicators, where the characteristics and definitions can be viewed in this way.

Other metadata are included in the database:

2) At field/attribute level it is planned to include the following information:

- Units
- Description
- Reference code used in original data (where applicable)
- Reference name used in the original data (where applicable)

3) At table/concept level it is planned to include the following information:

- Source
- Description
- Web link to metadata in ISO-format
- Web link to data provider (where applicable)
- WP4 SEAMLESS contact
- SEAMLESS contact

It has been decided to add the main part of the metadata to the concepts and attributes of the ontology and generate these to the database as table or field comments using Hibernate.

Examples of the metadata added at table level can be explored at the end of the sql script in Appendix 2 (from COMMENT ON TABLE public.agriculturalactivityperfarm IS.. and onwards). Field level comments have not yet been generated from the ontology. The current state of these comments can be explored in the ontology browser included in the SEAMLESS-IF.

As mentioned above, metadata on the existing data sources have already been elaborated earlier in ISO/INSPIRE adapted format.

¹⁶ See <http://www.ec-gis.org/inspire/>

This includes information on:

- Source short name
- Source long name
- Year/edition
- Abstract
- Metadata source
- Documentation
- History
- Keywords
- Maintenance
- Scale
- Restrictions
- Coordinate system
- Extent
- Temporal coverage
- Objects/ attributes
- Distributor
- Copyright
- Availability
- Format
- Online availability

These metadat can be found in appendix 3.

7 Strategy on uncertainty

The basic principle for dealing with uncertainty in the data in the SEAMLESS database is that we distinguish between uncertainty in the original data and uncertainties that stems from the processing of data in SEAMLESS. The later refers to the cases where the original data sets are processed, for example by aggregating single farm data to farm types or by transforming grid data to polygons.

Uncertainty in original data

Information in original data sets will only be dealt with in a qualitative manner. Where information is already available on the uncertainty of the different data sets, this information will be included in the metadata that either will be included in the data base itself or in the ontology. This of course also includes references to where the information can be found. In cases where no information on uncertainty of the original data is available a very brief statement will be given on this merely judging if uncertainty is low, medium or high.

Uncertainty in data sets processed for SEAMLESS

Most of the data that is in the SEAMLESS data base will be processed in different ways. The goal is to include quantitative information on the uncertainties stemming from the processing in the data base. The exact format of this depends on both the original data and on the specific processing of the data.

An example of what it could look like is here given for the farm type information that originates from the FADN data. The original data contains information on a sample of individual farms across EU-25. In the SEAMLESS data base the individual farms are aggregated to farm types based on certain criteria. In the data base we will include data on the standard deviation of: a) a selection of the variables that are used to define the types and b) a selection of some key descriptive variables not used for defining the types (see draft list in appendix 1). It is not feasible to include SD on all variables in the database due to the large number (+400).

Another illustrative example is the soil data that involves spatial issues. The original soil data are linked to so called Soil Mapping Units (SMU) that are polygons described by the characteristics of the dominant Soil Typological unit (STU). In SEAMLESS this information is then processed bases on spatial dominance to describe the so called Agri-environmental zones (AEnZ), normally larger than the SMUs and with borders that do not coincide with the borders of the SMUs. This means that a certain soil profile description in the SEAMLESS database is based on a specific STU that covers fully or partly a SMU that covers fully or partly the specific AEnZ. To make this transparent the actual percentage of the area of SMU covered by the STU and the actual percentage of the area of the AEnZ covered by the SMU can be included in the data base. Note that in this example the original data are categorical, which means that averages and SDs cannot be calculated. Uncertainty in relation to the processing of the biophysical data is also discussed in Hazeu et al., 2009.

An example: Selection of FADN variables for which data on minimum and maximum values and on standard deviation of the single farm data aggregated to farm types will be included in the database.

a. Selected variables used to define the types

ESU

Total output per ha

Arable land %

Permanent grass %

b. Selected key variables not used in the definition of the types

UAA

AWU

fertilisers and soilimprovers

cropprotection products

production olive groves

total livestock units

yield of wheat

yield of maize

milk yield

feed for grazing livestock

total subsidies on crops

total subsidies on livestock

environmental subsidies-c.u.

net value added

family farm income

total assets

total liabilities

gross investments

8 Strategy on quality assurance

The data in the SEAMLESS DB should be of sufficient quality with respect to their applications. The basic principle for dealing with data quality in the SEAMLESS database is the distinction between original data and processed data (as with uncertainty). The latter refers to the cases where the original data sets are processed, for example by aggregating single farm data to farm types or by transforming grid data to polygons. For original data we will refer as much as possible to the existing metadata and relevant publications covering the quality of these data sources. This will for example be the case with for example the Environmental zonation of Metzger et al. (2005), the climate data from the JRC/MARS database and the soil data from various sources used to build the spatial framework of SEAMLESS. But in case of processing of original data sets in SEAMLESS a further specification will be given of the implications of the processing on the quality of the newly developed data set.

Data quality of original data

The original datasets used in the SEAMLESS database will be dealt with in a qualitative manner. This means that metadata will be included for the original datasets. The metadata will give an indication of the data quality. In most cases the producer of the dataset has provided metadata describing the quality of the data. Metadata profiles for environmental, socio-economic, farming and global datasets are already available (PDs 431, 441, 451 and 461). These profiles will be extended with a short description on the weaknesses/strengths of the datasets. Also an indication will be given on the reliability, accuracy, robustness and uncertainty of the dataset. An overall assessment of the database includes a scoring on relevancy, accuracy, comparability over time and/or space. The scoring ranges from 1 (no problems) – 3 (major reservations). In the case that information is not available a score of 10 is given. In cases where no metadata exist only this brief judgement on the data quality will be given.

Data quality of datasets processed for SEAMLESS

Most of the data will be processed in different ways. Data can be converted into a different format (grid data to polygons and vice versa), separate datasets can be combined into new datasets and datasets can be spatially and/or thematically aggregated to be suitable for input for model calculations. However, data as output of SEAMLESS model calculations is also considered to be processed data. The goal is to describe the quality of the database on basis of certain criteria. The quality of a database can be assessed through an audit on basis of the different criteria. This cookbook for quality assurance includes the following actions:

- Purpose of the database: An explanation on why the database has been developed.
- Application domain: For which purposes you can use the database? What is the domain in which you can use the database?
- Schematization, simplification and assumptions: A brief description of how the database was made. What were the simplifications made to represent reality (e.g. spatial/thematic detail)? A description of the newly created variables. What were the source datasets, processing steps and assumptions?
- Design of the database model: Is the database design documented?

- Required software/hardware: A description of the hardware and software needed to exploit the database. An instruction manual with where to get the soft/hardware and how to install the database.
- Content of the database: Is the content of the database documented (variables, scale, data format, applications etc)?
- Limitations: What are the legal restrictions to use the database? An indication of the actuality of the database. What are the boundary conditions (accuracy, spatial/thematic detail)?
- Definition of each variable: How was each variable calculated? How are they defined? What are the dimensions and range of each variable?
- Description of tests and validations: Which tests and validations were applied to verify the quality of the database (does it fulfil the user needs)? Are the values reliable/accurate in the new database? Comparison with external data sources. Control of processing steps.
- Management plan: How will the database be maintained and what will be the procedure to upload/extend the database with more recent/accurate databases? Who will be responsible for maintenance and user support? What kind of improvements is foreseen? A vision on the future developments is needed.

A quality assessment based on the above mentioned cookbook is very extensive. When available it can be seen as a complete metadata description of such a dataset.

A more handy quality assessment of processed datasets could be the quality assessment as described above for the extended metadata profiles of the original datasets. A short quality assessment will have more value if it is based on a complete metadata profile. Such a handy quality assessment could be a short description on the weaknesses/strengths of the datasets. Also an indication will be given on the reliability, accuracy, robustness and uncertainty of the dataset. An overall assessment of the database includes a scoring on relevancy, accuracy, comparability over time and/or space. The scoring ranges from 1 (no problems) – 3 (major reservations). In the case of unknown a score of 10 is given.

Status March 2009

The strategy on quality assurance is yet not fully implemented, but will be taken further by the SEAMLESS Association

- In relation to the original data sets the strategy has been implemented – see for example appendix 3 with metadata on these datasets.
- For the biophysical data the quality issues in relation to the processing of the data to the SEAMLESS spatial framework has been reported in Hazeu et al., 2009.
- The implications of the processing of FADN data to the SEAMLESS typology is described in Section 4.6 of this report.
- In relation to the data on agricultural management collected specifically for the project (the simple and detailed surveys) various test have been made to clean the data for abnormal and inconsistent data. Based on this the datasets have been improved in several iterations, but the documentation of this process is not elaborated.

9 The stand alone version of the database

The final version of the database will be publically available with a few modifications. The guide in Section 10 that describes how the database can be accessed refers to the publically available version.

The access to the database will be licensed with conditions specified in the agreement for the SEAMLESS Association. The current (31st of March 2009) draft of this text can be seen in box 9.1. The annex IV referred to in the box is included as Appendix 4 of this report in its current version.

Box 9.1 The text on database in the IPR and access right part of the SEAMLESS Association agreement (draft of 31st of March 2009).

5.3 Data and databases

5.3.1. It is the general policy to make all data and the database structure(s) available in the public domain intended to allow third parties to share, modify, and use the data and database structure while maintaining this same freedom for others. Therefore the Parties will grant to third parties a license based on the Open Database Licence Agreement (ODbL) – Database Licence(draft) (Version 0.9) as described in Annex IV. Access to the databases will be granted to anybody for non-commercial uses respecting moral rights including identification of sources. Note that article 5.6 applies in all cases.

5.3.2.

In order to respect the moral rights any publication based on the data must be accompanied by the following reference: Source: SEAMLESS integrated database including aggregated data from EU-FADN - DG AGRI L-3 and JRC/MARS Data Base - EC – JRC.

5.3.3.

Any publically conveyed derivative database must also respect the reference in 5.3.2 and the derivative database must be made available under a license similar to the SEAMLESS data base.

5.3.4.

Currently two external data sources are not fully covered by this agreement. Access to single farm data from FADN will be covered by special agreements between DG Agriculture and Rural Development, SEAMLESS Association and the individual Parties and will not be made available to third parties. Access to daily climate data from JRC/MARS database outside SEAMLESS-IF will be covered by special agreements between JRC and all interested parties.

As can be seen in the box special conditions apply to two of the original datasets. For the FADN dataset it is specified that single farm data can never be passed on to third parties. For the daily climate data from the JRC/MARS database special agreements directly between JRC and interested third parties need to be made. In the publically available version of the SEAMLESS database only monthly averages are included.

As can be seen in the box it is also specified that all use of the database needs to be referred as: Source: SEAMLESS integrated database including aggregated data from EU-FADN - DG AGRI L-3 and JRC/MARS Data Base - EC – JRC.

The use of the stand alone database in the current version has to practical limitations:

- 1) As mentioned in section 6 the metadata in the database is incomplete with some comments at table level and all comments at field level missing. We plan to improve this in the coming year.
- 2) Inheritance is not generated to the database schema. This makes is very difficult to understand specific parts of the database and to grasp the links between some of the tables. We do no yet have the strategy ready. Basically, inheritance means that characteristics – for example fields - of a table in the database (child) can be inherited from another table in the database (parent) and that the data in these tables can be queried in the same query. As an example you can have a parent table with cities (with records on cities that are not capitols) and a parent table with capitols (with records of cities that are capitols). A query on the cities table will include records from the capital table unless otherwise stated (Postgres default). The problem is that inheritance in the integrated framework is implemented in a handled by the ontology in a different concept than the concept of Postgres and that this cannot be generated to the database schema with Hibernate. In the database this means that the keys between the parent and child table(s) are not generated from the ontology. On the one hand this means that it is difficult to interpret the relations between the tables. On the other hand it also increases the risk of entering inconsistent data into the database as the missing links do not restrict field values. For the stand alone version of the database the ‘missing’ relation could be added manually to improve the transparency.

10 Guide: How to access the database

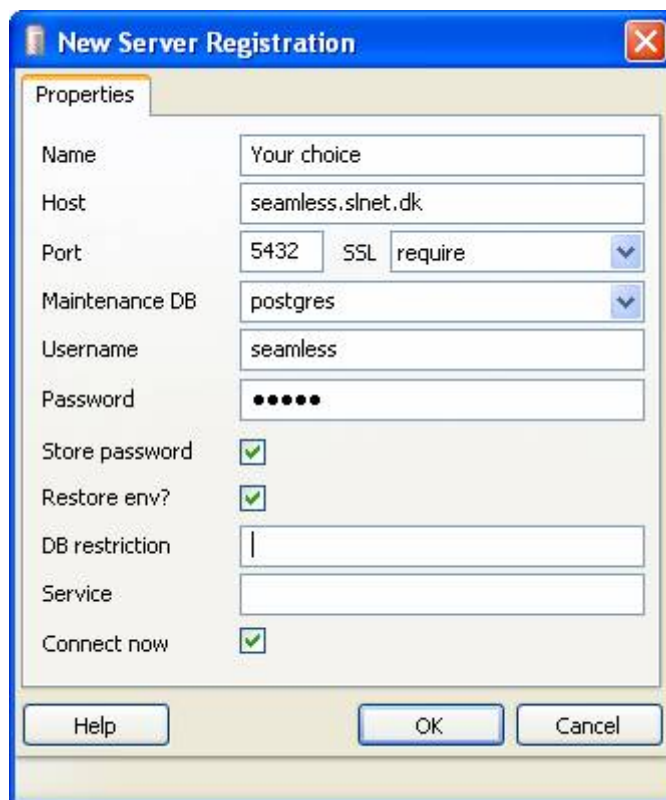
You can access the SEAMLESS database using PGAdminIII, SQLmanager or something similar: PGAdmin is a free tool that can be downloaded from: <http://www.pgadmin.org> .

For PGAdminIII: (can vary a little between versions, here 1.10.1 is used)

Choose 'add server' in the file menu and fill in:

- Name: What ever you like
- Host: seamless.slnet.dk
- Port: 5432
- SSL: choose 'require'
- MaintenanceDB: prefilled to Postgres - leave like that
- Username and Password: Send an email to eran@life.ku.dk to get username and password!
- DB restriction: keep blank
- Service: keep blank

So this should look like this:



This should get you connected to the server, where you can choose the database named seamdb_standalone. If for some reason you cannot connect please send an email to: eran@life.ku.dk

Basic PGAdmin I: To have a look at the data:

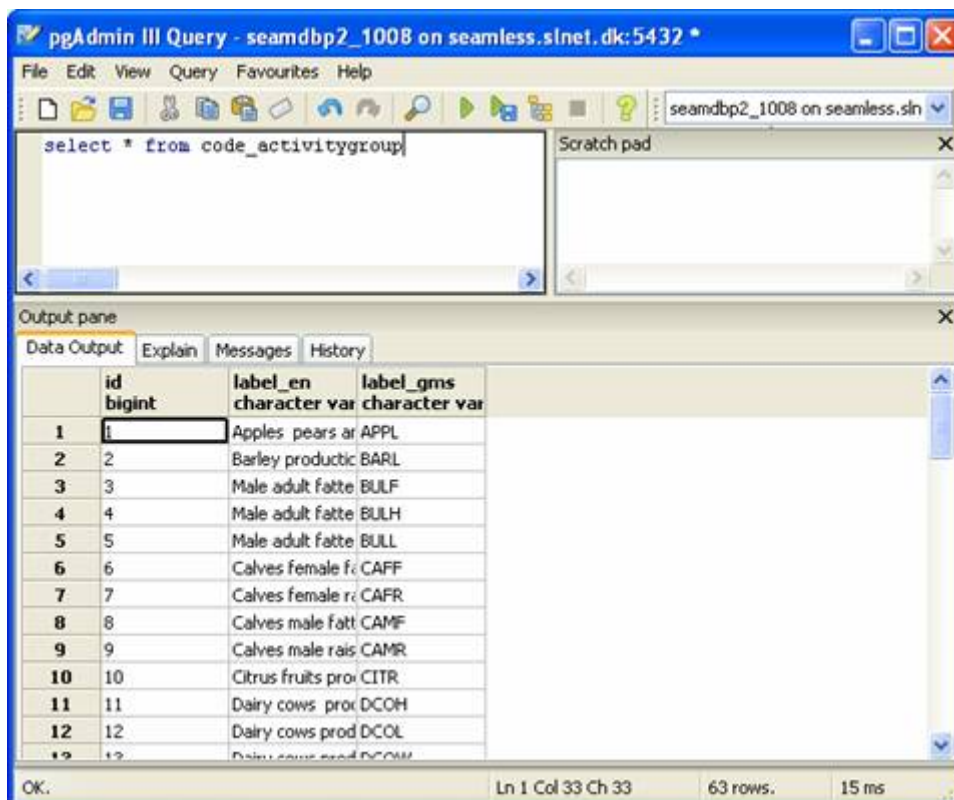
In the object browser window you open: seamdb_standalone > schemas > public > tables.

You now see a list of all the tables in the database. If you right click on a table and choose view data you can explore the data. Or click on the button looking like a table in the tools line.

Basic PGAdmin II: To export data:

The options to export data from PGAdmin are not advanced – you can only get txt files.

Select the query tool in the tools menu. Write a SQL statement in the upper left window. 'SELECT * FROM tablename' will select all records in a table.



Choose 'export' in the file menu of the query tool window and specify the txt format.

It is also possible, both in the query tool results and in the table views to simply select and copy records to be pasted into for example OpenOffice.org Calc or Excel.

11 Plans for improvements SEAMLESS database in the SEAMLESS Association

The work on the SEAMLESS database will continue after the duration of the project. It is already planned that the database will be extended to meet the demands for an application of a high price scenario, though the exact needs are not yet specified. Apart from this the following improvements are also planned.

Meta-data and comments to ontology and database

The database (integrated and stand alone version) and ontology should both be completed with meta-data, for assisting users (policy expert, integrative modeler and modeler) to understand the meaning of the data structures, its content source and interpret the data. An overview of how this will be structured is given in section 9.

Addition of data

- Area coverage of data on farm types. A solution for the problem with suboptimal coverage of farm type data at the regional level (see also Section 4.6) will be implemented.
- Improvement of the simple survey data. Presently data for 16 regions have a quality that meets the demands for modeling in SEAMLESS-IF. This means that the data needs to be improved for the remaining regions already included. Also to improve the representation of the simple regions for the variety of biophysical endowments and farming systems across EU27, it is needed to add more regions. As a part of this work it is planned to provide a simplified format for collecting the simple survey data.

12 Strategy on maintenance of the SEAMLESS database beyond 2009

As part of the agreements in relation to the continuation of the work of the SEAMLESS project in the SEAMLESS Association also the maintenance of the database has been ensured. The necessary resources to provide servers and manpower have been allocated. This means that the database will be maintained at least until the end of 2011.

The needed copies of the database to run the SEAMLESS-IF and develop the framework and the individual components will be located on servers at Wageningen UR. Furthermore, the stand alone copy of the version of the database will be located on a server at UoC.

For 2009 the main priority is 1) to facilitate the application of a high price scenario and 2) to make further improvements of the database as specified in Section 11. For 2010 and 2011 the specific priorities will be defined at a later stage.

It is planned to update the database on a yearly basis regarding the farm type information based on the FADN data and the climate data based on the JRC/MARS data.

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Glossary

- Agri-environmental zone* The smallest spatial unit in the SEAMLESS database. It is a combination of NUTS-region, climate zone and soiltypes based on OCTOP.
- Allocation* This is a methodology that enables to add a (below regional) locational dimension to every individual farm contained in the FADN data base and every land use in the
- Climate zone* In SEAMLESS a spatial unit that combines NUTS regions and environmental zones. In the database one time serie of daily climate data is provided for each climate zone.
- Enironmental Stratification* A statistical environmental stratification of Europe consisting of 84 strata based on 20 most important environmental variables.
- European Size units* An European Size Units The economic size of farms is expressed in terms of European Size Units (ESU). The value of one ESU is defined as a fixed number of EUR/ECU of Farm Gross Margin. Over time the number of EUR/ECU per ESU has changed to reflect inflation. Used in FADN to identify size.
- FADN* Farm Accountancy Data Network of the European Union (FADN) has been established since 1965. The aim of the network is to gather accountancy data from farms for the determination of incomes and business analysis of agricultural holdings. Based on sample farms covering information on farms in EU-27.
- FADN farm* One sample farm in the Farm Accountancy Data Network. FADN is based on a representative sample of all agricultural holdings.
- Farm type* A classification of farms according to different dimensions. In SEAMLESS a farm typology for the whole EU has been developed. The different dimensions of this typology are:
- Size: Measured as the economic size of farms
 - Intensity: Measured as the total output in Euro per ha
 - Specialisation: Measured as the standard gross margins from different types of crops and livestock
 - Land use: Measured as the proportion of the agricultural area covered by specific types of crops.
- FMU* Farm Mapping Unit. FMU is a continuous region with similar soil soil conditions determining potential yields and similar altitude and LFA characteristics. FMUs are a cluster of HSMU and were created to reduce the complexity of the allocation procedure of FADN farms.
- FSS* Farm Structure Survey data are used to collect information on agricultural holdings in the Member States at different geographic levels (Member States, regions, districts) and over periods (follow up the changes in agricultural sector), thus provide a base for decision making in

the Common Agricultural Policy. Responsible Institution at EU level is Eurostat.

- HSMU* Homogeneous Spatial Mapping Units are an intersection of land cover (Corine LC 2000), relief (slope in 5 classes), Soil Mapping Units (so-called soil landscapes from the *European soil map*) and the Nuts 2/3 boundaries (depending on the size of the NUTS regions) (see Figure 2.1). Each HSMU has identical values for land cover class, slope class and Soil SET, other parameters (such as annual rainfall) may differ inside the HSMU.
- Livestock units* Number of equidae, cattle, sheep, goats, pigs and poultry etc. present on a holding in annual average terms, converted into livestock units corresponding to 1 dairy cow.
- NUTS regions* The Nomenclature of Territorial Units for Statistics, (NUTS, for the French nomenclature d'unités territoriales statistiques), is a geocode standard for referencing the administrative divisions of countries for statistical purposes. The standard was developed by the European Union, and thus only covers the member states of the EU in detail.
- OCTOP* The Organic Carbon content of the TOPsoil (OCTOP) (in %) calculated for every 1km² in Europe. Used to delineate the agri-environmental zones in SEAMLESS.
- Ontology* An ontology is a formal, explicit specification of a shared conceptualisation. An ontology provides a shared vocabulary, which can be used to model a domain — that is, the type of objects and/or concepts that exist, and their properties and relations. In SEAMLESS the ontology is computerized making it possible to generate the database schema from the ontology.
- Standard gross margin* The standard Gross Margin (SGM) of a crop or livestock item is defined as the value of output from one hectare or from one animal less the cost of variable inputs required to produce that output. It is used in FADN to identify farm types and size classes.

Appendices

Appendix 1: Gams code for processing single farm data from FADN to the SEAMLESS farm typology.

By David Verhoog, LEI.

```
=====
* File      : readrica.gms
* Author    : Demo user
* Version   : 1.0
* Date      : 03/06/2008 13:41:36
* Changed   : 4-3-2009 9:49:59
* Changed by: Demo user
* Remarks   :
$ontext
```

```
$offtext
```

```
*=====
*_NB when all data is stored in the GDX file yoyu can use the "actions" "Make tuple" in Gtree
*_to create a GDX file containing the set of all FarmNumbers
*alias(*,Nr);
$include nr.gms
```

```
*alias(*,fadnvar);
$include fadnvar.gms
```

```
set Year "Year" /2004/;
```

```
set Country "countries"
```

```
/
```

```
BEL "Belgium"
CYP "Cyprus"
CZE "Czech Republic"
DAN "Denmark"
DEU "Germany"
ELL "Greece"
ESP "Spain"
EST "Estonia"
FRA "France"
```

HUN "Hungary"
IRE "Ireland"
ITA "Italy"
LTU "Lithuania"
LVA "Latvia"
LUX "Luxemburg"
MLT "Malta"
NED "The Netherlands"
OST "Austria"
POL "Poland"
POR "Portugal"
SUO "Finland"
SVE "Sweden"
SVK "Slovak Republic"
SVN "Slovenia"
UKI "United Kingdom"

/;

set var_extra "variables"

/

region

subregion

farmnumber

typ1

typ2

typ3

weight

/;

parameter fadn(Country,nr,Year,fadnvar);
parameter fadn_bel(Country,nr,Year,fadnvar);
parameter fadn_cyp(Country,nr,Year,fadnvar);
parameter fadn_cze(Country,nr,Year,fadnvar);
parameter fadndan(Country,nr,Year,fadnvar);
parameter fadndeudeu(Country,nr,Year,fadnvar);
parameter fadnell(Country,nr,Year,fadnvar);
parameter fadnesp(Country,nr,Year,fadnvar);
parameter fadnest(Country,nr,Year,fadnvar);
parameter fadnfra(Country,nr,Year,fadnvar);
parameter fadnhun(Country,nr,Year,fadnvar);

parameter fadnire(Country,nr,Year,fadnvar);
parameter fadnita(Country,nr,Year,fadnvar);
parameter fadnltu(Country,nr,Year,fadnvar);
parameter fadnlva(Country,nr,Year,fadnvar);
parameter fadnlux(Country,nr,Year,fadnvar);
parameter fadnmlt(Country,nr,Year,fadnvar);
parameter fadnned(Country,nr,Year,fadnvar);
parameter fadnost(Country,nr,Year,fadnvar);
parameter fadnpol(Country,nr,Year,fadnvar);
parameter fadnpor(Country,nr,Year,fadnvar);
parameter fadnfin(Country,nr,Year,fadnvar);
parameter fadnswe(Country,nr,Year,fadnvar);
parameter fadnsvk(Country,nr,Year,fadnvar);
parameter fadnsvn(Country,nr,Year,fadnvar);
parameter fadnuki(Country,nr,Year,fadnvar);

\$gdxin 'FADNbel2004.gdx';
\$load fadn_bel

\$gdxin 'FADNcyp2004.gdx';
\$load fadn_cyp

\$gdxin 'FADNcze2004.gdx';
\$load fadn_cze

\$gdxin 'FADNdan2004.gdx';
\$load fadndan

\$gdxin 'FADNdeu2004.gdx';
\$load fadnde

\$gdxin 'FADNell2004.gdx';
\$load fadnell

\$gdxin 'FADNesp2004.gdx';
\$load fadnesp

\$gdxin 'FADNest2004.gdx';
\$load fadnest

\$gdxin 'FADNfra2004.gdx';

\$load fadnfra

\$gdxin 'FADNhun2004.gdx';

\$load fadnhun

\$gdxin 'FADNire2004.gdx';

\$load fadnire

\$gdxin 'FADNita2004.gdx';

\$load fadnita

\$gdxin 'FADNltu2004.gdx';

\$load fadnltu

\$gdxin 'FADNlva2004.gdx';

\$load fadnlva

\$gdxin 'FADNlux2004.gdx';

\$load fadnlux

\$gdxin 'FADNned2004.gdx';

\$load fadnned

\$gdxin 'FADNost2004.gdx';

\$load fadnost

\$gdxin 'FADNpor2004.gdx';

\$load fadnpor

\$gdxin 'FADNpol2004.gdx';

\$load fadnpol

\$gdxin 'FADNfin2004.gdx';

\$load fadnfin

\$gdxin 'FADNswe2004.gdx';

\$load fadnswe

\$gdxin 'FADNsvk2004.gdx';

\$load fadnsvk

\$gdxin 'FADNsvn2004.gdx';

\$load fadnsvn

\$gdxin 'FADNuki2004.gdx';

\$load fadnuki

*! je moet eigenlijk alle ned2004(nr vervangen door fadn

fadn('BEL',nr,'2004',fadnvar) \$ fadn_bel('BEL',nr,'2004',fadnvar)

= fadn_bel('BEL',nr,'2004',fadnvar);

fadn('CYP',nr,'2004',fadnvar) \$ fadn_cyp('CYP',nr,'2004',fadnvar)

= fadn_cyp('CYP',nr,'2004',fadnvar);

fadn('CZE',nr,'2004',fadnvar) \$ fadn_cze('CZE',nr,'2004',fadnvar)

= fadn_cze('CZE',nr,'2004',fadnvar);

fadn('DAN',nr,'2004',fadnvar) \$ fadndan('DAN',nr,'2004',fadnvar)

= fadndan('DAN',nr,'2004',fadnvar);

fadn('DEU',nr,'2004',fadnvar) \$ fadndeudeu('DEU',nr,'2004',fadnvar)

= fadndeudeu('DEU',nr,'2004',fadnvar);

fadn('ELL',nr,'2004',fadnvar) \$ fadnell('ELL',nr,'2004',fadnvar)

= fadnell('ELL',nr,'2004',fadnvar);

fadn('ESP',nr,'2004',fadnvar) \$ fadnesp('ESP',nr,'2004',fadnvar)

= fadnesp('ESP',nr,'2004',fadnvar);

fadn('EST',nr,'2004',fadnvar) \$ fadnest('EST',nr,'2004',fadnvar)

= fadnest('EST',nr,'2004',fadnvar);

fadn('FRA',nr,'2004',fadnvar) \$ fadnfra('FRA',nr,'2004',fadnvar)

= fadnfra('FRA',nr,'2004',fadnvar);

fadn('HUN',nr,'2004',fadnvar) \$ fadnhun('HUN',nr,'2004',fadnvar)

= fadnhun('HUN',nr,'2004',fadnvar);

fadn('IRE',nr,'2004',fadnvar) \$ fadnire('IRE',nr,'2004',fadnvar)

= fadnire('IRE',nr,'2004',fadnvar);

fadn('ITA',nr,'2004',fadnvar) \$ fadnita('ITA',nr,'2004',fadnvar)

= fadnita('ITA',nr,'2004',fadnvar);

fadn('LTU',nr,'2004',fadnvar) \$ fadnltu('LTU',nr,'2004',fadnvar)

= fadnltu('LTU',nr,'2004',fadnvar);

fadn('LVA',nr,'2004',fadnvar) \$ fadnlva('LVA',nr,'2004',fadnvar)

= fadnlva('LVA',nr,'2004',fadnvar);

fadn('LUX',nr,'2004',fadnvar) \$ fadnlux('LUX',nr,'2004',fadnvar)

= fadnlux('LUX',nr,'2004',fadnvar);

```
fadn('NED',nr,'2004',fadnvar) $ fadnned('NED',nr,'2004',fadnvar)
    = fadnned('NED',nr,'2004',fadnvar);
fadn('OST',nr,'2004',fadnvar) $ fadnost('OST',nr,'2004',fadnvar)
    = fadnost('OST',nr,'2004',fadnvar);
fadn('POL',nr,'2004',fadnvar) $ fadnpol('POL',nr,'2004',fadnvar)
    = fadnpol('POL',nr,'2004',fadnvar);
fadn('POR',nr,'2004',fadnvar) $ fadnpor('POR',nr,'2004',fadnvar)
    = fadnpor('POR',nr,'2004',fadnvar);
fadn('SUO',nr,'2004',fadnvar) $ fadnfin('SUO',nr,'2004',fadnvar)
    = fadnfin('SUO',nr,'2004',fadnvar);
fadn('SVE',nr,'2004',fadnvar) $ fadnswe('SVE',nr,'2004',fadnvar)
    = fadnswe('SVE',nr,'2004',fadnvar);
fadn('SVK',nr,'2004',fadnvar) $ fadnsvk('SVK',nr,'2004',fadnvar)
    = fadnsvk('SVK',nr,'2004',fadnvar);
fadn('SVN',nr,'2004',fadnvar) $ fadnsvn('SVN',nr,'2004',fadnvar)
    = fadnsvn('SVN',nr,'2004',fadnvar);
fadn('UKI',nr,'2004',fadnvar) $ fadnuki('UKI',nr,'2004',fadnvar)
    = fadnuki('UKI',nr,'2004',fadnvar);
```

* Help calculations for typology 1

```
parameter htyp1_spc(Country,nr,Year);
parameter htyp1_hc(Country,nr,Year);
parameter htyp1_pc(Country,nr,Year);
parameter htyp1_pg(Country,nr,Year);
parameter htyp1_tg(Country,nr,Year);
parameter htyp1_fa(Country,nr,Year);
parameter htyp1_ce(Country,nr,Year);
parameter htyp1_ar(Country,nr,Year);
parameter htyp1_sc(Country,nr,Year);
parameter htyp1_it(Country,nr,Year);
parameter htyp1_lu(Country,nr,Year);
```

```
htyp1_spc(Country,nr,Year) $ ((fadn(Country,nr,Year,'a25') >0 and fadn(Country,nr,Year,'a25') <= 2000)
    or (fadn(Country,nr,Year,'a25') > 6000 and fadn(Country,nr,Year,'a25') <= 7000))
    = 1;
```

```
htyp1_spc(Country,nr,Year) $ (fadn(Country,nr,Year,'a25') > 4100 and fadn(Country,nr,Year,'a25') <= 4200)
    = 2;
```

```
htyp1_spc(Country,nr,Year) $ (fadn(Country,nr,Year,'a25') > 4200 and fadn(Country,nr,Year,'a25') <= 4400)
```

= 3;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 4400 and fadm(Country,nr,Year,'a25') <= 5000)
 = 4;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 5000 and fadm(Country,nr,Year,'a25') <= 5020)
 = 5;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 5020 and fadm(Country,nr,Year,'a25') <= 6000)
 = 6;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 7000 and fadm(Country,nr,Year,'a25') <= 8000)
 = 7;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 8000 and fadm(Country,nr,Year,'a25') <= 9900)
 = 8;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 3000 and fadm(Country,nr,Year,'a25') <= 4000)
 = 9;
 http1_spc(Country,nr,Year) \$ (fadm(Country,nr,Year,'a25') > 2000 and fadm(Country,nr,Year,'a25') <= 3000)
 = 10;

http1_hc(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE025') > 0)
 = (fadm(Country,nr,Year,'K136AA') + fadm(Country,nr,Year,'K137AA') +
 fadm(Country,nr,Year,'K138AA')
 + fadm(Country,nr,Year,'K139AA') + fadm(Country,nr,Year,'K140AA') +
 fadm(Country,nr,Year,'K141AA')) * 100
 / fadm(Country,nr,Year,'SE025');

http1_pc(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE025') > 0)
 = (fadm(Country,nr,Year,'K152AA') + fadm(Country,nr,Year,'K153AA') +
 fadm(Country,nr,Year,'K154AA')
 + fadm(Country,nr,Year,'K155AA') + fadm(Country,nr,Year,'K156AA') +
 fadm(Country,nr,Year,'K157AA')
 + fadm(Country,nr,Year,'K158AA') + fadm(Country,nr,Year,'K159AA')) * 100
 / fadm(Country,nr,Year,'SE025');

http1_pg(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE025') > 0)
 = (fadm(Country,nr,Year,'K147AA') + fadm(Country,nr,Year,'K150AA') +
 fadm(Country,nr,Year,'K151AA')) * 100
 / fadm(Country,nr,Year,'SE025');

http1_tg(Country,nr,Year) \$ ((fadm(Country,nr,Year,'K147AA') + fadm(Country,nr,Year,'K150AA') +
 fadm(Country,nr,Year,'K151AA')) > 0)
 = fadm(Country,nr,Year,'K147AA') * 100
 / (fadm(Country,nr,Year,'K147AA') + fadm(Country,nr,Year,'K150AA') +
 fadm(Country,nr,Year,'K151AA'));

http1_fa(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE025') > 0)
 = (fadm(Country,nr,Year,'K146AA')) * 100
 / fadm(Country,nr,Year,'SE025');

http1_ce(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE025') > 0)

```

    =      (fadm(Country,nr,Year,'K120AA')      +      fadm(Country,nr,Year,'K121AA')      +
fadm(Country,nr,Year,'K122AA')
    +      fadm(Country,nr,Year,'K123AA')      +      fadm(Country,nr,Year,'K124AA')      +
fadm(Country,nr,Year,'K125AA')
    +      fadm(Country,nr,Year,'K126AA') + fadm(Country,nr,Year,'K128AA')) * 100
    /      fadm(Country,nr,Year,'SE025');
htyp1_ar(Country,nr,Year) $ (fadm(Country,nr,Year,'SE025') > 0)
    =      fadm(Country,nr,Year,'K120AA')      +      fadm(Country,nr,Year,'K121AA')      +
fadm(Country,nr,Year,'K122AA')
    +      fadm(Country,nr,Year,'K123AA')      +      fadm(Country,nr,Year,'K124AA')      +
fadm(Country,nr,Year,'K125AA')
    +      fadm(Country,nr,Year,'K126AA')      +      fadm(Country,nr,Year,'K127AA')      +
fadm(Country,nr,Year,'K128AA')
    +      fadm(Country,nr,Year,'K129AA')      +      fadm(Country,nr,Year,'K130AA')      +
fadm(Country,nr,Year,'K131AA')
    +      fadm(Country,nr,Year,'K132AA')      +      fadm(Country,nr,Year,'K133AA')      +
fadm(Country,nr,Year,'K134AA')
    +      fadm(Country,nr,Year,'K135AA')      +      fadm(Country,nr,Year,'K136AA')      +
fadm(Country,nr,Year,'K137AA')
    +      fadm(Country,nr,Year,'K139AA')      +      fadm(Country,nr,Year,'K140AA')      +
fadm(Country,nr,Year,'K142AA')
    +      fadm(Country,nr,Year,'K143AA')      +      fadm(Country,nr,Year,'K144AA')      +
fadm(Country,nr,Year,'K145AA')
    +      fadm(Country,nr,Year,'K146AA')      +      fadm(Country,nr,Year,'K147AA')      +
fadm(Country,nr,Year,'K148AA');
htyp1_sc(Country,nr,Year) $ (htyp1_ar(Country,nr,Year) > 0)
    =      (fadm(Country,nr,Year,'K126AA')      +      fadm(Country,nr,Year,'K130AA')      +
fadm(Country,nr,Year,'K131AA')
    +      fadm(Country,nr,Year,'K133AA')      +      fadm(Country,nr,Year,'K134AA')      +
fadm(Country,nr,Year,'K135AA')
    +      fadm(Country,nr,Year,'K136AA')      +      fadm(Country,nr,Year,'K137AA')      +
fadm(Country,nr,Year,'K139AA')
    +      fadm(Country,nr,Year,'K140AA')      +      fadm(Country,nr,Year,'K142AA')      +
fadm(Country,nr,Year,'K143AA')) * 100
    /      htyp1_ar(Country,nr,Year);
htyp1_it(Country,nr,Year) $ (fadm(Country,nr,Year,'SE025') > 0)
    =      fadm(Country,nr,Year,'SE080')
    /      fadm(Country,nr,Year,'SE025');

htyp1_lu(Country,nr,Year) $ (fadm(Country,nr,Year,'SE025') = 0 or htyp1_it(Country,nr,Year) >= 5)
    =      1;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_hc(Country,nr,Year) >= 50)
    =      2;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_pc(Country,nr,Year) >= 50)
    =      3;

```

```
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_tg(Country,nr,Year) >= 50 and
htyp1_pg(Country,nr,Year) >= 50)
    = 4;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_pg(Country,nr,Year) >= 50)
    = 5;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_fa(Country,nr,Year) >= 12.5)
    = 6;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_ce(Country,nr,Year) >= 50)
    = 7;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_sc(Country,nr,Year) < 25)
    = 8;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0 and htyp1_sc(Country,nr,Year) >= 25)
    = 9;
htyp1_lu(Country,nr,Year) $ (htyp1_lu(Country,nr,Year) = 0)
    = 99;
*****

parameter typology1(Country,nr,Year) 'specialisation and land use';
parameter typology2(Country,nr,Year) 'size';
parameter typology3(Country,nr,Year) 'intensity';

*****

* Calculation of typology 1, 2 and 3
*****

typology1(Country,nr,Year) $ (htyp1_spc(Country,nr,Year) = 1 and htyp1_lu(Country,nr,Year) = 7)
    = 1;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 1 and
htyp1_lu(Country,nr,Year) = 6)
    = 2;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 1 and
htyp1_lu(Country,nr,Year) = 9)
    = 3;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 1)
    = 4;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 2 and
htyp1_lu(Country,nr,Year) = 5)
    = 5;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 2 and
htyp1_lu(Country,nr,Year) = 4)
    = 6;
typology1(Country,nr,Year) $ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 2 and
htyp1_lu(Country,nr,Year) = 1)
    = 7;
```

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 2)
= 8;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 3 and
htyp1_lu(Country,nr,Year) = 5)
= 9;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 3 and
htyp1_lu(Country,nr,Year) = 4)
= 10;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 3 and
htyp1_lu(Country,nr,Year) = 1)
= 11;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 3)
= 12;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 4 and
htyp1_lu(Country,nr,Year) = 1)
= 13;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 4)
= 14;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 5 and
htyp1_lu(Country,nr,Year) = 1)
= 15;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 5)
= 16;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 6)
= 17;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 8)
= 18;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 7)
= 19;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 10)
= 20;

typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0 and htyp1_spc(Country,nr,Year) = 9)
= 21;

*typology1(Country,nr,Year) \$ (typology1(Country,nr,Year) = 0)
* = 99;

typology2(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE005') > 0 and fadm(Country,nr,Year,'SE005') < 16)
= 1;

typology2(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE005') >= 16 and fadm(Country,nr,Year,'SE005') < 40)
= 2;

typology2(Country,nr,Year) \$ (fadm(Country,nr,Year,'SE005') >= 40)
= 3;

```
*****  
* Help calculations for typology 3  
*****  
parameter htyp3_int(Country,nr,Year);  
  
htyp3_int(Country,nr,Year) $ (fadm(Country,nr,Year,'SE025') > 0)  
    = fadm(Country,nr,Year,'SE131')  
    / fadm(Country,nr,Year,'SE025');  
htyp3_int(Country,nr,Year) $ (fadm(Country,nr,Year,'SE025') = 0 and fadm(Country,nr,Year,'SE131')>0)  
    = 9999;  
*****  
  
typology3(Country,nr,Year) $ (htyp3_int(Country,nr,Year) < 473 and fadm(Country,nr,Year,'SE025') > 0)  
    = 1;  
typology3(Country,nr,Year) $ (htyp3_int(Country,nr,Year) >= 473 and htyp3_int(Country,nr,Year) < 2839 and  
fadm(Country,nr,Year,'SE025') > 0)  
    = 2;  
typology3(Country,nr,Year) $ (htyp3_int(Country,nr,Year) >= 2839)  
    = 3;  
  
parameter result(Country,nr,Year,var_extra);  
  
result(Country,nr,Year,'typ1')    = typology1(Country,nr,Year);  
result(Country,nr,Year,'typ2')    = typology2(Country,nr,Year);  
result(Country,nr,Year,'typ3')    = typology3(Country,nr,Year);  
result(Country,nr,Year,'weight')  = fadm(Country,nr,Year,'SYS02');  
result(Country,nr,Year,'region')   = fadm(Country,nr,Year,'a1');  
result(Country,nr,Year,'subregion') = fadm(Country,nr,Year,'a2');  
result(Country,nr,Year,'farmnumber')= fadm(Country,nr,Year,'a3');  
  
*display result;  
execute_unload "Result.gdx",result;  
*===== End Of File =====
```

Appendix 2: The SQL script of the database schema of the final version of the SEAMLESS database.

```
-- SQL Manager 2007 for PostgreSQL 4.5.0.2
-----
-- Host      : trac.seamless-ip.org
-- Database  : seamdb_final
-- Version   : PostgreSQL 8.2.6 on i686-pc-linux-gnu, compiled by GCC gcc (GCC) 4.1.2 20060928 (prerelease)
              (Ubuntu 4.1.1-13ubuntu5)

SET check_function_bodies = false;
--
-- Structure for table activitygroup (OID = 115987187) :
--
SET search_path = public, pg_catalog;
CREATE TABLE public.activitygroup (
    id bigint NOT NULL,
    label_gms character varying(255),
    label_en character varying(255)
) WITH OIDS;
--
-- Structure for table activitygrouppremiumgrouppremiumgroups (OID = 115987192) :
--
CREATE TABLE public.activitygrouppremiumgrouppremiumgroups (
    activitygroup_id bigint NOT NULL,
    premiumgroup_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table agriculturalactivityperform (OID = 115987194) :
--
CREATE TABLE public.agriculturalactivityperform (
    id bigint NOT NULL,
    representativefarm bigint
) WITH OIDS;
--
-- Structure for table agriculturalactivityperformagriculturalactivities (OID = 115987196) :
--
```

```
CREATE TABLE public.agriculturalactivityperfarmagriculturalactivities (
```

```
    agriculturalactivityperfarm_id bigint NOT NULL,
```

```
    agriculturalactivity_id bigint NOT NULL
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table agrienvironmentalzone (OID = 115987198) :
```

```
--
```

```
CREATE TABLE public.agrienvironmentalzone (
```

```
    id bigint NOT NULL,
```

```
    label_gms character varying(255),
```

```
    name_ character varying(255),
```

```
    shapefileid text,
```

```
    angleaspect real,
```

```
    area real,
```

```
    bulkdensity real,
```

```
    carboncontenttopsoil real,
```

```
    carboncontenttopsoilmax real,
```

```
    carboncontenttopsoilmin real,
```

```
    carboncontenttopsoilsd real,
```

```
    climatezone bigint,
```

```
    elevation real,
```

```
    elevationmax real,
```

```
    elevationmin real,
```

```
    elevationsd real,
```

```
    environmentalzone bigint,
```

```
    latitude real,
```

```
    latitudemax real,
```

```
    latitudemin real,
```

```
    longitude real,
```

```
    longitudemax real,
```

```
    longitudemin real,
```

```
    nutsregion bigint,
```

```
    slope real,
```

```
    slopemax real,
```

```
    slopemin real,
```

```
    slopesd real,
```

```
    soilcharacteristics bigint,
```

```
    soiltype bigint
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table agromanagementconfiguration (OID = 115987203) :
--
CREATE TABLE public.agromanagementconfiguration (
  id bigint NOT NULL,
  claysoilthreshold real,
  harvestingwindow real,
  irrigationpawthreshold real,
  irrigationpawthresholdwatersensitive real,
  maximumextrairrigation real,
  sowingwindow real
) WITH OIDS;
--
-- Structure for table agromanagementconfigurationcropmanagementrules (OID = 115987205) :
--
CREATE TABLE public.agromanagementconfigurationcropmanagementrules (
  agromanagementconfiguration_id bigint NOT NULL,
  cropmanagementrule_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table airtemperaturethreshold (OID = 115987207) :
--
CREATE TABLE public.airtemperaturethreshold (
  id bigint NOT NULL,
  label_aps character varying(255),
  averageairtemperature real,
  consecutivedays integer
) WITH OIDS;
--
-- Structure for table alternativearableactivity (OID = 115987209) :
--
CREATE TABLE public.alternativearableactivity (
  id bigint NOT NULL,
  productionorientation bigint,
  agrienvironmentalzone bigint,
  productiontechnique bigint,
  rotation bigint
) WITH OIDS;
--
-- Structure for table alternativearableactivitycropyearmanagements (OID = 115987211) :
--
```

```
CREATE TABLE public.alternativearableactivitycropyearmanagements (
```

```
    alternativearableactivity_id bigint NOT NULL,
```

```
    cropyearmanagement_id bigint NOT NULL
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table alternativebeefoption (OID = 115987213) :
```

```
--
```

```
CREATE TABLE public.alternativebeefoption (
```

```
    id bigint NOT NULL,
```

```
    additionalcosts real,
```

```
    fatteningperiod integer,
```

```
    liveweight real,
```

```
    liveweightgain real
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table alternativedaairyoption (OID = 115987215) :
```

```
--
```

```
CREATE TABLE public.alternivedaairyoption (
```

```
    id bigint NOT NULL,
```

```
    additionalcosts real,
```

```
    milkyield real,
```

```
    replacementrate real
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table animalactivity (OID = 115987217) :
```

```
--
```

```
CREATE TABLE public.animalactivity (
```

```
    id bigint NOT NULL,
```

```
    productionorientation bigint,
```

```
    label_gms character varying(255),
```

```
    labour real,
```

```
    nitrogenuse real,
```

```
    nitrogenuseorganic real,
```

```
    variablecosts real,
```

```
    energyrequirements real,
```

```
    intakecapacity real,
```

```
    proteinrequirement real
```

```
) WITH OIDS;
```

```
--
```

```
-- Structure for table animalactivityanimalproduction (OID = 115987219) :
```

```
--  
CREATE TABLE public.animalactivityanimalproduction (  
    animalactivity_id bigint NOT NULL,  
    animalproduction_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table animalactivityanimalshares (OID = 115987221) :  
--  
CREATE TABLE public.animalactivityanimalshares (  
    animalactivity_id bigint NOT NULL,  
    animalshares_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table animalproduct (OID = 115987223) :  
--  
CREATE TABLE public.animalproduct (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    label_gms character varying(255),  
    oftype bigint,  
    animal bigint  
) WITH OIDS;  
--  
-- Structure for table animalproduction (OID = 115987228) :  
--  
CREATE TABLE public.animalproduction (  
    id bigint NOT NULL,  
    amount real,  
    pricevariability real,  
    yieldvariability real,  
    animalproduct bigint,  
    price real  
) WITH OIDS;  
--  
-- Structure for table animalshares (OID = 115987230) :  
--  
CREATE TABLE public.animalshares (  
    id bigint NOT NULL,  
    animal bigint,  
    share_real
```

```
) WITH OIDS;
--
-- Structure for table applicationrole (OID = 115987232) :
--
CREATE TABLE public.applicationrole (
    id bigint NOT NULL,
    title character varying(255)
) WITH OIDS;
--
-- Structure for table arableactivity (OID = 115987234) :
--
CREATE TABLE public.arableactivity (
    id bigint NOT NULL,
    productionorientation bigint,
    agrienvironmentalzone bigint,
    productiontechnique bigint,
    rotation bigint
) WITH OIDS;
--
-- Structure for table arableactivitycropyearmanagements (OID = 115987236) :
--
CREATE TABLE public.arableactivitycropyearmanagements (
    arableactivity_id bigint NOT NULL,
    cropyearmanagement_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table basicpremium (OID = 115987238) :
--
CREATE TABLE public.basicpremium (
    id bigint NOT NULL,
    applicationtype character varying(255),
    premiumgroup bigint,
    value_real
) WITH OIDS;
--
-- Structure for table beefcalve (OID = 115987240) :
--
CREATE TABLE public.beefcalve (
    id bigint NOT NULL,
    label_gms character varying(255),
```

```
    annualdepreciation real,
    buildingrequirement real,
    energyuse real,
    exitage real,
    livestockunit real,
    nitrogencontent real,
    sellingpricefemale real,
    weightatmaturity real
) WITH OIDS;
--
-- Structure for table beefcattle (OID = 115987242) :
--
CREATE TABLE public.beefcattle (
    id bigint NOT NULL,
    label_gms character varying(255),
    annualdepreciation real,
    buildingrequirement real,
    energyuse real,
    exitage real,
    livestockunit real,
    nitrogencontent real,
    sellingpricefemale real,
    weightatmaturity real,
    dailyweightgain real,
    lengthoffatteningperiod integer,
    lossrate real,
    sellingpricemale real,
    weightinitial real,
    weightofcarcass real
) WITH OIDS;
--
-- Structure for table beefmanagement (OID = 115987244) :
--
CREATE TABLE public.beefmanagement (
    id bigint NOT NULL,
    description character varying(255),
    nutsregion bigint,
    name_ character varying(255)
) WITH OIDS;
--
```

-- Structure for table beefmanagementalternativebeefoptions (OID = 115987249) :

--
CREATE TABLE public.beefmanagementalternativebeefoptions (
 beefmanagement_id bigint NOT NULL,
 alternativebeefoption_id bigint NOT NULL
) WITH OIDS;

-- Structure for table bilateraltariff (OID = 115987251) :

--
CREATE TABLE public.bilateraltariff (
 id bigint NOT NULL,
 advalorem real,
 fromcountryaggregate bigint,
 productgroup bigint,
 specifictariff real,
 tarifftratequota real,
 tocountryaggregate bigint
) WITH OIDS;

-- Structure for table biofueldemand (OID = 115987253) :

--
CREATE TABLE public.biofueldemand (
 id bigint NOT NULL,
 country bigint,
 productgroup bigint,
 value_real
) WITH OIDS;

-- Structure for table biomassthreshold (OID = 115987255) :

--
CREATE TABLE public.biomassthreshold (
 id bigint NOT NULL,
 minimumbiomass real
) WITH OIDS;

-- Structure for table biophysicalsimulation (OID = 115987257) :

--
CREATE TABLE public.biophysicalsimulation (
 id bigint NOT NULL,
 context bigint,

```
    outlook bigint
) WITH OIDS;
--
-- Structure for table biophysicssimulationcalculatedproductioncoefficients (OID = 115987259) :
--
CREATE TABLE public.biophysicssimulationcalculatedproductioncoefficients (
    biophysicssimulation_id bigint NOT NULL,
    productionactivityperfssimfarm_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table bull (OID = 115987261) :
--
CREATE TABLE public.bull (
    id bigint NOT NULL,
    label_gms character varying(255),
    annualdepreciation real,
    buildingrequirement real,
    energyuse real,
    exitage real,
    livestockunit real,
    nitrogencontent real,
    sellingpricefemale real,
    weightatmaturity real,
    sellingpricemale real
) WITH OIDS;
--
-- Structure for table calibrationterm (OID = 115987263) :
--
CREATE TABLE public.calibrationterm (
    id bigint NOT NULL,
    simplecropgroup bigint,
    pmptermlinear real,
    pmptermquadratic real
) WITH OIDS;
--
-- Structure for table capriparameter (OID = 115987265) :
--
CREATE TABLE public.capriparameter (
    id bigint NOT NULL
) WITH OIDS;
```

```
--  
-- Structure for table climatezone (OID = 115987267) :  
--  
CREATE TABLE public.climatezone (  
    id bigint NOT NULL,  
    albedodefaut real,  
    aridityindex real,  
    clearskytransmissivitydefault real,  
    precipitationdeficit real,  
    shapefileid text  
) WITH OIDS;  
--  
-- Structure for table clippingharvestimplement (OID = 115987272) :  
--  
CREATE TABLE public.clippingharvestimplement (  
    id bigint NOT NULL,  
    labour real,  
    meantillagedepth real,  
    rentalprice real  
) WITH OIDS;  
--  
-- Structure for table clippingoperation (OID = 115987274) :  
--  
CREATE TABLE public.clippingoperation (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    biomasslossfraction real,  
    clippingharvestimplement bigint,  
    isharvest boolean,  
    residueremoval real  
) WITH OIDS;  
--  
-- Structure for table concentratedfeeds (OID = 115987276) :  
--  
CREATE TABLE public.concentratedfeeds (  
    id bigint NOT NULL,  
    digestibleprotein real,  
    drymattercontent real,  
    energyuse real,  
    fillunitsdairy real,
```

```
fillunitsothercattle real,
fillunitssheepgoats real,
harvestindex real,
product bigint,
netenergydairy real,
netenergymeat real,
nitrogencontent real,
label_en character varying(255),
label_gms character varying(255),
nutsregion bigint,
price real
) WITH OIDS;
--
-- Structure for table conservationmanagement (OID = 115987281) :
--
CREATE TABLE public.conservaionmanagement (
    id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table conservationmanagementconservationoptions (OID = 115987283) :
--
CREATE TABLE public.conservaionmanagementconservationoptions (
    conservaionmanagement_id bigint NOT NULL,
    conservaionoptions_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table conservaionoptionscrops (OID = 115987285) :
--
CREATE TABLE public.conservaionoptionscrops (
    conservaionoptions_id bigint NOT NULL,
    crop_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table constraints_ (OID = 115987287) :
--
CREATE TABLE public.constraints_ (
    id bigint NOT NULL,
    label_gms character varying(255),
    description character varying(255),
    mathematicalexpression character varying(255),
```

```
name_ character varying(255)
) WITH OIDS;
--
-- Structure for table context (OID = 115987292) :
--
CREATE TABLE public.context (
  id bigint NOT NULL,
  label_en character varying(255),
  agromanagementconfiguration bigint,
  narrative bigint
) WITH OIDS;
--
-- Structure for table contextproductionorientation (OID = 115987294) :
--
CREATE TABLE public.contextproductionorientation (
  context_id bigint NOT NULL,
  productionorientation_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table contextproducts (OID = 115987296) :
--
CREATE TABLE public.contextproducts (
  context_id bigint NOT NULL,
  productsforregion_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table contextregion (OID = 115987298) :
--
CREATE TABLE public.contextregion (
  context_id bigint NOT NULL,
  nutsregion_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table contextregionalwages (OID = 115987300) :
--
CREATE TABLE public.contextregionalwages (
  context_id bigint NOT NULL,
  regionalwage_id bigint NOT NULL
) WITH OIDS;
--
```

```
-- Structure for table contextrepresentativefarm (OID = 115987302) :
--
CREATE TABLE public.contextrepresentativefarm (
    context_id bigint NOT NULL,
    representativefarm_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table costandlabourperregionalzone (OID = 115987304) :
--
CREATE TABLE public.costandlabourperregionalzone (
    id bigint NOT NULL,
    regionalagromanagementzone bigint,
    labordemand real,
    sumofvariablecosts real
) WITH OIDS;
--
-- Structure for table country (OID = 115987306) :
--
CREATE TABLE public.country (
    id bigint NOT NULL,
    label_gms character varying(255),
    name_ character varying(255),
    shapefileid text
) WITH OIDS;
--
-- Structure for table countryaggregate (OID = 115987311) :
--
CREATE TABLE public.countryaggregate (
    id bigint NOT NULL,
    label_gms character varying(255),
    name_ character varying(255),
    shapefileid text
) WITH OIDS;
--
-- Structure for table countryaggregatesetofcountries (OID = 115987316) :
--
CREATE TABLE public.countryaggregatesetofcountries (
    countryaggregate_id bigint NOT NULL,
    country_id bigint NOT NULL
) WITH OIDS;
```

```
--  
-- Structure for table couplingdegree (OID = 115987318) :  
--  
CREATE TABLE public.couplingdegree (  
    id bigint NOT NULL,  
    country bigint,  
    premiumgroup bigint,  
    value_real  
) WITH OIDS;  
--  
-- Structure for table crop (OID = 115987320) :  
--  
CREATE TABLE public.crop (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    label_gms character varying(255),  
    label_aps character varying(255),  
    harvestindex real,  
    iswintercrop boolean,  
    nitrogencontent real,  
    watersensitive boolean,  
    cropclimaterequirements bigint,  
    croptsoilrequirements bigint  
) WITH OIDS;  
--  
-- Structure for table croparea (OID = 115987325) :  
--  
CREATE TABLE public.croparea (  
    id bigint NOT NULL,  
    area real,  
    simplecropgroup bigint,  
    pricevariability real,  
    referenceyear integer,  
    yieldvariability real  
) WITH OIDS;  
--  
-- Structure for table cropclimaterequirements (OID = 115987327) :  
--  
CREATE TABLE public.cropclimaterequirements (  
    id bigint NOT NULL,
```

```
enddayirrigationperiod integer,
maximumrainfall real,
maxtempsum real,
minimumgrowingseasonlength integer,
mintempsum real,
startdayirrigationperiod integer,
tsumrequirement real
) WITH OIDS;
--
-- Structure for table cropgroupcropsetofcrops (OID = 115987329) :
--
CREATE TABLE public.cropgroupcropsetofcrops (
    crop_id bigint NOT NULL,
    cropgroup_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table cropgrouprotationrequirements (OID = 115987331) :
--
CREATE TABLE public.cropgrouprotationrequirements (
    id bigint NOT NULL,
    label_gms character varying(255),
    iscropgroupof bigint,
    name_ character varying(255),
    maxfrequency real,
    minyearsbeforerepetition real
) WITH OIDS;
--
-- Structure for table cropinformation (OID = 115987336) :
--
CREATE TABLE public.cropinformation (
    id bigint NOT NULL,
    arableland real,
    areabarley real,
    areacitrusfruitorchards real,
    areacommonwheatandspelt real,
    areadrypulses real,
    readurumwheat real,
    areafallowsandsetaside real,
    areafieldscalefreshvegetables real,
    areaflax real,
```


areafloversopen real,
areafloverssheltered real,
areafodderrootsandbrassicas real,
areafreshvegetablesopen real,
areafreshvegetablessheltered real,
areafruitandberryorchards real,
areagrainmaize real,
areagrassseeds real,
areagrowtheyoungplantations real,
areaherbaceousoilseedscrops real,
areahops real,
arealandreadyforsowingleasedtoothers real,
arealentilschickpeaswetches real,
areameadowsandpermanentpastures real,
areamushrooms real,
areanurseries real,
areaoats real,
areaolivegroves real,
areaotherarablecrops real,
areaothercereals real,
areaothercrops real,
areaotherfodderplants real,
areaotherindustrialcrops real,
areaotherpermanentcrops real,
areaotherproteincrops real,
areaotherseeds real,
areapeasfieldbeans real,
areapermanentcrops real,
areapermanentcropssheltered real,
areapotatoes real,
arearapes real,
arearice real,
arearoughgrassland real,
arearye real,
areasoya real,
areasugarbeet real,
areasummercerealsmixes real,
areasunflower real,
areatemporarygrass real,
areatobacco real,

areaunderglassorplastic real,
areavines real,
averagecropprotectioncostperhectare real,
averagecropprotectioncostperhectaremax real,
averagecropprotectioncostperhectaremin real,
averagecropprotectioncostperhectaresd real,
averagefertilisercostsperhectare real,
averagefertilisercostsperhectaremax real,
averagefertilisercostsperhectaremin real,
averagefertilisercostsperhectaresd real,
averageshareofuaainarable real,
averageshareofuaainarablemax real,
averageshareofuaainarablemin real,
averageshareofuaainarablesd real,
averageshareofuaaingrass real,
averageshareofuaaingrassmax real,
averageshareofuaaingrassmin real,
averageshareofuaaingrasssd real,
averageshareofuaainpermanentandroughgrass real,
averageshareofuaainpermanentandroughgrassmax real,
averageshareofuaainpermanentandroughgrassmin real,
averageshareofuaainpermanentandroughgrasssd real,
averageshareofuaainpermanentcrops real,
averageshareofuaainpermanentcropsmax real,
averageshareofuaainpermanentcropsmin real,
averageshareofuaainpermanentcropssd real,
averageyieldmaizeperhectare real,
averageyieldmaizeperhectaremax real,
averageyieldmaizeperhectaremin real,
averageyieldmaizeperhectaresd real,
averageyieldwheatperhectare real,
averageyieldwheatperhectaremax real,
averageyieldwheatperhectaremin real,
averageyieldwheatperhectaresd real,
cropprotection real,
fertilisercosts real,
fertilisers real,
irrigatedarea real,
irrigatedareabarley real,
irrigatedareacitrusfruitorchards real,

irrigatedareacommonwheatspelt real,
irrigatedareadurumwheat real,
irrigatedareafieldscalefreshvegetables real,
irrigatedareafuitberryorchards real,
irrigatedareagrainsmaize real,
irrigatedareaherbaceousoilseeds real,
irrigatedareahops real,
irrigatedareaotherfodderplants real,
irrigatedareaotherindustrialcrops real,
irrigatedareapotatoes real,
irrigatedearice real,
irrigatedareasugarbeet real,
irrigatedareatobacco real,
othercropsspecificinputs real,
othercrops subsidies real,
outputarablecrops real,
outputbarley real,
outputcitrusfruitorchards real,
outputcommonwheatspelt real,
outputcropsandcropproducts real,
outputcrops cereals real,
outputcropsforage real,
outputcropsindustrialcrops real,
outputcrops othercropproducts real,
outputcropsvegetablesflowers real,
outputdrypulses real,
outputdurumwheat real,
outputfallowssetaside real,
outputfieldscalevegetables real,
outputflax real,
outputflowersopen real,
outputflowerssheltered real,
outputfodderrootsbrassicas real,
outputfreshvegetablesopen real,
outputfreshvegetablessheltered real,
outputfruitberryorchards real,
outputgrainsmaize real,
outputgrassseeds real,
outputherbaceousoilseeds real,
outputhops real,

outputlandreadysowing real,
outputlentilschickpeaswetches real,
outputmeadowspermanentpasture real,
outputmushrooms real,
outputnurseries real,
outputoats real,
outputolivegroves real,
outputother real,
outputotherarablecrops real,
outputothercereals real,
outputotherfodderplants real,
outputotherindustrialcrops real,
outputotherpermanentcrops real,
outputotherproteincrops real,
outputotherseeds real,
outputpeasandfieldbeans real,
outputpermanentcropssheltered real,
outputpotatoes real,
outputrapes real,
outputrice real,
outputroughgrassland real,
outputrye real,
outputsoya real,
outputsugarbeet real,
outputsummercerealsandmixes real,
outputsunflower real,
outputtemporarygrassland real,
outputtobacco real,
outputvinesandgrapes real,
outputyoungplantations real,
productionbarley real,
productioncitrusfruitorchards real,
productioncommonwheatandspelt real,
productiondrypulses real,
productiondurumwheat real,
productionfallowssetaside real,
productionfieldscalevegetables real,
productionflax real,
productionflowersopen real,
productionflowerssheltered real,

productionfodderrootsbrassicas real,
productionfreshvegetablesopen real,
productionfreshvegetablessheltered real,
productionfruitberryorchards real,
productiongrainmaize real,
productiongrassseeds real,
productionherbaceousoilseeds real,
productionhops real,
productionlandreadysowing real,
productionlentilschickpeaswetches real,
productionmeadowspermanentpasture real,
productionmushrooms real,
productionnurseries real,
productionoats real,
productionolivegroves real,
productionother real,
productionotherarablecrops real,
productionothercereals real,
productionotherfodderplants real,
productionotherindustrialcrops real,
productionotherpermanentcrops real,
productionotherproteincrops real,
productionotherseeds real,
productionpeasandfieldbeans real,
productionpermanentcropssheltered real,
productionpotatoes real,
productionrapes real,
productionrice real,
productionroughgrazing real,
productionrye real,
productionsoya real,
productionsugarbeet real,
productionsummercerealsandmixes real,
productionsunflower real,
productiontemporarygrassland real,
productiontobacco real,
productionvines real,
productionyoungplantations real,
seedsandplants real,
seedsandseedlingspurchased real,

```
seedshomegrown real,
setasidepremiums real,
subsidiescrops real,
utilisedagriculturalareacereals real,
utilisedagriculturalareafallows real,
utilisedagriculturalareaforagecrops real,
utilisedagriculturalareaothercrops real,
utilisedagriculturalareapermanentcrops real,
utilisedagriculturalareasetaside real,
utilisedagriculturalareavegetablesflowers real,
utilisedagriculturalareavineyards real,
woodlandarea real,
yieldmaize real,
yieldwheat real
) WITH OIDS;
--
-- Structure for table cropmanagementrule (OID = 115987338) :
--
CREATE TABLE public.cropmanagementrule (
  id bigint NOT NULL,
  harvestresidualleft real,
  crop bigint
) WITH OIDS;
--
-- Structure for table cropmanagementruledefaultimplements (OID = 115987340) :
--
CREATE TABLE public.cropmanagementruledefaultimplements (
  cropmanagementrule_id bigint NOT NULL,
  defaultimplements_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table cropmanagementrulefertilisersplits (OID = 115987342) :
--
CREATE TABLE public.cropmanagementrulefertilisersplits (
  cropmanagementrule_id bigint NOT NULL,
  fertilisersplit_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table cropmanagementruleirrigationwindows (OID = 115987344) :
--
```

```
CREATE TABLE public.cropmanagementruleirrigationwindows (  
    cropmanagementrule_id bigint NOT NULL,  
    irrigationwindow_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table cropnitrogenrecoveries (OID = 115987346) :  
--  
CREATE TABLE public.cropnitrogenrecoveries (  
    crop_id bigint NOT NULL,  
    cropnitrogenrecovery_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table cropnitrogenrecovery (OID = 115987348) :  
--  
CREATE TABLE public.cropnitrogenrecovery (  
    id bigint NOT NULL,  
    texturalclass bigint,  
    precipitationdeficitmax real,  
    precipitationdeficitmin real,  
    recovery real  
) WITH OIDS;  
--  
-- Structure for table cropperyear (OID = 115987350) :  
--  
CREATE TABLE public.cropperyear (  
    id bigint NOT NULL,  
    crop bigint,  
    year_ bigint  
) WITH OIDS;  
--  
-- Structure for table cropphenologicalstage (OID = 115987352) :  
--  
CREATE TABLE public.cropphenologicalstage (  
    id bigint NOT NULL,  
    label_aps character varying(255)  
) WITH OIDS;  
--  
-- Structure for table cropphenologicalstagetemperaturethreshold (OID = 115987354) :  
--  
CREATE TABLE public.cropphenologicalstagetemperaturethreshold (  

```

```
id bigint NOT NULL,
label_aps character varying(255),
cropphenologicalstage bigint,
minimumtemperature real,
temperaturesum real
) WITH OIDS;
--
-- Structure for table cropphenologicalstagethreshold (OID = 115987356) :
--
CREATE TABLE public.cropphenologicalstagethreshold (
id bigint NOT NULL,
label_aps character varying(255),
daysaftercropphenologicalstage integer,
cropphenologicalstage bigint
) WITH OIDS;
--
-- Structure for table cropproduct (OID = 115987358) :
--
CREATE TABLE public.cropproduct (
id bigint NOT NULL,
label_en character varying(255),
label_gms character varying(255),
oftype bigint,
ofcrop bigint
) WITH OIDS;
--
-- Structure for table cropproductinyear (OID = 115987363) :
--
CREATE TABLE public.cropproductinyear (
id bigint NOT NULL,
cropproductyield bigint,
year_ bigint
) WITH OIDS;
--
-- Structure for table cropproduction (OID = 115987365) :
--
CREATE TABLE public.cropproduction (
id bigint NOT NULL,
product bigint,
totalfarmproduction real
```


) WITH OIDS;

--

-- Structure for table croppresiduemangement (OID = 115987367) :

--

```
CREATE TABLE public.croppresiduemangement (  
    id bigint NOT NULL,  
    incorporationinsoil boolean
```

) WITH OIDS;

--

-- Structure for table croprotationrequirements (OID = 115987369) :

--

```
CREATE TABLE public.croprotationrequirements (  
    id bigint NOT NULL,  
    harvestingdate integer,  
    managementzone bigint,  
    iscroprotationrequirementsof bigint,  
    maxfrequency real,  
    mindaysbeforeresowing integer,  
    minyearsbeforepetition real,  
    sowingdate integer
```

) WITH OIDS;

--

-- Structure for table croprotationrequirementsnotpossiblepreviouscrops (OID = 115987371) :

--

```
CREATE TABLE public.croprotationrequirementsnotpossiblepreviouscrops (  
    croprotationrequirements_id bigint NOT NULL,  
    crop_id bigint NOT NULL
```

) WITH OIDS;

--

-- Structure for table cropsoilrequirements (OID = 115987373) :

--

```
CREATE TABLE public.cropsoilrequirements (  
    id bigint NOT NULL,  
    alcalinity character varying(255),  
    claycontent real,  
    drainage character varying(255),  
    rootingdepth real,  
    roughness character varying(255),  
    salinity character varying(255),  
    slope real
```

) WITH OIDS;

--

-- Structure for table cropyearmanagement (OID = 115987378) :

--

CREATE TABLE public.cropyearmanagement (

id bigint NOT NULL,
cropmanagement bigint,
labour real,
nitrogenuse real,
nitrogenuseorganic real,
variablecosts real,
crop bigint,
year_ bigint

) WITH OIDS;

--

-- Structure for table crucialinstitutionalaspect (OID = 115987380) :

--

CREATE TABLE public.crucialinstitutionalaspect (

id bigint NOT NULL,
description text,
name_ character varying(255),
weblink character varying(255)

) WITH OIDS;

--

-- Structure for table crucialinstitutionalaspectnaturalresourcefoci (OID = 115987385) :

--

CREATE TABLE public.crucialinstitutionalaspectnaturalresourcefoci (

crucialinstitutionalaspect_id bigint NOT NULL,
naturalresourcefocus_id bigint NOT NULL

) WITH OIDS;

--

-- Structure for table crucialinstitutionalaspectpolicytypes (OID = 115987387) :

--

CREATE TABLE public.crucialinstitutionalaspectpolicytypes (

crucialinstitutionalaspect_id bigint NOT NULL,
policytype_id bigint NOT NULL

) WITH OIDS;

--

-- Structure for table crucialinstitutionalaspectpropertyrightschanges (OID = 115987389) :

--

```
CREATE TABLE public.crucialinstitutionalaspectpropertyrightschanges (  
    crucialinstitutionalaspect_id bigint NOT NULL,  
    propertyrightschanges_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table currentarableactivity (OID = 115987391) :  
--  
CREATE TABLE public.currentarableactivity (  
    id bigint NOT NULL,  
    productionorientation bigint,  
    agrienvironmentalzone bigint,  
    productiontechnique bigint,  
    rotation bigint  
) WITH OIDS;  
--  
-- Structure for table currentarableactivitycroppyearmanagements (OID = 115987393) :  
--  
CREATE TABLE public.currentarableactivitycroppyearmanagements (  
    currentarableactivity_id bigint NOT NULL,  
    croppyearmanagement_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table currentarableactivityproductinyear (OID = 115987395) :  
--  
CREATE TABLE public.currentarableactivityproductinyear (  
    currentarableactivity_id bigint NOT NULL,  
    croppproductinyear_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table cutfactorsubsidies (OID = 115987397) :  
--  
CREATE TABLE public.cutfactorsubsidies (  
    id bigint NOT NULL,  
    activitygroup bigint,  
    nutsregion bigint,  
    value_real  
) WITH OIDS;  
--  
-- Structure for table dairycalve (OID = 115987399) :  
--
```

```
CREATE TABLE public.dairycalve (  
  id bigint NOT NULL,  
  label_gms character varying(255),  
  annualdepreciation real,  
  buildingrequirement real,  
  energyuse real,  
  exitage real,  
  livestockunit real,  
  nitrogencontent real,  
  sellingpricefemale real,  
  weightatmaturity real,  
  lossrate real,  
  sellingpricemale real,  
  weightinitial real  
) WITH OIDS;  
--  
-- Structure for table dairycow (OID = 115987401) :  
--  
CREATE TABLE public.dairycow (  
  id bigint NOT NULL,  
  label_gms character varying(255),  
  annualdepreciation real,  
  buildingrequirement real,  
  energyuse real,  
  exitage real,  
  livestockunit real,  
  nitrogencontent real,  
  sellingpricefemale real,  
  weightatmaturity real,  
  milkproduction real,  
  numberofchildren real  
) WITH OIDS;  
--  
-- Structure for table dairyheifer (OID = 115987403) :  
--  
CREATE TABLE public.dairyheifer (  
  id bigint NOT NULL,  
  label_gms character varying(255),  
  annualdepreciation real,  
  buildingrequirement real,
```

```
energyuse real,
exitage real,
livestockunit real,
nitrogencontent real,
sellingpricefemale real,
weightatmaturity real
) WITH OIDS;
--
-- Structure for table dairymanagement (OID = 115987405) :
--
CREATE TABLE public.dairymanagement (
  id bigint NOT NULL,
  description character varying(255),
  nutsregion bigint,
  name_ character varying(255)
) WITH OIDS;
--
-- Structure for table dairymanagementalternativedairyoptions (OID = 115987410) :
--
CREATE TABLE public.dairymanagementalternativedairyoptions (
  dairymanagement_id bigint NOT NULL,
  alternativedairyoption_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table dayswithoutraincropphenologicalstagethreshold (OID = 115987412) :
--
CREATE TABLE public.dayswithoutraincropphenologicalstagethreshold (
  id bigint NOT NULL,
  label_aps character varying(255),
  dayinterval integer,
  dayswithoutrain integer,
  cropphenologicalstage bigint
) WITH OIDS;
--
-- Structure for table dayswithoutrainrepetitionthreshold (OID = 115987414) :
--
CREATE TABLE public.dayswithoutrainrepetitionthreshold (
  id bigint NOT NULL,
  label_aps character varying(255),
  dayinterval integer,
```

```
    dayswithoutrain integer
) WITH OIDS;
--
-- Structure for table dayswithoutrainthreshold (OID = 115987416) :
--
CREATE TABLE public.dayswithoutrainthreshold (
    id bigint NOT NULL,
    label_aps character varying(255),
    dayswithoutrain integer
) WITH OIDS;
--
-- Structure for table defaultimplements (OID = 115987418) :
--
CREATE TABLE public.defaultimplements (
    id bigint NOT NULL,
    irrigationimplement bigint,
    plantingdepth real,
    sowingimplement bigint,
    tillagedepthprimary real,
    tillagedepthsecondary real,
    tillageimplementprimary bigint,
    tillageimplementsecondary bigint
) WITH OIDS;
--
-- Structure for table demandshift (OID = 115987420) :
--
CREATE TABLE public.demandshift (
    id bigint NOT NULL,
    country bigint,
    productgroup bigint,
    value_ real
) WITH OIDS;
--
-- Structure for table detailedcropmanagement (OID = 115987422) :
--
CREATE TABLE public.detailedcropmanagement (
    id bigint NOT NULL,
    label_gms character varying(255)
) WITH OIDS;
--
```

-- Structure for table detailedcropmanagementevents (OID = 115987424) :

--

```
CREATE TABLE public.detailedcropmanagementevents (  
    detailedcropmanagement_id bigint NOT NULL,  
    event_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table dimension (OID = 115987426) :

--

```
CREATE TABLE public.dimension (  
    id bigint NOT NULL,  
    label_en character varying(255)  
) WITH OIDS;
```

--

-- Structure for table domain_ (OID = 115987428) :

--

```
CREATE TABLE public.domain_ (  
    id bigint NOT NULL,  
    label_en character varying(255)  
) WITH OIDS;
```

--

-- Structure for table endorsedindicator (OID = 115987430) :

--

```
CREATE TABLE public.endorsedindicator (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    description character varying(255),  
    indicatorvaluetable bigint,  
    model bigint,  
    modeloutputname character varying(255),  
    spatialscale bigint,  
    temporalscale bigint,  
    unit character varying(255),  
    upscalingprocedure bigint,  
    implemented boolean,  
    ispartofindicatorgroup bigint,  
    thresholdmax real,  
    thresholdmin real,  
    thresholdonvariation character varying(255)  
) WITH OIDS;
```

--
-- Structure for table endorsedindicatorinformativemodelvariables (OID = 115987435) :

--
CREATE TABLE public.endorsedindicatorinformativemodelvariables (
 endorsedindicator_id bigint NOT NULL,
 modelvariable_id bigint NOT NULL
) WITH OIDS;

--
-- Structure for table energyprice (OID = 115987437) :

--
CREATE TABLE public.energyprice (
 id bigint NOT NULL,
 countryaggregate bigint,
 inputgroup bigint,
 value_real
) WITH OIDS;

--
-- Structure for table environmentaleffects (OID = 115987439) :

--
CREATE TABLE public.environmentaleffects (
 id bigint NOT NULL,
 erosion real,
 erosionvariability real,
 nitrateleaching real,
 nitrateleachingvariability real,
 nitrogenvolatilization real,
 nitrogenvolatilizationvariability real,
 organicmatteracceleration real,
 organicmatterinitial real,
 organicmatterrate real,
 pesticidepressure real,
 pesticidepressurevariability real,
 runoff real,
 waterdrainage real
) WITH OIDS;

--
-- Structure for table environmentalzone (OID = 115987441) :

--
CREATE TABLE public.environmentalzone (
 id bigint NOT NULL,


```
name_ character varying(255),
shortname character varying(255)
) WITH OIDS;
--
-- Structure for table equilibriumprice (OID = 115987446) :
--
CREATE TABLE public.equilibriumprice (
    id bigint NOT NULL,
    nutsregion bigint,
    productgroup bigint,
    value_ real
) WITH OIDS;
--
-- Structure for table event (OID = 115987448) :
--
CREATE TABLE public.event (
    id bigint NOT NULL,
    operation_ bigint,
    timemoment bigint
) WITH OIDS;
--
-- Structure for table ewe (OID = 115987450) :
--
CREATE TABLE public.ewe (
    id bigint NOT NULL,
    label_gms character varying(255),
    annualdepreciation real,
    buildingrequirement real,
    energyuse real,
    exitage real,
    livestockunit real,
    nitrogencontent real,
    sellingpricefemale real,
    weightatmaturity real,
    lossrate real,
    milkproduction real,
    numberofchildren real,
    sellingpricemale real,
    weightinitial real,
    weightofcarcass real
```

```
) WITH OIDS;
--
-- Structure for table exchangerates (OID = 115987452) :
--
CREATE TABLE public.exchangerates (
    id bigint NOT NULL,
    fromcountryaggregate bigint,
    tocountryaggregate bigint,
    value_real
) WITH OIDS;
--
-- Structure for table expectedimpact (OID = 115987454) :
--
CREATE TABLE public.expectedimpact (
    id bigint NOT NULL,
    experimentplan bigint,
    indicator_ bigint,
    impact character varying(255)
) WITH OIDS;
--
-- Structure for table experiment (OID = 115987456) :
--
CREATE TABLE public.experiment (
    id bigint NOT NULL,
    baseline boolean,
    changed boolean,
    description text,
    baselineexperiment bigint,
    baseyearexperiment bigint,
    biophysicalsimulation bigint,
    modelchain bigint,
    policyassessment bigint,
    temporalscale bigint,
    modelzip character varying(255),
    modelzipsaved boolean,
    ofproblem bigint,
    published boolean,
    state_ integer,
    title character varying(255)
) WITH OIDS;
```

```
--  
-- Structure for table experimentplan (OID = 115987461) :  
--  
CREATE TABLE public.experimentplan (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    description text  
) WITH OIDS;  
--  
-- Structure for table experimentplantwoexperiments (OID = 115987466) :  
--  
CREATE TABLE public.experimentplantwoexperiments (  
    experimentplan_id bigint NOT NULL,  
    experiment_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table experimentqueue (OID = 115987468) :  
--  
CREATE TABLE public.experimentqueue (  
    id bigint NOT NULL,  
    creationdate character varying(255),  
    description text,  
    enddate character varying(255)  
) WITH OIDS;  
--  
-- Structure for table experimentqueueexperimentruns (OID = 115987473) :  
--  
CREATE TABLE public.experimentqueueexperimentruns (  
    experimentqueue_id bigint NOT NULL,  
    experimentrun_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table experimentrun (OID = 115987475) :  
--  
CREATE TABLE public.experimentrun (  
    id bigint NOT NULL,  
    experiment bigint,  
    lastcompetedmodel bigint,  
    logfile character varying(255),  
    rank_ integer,
```

```
status character varying(255)
) WITH OIDS;
--
-- Structure for table fadnregion (OID = 115987480) :
--
CREATE TABLE public.fadnregion (
  id bigint NOT NULL,
  label_gms character varying(255),
  name_ character varying(255),
  shapefileid text
) WITH OIDS;
--
-- Structure for table farmareaperagrienvironmentalzone (OID = 115987485) :
--
CREATE TABLE public.farmareaperagrienvironmentalzone (
  id bigint NOT NULL,
  area real,
  agrienvironmentalzone bigint
) WITH OIDS;
--
-- Structure for table farmconstraint (OID = 115987487) :
--
CREATE TABLE public.farmconstraint (
  id bigint NOT NULL,
  enabled boolean,
  constraints_ bigint,
  representativefarm bigint
) WITH OIDS;
--
-- Structure for table farmintensity (OID = 115987489) :
--
CREATE TABLE public.farmintensity (
  id bigint NOT NULL,
  definition character varying(255),
  name_ character varying(255)
) WITH OIDS;
--
-- Structure for table farmquota (OID = 115987494) :
--
CREATE TABLE public.farmquota (
```

```
id bigint NOT NULL,  
label_gms character varying(255),  
additionalprice real,  
product bigint,  
representativefarm bigint,  
quotaamount real,  
quotalevel character varying(255)  
) WITH OIDS;  
--  
-- Structure for table farmsize (OID = 115987499) :  
--  
CREATE TABLE public.farmsize (  
id bigint NOT NULL,  
definition character varying(255),  
name_ character varying(255)  
) WITH OIDS;  
--  
-- Structure for table farmspecialization (OID = 115987504) :  
--  
CREATE TABLE public.farmspecialization (  
id bigint NOT NULL,  
definition character varying(255),  
eu_type character varying(255),  
name_ character varying(255)  
) WITH OIDS;  
--  
-- Structure for table fertiliser (OID = 115987509) :  
--  
CREATE TABLE public.fertiliser (  
id bigint NOT NULL,  
fertilisernh4content real,  
fertiliserno3content real,  
name_ character varying(255),  
price real  
) WITH OIDS;  
--  
-- Structure for table fertiliserapplicationmethod (OID = 115987511) :  
--  
CREATE TABLE public.fertiliserapplicationmethod (  
id bigint NOT NULL,
```

```
fertiliserapplicationmethod character varying(255),
labour real,
rentalprice real,
surfacebroadcast boolean
) WITH OIDS;
--
-- Structure for table fertilisersplit (OID = 115987513) :
--
CREATE TABLE public.fertilisersplit (
  id bigint NOT NULL,
  fraction real,
  cropphenologicalstage bigint,
  nitrogenmax real,
  nitrogenmin real
) WITH OIDS;
--
-- Structure for table fieldborders (OID = 115987515) :
--
CREATE TABLE public.fieldborders (
  id bigint NOT NULL,
  price real,
  coveronfieldborder real,
  fieldstrip real
) WITH OIDS;
--
-- Structure for table fssimablefarm (OID = 115987517) :
--
CREATE TABLE public.fssimablefarm (
  id bigint NOT NULL,
  label_gms character varying(255),
  area real,
  representativefarm bigint,
  irrigationwateravailability real,
  labour real,
  riskaversioncoefficient real
) WITH OIDS;
--
-- Structure for table fssimfarmfarmareaperagrienvironmentalzone (OID = 115987519) :
--
CREATE TABLE public.fssimfarmfarmareaperagrienvironmentalzone (
```

```
fssimfarm_id bigint NOT NULL,  
farmareaperagrienvironmentalzone_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table fssimfarmobservedcroppattern (OID = 115987521) :  
--  
CREATE TABLE public.fssimfarmobservedcroppattern (  
    fssimfarm_id bigint NOT NULL,  
    croparea_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table fssimlivestockfarm (OID = 115987523) :  
--  
CREATE TABLE public.fssimlivestockfarm (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    area real,  
    representativefarm bigint,  
    irrigationwateravailability real,  
    labour real,  
    riskaversioncoefficient real,  
    concentratessharemaximum real,  
    nitrogenlosspercentage real  
) WITH OIDS;  
--  
-- Structure for table fssimlivestockfarmobservedanimallevels (OID = 115987525) :  
--  
CREATE TABLE public.fssimlivestockfarmobservedanimallevels (  
    fssimlivestockfarm_id bigint NOT NULL,  
    observedanimallevels_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table generictheme (OID = 115987527) :  
--  
CREATE TABLE public.generictheme (  
    id bigint NOT NULL,  
    label_en character varying(255)  
) WITH OIDS;  
--  
-- Structure for table globaltariff (OID = 115987529) :
```

--

```
CREATE TABLE public.globaltariff (  
    id bigint NOT NULL,  
    advalorem real,  
    countryaggregate bigint,  
    productgroup bigint,  
    specifictariff real  
) WITH OIDS;
```

--

-- Structure for table goat (OID = 115987531) :

--

```
CREATE TABLE public.goat (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    annualdepreciation real,  
    buildingrequirement real,  
    energyuse real,  
    exitage real,  
    livestockunit real,  
    nitrogencontent real,  
    sellingpricefemale real,  
    weightatmaturity real,  
    lossrate real,  
    milkproduction real,  
    numberofchildren real,  
    sellingpricemale real,  
    weightinitial real,  
    weightofcarcass real  
) WITH OIDS;
```

--

-- Structure for table goatling (OID = 115987533) :

--

```
CREATE TABLE public.goatling (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    annualdepreciation real,  
    buildingrequirement real,  
    energyuse real,  
    exitage real,  
    livestockunit real,
```

```
nitrogencontent real,  
sellingpricefemale real,  
weightatmaturity real,  
dailyweightgain real,  
lengthoffatteningperiod integer,  
lossrate real,  
sellingpricemale real,  
weightinitial real  
) WITH OIDS;  
--  
-- Structure for table grassfeeds (OID = 115987535) :  
--  
CREATE TABLE public.grassfeeds (  
  id bigint NOT NULL,  
  digestibleprotein real,  
  drymattercontent real,  
  energyuse real,  
  fillunitsdairy real,  
  fillunitsothercattle real,  
  fillunitssheepgoats real,  
  harvestindex real,  
  product bigint,  
  netenergydairy real,  
  netenergymeat real,  
  nitrogencontent real,  
  environmentalzone bigint  
) WITH OIDS;  
--  
-- Structure for table grasslandactivity (OID = 115987537) :  
--  
CREATE TABLE public.grasslandactivity (  
  id bigint NOT NULL,  
  productionorientation bigint,  
  label_gms character varying(255),  
  grassmanagement bigint,  
  nitrogencontent real,  
  agrienvironmentalzone bigint,  
  labour real,  
  nitrogenuse real,  
  nitrogenuseorganic real,
```

```
variablecosts real,
energyrequirements real,
intakecapacity real,
proteinrequirement real
) WITH OIDS;
--
-- Structure for table grasslandactivitygrassproductions (OID = 115987539) :
--
CREATE TABLE public.grasslandactivitygrassproductions (
    grasslandactivity_id bigint NOT NULL,
    grassproduction_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table grassmanagement (OID = 115987541) :
--
CREATE TABLE public.grassmanagement (
    id bigint NOT NULL,
    label_gms character varying(255),
    beginofgrazingperiod integer,
    biomassforfreshfodder real,
    biomassforhay real,
    biomassforpasturegrazing real,
    biomassforsilage real,
    endofgrazingperiod real,
    nutsregion bigint,
    numberofcuts integer,
    overallbiomass real,
    variablecostsconcerninggrasslandwithoutcostsofharvest real,
    variablecostsofharvestingoffreshfodder real,
    variablecostsofharvestingofhay real,
    variablecostsofharvestingofpastureforgrazing real,
    variablecostsofharvestingofsilage real,
    nitrogenuse real,
    nitrogenuseorganic real
) WITH OIDS;
--
-- Structure for table grassmanagementalternative (OID = 115987543) :
--
CREATE TABLE public.grassmanagementalternative (
    id bigint NOT NULL,
```

```
description character varying(255),
nutsregion bigint,
name_ character varying(255)
) WITH OIDS;
--
-- Structure for table grassmanagementalternativealternativegrassmanagement (OID = 115987548) :
--
CREATE TABLE public.grassmanagementalternativealternativegrassmanagement (
    grassmanagementalternative_id bigint NOT NULL,
    grassmanagement_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table grassproduction (OID = 115987550) :
--
CREATE TABLE public.grassproduction (
    id bigint NOT NULL,
    harvestcost real,
    product bigint,
    yield real,
    energyrequirements real,
    intakecapacity real,
    proteinrequirement real
) WITH OIDS;
--
-- Structure for table helptopic (OID = 115987552) :
--
CREATE TABLE public.helptopic (
    id bigint NOT NULL,
    label_en character varying(255),
    description text,
    mimetype character varying(255),
    keywords character varying(255),
    weblink character varying(255)
) WITH OIDS;
--
-- Structure for table image (OID = 115987557) :
--
CREATE TABLE public.image (
    id bigint NOT NULL,
    creationdate character varying(255),
```

```
filename character varying(255),
mimetype character varying(255),
modificationdate character varying(255),
size_ integer
) WITH OIDS;
--
-- Structure for table implement (OID = 115987562) :
--
CREATE TABLE public.implement (
  id bigint NOT NULL,
  labour real,
  rentalprice real
) WITH OIDS;
--
-- Structure for table indicatorgroup (OID = 115987564) :
--
CREATE TABLE public.indicatorgroup (
  id bigint NOT NULL,
  label_en character varying(255),
  description character varying(255),
  factsheet character varying(255)
) WITH OIDS;
--
-- Structure for table indicatorgroupdimensions (OID = 115987569) :
--
CREATE TABLE public.indicatorgroupdimensions (
  indicatorgroup_id bigint NOT NULL,
  dimension_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table indicatorgroupdomains (OID = 115987571) :
--
CREATE TABLE public.indicatorgroupdomains (
  indicatorgroup_id bigint NOT NULL,
  domain__id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table indicatorgroupsubthemes (OID = 115987573) :
--
CREATE TABLE public.indicatorgroupsubthemes (
```

```
indicatorgroup_id bigint NOT NULL,
subtheme_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table indicatorgrouptradeoff (OID = 115987575) :
--
CREATE TABLE public.indicatorgrouptradeoff (
indicatorgroup_id bigint NOT NULL,
indicatorgroup_id1 bigint NOT NULL
) WITH OIDS;
--
-- Structure for table indicatorvalueactivity (OID = 115987577) :
--
CREATE TABLE public.indicatorvalueactivity (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
farm bigint,
productionactivity bigint
) WITH OIDS;
--
-- Structure for table indicatorvalueactivitygroupcountry (OID = 115987579) :
--
CREATE TABLE public.indicatorvalueactivitygroupcountry (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
activitygroup bigint,
country bigint
) WITH OIDS;
--
-- Structure for table indicatorvalueactivitygroupcountryaggregate (OID = 115987581) :
--
CREATE TABLE public.indicatorvalueactivitygroupcountryaggregate (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
```

```
    activitygroup bigint,
    countryaggregate bigint
) WITH OIDS;
--
-- Structure for table indicatorvalueactivitygroupnutsregion (OID = 115987583) :
--
CREATE TABLE public.indicatorvalueactivitygroupnutsregion (
    id bigint NOT NULL,
    experiment bigint,
    indicator_ bigint,
    value_ real,
    activitygroup bigint,
    region bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluebetweenecountryaggregates (OID = 115987585) :
--
CREATE TABLE public.indicatorvaluebetweenecountryaggregates (
    id bigint NOT NULL,
    experiment bigint,
    indicator_ bigint,
    value_ real,
    fromcountryaggregate bigint,
    productgroup bigint,
    tocountryaggregate bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluecountry (OID = 115987587) :
--
CREATE TABLE public.indicatorvaluecountry (
    id bigint NOT NULL,
    experiment bigint,
    indicator_ bigint,
    value_ real,
    country bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluecountryaggregate (OID = 115987589) :
--
CREATE TABLE public.indicatorvaluecountryaggregate (
```

```
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
countryaggregate bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluecrop (OID = 115987591) :
--
CREATE TABLE public.indicatorvaluecrop (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
crop bigint,
farm bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluefarm (OID = 115987593) :
--
CREATE TABLE public.indicatorvaluefarm (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
farm bigint
) WITH OIDS;
--
-- Structure for table indicatorvaluefarmagrienvironmentalzone (OID = 115987595) :
--
CREATE TABLE public.indicatorvaluefarmagrienvironmentalzone (
id bigint NOT NULL,
experiment bigint,
indicator_ bigint,
value_ real,
agrienvironmentalzone bigint,
farm bigint
) WITH OIDS;
--
-- Structure for table indicatorvalueinputgroupcountry (OID = 115987597) :
```

```
--  
CREATE TABLE public.indicatorvalueinputgroupcountry (  
    id bigint NOT NULL,  
    experiment bigint,  
    indicator_ bigint,  
    value_ real,  
    country bigint,  
    inputgroup bigint  
) WITH OIDS;  
--  
-- Structure for table indicatorvalueinputgroupcountryaggregate (OID = 115987599) :  
--  
CREATE TABLE public.indicatorvalueinputgroupcountryaggregate (  
    id bigint NOT NULL,  
    experiment bigint,  
    indicator_ bigint,  
    value_ real,  
    countryaggregate bigint,  
    inputgroup bigint  
) WITH OIDS;  
--  
-- Structure for table indicatorvalueinputgroupnutsregion (OID = 115987601) :  
--  
CREATE TABLE public.indicatorvalueinputgroupnutsregion (  
    id bigint NOT NULL,  
    experiment bigint,  
    indicator_ bigint,  
    value_ real,  
    inputgroup bigint,  
    region bigint  
) WITH OIDS;  
--  
-- Structure for table indicatorvaluenutsregion (OID = 115987603) :  
--  
CREATE TABLE public.indicatorvaluenutsregion (  
    id bigint NOT NULL,  
    experiment bigint,  
    indicator_ bigint,  
    value_ real,  
    region bigint
```


) WITH OIDS;

--

-- Structure for table indicatorvalueproductgroupcountry (OID = 115987605) :

--

CREATE TABLE public.indicatorvalueproductgroupcountry (

id bigint NOT NULL,

experiment bigint,

indicator_ bigint,

value_ real,

country bigint,

productgroup bigint

) WITH OIDS;

--

-- Structure for table indicatorvalueproductgroupcountryaggregate (OID = 115987607) :

--

CREATE TABLE public.indicatorvalueproductgroupcountryaggregate (

id bigint NOT NULL,

experiment bigint,

indicator_ bigint,

value_ real,

countryaggregate bigint,

productgroup bigint

) WITH OIDS;

--

-- Structure for table indicatorvalueproductgroupnutsregion (OID = 115987609) :

--

CREATE TABLE public.indicatorvalueproductgroupnutsregion (

id bigint NOT NULL,

experiment bigint,

indicator_ bigint,

value_ real,

productgroup bigint,

region bigint

) WITH OIDS;

--

-- Structure for table indicatorvaluesimple (OID = 115987611) :

--

CREATE TABLE public.indicatorvaluesimple (

id bigint NOT NULL,

experiment bigint,

```
indicator_ bigint,
value_ real
) WITH OIDS;
--
-- Structure for table indicatorvaluetable (OID = 115987613) :
--
CREATE TABLE public.indicatorvaluetable (
    id bigint NOT NULL,
    javalabel character varying(255),
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table inflationrate (OID = 115987618) :
--
CREATE TABLE public.inflationrate (
    id bigint NOT NULL,
    countryaggregate bigint,
    value_ real
) WITH OIDS;
--
-- Structure for table inorganicfertiliser (OID = 115987620) :
--
CREATE TABLE public.inorganicfertiliser (
    id bigint NOT NULL,
    drymatterfraction real,
    energyuse real,
    fertilisernh4content real,
    fertiliserno3content real,
    name_ character varying(255),
    price real
) WITH OIDS;
--
-- Structure for table input_ (OID = 115987622) :
--
CREATE TABLE public.input_ (
    id bigint NOT NULL,
    price real
) WITH OIDS;
--
-- Structure for table inputgroup (OID = 115987624) :
```

```
--  
CREATE TABLE public.inputgroup (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    label_en character varying(255)  
) WITH OIDS;  
--  
-- Structure for table inputonsoilinmanagementprocedure (OID = 115987629) :  
--  
CREATE TABLE public.inputonsoilinmanagementprocedure (  
    id bigint NOT NULL,  
    regionalagromanagementzone bigint,  
    amountrequired real,  
    frequency real,  
    input_ bigint,  
    managementprocedurewithtiming bigint  
) WITH OIDS;  
--  
-- Structure for table institutionalcompatibility (OID = 115987631) :  
--  
CREATE TABLE public.institutionalcompatibility (  
    id bigint NOT NULL,  
    assessmentsummary text,  
    date_ character varying(255),  
    description text,  
    naturalresourcefocus bigint,  
    policytype bigint,  
    propertyrightschange bigint,  
    name_ character varying(255),  
    project bigint,  
    weblink character varying(255),  
    opentextfield character varying(255)  
) WITH OIDS;  
--  
-- Structure for table institutionalcompatibilitypicaspatiallevels (OID = 115987636) :  
--  
CREATE TABLE public.institutionalcompatibilitypicaspatiallevels (  
    institutionalcompatibility_id bigint NOT NULL,  
    picaspatiallevel_id bigint NOT NULL  
) WITH OIDS;
```

```
--  
-- Structure for table intercropping (OID = 115987638) :  
--  
CREATE TABLE public.intercropping (  
    id bigint NOT NULL,  
    harvestingdate integer,  
    intercrop bigint,  
    nitrogenuse real,  
    nitrogenuseorganic real,  
    phosphorususe real,  
    potassiumuse real,  
    sowingdate integer  
) WITH OIDS;  
--  
-- Structure for table irrigationmethod (OID = 115987640) :  
--  
CREATE TABLE public.irrigationmethod (  
    id bigint NOT NULL,  
    energyuse real,  
    irrigationmethod character varying(255),  
    labour real,  
    rentalprice real  
) WITH OIDS;  
--  
-- Structure for table irrigationoperation (OID = 115987642) :  
--  
CREATE TABLE public.irrigationoperation (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    irrigationmethod bigint,  
    irrigationwater bigint,  
    irrigationvolume real  
) WITH OIDS;  
--  
-- Structure for table irrigationsimple (OID = 115987644) :  
--  
CREATE TABLE public.irrigationsimple (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    irrigationmethod bigint,
```

```
    irrigationwater bigint,
    irrigationvolume real
) WITH OIDS;
--
-- Structure for table irrigationwater (OID = 115987646) :
--
CREATE TABLE public.irrigationwater (
    id bigint NOT NULL,
    label_gms character varying(255),
    price real
) WITH OIDS;
--
-- Structure for table irrigationwindow (OID = 115987648) :
--
CREATE TABLE public.irrigationwindow (
    id bigint NOT NULL,
    ariditymax real,
    ariditymin real,
    cropphenologicalstageend bigint,
    cropphenologicalstagestart bigint
) WITH OIDS;
--
-- Structure for table lamb (OID = 115987650) :
--
CREATE TABLE public.lamb (
    id bigint NOT NULL,
    label_gms character varying(255),
    annualdepreciation real,
    buildingrequirement real,
    energyuse real,
    exitage real,
    livestockunit real,
    nitrogencontent real,
    sellingpricefemale real,
    weightatmaturity real,
    dailyweightgain real,
    lengthoffatteningperiod integer,
    lossrate real,
    sellingpricemale real,
    weightinitial real
```

) WITH OIDS;

--

-- Structure for table leafareaindexthreshold (OID = 115987652) :

--

```
CREATE TABLE public.leafareaindexthreshold (  
  id bigint NOT NULL,  
  minimumlai real
```

) WITH OIDS;

--

-- Structure for table livestockinformation (OID = 115987654) :

--

```
CREATE TABLE public.livestockinformation (  
  id bigint NOT NULL,  
  averagenumberbees real,  
  averagenumberbreedingheifers real,  
  averagenumberbreedingsows real,  
  averagenumbercalves real,  
  averagenumberdairy cows real,  
  averagenumberdairy cull cows real,  
  averagenumberequines real,  
  averagenumberewes real,  
  averagenumberfemalecattleonetotwo real,  
  averagenumbergoats real,  
  averagenumberheifersfattening real,  
  averagenumberlayinghens real,  
  averagenumbermalecattlemorethantwo real,  
  averagenumbermalecattleonetotwo real,  
  averagenumberotheranimals real,  
  averagenumberothercattlelessononeyear real,  
  averagenumberothercows real,  
  averagenumberothergoats real,  
  averagenumberotherpigs real,  
  averagenumberotherpoultry real,  
  averagenumberothersheep real,  
  averagenumberpiglets real,  
  averagenumberpigsfattening real,  
  averagenumberrabbits real,  
  averagenumbertablechickens real,  
  closingbees real,  
  closingbreedingheifers real,
```

closingbreedingsows real,
closingcalves real,
closingdairy cows real,
closingdairy cull cows real,
closingequines real,
closingewes real,
closingfemalecattleonetotwo real,
closinggoats real,
closingheifersfattening real,
closinglayinghens real,
closingmalecattlemorethantwo real,
closingmalecattleonetotwo real,
closingotheranimals real,
closingothercattlelessononeyear real,
closingothercows real,
closingothergoats real,
closingotherpigs real,
closingotherpoultry real,
closingothersheep real,
closingpiglets real,
closingpigsfattening real,
closingrabbits real,
closingtablechickens real,
closingvaluebees real,
closingvaluebreedingheifers real,
closingvaluebreedingsows real,
closingvaluecalves real,
closingvaluedairy cows real,
closingvaluedairy cull cows real,
closingvalueequines real,
closingvalueewes real,
closingvaluefemalecattleonetotwo real,
closingvaluegoats real,
closingvalueheifersfattening real,
closingvaluelayinghens real,
closingvaluemalecattlemorethantwo real,
closingvaluemalecattleonetotwo real,
closingvalueotheranimals real,
closingvalueothercattlelessononeyear real,
closingvalueothercows real,

closingvalueothergoats real,
closingvalueotherpigs real,
closingvalueotherpoultry real,
closingvalueothersheep real,
closingvaluepiglets real,
closingvaluepigsfattening real,
closingvaluerabbits real,
closingvaluetablechickens real,
closingvaluetotallivestock real,
coarsefodderpurchased real,
concentrates real,
cowsmilk real,
cowsmilkproducts real,
daysgrazingmountain real,
feedgrazinglivestock real,
feedingstuffspigspoultry real,
homegrownfeedgrazinglivestock real,
homegrownfeedpigspoultry real,
islivestockinformationof bigint,
livestockunits real,
livestockunitsaverage real,
livestockunitsaveragemax real,
livestockunitsaveragemin real,
livestockunitsaveragesd real,
livestockunitsdairy cows real,
livestockunitsothercattle real,
livestockunitspigs real,
livestockunitspoultry real,
livestockunitssheepgoats real,
milkyieldaverage real,
milkyieldaveragemax real,
milkyieldaveragemin real,
milkyieldaveragesd real,
openingbees real,
openingbreedingheifers real,
openingbreedingsows real,
openingcalves real,
openingdairy cows real,
openingdairy cull cows real,
openingequines real,

openingewes real,
openingfemalecattleonetotwo real,
openinggoats real,
openingheifersfattening real,
openinglayinghens real,
openingmalecattlemorethantwo real,
openingmalecattleonetotwo real,
openingotheranimals real,
openingothercattlelessoneyear real,
openingothercows real,
openingothergoats real,
openingotherpigs real,
openingotherpoultry real,
openingothersheep real,
openingpiglets real,
openingpigsfattening real,
openingrabbits real,
openingtablechickens real,
openingvaluebees real,
openingvaluebreedingheifers real,
openingvaluebreedingsows real,
openingvaluecalves real,
openingvaluedairy cows real,
openingvaluedairy cull cows real,
openingvalueequines real,
openingvalueewes real,
openingvaluefemalecattleonetotwo real,
openingvaluegoats real,
openingvalueheifersfattening real,
openingvaluelayinghens real,
openingvaluemalecattlemorethantwo real,
openingvaluemalecattleonetotwo real,
openingvalueotheranimals real,
openingvalueothercattlelessoneyear real,
openingvalueothercows real,
openingvalueothergoats real,
openingvalueotherpigs real,
openingvalueotherpoultry real,
openingvalueothersheep real,
openingvaluepiglets real,

```
openingvaluepigsfattening real,
openingvaluerabbits real,
openingvaluetablechickens real,
openingvaluetotallivestock real,
otherlivestockspecificcosts real,
outputanimalproducts real,
outputbeefveal real,
outputchangelivestockvalue real,
outputcowsmilk real,
outputeggs real,
outputewgoatsmilk real,
outputlivestock real,
outputotherlivestock real,
outputpigmeat real,
outputpoultry real,
outputsheepgoats real,
stockingdensity real,
subsidieslivestock real,
subsidiesdairying real,
subsidiesothercattle real,
subsidiesotherlivestock real,
subsidiesheepgoats real,
totalinputs real,
yieldmilk real
) WITH OIDS;
--
-- Structure for table managementprocedure (OID = 115987656) :
--
CREATE TABLE public.managementprocedure (
    id bigint NOT NULL,
    description character varying(255)
) WITH OIDS;
--
-- Structure for table managementprocedureandtiming (OID = 115987658) :
--
CREATE TABLE public.managementprocedureandtiming (
    id bigint NOT NULL,
    managementprocedure bigint
) WITH OIDS;
--
```

-- Structure for table managementprocedureandtimingtimedecade (OID = 115987660) :

--

```
CREATE TABLE public.managementprocedureandtimingtimedecade (  
    managementprocedureandtiming_id bigint NOT NULL,  
    timedecade_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table managementprocedureinputsandimplements (OID = 115987662) :

--

```
CREATE TABLE public.managementprocedureinputsandimplements (  
    managementprocedure_id bigint NOT NULL,  
    inputsandimplements_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table manuresimple (OID = 115987664) :

--

```
CREATE TABLE public.manuresimple (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    applicationnh4nrate real,  
    applicationno3nrate real,  
    applicationorganicrate real,  
    fertiliser bigint,  
    fertiliserapplicationmethod bigint,  
    ponorganicmatrixpercentagecontent real,  
    totalamount real  
) WITH OIDS;
```

--

-- Structure for table model (OID = 115987666) :

--

```
CREATE TABLE public.model (  
    id bigint NOT NULL,  
    description text,  
    name_ character varying(255),  
    "version" character varying(255)  
) WITH OIDS;
```

--

-- Structure for table modelchain (OID = 115987671) :

--

```
CREATE TABLE public.modelchain (  

```

```
id bigint NOT NULL,
description text,
factsheet character varying(255),
spatialscale bigint,
temporalscale bigint,
label character varying(255)
) WITH OIDS;
--
-- Structure for table modelchainmodels (OID = 115987676) :
--
CREATE TABLE public.modelchainmodels (
    modelchain_id bigint NOT NULL,
    model_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table modelspatialscales (OID = 115987678) :
--
CREATE TABLE public.modelspatialscales (
    model_id bigint NOT NULL,
    spatialscale_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table modelvariable (OID = 115987680) :
--
CREATE TABLE public.modelvariable (
    id bigint NOT NULL,
    label_en character varying(255),
    description character varying(255),
    indicatorvaluetable bigint,
    model bigint,
    modeloutputname character varying(255),
    spatialscale bigint,
    temporalscale bigint,
    unit character varying(255),
    factsheet character varying(255)
) WITH OIDS;
--
-- Structure for table modulation (OID = 115987685) :
--
CREATE TABLE public.modulation (
```

```
    id bigint NOT NULL,
    fromcountryaggregate bigint,
    value_ real
) WITH OIDS;
--
-- Structure for table multiplerepetitionthreshold (OID = 115987687) :
--
CREATE TABLE public.multiplerepetitionthreshold (
    id bigint NOT NULL,
    label_aps character varying(255)
) WITH OIDS;
--
-- Structure for table multiplerepetitionthreshold_arrayofdayintervals (OID = 115987689) :
--
CREATE TABLE public.multiplerepetitionthreshold_arrayofdayintervals (
    id bigint NOT NULL,
    arrayofdayintervals integer
) WITH OIDS;
--
-- Structure for table narrative (OID = 115987691) :
--
CREATE TABLE public.narrative (
    id bigint NOT NULL,
    description text,
    title character varying(255)
) WITH OIDS;
--
-- Structure for table narrativenarrativeoptions (OID = 115987696) :
--
CREATE TABLE public.narrativenarrativeoptions (
    narrative_id bigint NOT NULL,
    narrativeoption_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table narrativeoption (OID = 115987698) :
--
CREATE TABLE public.narrativeoption (
    id bigint NOT NULL,
    option_ character varying(255),
    value_ text
```

```
) WITH OIDS;
--
-- Structure for table naturalresourcefocus (OID = 115987703) :
--
CREATE TABLE public.naturalresourcefocus (
  id bigint NOT NULL,
  description text,
  name_ character varying(255)
) WITH OIDS;
--
-- Structure for table nutrientmanagement (OID = 115987708) :
--
CREATE TABLE public.nutrientmanagement (
  id bigint NOT NULL,
  extrainsurancepremium real,
  numberlevels integer,
  yieldchange25percent boolean,
  yieldchange33percent boolean,
  yieldchange40percent boolean
) WITH OIDS;
--
-- Structure for table nutrientmanagementcrops (OID = 115987710) :
--
CREATE TABLE public.nutrientmanagementcrops (
  nutrientmanagement_id bigint NOT NULL,
  crop_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table nutrientoperation (OID = 115987712) :
--
CREATE TABLE public.nutrientoperation (
  id bigint NOT NULL,
  label_aps character varying(255),
  applicationnh4nrate real,
  applicationno3nrate real,
  fertiliser bigint,
  fertiliserapplicationmethod bigint
) WITH OIDS;
--
-- Structure for table nutsregion (OID = 115987714) :
```

```
--  
CREATE TABLE public.nutsregion (  
  id bigint NOT NULL,  
  label_gms character varying(255),  
  name_ character varying(255),  
  shapefileid text,  
  fadnregion bigint,  
  nutslevel integer,  
  ofcountry bigint,  
  referenceyieldirrigated real,  
  referenceyieldnonirrigated real,  
  nitrogendeposition real,  
  nitrogenfixation real  
) WITH OIDS;  
--  
-- Structure for table observedanimallevels (OID = 115987719) :  
--  
CREATE TABLE public.observedanimallevels (  
  id bigint NOT NULL,  
  animal bigint,  
  number_ real  
) WITH OIDS;  
--  
-- Structure for table optimalfarmbehaviour (OID = 115987721) :  
--  
CREATE TABLE public.optimalfarmbehaviour (  
  id bigint NOT NULL,  
  amountofsubsidy real,  
  annuity real,  
  annuityshare real,  
  erosion real,  
  farmerincome real,  
  farmerincomeperhectare real,  
  grossproduction real,  
  grossproductionshare real,  
  fssimfarm bigint,  
  irrigationwaterrequirement real,  
  labour real,  
  nitrateleaching real,  
  nitrogenuse real,
```

```
nitrogenuseorganic real,
nitrogenervolatilization real,
pesticidepressure real,
soilorganicmatter real,
subsidiesshare real,
totalcosts real,
totalcostsshare real
) WITH OIDS;
--
-- Structure for table optimalfarmbehaviourcalibrationterms (OID = 115987723) :
--
CREATE TABLE public.optimalfarmbehaviourcalibrationterms (
    optimalfarmbehaviour_id bigint NOT NULL,
    calibrationterm_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table optimalfarmbehaviouroptimalcroppingpattern (OID = 115987725) :
--
CREATE TABLE public.optimalfarmbehaviouroptimalcroppingpattern (
    optimalfarmbehaviour_id bigint NOT NULL,
    optimalproductioncoefficient_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table optimalfarmbehaviouroptimallivestockactivity (OID = 115987727) :
--
CREATE TABLE public.optimalfarmbehaviouroptimallivestockactivity (
    optimalfarmbehaviour_id bigint NOT NULL,
    optimallivestockactivity_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table optimalfarmbehavioursupplyresponses (OID = 115987729) :
--
CREATE TABLE public.optimalfarmbehavioursupplyresponses (
    optimalfarmbehaviour_id bigint NOT NULL,
    supplyresponse_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table optimallivestockactivity (OID = 115987731) :
--
CREATE TABLE public.optimallivestockactivity (
```



```
    id bigint NOT NULL,
    animalactivity bigint,
    number_ real
) WITH OIDS;
--
-- Structure for table optimalproductioncoefficient (OID = 115987733) :
--
CREATE TABLE public.optimalproductioncoefficient (
    id bigint NOT NULL,
    area real,
    agriculturalactivity bigint
) WITH OIDS;
--
-- Structure for table organicfertiliser (OID = 115987735) :
--
CREATE TABLE public.organicfertiliser (
    id bigint NOT NULL,
    fertilisernh4content real,
    fertiliserno3content real,
    fertiliserorganiccontent real,
    name_ character varying(255),
    price real
) WITH OIDS;
--
-- Structure for table outlook (OID = 115987737) :
--
CREATE TABLE public.outlook (
    id bigint NOT NULL,
    co2concentration real,
    eugdpgrowth real,
    narrative bigint
) WITH OIDS;
--
-- Structure for table outlookbiofueldemands (OID = 115987739) :
--
CREATE TABLE public.outlookbiofueldemands (
    outlook_id bigint NOT NULL,
    biofueldemand_id bigint NOT NULL
) WITH OIDS;
--
```

```
-- Structure for table outlookdemandshifts (OID = 115987741) :
--
CREATE TABLE public.outlookdemandshifts (
    outlook_id bigint NOT NULL,
    demandshift_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table outlookenergyprice (OID = 115987743) :
--
CREATE TABLE public.outlookenergyprice (
    outlook_id bigint NOT NULL,
    energyprice_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table outlookexchangerates (OID = 115987745) :
--
CREATE TABLE public.outlookexchangerates (
    outlook_id bigint NOT NULL,
    exchangerates_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table outlookinflationrates (OID = 115987747) :
--
CREATE TABLE public.outlookinflationrates (
    outlook_id bigint NOT NULL,
    inflationrate_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table outlookmodulations (OID = 115987749) :
--
CREATE TABLE public.outlookmodulations (
    outlook_id bigint NOT NULL,
    modulation_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table outlookyieldgrowth (OID = 115987751) :
--
CREATE TABLE public.outlookyieldgrowth (
    outlook_id bigint NOT NULL,
    yieldgrowth_id bigint NOT NULL
```

) WITH OIDS;

--

-- Structure for table penalty (OID = 115987753) :

--

CREATE TABLE public.penalty (

id bigint NOT NULL,

erosion real,

nutsregion bigint,

irrigationwateravailability real,

minimum boolean,

nitrateleaching real,

nitrogenuse real,

nitrogenuseorganic real,

pesticidepressure real,

soilorganicmatter real,

penalty real

) WITH OIDS;

--

-- Structure for table perennialrotations (OID = 115987755) :

--

CREATE TABLE public.perennialrotations (

id bigint NOT NULL,

maxlengthperennialcrops integer

) WITH OIDS;

--

-- Structure for table permisiongroup (OID = 115987757) :

--

CREATE TABLE public.permisiongroup (

id bigint NOT NULL,

label character varying(255)

) WITH OIDS;

--

-- Structure for table permisiongrouppermissions (OID = 115987759) :

--

CREATE TABLE public.permisiongrouppermissions (

permisiongroup_id bigint NOT NULL,

permission_id bigint NOT NULL

) WITH OIDS;

--

-- Structure for table permission (OID = 115987761) :

```
--  
CREATE TABLE public.permission (  
    id bigint NOT NULL,  
    right_ character varying(255),  
    task character varying(255)  
) WITH OIDS;  
--  
-- Structure for table pesticide (OID = 115987766) :  
--  
CREATE TABLE public.pesticide (  
    id bigint NOT NULL,  
    activeingredientname character varying(255),  
    price real  
) WITH OIDS;  
--  
-- Structure for table pesticideapplicationmethod (OID = 115987768) :  
--  
CREATE TABLE public.pesticideapplicationmethod (  
    id bigint NOT NULL,  
    labour real,  
    pesticideapplicationmethod character varying(255),  
    rentalprice real  
) WITH OIDS;  
--  
-- Structure for table pesticideoperation (OID = 115987770) :  
--  
CREATE TABLE public.pesticideoperation (  
    id bigint NOT NULL,  
    concentrationchemical real,  
    pesticideapplicationmethod bigint,  
    pesticideamount real,  
    pestidetype bigint  
) WITH OIDS;  
--  
-- Structure for table pesticidesmixtures (OID = 115987772) :  
--  
CREATE TABLE public.pesticidesmixtures (  
    id bigint NOT NULL,  
    label_aps character varying(255)  
) WITH OIDS;
```

--
-- Structure for table pesticidesmixturespesticideoperations (OID = 115987774) :
--

```
CREATE TABLE public.pesticidesmixturespesticideoperations (  
    pesticidesmixtures_id bigint NOT NULL,  
    pesticideoperation_id bigint NOT NULL  
) WITH OIDS;
```

--
-- Structure for table picaassessment (OID = 115987776) :
--

```
CREATE TABLE public.picaassessment (  
    id bigint NOT NULL,  
    assessmentcrucialinstitutionalaspect character varying(255),  
    compatibilitystatement text,  
    crucialinstitutionalaspect bigint,  
    influencecategory character varying(255),  
    ofinstitutionalcompatibility bigint,  
    rankcrucialinstitutionalaspect integer,  
    rankthematiccategory integer,  
    thematiccategory character varying(255)  
) WITH OIDS;
```

--
-- Structure for table picaindicator (OID = 115987781) :
--

```
CREATE TABLE public.picaindicator (  
    id bigint NOT NULL,  
    datasource character varying(255),  
    datasourcespecification character varying(255),  
    description text,  
    geographicalscope character varying(255),  
    institutionalcompatibility bigint,  
    picaindicatorgeneral bigint,  
    specificlinkage character varying(255)  
) WITH OIDS;
```

--
-- Structure for table picaindicatorgeneral (OID = 115987786) :
--

```
CREATE TABLE public.picaindicatorgeneral (  
    id bigint NOT NULL,  
    description text,
```

```
generallinkage character varying(255),
maincrucialinstitutionalaspect bigint,
name_ character varying(255),
unit character varying(255),
weblink character varying(255)
) WITH OIDS;
--
-- Structure for table picaindicatorgeneralcrucialinstitutionalaspectlinkagecrucialins (OID = 115987791) :
--
CREATE TABLE public.picaindicatorgeneralcrucialinstitutionalaspectlinkagecrucialins (
    picaindicatorgeneral_id bigint NOT NULL,
    crucialinstitutionalaspect_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table picaindicatorvalue (OID = 115987793) :
--
CREATE TABLE public.picaindicatorvalue (
    id bigint NOT NULL,
    assessmentlevelpicaindicator character varying(255),
    picaindicator bigint,
    picaspatiallevel bigint,
    value_real
) WITH OIDS;
--
-- Structure for table picaspatiallevel (OID = 115987795) :
--
CREATE TABLE public.picaspatiallevel (
    id bigint NOT NULL,
    classification character varying(255),
    description text,
    frominstitutionalcompability bigint,
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table policyassessment (OID = 115987800) :
--
CREATE TABLE public.policyassessment (
    id bigint NOT NULL,
    policyoption bigint
) WITH OIDS;
```

```
--  
-- Structure for table policyassessmentcutfactorsubsidies (OID = 115987802) :  
--  
CREATE TABLE public.policyassessmentcutfactorsubsidies (  
    policyassessment_id bigint NOT NULL,  
    cutfactorsubsidies_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyassessmentequilibriumprices (OID = 115987804) :  
--  
CREATE TABLE public.policyassessmentequilibriumprices (  
    policyassessment_id bigint NOT NULL,  
    equilibriumprice_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyassessmentfssimfarindicators (OID = 115987806) :  
--  
CREATE TABLE public.policyassessmentfssimfarindicators (  
    policyassessment_id bigint NOT NULL,  
    optimalfarmbehaviour_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyassessmentpriceelasticities (OID = 115987808) :  
--  
CREATE TABLE public.policyassessmentpriceelasticities (  
    policyassessment_id bigint NOT NULL,  
    priceelasticity_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoption (OID = 115987810) :  
--  
CREATE TABLE public.policyoption (  
    id bigint NOT NULL,  
    narrative bigint,  
    time_ integer,  
    tradereformactivated boolean  
) WITH OIDS;  
--  
-- Structure for table policyoptionbasicpremiums (OID = 115987812) :  
--
```

```
CREATE TABLE public.policyoptionbasicpremiums (  
    policyoption_id bigint NOT NULL,  
    basicpremium_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoptionbilateraltariffs (OID = 115987814) :  
--  
CREATE TABLE public.policyoptionbilateraltariffs (  
    policyoption_id bigint NOT NULL,  
    bilateraltariff_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoptioncouplingdegrees (OID = 115987816) :  
--  
CREATE TABLE public.policyoptioncouplingdegrees (  
    policyoption_id bigint NOT NULL,  
    couplingdegree_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoptionfarmconstraints (OID = 115987818) :  
--  
CREATE TABLE public.policyoptionfarmconstraints (  
    policyoption_id bigint NOT NULL,  
    farmconstraint_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoptionfarmquotas (OID = 115987820) :  
--  
CREATE TABLE public.policyoptionfarmquotas (  
    policyoption_id bigint NOT NULL,  
    farmquota_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table policyoptionglobaltariffs (OID = 115987822) :  
--  
CREATE TABLE public.policyoptionglobaltariffs (  
    policyoption_id bigint NOT NULL,  
    globaltariff_id bigint NOT NULL  
) WITH OIDS;  
--
```

-- Structure for table policyoptioninstitutionalcompatibility (OID = 115987824) :

--

```
CREATE TABLE public.policyoptioninstitutionalcompatibility (  
    policyoption_id bigint NOT NULL,  
    institutionalcompatibility_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table policyoptionpolicymeasures (OID = 115987826) :

--

```
CREATE TABLE public.policyoptionpolicymeasures (  
    policyoption_id bigint NOT NULL,  
    policymeasure_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table policyoptionpricechange (OID = 115987828) :

--

```
CREATE TABLE public.policyoptionpricechange (  
    policyoption_id bigint NOT NULL,  
    price_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table policyoptionquotacountries (OID = 115987830) :

--

```
CREATE TABLE public.policyoptionquotacountries (  
    policyoption_id bigint NOT NULL,  
    quotacountry_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table policyoptionsetasideregulations (OID = 115987832) :

--

```
CREATE TABLE public.policyoptionsetasideregulations (  
    policyoption_id bigint NOT NULL,  
    setasideregulation_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table policyoptionssubsidies (OID = 115987834) :

--

```
CREATE TABLE public.policyoptionssubsidies (  
    policyoption_id bigint NOT NULL,  
    subsidy_id bigint NOT NULL
```

```
) WITH OIDS;
--
-- Structure for table policyoptionsubsidisedexports (OID = 115987836) :
--
CREATE TABLE public.policyoptionsubsidisedexports (
    policyoption_id bigint NOT NULL,
    subsidisedexport_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table policyoptiontradereformproposals (OID = 115987838) :
--
CREATE TABLE public.policyoptiontradereformproposals (
    policyoption_id bigint NOT NULL,
    tradereformproposal_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table policyoptionyieldtrend (OID = 115987840) :
--
CREATE TABLE public.policyoptionyieldtrend (
    policyoption_id bigint NOT NULL,
    yieldtrend_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table policytype (OID = 115987842) :
--
CREATE TABLE public.policytype (
    id bigint NOT NULL,
    description text,
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table premiumgroup (OID = 115987847) :
--
CREATE TABLE public.premiumgroup (
    id bigint NOT NULL,
    label_en character varying(255),
    label_gms character varying(255)
) WITH OIDS;
--
-- Structure for table price (OID = 115987852) :
```

```
--  
CREATE TABLE public.price (  
    id bigint NOT NULL,  
    product bigint,  
    region bigint,  
    value_ real  
) WITH OIDS;  
--  
-- Structure for table priceelasticity (OID = 115987854) :  
--  
CREATE TABLE public.priceelasticity (  
    id bigint NOT NULL,  
    fromproductgroup bigint,  
    nutsregion bigint,  
    toproductgroup bigint,  
    value_ real  
) WITH OIDS;  
--  
-- Structure for table problem (OID = 115987856) :  
--  
CREATE TABLE public.problem (  
    id bigint NOT NULL,  
    description text,  
    spatialscale bigint,  
    properties text  
) WITH OIDS;  
--  
-- Structure for table problemexperimentplans (OID = 115987861) :  
--  
CREATE TABLE public.problemexperimentplans (  
    problem_id bigint NOT NULL,  
    experimentplan_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table problemindicators (OID = 115987863) :  
--  
CREATE TABLE public.problemindicators (  
    problem_id bigint NOT NULL,  
    indicator__id bigint NOT NULL  
) WITH OIDS;
```

```
--  
-- Structure for table problemmodels (OID = 115987865) :  
--  
CREATE TABLE public.problemmodels (  
    problem_id bigint NOT NULL,  
    model_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table productgroup (OID = 115987867) :  
--  
CREATE TABLE public.productgroup (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    label_en character varying(255)  
) WITH OIDS;  
--  
-- Structure for table productgroupproductsetofproducts (OID = 115987872) :  
--  
CREATE TABLE public.productgroupproductsetofproducts (  
    product_id bigint NOT NULL,  
    productgroup_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table productionactivity (OID = 115987874) :  
--  
CREATE TABLE public.productionactivity (  
    id bigint NOT NULL,  
    productionorientation bigint,  
    agrienvironmentalzone bigint,  
    environmentaleffects bigint,  
    productiontechnique bigint,  
    rotation bigint  
) WITH OIDS;  
--  
-- Structure for table productionactivitycropproductyearmanagements (OID = 115987876) :  
--  
CREATE TABLE public.productionactivitycropproductyearmanagements (  
    productionactivity_id bigint NOT NULL,  
    productioncoefficient_id bigint NOT NULL  
) WITH OIDS;
```

```
--  
-- Structure for table productionactivityperfssimfarm (OID = 115987878) :  
--  
CREATE TABLE public.productionactivityperfssimfarm (  
    id bigint NOT NULL,  
    fssimfarm bigint  
) WITH OIDS;  
--  
-- Structure for table productionactivityperfssimfarmagriculturalactivities (OID = 115987880) :  
--  
CREATE TABLE public.productionactivityperfssimfarmagriculturalactivities (  
    productionactivityperfssimfarm_id bigint NOT NULL,  
    agriculturalactivity_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table productioncoefficient (OID = 115987882) :  
--  
CREATE TABLE public.productioncoefficient (  
    id bigint NOT NULL,  
    amountofsubsidy real,  
    energyusefertilizer real,  
    energyuseirrigation real,  
    energyusetillage real,  
    cropyearmanagement bigint,  
    irrigationwaterrequirement real,  
    labour real,  
    nitrogenuse real,  
    nitrogenuseorganic real,  
    variablecosts real  
) WITH OIDS;  
--  
-- Structure for table productioncoefficientyieldofcropproducts (OID = 115987884) :  
--  
CREATE TABLE public.productioncoefficientyieldofcropproducts (  
    productioncoefficient_id bigint NOT NULL,  
    yieldofcropproduct_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table productionorientation (OID = 115987886) :  
--
```

```
CREATE TABLE public.productionorientation (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    label_gms character varying(255),  
    conservationmanagement bigint,  
    maxnumberdifferentcrops integer,  
    maxrotationlength integer,  
    minrotationlength integer,  
    nutrientmanagement bigint,  
    watermanagement bigint  
) WITH OIDS;  
  
--  
-- Structure for table productionorientationbeefmanagements (OID = 115987891) :  
--  
CREATE TABLE public.productionorientationbeefmanagements (  
    productionorientation_id bigint NOT NULL,  
    beefmanagement_id bigint NOT NULL  
) WITH OIDS;  
  
--  
-- Structure for table productionorientationdairymanagements (OID = 115987893) :  
--  
CREATE TABLE public.productionorientationdairymanagements (  
    productionorientation_id bigint NOT NULL,  
    dairymanagement_id bigint NOT NULL  
) WITH OIDS;  
  
--  
-- Structure for table productionorientationgrassmanagementalternatives (OID = 115987895) :  
--  
CREATE TABLE public.productionorientationgrassmanagementalternatives (  
    productionorientation_id bigint NOT NULL,  
    grassmanagementalternative_id bigint NOT NULL  
) WITH OIDS;  
  
--  
-- Structure for table productionorientationsmallbeefruminantmanagements (OID = 115987897) :  
--  
CREATE TABLE public.productionorientationsmallbeefruminantmanagements (  
    productionorientation_id bigint NOT NULL,  
    beefmanagement_id bigint NOT NULL  
) WITH OIDS;  
  
--
```

-- Structure for table productionorientationsmalldairyruminantmanagements (OID = 115987899) :

--

```
CREATE TABLE public.productionorientationsmalldairyruminantmanagements (  
    productionorientation_id bigint NOT NULL,  
    dairymanagement_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table productiontechnique (OID = 115987901) :

--

```
CREATE TABLE public.productiontechnique (  
    id bigint NOT NULL,  
    label_gms character varying(255)  
) WITH OIDS;
```

--

-- Structure for table productonsoil (OID = 115987903) :

--

```
CREATE TABLE public.productonsoil (  
    id bigint NOT NULL,  
    regionalagromanagementzone bigint,  
    name_ character varying(255),  
    yield real,  
    product bigint  
) WITH OIDS;
```

--

-- Structure for table productsforregion (OID = 115987905) :

--

```
CREATE TABLE public.productsforregion (  
    id bigint NOT NULL,  
    nutsregion bigint,  
    product bigint  
) WITH OIDS;
```

--

-- Structure for table producttype (OID = 115987907) :

--

```
CREATE TABLE public.producttype (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    name_ character varying(255)  
) WITH OIDS;
```

--

```
-- Structure for table project (OID = 115987912) :
--
CREATE TABLE public.project (
    id bigint NOT NULL,
    description text,
    image bigint,
    problem bigint,
    published boolean,
    title character varying(255)
) WITH OIDS;
--
-- Structure for table projectrole (OID = 115987917) :
--
CREATE TABLE public.projectrole (
    id bigint NOT NULL,
    title character varying(255),
    project bigint
) WITH OIDS;
--
-- Structure for table propertyrightschanges (OID = 115987919) :
--
CREATE TABLE public.propertyrightschanges (
    id bigint NOT NULL,
    description text,
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table quotacountry (OID = 115987924) :
--
CREATE TABLE public.quotacountry (
    id bigint NOT NULL,
    additionalprice real,
    country bigint,
    productgroup bigint,
    quotalevel character varying(255),
    quotashare real
) WITH OIDS;
--
-- Structure for table reducebiomassclippingoperation (OID = 115987926) :
--
```



```
CREATE TABLE public.reducebiomassclippingoperation (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    biomasslossfraction real,  
    clippingharvestimplement bigint,  
    isharvest boolean,  
    reductionbiomass real,  
    residuere moval real  
) WITH OIDS;  
--  
-- Structure for table reducedtillage (OID = 115987928) :  
--  
CREATE TABLE public.reducedtillage (  
    id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table reducedtillageevents (OID = 115987930) :  
--  
CREATE TABLE public.reducedtillageevents (  
    reducedtillage_id bigint NOT NULL,  
    event_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table reduceleafareaindexclippingoperation (OID = 115987932) :  
--  
CREATE TABLE public.reduceleafareaindexclippingoperation (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    treetype character varying(255)  
) WITH OIDS;  
--  
-- Structure for table regionalagromanagementzone (OID = 115987937) :  
--  
CREATE TABLE public.regionalagromanagementzone (  
    id bigint NOT NULL,  
    description character varying(255),  
    name_ character varying(255),  
    shapefileid text  
) WITH OIDS;  
--
```

-- Structure for table regionalagromanagementzoneagrienvironmentalzones (OID = 115987942) :

--

```
CREATE TABLE public.regionalagromanagementzoneagrienvironmentalzones (  
    regionalagromanagementzone_id bigint NOT NULL,  
    agrienvironmentalzone_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table regionaltypology (OID = 115987944) :

--

```
CREATE TABLE public.regionaltypology (  
    id bigint NOT NULL,  
    factsheet character varying(255),  
    name_ character varying(255)  
) WITH OIDS;
```

--

-- Structure for table regionaltypologyclass (OID = 115987949) :

--

```
CREATE TABLE public.regionaltypologyclass (  
    id bigint NOT NULL,  
    definition character varying(255),  
    name_ character varying(255)  
) WITH OIDS;
```

--

-- Structure for table regionaltypologyvalue (OID = 115987954) :

--

```
CREATE TABLE public.regionaltypologyvalue (  
    id bigint NOT NULL,  
    nutsregion bigint,  
    regionaltypology bigint,  
    regionaltypologyclass bigint  
) WITH OIDS;
```

--

-- Structure for table regionalwage (OID = 115987956) :

--

```
CREATE TABLE public.regionalwage (  
    id bigint NOT NULL,  
    nutsregion bigint,  
    wage real  
) WITH OIDS;
```

--

-- Structure for table relativeday (OID = 115987958) :

--

```
CREATE TABLE public.relativeday (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    relativedaynumber integer  
) WITH OIDS;
```

--

-- Structure for table repetitionthreshold (OID = 115987960) :

--

```
CREATE TABLE public.repetitionthreshold (  
    id bigint NOT NULL,  
    label_aps character varying(255),  
    dayinterval integer  
) WITH OIDS;
```

--

-- Structure for table representativefarm (OID = 115987962) :

--

```
CREATE TABLE public.representativefarm (  
    id bigint NOT NULL,  
    annualworkingunits real,  
    annualworkingunitsaverage real,  
    annualworkingunitsaveragemax real,  
    annualworkingunitsaveragemin real,  
    annualworkingunitsaveragesd real,  
    areaenvironmentalrestrictions real,  
    areawoodland real,  
    assettotal real,  
    assettotalaverage real,  
    assettotalaveragemax real,  
    assettotalaveragemin real,  
    assettotalaveragesd real,  
    assettotalcurrent real,  
    assettotalfixed real,  
    awucasualpaidlabour real,  
    awucasualunpaidlabour real,  
    awuholder1 real,  
    awuholder2 real,  
    awuholder3 real,  
    awuholdernotmanager real,
```

awumanagernothead real,
awumanagerpaid real,
awuotherspaid real,
awuothersunpaid real,
awupaidlabour real,
awuspouse real,
awuunpaidlabour real,
balancesubsiestaxes real,
balancesubsiestaxesoninvestment real,
breedinglivestock real,
buildings real,
capitalfixedclosingvalue real,
cashflow1 real,
cashflow2 real,
closingagriculturalland real,
closinglandandbuilding real,
closinglandimprovements real,
closinglongmediumloans real,
closingmachineryandequipment real,
closingshortloans real,
closingtotaldebts real,
closingvaluecapital real,
compensatorypayments real,
contractwork real,
cropinformation bigint,
depreciation real,
description character varying(255),
economicsizeclass real,
electricitycosts real,
energycosts real,
esu real,
esuaverage real,
esuaveragemax real,
esuaveragemin real,
esuaveragesd real,
externalfactors real,
fadnregion bigint,
farmcapitalaverage real,
farmfamilyincome real,
farmfamilyincomeaverage real,

farmfamilyincomeaveragemax real,
farmfamilyincomeaveragemin real,
farmfamilyincomeaveragesd real,
farmincomefamilyperfamilyworkingunit real,
farmincomegross real,
farmingoverhead real,
farmsaltitude300to600 real,
farmsaltitudeabove600 real,
farmsaltitudeless300 real,
farmsaltitudenodata real,
farmsconventional real,
farmsconversion real,
farmslfamountain real,
farmslfanotmountain real,
farmslfanotrelevant real,
farmsnotlfa real,
farmsorganic real,
farmtourism real,
forestryspecificcosts real,
grossinvestments real,
grossinvestmentsaverage real,
grossinvestmentsaveragemax real,
grossinvestmentsaveragemin real,
grossinvestmentsaveragesd real,
heatingfuelscosts real,
hourscasualpaidlabour real,
hourscasualunpaidlabour real,
hoursholder1 real,
hoursholder2 real,
hoursholder3 real,
hoursholdernotmanager real,
hoursmanagernotholder real,
hoursmanagerpaid real,
hoursotherspaid real,
hoursothersunpaid real,
hoursspouse real,
intensity bigint,
interestpaid real,
investmentsaftersubsidies real,
investmentsbeforesubsidies real,

investmentslandimprovementaftersubsidies real,
investmentslandimprovementbeforesubsidies real,
labourinputs real,
labourinputspaid real,
labourinputsunpaid real,
landpermanentcropquotas real,
liabilitiestotal real,
liabilitiestotalaverage real,
liabilitiestotalaveragemax real,
liabilitiestotalaveragemin real,
liabilitiestotalaveragesd real,
loansmediumlong real,
loansshort real,
machinery real,
machineryandbuildings real,
memberof bigint,
netinvestments real,
netvalueadded real,
netvalueaddedaverage real,
netvalueaddedaveragemax real,
netvalueaddedaveragemin real,
netvalueaddedaveragesd real,
netvalueaddedawu real,
networth real,
networthchange real,
nonbreedinglivestock real,
othercirculatingcapital real,
otherdirectinputs real,
otheroutput real,
outputfarmconsumption real,
outputfarmuse real,
paymentsdairyoutgoers real,
rentedutilisedagriculturalarea real,
rentpaid real,
representedfarms real,
representedfarms2013 real,
representedfarms2020 real,
samplefarms real,
size_ bigint,
specialization bigint,

```
specificcosts real,  
stocksagriculturalproducts real,  
structuralfundsarea real,  
subsidiesdisasters real,  
subsidiesenvironmental real,  
subsidiesintermediateconsumption real,  
subsidiesinvestments real,  
subsidieslfa real,  
subsidiesother real,  
taxes real,  
totalfarminput real,  
totalfarmoutput real,  
totalintermediateconsumption real,  
totaloutput real,  
totaloutputaverage real,  
totaloutputaveragemax real,  
totaloutputaveragemin real,  
totaloutputaveragesd real,  
totalsubsidies real,  
upkeepmachineryequipment real,  
upkeepofmachineryandequipment real,  
utilisedagriculturalarea real,  
utilisedagriculturalareaaverage real,  
utilisedagriculturalareaaveragemax real,  
utilisedagriculturalareaaveragemin real,  
utilisedagriculturalareaaveragesd real,  
vatinvestments real,  
wagespaid real,  
watercosts real,  
year_ integer  
) WITH OIDS;  
--  
-- Structure for table representativefarmgroup (OID = 115987964) :  
--  
CREATE TABLE public.representativefarmgroup (  
  id bigint NOT NULL,  
  name_ character varying(255)  
) WITH OIDS;  
--  
-- Structure for table representativefarminagrienvregion (OID = 115987966) :
```

```
--  
CREATE TABLE public.representativefarminagrienvregion (  
    id bigint NOT NULL,  
    agrienvIRONMENTALzone bigint,  
    area real,  
    representativefarm bigint  
) WITH OIDS;  
--  
-- Structure for table role_permissions (OID = 115987968) :  
--  
CREATE TABLE public.role_permissions (  
    role__id bigint NOT NULL,  
    permission_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table rotation (OID = 115987970) :  
--  
CREATE TABLE public.rotation (  
    id bigint NOT NULL,  
    label_en character varying(255),  
    label_gms character varying(255),  
    numberofyears integer  
) WITH OIDS;  
--  
-- Structure for table rotationcropperyear (OID = 115987975) :  
--  
CREATE TABLE public.rotationcropperyear (  
    rotation_id bigint NOT NULL,  
    cropperyear_id bigint NOT NULL  
) WITH OIDS;  
--  
-- Structure for table rotationwithproductionorientation (OID = 115987977) :  
--  
CREATE TABLE public.rotationwithproductionorientation (  
    id bigint NOT NULL,  
    managementzone bigint,  
    productionorientation bigint,  
    rotation bigint  
) WITH OIDS;  
--
```

-- Structure for table rotationwithproductionorientationforfarm (OID = 115987979) :

--

```
CREATE TABLE public.rotationwithproductionorientationforfarm (  
    id bigint NOT NULL,  
    representativefarm bigint  
) WITH OIDS;
```

--

-- Structure for table rotationwithproductionorientationforfarmrotationwithproductiono (OID = 115987981) :

--

```
CREATE TABLE public.rotationwithproductionorientationforfarmrotationwithproductiono (  
    rotationwithproductionorientationforfarm_id bigint NOT NULL,  
    rotationwithproductionorientation_id bigint NOT NULL  
) WITH OIDS;
```

--

-- Structure for table rotationyear (OID = 115987983) :

--

```
CREATE TABLE public.rotationyear (  
    id bigint NOT NULL,  
    label_gms character varying(255),  
    label_aps character varying(255),  
    value_ integer  
) WITH OIDS;
```

--

-- Structure for table roughagefeeds (OID = 115987988) :

--

```
CREATE TABLE public.roughagefeeds (  
    id bigint NOT NULL,  
    digestibleprotein real,  
    drymattercontent real,  
    energyuse real,  
    fillunitsdairy real,  
    fillunitsothercattle real,  
    fillunitssheepgoats real,  
    harvestindex real,  
    product bigint,  
    netenergydairy real,  
    netenergymeat real,  
    nitrogencontent real  
) WITH OIDS;
```

--

```
-- Structure for table seed (OID = 115987990) :
--
CREATE TABLE public.seed (
  id bigint NOT NULL,
  price real
) WITH OIDS;
--
-- Structure for table setasideregulation (OID = 115987992) :
--
CREATE TABLE public.setasideregulation (
  id bigint NOT NULL,
  countryaggregate bigint,
  valuemax real,
  valuemin real
) WITH OIDS;
--
-- Structure for table simplecropgroup (OID = 115987994) :
--
CREATE TABLE public.simplecropgroup (
  id bigint NOT NULL,
  label_gms character varying(255),
  iscropgroupof bigint,
  name_ character varying(255),
  type_ character varying(255)
) WITH OIDS;
--
-- Structure for table simplecropmanagement (OID = 115987999) :
--
CREATE TABLE public.simplecropmanagement (
  id bigint NOT NULL,
  label_gms character varying(255),
  costsfertiliser real,
  costsofcropprotection real,
  fungicideapplicationingredientamount real,
  fungicideapplicationnumber integer,
  grossmargin real,
  growthregulationapplicationingredientamount real,
  growthregulationapplicationnumber integer,
  herbicideapplicationingredientamount real,
  herbicideapplicationnumber integer,
```

```
insecticideapplicationingredientamount real,
insecticideapplicationnumber integer,
irrigationmeanapplicationnumber real,
irrigationmeanwateruse real,
othervariablecosts real,
perennialsbeginningofperiod real,
perennialsendofperiod real,
phosphorususe real,
potassiumuse real,
pricebyproduct real,
sumofvariablecosts real,
totalrevenue real,
weekharvest integer,
weeksowing integer,
yieldbyproduct real,
product bigint,
labour real,
nitrogenuse real,
nitrogenuseorganic real,
price real,
yield real
) WITH OIDS;
--
-- Structure for table simplecropmanagementinzone (OID = 115988001) :
--
CREATE TABLE public.simplecropmanagementinzone (
    id bigint NOT NULL,
    regionalagromanagementzone bigint,
    product bigint
) WITH OIDS;
--
-- Structure for table simplecropmanagementinzonesimplecropmanagement (OID = 115988003) :
--
CREATE TABLE public.simplecropmanagementinzonesimplecropmanagement (
    simplecropmanagementinzone_id bigint NOT NULL,
    simplecropmanagement_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table simplecurrentbeefactivity (OID = 115988005) :
--
```

```
CREATE TABLE public.simplecurrentbeefactivity (  
  id bigint NOT NULL,  
  amountofconcentrates real,  
  costsofbreeding real,  
  costsofconcentrates real,  
  costsofveterinary real,  
  grossmargin real,  
  region bigint,  
  lossrate real,  
  othervariablecosts real,  
  sumofvariablecosts real,  
  totalrevenues real,  
  ageofcattleatselling integer,  
  dailyweightgain real,  
  gainpercattle real,  
  herdsizereal real,  
  lengthoffatteningperiod integer,  
  priceforcalve real,  
  priceofcattleatselling real,  
  revenuesfromcattle real,  
  weightatbeginningoffattening real,  
  weightatendoffattening real,  
  weightofcarcass real  
) WITH OIDS;  
--  
-- Structure for table simplecurrentdairyactivity (OID = 115988007) :  
--
```

```
CREATE TABLE public.simplecurrentdairyactivity (  
  id bigint NOT NULL,  
  amountofconcentrates real,  
  costsofbreeding real,  
  costsofconcentrates real,  
  costsofveterinary real,  
  grossmargin real,  
  region bigint,  
  lossrate real,  
  othervariablecosts real,  
  sumofvariablecosts real,  
  totalrevenues real,  
  ageatfirstbirth integer,
```

ageofadultfemaleatselling real,
costsofinsemination real,
costsofreplacement real,
herdsize real,
milkproduction real,
numbeofbirthsperadultfemale real,
priceforfemalecalvesatselling real,
priceformalecalvesatselling real,
priceformilk real,
priceofcowatselling real,
priceofheiferatselling real,
replacementrate real,
revenuesfromcalve real,
revenuesfromcow real,
revenuesfrommilk real,
soldmilk real,
weightatmaturity real,
weightofcalveatselling real,
weightofcalvesatbirth real,
weigthofheiferatselling real

) WITH OIDS;
--
-- Structure for table simplecurrentsmallbeefruminants (OID = 115988009) :
--
CREATE TABLE public.simplecurrentsmallbeefruminants (
id bigint NOT NULL,
amountofconcentrates real,
costsofbreeding real,
costsofconcentrates real,
costsofveterinary real,
grossmargin real,
region bigint,
lossrate real,
othervariablecosts real,
sumofvariablecosts real,
totalrevenues real,
ageofsheeporgoatatselling real,
dailyweightgain real,
gainpersheeporgoat real,
herdsize real,

```
isgoats integer,  
lengthoffatteningperiod integer,  
priceforlamborgoatling real,  
priceofadultfemaleatselling real,  
revenuesfromadultfemale real,  
weightatbeginningoffattening real,  
weightatendoffattening real,  
weightofcarcass real  
) WITH OIDS;  
--  
-- Structure for table simplecurrentsmalldairyruminantactivity (OID = 115988011) :  
--  
CREATE TABLE public.simplecurrentsmalldairyruminantactivity (  
  id bigint NOT NULL,  
  amountofconcentrates real,  
  costsofbreeding real,  
  costsofconcentrates real,  
  costsofveterinary real,  
  grossmargin real,  
  region bigint,  
  lossrate real,  
  othervariablecosts real,  
  sumofvariablecosts real,  
  totalrevenues real,  
  ageatfirstbirth integer,  
  ageofadultfemaleatselling real,  
  costsofinsemination real,  
  costsofreplacement real,  
  herdsizereal real,  
  isgoats integer,  
  milkproduction real,  
  numbeofbirthsperadultfemale real,  
  priceformilk real,  
  priceofadultfemaleatselling real,  
  priceoffemalelamborgoatlingatselling real,  
  priceofmalelamborgoatlingatselling real,  
  priceofyoungfemaleatselling real,  
  replacementrate real,  
  revenuesfromadultfemale real,  
  revenuesfromlambsorgoatlings real,
```

```
revenuesfrommilk real,
soldmilk real,
weightatmaturity real,
weightoflamborgoatlingatbirth real,
weightoflamborgoatlingatselling real,
weightofyoungfemaleatselling real
) WITH OIDS;
--
-- Structure for table simplesurveyrotationelement (OID = 115988013) :
--
CREATE TABLE public.simplesurveyrotationelement (
  id bigint NOT NULL,
  nutsregion bigint,
  year_ bigint,
  rotation integer,
  product bigint
) WITH OIDS;
--
-- Structure for table simplesurveyrotationelementsimplecropmanagementinzone (OID = 115988015) :
--
CREATE TABLE public.simplesurveyrotationelementsimplecropmanagementinzone (
  simplesurveyrotationelement_id bigint NOT NULL,
  simplecropmanagementinzone_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table soilcharacteristics (OID = 115988017) :
--
CREATE TABLE public.soilcharacteristics (
  id bigint NOT NULL,
  maximumusablemoisturereserve real,
  texturalclasssubsurface bigint,
  texturalclasssurface bigint,
  thicknesssubsoil real,
  thicknesssurfacesoil real,
  volumestones bigint
) WITH OIDS;
--
-- Structure for table soiltemperaturethreshold (OID = 115988019) :
--
CREATE TABLE public.soiltemperaturethreshold (
```

```
    id bigint NOT NULL,
    label_aps character varying(255),
    averagesoiltemperature real
) WITH OIDS;
--
-- Structure for table soiltype (OID = 115988021) :
--
CREATE TABLE public.soiltype (
    id bigint NOT NULL,
    definition character varying(255),
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table soilwaterlevelthreshold (OID = 115988026) :
--
CREATE TABLE public.soilwaterlevelthreshold (
    id bigint NOT NULL,
    label_aps character varying(255),
    lowerpawthreshold real,
    referenceddepthplantavailablewater real,
    upperpawthreshold real
) WITH OIDS;
--
-- Structure for table soilwaterrepetitionthreshold (OID = 115988028) :
--
CREATE TABLE public.soilwaterrepetitionthreshold (
    id bigint NOT NULL,
    label_aps character varying(255),
    numberofrepetitions integer,
    plantavailablewaterthreshold real,
    referenceddepthplantavailablewater real
) WITH OIDS;
--
-- Structure for table soilwaterrootingdepththreshold (OID = 115988030) :
--
CREATE TABLE public.soilwaterrootingdepththreshold (
    id bigint NOT NULL,
    label_aps character varying(255),
    cropphenologicalstageend bigint,
    cropphenologicalstagestart bigint,
```



```
minimalreferencedepth real,
numberofrepetitions integer,
plantavailablewaterthreshold real
) WITH OIDS;
--
-- Structure for table sowingimplement (OID = 115988032) :
--
CREATE TABLE public.sowingimplement (
    id bigint NOT NULL,
    energyuse real,
    labour real,
    rentalprice real,
    sowingimplementname character varying(255)
) WITH OIDS;
--
-- Structure for table sowingoperation (OID = 115988034) :
--
CREATE TABLE public.sowingoperation (
    id bigint NOT NULL,
    label_aps character varying(255),
    description character varying(255),
    seed bigint,
    sowingimplement bigint,
    plantingdepth real,
    seedamount real
) WITH OIDS;
--
-- Structure for table sowingoperationregional (OID = 115988039) :
--
CREATE TABLE public.sowingoperationregional (
    id bigint NOT NULL,
    label_aps character varying(255),
    cropregionalid integer,
    description character varying(255),
    seed bigint,
    sowingimplement bigint,
    plantingdepth real,
    seedamount real
) WITH OIDS;
--
```

```
-- Structure for table spatialscale (OID = 115988044) :
--
CREATE TABLE public.spatialscale (
  id bigint NOT NULL,
  extent character varying(255),
  rank_ integer,
  resolution character varying(255)
) WITH OIDS;
--
-- Structure for table subsidisedexport (OID = 115988049) :
--
CREATE TABLE public.subsidisedexport (
  id bigint NOT NULL,
  countryaggregate bigint,
  productgroup bigint,
  value_ real
) WITH OIDS;
--
-- Structure for table subsidy (OID = 115988051) :
--
CREATE TABLE public.subsidy (
  id bigint NOT NULL,
  product bigint,
  representativefarm bigint,
  subsidy real
) WITH OIDS;
--
-- Structure for table subsidycrosscompliance (OID = 115988053) :
--
CREATE TABLE public.subsidycrosscompliance (
  id bigint NOT NULL,
  erosion real,
  nutsregion bigint,
  irrigationwateravailability real,
  minimum boolean,
  nitrateleaching real,
  nitrogenuse real,
  nitrogenuseorganic real,
  pesticidepressure real,
  soilorganicmatter real,
```

```
subsidy real
) WITH OIDS;
--
-- Structure for table subtheme (OID = 115988055) :
--
CREATE TABLE public.subtheme (
  id bigint NOT NULL,
  label_en character varying(255),
  theme bigint
) WITH OIDS;
--
-- Structure for table sucklercow (OID = 115988057) :
--
CREATE TABLE public.sucklercow (
  id bigint NOT NULL,
  label_gms character varying(255),
  annualdepreciation real,
  buildingrequirement real,
  energyuse real,
  exitage real,
  livestockunit real,
  nitrogencontent real,
  sellingpricefemale real,
  weightatmaturity real
) WITH OIDS;
--
-- Structure for table sugarcontentnorainthreshold (OID = 115988059) :
--
CREATE TABLE public.sugarcontentnorainthreshold (
  id bigint NOT NULL,
  label_aps character varying(255),
  dayswithoutrain integer,
  sugarcontent real
) WITH OIDS;
--
-- Structure for table supplyresponse (OID = 115988061) :
--
CREATE TABLE public.supplyresponse (
  id bigint NOT NULL,
  product bigint,
```

```
pricechange real
) WITH OIDS;
--
-- Structure for table supplyresponsecropproduction (OID = 115988063) :
--
CREATE TABLE public.supplyresponsecropproduction (
    supplyresponse_id bigint NOT NULL,
    cropproduction_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table surveycroprotationelement (OID = 115988065) :
--
CREATE TABLE public.surveycroprotationelement (
    id bigint NOT NULL,
    nutsregion bigint,
    year_ bigint,
    rotation integer,
    crop bigint
) WITH OIDS;
--
-- Structure for table surveycroprotationelementcostsandlabour (OID = 115988067) :
--
CREATE TABLE public.surveycroprotationelementcostsandlabour (
    surveycroprotationelement_id bigint NOT NULL,
    costandlabourperregionalzone_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table surveycroprotationelementinputonsoilinmanagementprocedure (OID = 115988069) :
--
CREATE TABLE public.surveycroprotationelementinputonsoilinmanagementprocedure (
    surveycroprotationelement_id bigint NOT NULL,
    inputonsoilinmanagementprocedure_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table surveycroprotationelementproductonsoil (OID = 115988071) :
--
CREATE TABLE public.surveycroprotationelementproductonsoil (
    surveycroprotationelement_id bigint NOT NULL,
    productonsoil_id bigint NOT NULL
) WITH OIDS;
```

--

-- Structure for table tax (OID = 115988073) :

--

```
CREATE TABLE public.tax (  
  id bigint NOT NULL,  
  erosion real,  
  nutsregion bigint,  
  irrigationwateravailability real,  
  minimum boolean,  
  nitrateleaching real,  
  nitrogenuse real,  
  nitrogenuseorganic real,  
  pesticidepressure real,  
  soilorganicmatter real,  
  tax real  
) WITH OIDS;
```

--

-- Structure for table temporalscale (OID = 115988075) :

--

```
CREATE TABLE public.temporalscale (  
  id bigint NOT NULL,  
  extent character varying(255),  
  rank_ integer,  
  resolution character varying(255)  
) WITH OIDS;
```

--

-- Structure for table texturalclasssoil (OID = 115988080) :

--

```
CREATE TABLE public.texturalclasssoil (  
  id bigint NOT NULL,  
  bulkdensitydefault real,  
  claycontent real,  
  definition character varying(255),  
  name_ character varying(255),  
  sandcontent real,  
  saturatedhydraulicconductivity real,  
  siltcontent real,  
  vangenuchtenalpha real,  
  vangenuchtenlmuaem real,  
  vangenuchtenm real,
```

```
    vangenuchtenn real,
    vangenuchtenswres real,
    watercontentfieldcapacity real,
    watercontentsaturation real,
    watercontentwiltingpoint real
) WITH OIDS;
--
-- Structure for table theme (OID = 115988085) :
--
CREATE TABLE public.theme (
    id bigint NOT NULL,
    label_en character varying(255),
    generictheme bigint
) WITH OIDS;
--
-- Structure for table tillageimplement (OID = 115988087) :
--
CREATE TABLE public.tillageimplement (
    id bigint NOT NULL,
    label_aps character varying(255),
    energyuse real,
    labour real,
    meantillagedepth real,
    rentalprice real,
    tillageimplementname character varying(255)
) WITH OIDS;
--
-- Structure for table tillagemachinebased (OID = 115988092) :
--
CREATE TABLE public.tillagemachinebased (
    id bigint NOT NULL,
    label_aps character varying(255),
    tillageimplement bigint
) WITH OIDS;
--
-- Structure for table tillageoperation (OID = 115988094) :
--
CREATE TABLE public.tillageoperation (
    id bigint NOT NULL,
    label_aps character varying(255),
```

```
tillageimplement bigint
) WITH OIDS;
--
-- Structure for table tillagesimple (OID = 115988096) :
--
CREATE TABLE public.tillagesimple (
    id bigint NOT NULL,
    label_en character varying(255),
    label_gms character varying(255),
    label_aps character varying(255),
    tillageimplement bigint,
    mixingcoefficient real
) WITH OIDS;
--
-- Structure for table timedecade (OID = 115988101) :
--
CREATE TABLE public.timedecade (
    id bigint NOT NULL,
    daysinyear integer,
    decade character varying(255),
    decadenummer integer,
    endday integer,
    harvestyear boolean,
    month_ integer,
    startday integer
) WITH OIDS;
--
-- Structure for table timeperiod (OID = 115988103) :
--
CREATE TABLE public.timeperiod (
    id bigint NOT NULL,
    doitanyway boolean,
    endday integer,
    rule_ bigint,
    startday integer
) WITH OIDS;
--
-- Structure for table tradereformproposal (OID = 115988105) :
--
CREATE TABLE public.tradereformproposal (
```

```
    id bigint NOT NULL,
    capvalue real,
    fromcountryaggregate bigint
) WITH OIDS;
--
-- Structure for table tradereformproposalcut (OID = 115988107) :
--
CREATE TABLE public.tradereformproposalcut (
    id bigint NOT NULL,
    cutofftariff real,
    thresholdlow real
) WITH OIDS;
--
-- Structure for table tradereformproposaltradereformproposalcuts (OID = 115988109) :
--
CREATE TABLE public.tradereformproposaltradereformproposalcuts (
    tradereformproposal_id bigint NOT NULL,
    tradereformproposalcut_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table transitionprobability (OID = 115988111) :
--
CREATE TABLE public.transitionprobability (
    id bigint NOT NULL,
    fromgrouprepresentativefarm bigint,
    togrouprepresentativefarm bigint,
    transitionprobability real
) WITH OIDS;
--
-- Structure for table treestart (OID = 115988113) :
--
CREATE TABLE public.treestart (
    id bigint NOT NULL,
    label_aps character varying(255),
    treetype character varying(255)
) WITH OIDS;
--
-- Structure for table upscalingprocedure (OID = 115988118) :
--
CREATE TABLE public.upscalingprocedure (
```



```
    id bigint NOT NULL,
    description character varying(255),
    name_ character varying(255)
) WITH OIDS;
--
-- Structure for table user_ (OID = 115988123) :
--
CREATE TABLE public.user_ (
    id bigint NOT NULL,
    accountname character varying(255),
    email character varying(255),
    enddate character varying(255),
    firstname character varying(255),
    image bigint,
    institute character varying(255),
    lastname character varying(255),
    password_ character varying(255)
) WITH OIDS;
--
-- Structure for table user_roles (OID = 115988128) :
--
CREATE TABLE public.user_roles (
    user__id bigint NOT NULL,
    role__id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table vineyardharvest (OID = 115988130) :
--
CREATE TABLE public.vineyardharvest (
    id bigint NOT NULL,
    label_aps character varying(255),
    biomasslossfraction real,
    treetype character varying(255)
) WITH OIDS;
--
-- Structure for table volumestones (OID = 115988135) :
--
CREATE TABLE public.volumestones (
    id bigint NOT NULL,
    name_ character varying(255),
```

```
stonecontent real
) WITH OIDS;
--
-- Structure for table watermanagement (OID = 115988137) :
--
CREATE TABLE public.watermanagement (
  id bigint NOT NULL,
  endday integer,
  numberofrepetitions integer,
  startday integer,
  changenutrientmanagement boolean,
  demandbasedirrigation boolean,
  irrigationwatervolume real,
  plantavailablewaterthreshold real,
  potentialirrigation boolean,
  userdefinedirrigation boolean
) WITH OIDS;
--
-- Structure for table watermanagementcrops (OID = 115988139) :
--
CREATE TABLE public.watermanagementcrops (
  watermanagement_id bigint NOT NULL,
  crop_id bigint NOT NULL
) WITH OIDS;
--
-- Structure for table yieldenergyproteinoffeedproduct (OID = 115988141) :
--
CREATE TABLE public.yieldenergyproteinoffeedproduct (
  id bigint NOT NULL,
  cropproduct bigint,
  price real,
  yield real,
  yieldvariability real,
  digestibleprotein real,
  feed bigint,
  intakecapacity real,
  netenergy real
) WITH OIDS;
--
-- Structure for table yieldenergyproteinofgrass (OID = 115988143) :
```

```
--  
CREATE TABLE public.yieldenergyproteinofgrass (  
  id bigint NOT NULL,  
  cropproduct bigint,  
  price real,  
  yield real,  
  yieldvariability real,  
  costsforharvesting real,  
  digestibleprotein real,  
  drymattercontent real,  
  energyrequirements real,  
  feed bigint,  
  intakecapacity real  
) WITH OIDS;  
--  
-- Structure for table yieldgrowth (OID = 115988145) :  
--  
CREATE TABLE public.yieldgrowth (  
  id bigint NOT NULL,  
  activitygroup bigint,  
  country bigint,  
  value_ real  
) WITH OIDS;  
--  
-- Structure for table yieldofcropproduct (OID = 115988147) :  
--  
CREATE TABLE public.yieldofcropproduct (  
  id bigint NOT NULL,  
  cropproduct bigint,  
  price real,  
  yield real,  
  yieldvariability real  
) WITH OIDS;  
--  
-- Structure for table yieldtrend (OID = 115988149) :  
--  
CREATE TABLE public.yieldtrend (  
  id bigint NOT NULL,  
  activitygroup bigint,  
  region bigint,
```

```
yield real
) WITH OIDS;
--
-- Structure for table dailyclimate (OID = 117125121) :
--
CREATE TABLE public.dailyclimate (
  id bigint NOT NULL,
  albedo real,
  clearskytransmissivity real,
  day_ integer,
  maximumtemperature real,
  maximumtemperaturemax real,
  maximumtemperaturemin real,
  maximumtemperaturesd real,
  minimumtemperature real,
  minimumtemperaturemax real,
  minimumtemperaturemin real,
  minimumtemperaturesd real,
  month_ integer,
  potentialevaporationsoil real,
  potentialevaporationwater real,
  potentialtranspirationcanopy real,
  radiation real,
  rainfall real,
  rainfallmax real,
  rainfallmin real,
  rainfallsd real,
  vapourpressure real,
  windspeed real,
  windspeedmax real,
  windspeedmin real,
  windspeedsd real,
  year_ integer
) WITHOUT OIDS;
--
-- Structure for table climatezonedailyclimate (OID = 117125125) :
--
CREATE TABLE public.climatezonedailyclimate (
  climatezone_id bigint NOT NULL,
  dailyclimate_id bigint NOT NULL
```

```
) WITHOUT OIDS;
--
-- Definition for index activitygroup_pkey (OID = 117125129) :
--
ALTER TABLE ONLY activitygroup
    ADD CONSTRAINT activitygroup_pkey PRIMARY KEY (id);
--
-- Definition for index activitygrouppremiumgrouppremiumgroups_pkey (OID = 117125131) :
--
ALTER TABLE ONLY activitygrouppremiumgrouppremiumgroups
    ADD CONSTRAINT activitygrouppremiumgrouppremiumgroups_pkey PRIMARY KEY (activitygroup_id,
premiumgroup_id);
--
-- Definition for index agriculturalactivityperform_pkey (OID = 117125133) :
--
ALTER TABLE ONLY agriculturalactivityperform
    ADD CONSTRAINT agriculturalactivityperform_pkey PRIMARY KEY (id);
--
-- Definition for index yieldtrend_id_key (OID = 117125135) :
--
ALTER TABLE ONLY yieldtrend
    ADD CONSTRAINT yieldtrend_id_key UNIQUE (id);
--
-- Definition for index yieldofcropproduct_id_key (OID = 117125137) :
--
ALTER TABLE ONLY yieldofcropproduct
    ADD CONSTRAINT yieldofcropproduct_id_key UNIQUE (id);
--
-- Definition for index yieldgrowth_id_key (OID = 117125139) :
--
ALTER TABLE ONLY yieldgrowth
    ADD CONSTRAINT yieldgrowth_id_key UNIQUE (id);
--
-- Definition for index yieldenergyproteinofgrass_id_key (OID = 117125141) :
--
ALTER TABLE ONLY yieldenergyproteinofgrass
    ADD CONSTRAINT yieldenergyproteinofgrass_id_key UNIQUE (id);
--
-- Definition for index yieldenergyproteinoffeedproduct_id_key (OID = 117125143) :
--
ALTER TABLE ONLY yieldenergyproteinoffeedproduct
```

```
ADD CONSTRAINT yieldenergyproteinoffeedproduct_id_key UNIQUE (id);
--
-- Definition for index watermanagement_id_key (OID = 117125145) :
--
ALTER TABLE ONLY watermanagement
ADD CONSTRAINT watermanagement_id_key UNIQUE (id);
--
-- Definition for index volumestones_id_key (OID = 117125147) :
--
ALTER TABLE ONLY volumestones
ADD CONSTRAINT volumestones_id_key UNIQUE (id);
--
-- Definition for index vineyardharvest_id_key (OID = 117125149) :
--
ALTER TABLE ONLY vineyardharvest
ADD CONSTRAINT vineyardharvest_id_key UNIQUE (id);
--
-- Definition for index user__id_key (OID = 117125151) :
--
ALTER TABLE ONLY user_
ADD CONSTRAINT user__id_key UNIQUE (id);
--
-- Definition for index upscalingprocedure_id_key (OID = 117125153) :
--
ALTER TABLE ONLY upscalingprocedure
ADD CONSTRAINT upscalingprocedure_id_key UNIQUE (id);
--
-- Definition for index treestart_id_key (OID = 117125155) :
--
ALTER TABLE ONLY treestart
ADD CONSTRAINT treestart_id_key UNIQUE (id);
--
-- Definition for index transitionprobability_id_key (OID = 117125157) :
--
ALTER TABLE ONLY transitionprobability
ADD CONSTRAINT transitionprobability_id_key UNIQUE (id);
--
-- Definition for index tradereformproposalcut_id_key (OID = 117125159) :
--
ALTER TABLE ONLY tradereformproposalcut
```

```
ADD CONSTRAINT tradereformproposalcut_id_key UNIQUE (id);
--
-- Definition for index tradereformproposal_id_key (OID = 117125161) :
--
ALTER TABLE ONLY tradereformproposal
  ADD CONSTRAINT tradereformproposal_id_key UNIQUE (id);
--
-- Definition for index timeperiod_id_key (OID = 117125163) :
--
ALTER TABLE ONLY timeperiod
  ADD CONSTRAINT timeperiod_id_key UNIQUE (id);
--
-- Definition for index timedecade_id_key (OID = 117125165) :
--
ALTER TABLE ONLY timedecade
  ADD CONSTRAINT timedecade_id_key UNIQUE (id);
--
-- Definition for index tillagesimple_id_key (OID = 117125167) :
--
ALTER TABLE ONLY tillagesimple
  ADD CONSTRAINT tillagesimple_id_key UNIQUE (id);
--
-- Definition for index tillageoperation_id_key (OID = 117125169) :
--
ALTER TABLE ONLY tillageoperation
  ADD CONSTRAINT tillageoperation_id_key UNIQUE (id);
--
-- Definition for index tillagemachinebased_id_key (OID = 117125171) :
--
ALTER TABLE ONLY tillagemachinebased
  ADD CONSTRAINT tillagemachinebased_id_key UNIQUE (id);
--
-- Definition for index tillageimplement_id_key (OID = 117125173) :
--
ALTER TABLE ONLY tillageimplement
  ADD CONSTRAINT tillageimplement_id_key UNIQUE (id);
--
-- Definition for index theme_id_key (OID = 117125175) :
--
ALTER TABLE ONLY theme
```

```
ADD CONSTRAINT theme_id_key UNIQUE (id);
--
-- Definition for index texturalclasssoil_id_key (OID = 117125177) :
--
ALTER TABLE ONLY texturalclasssoil
    ADD CONSTRAINT texturalclasssoil_id_key UNIQUE (id);
--
-- Definition for index temporalscale_id_key (OID = 117125179) :
--
ALTER TABLE ONLY temporalscale
    ADD CONSTRAINT temporalscale_id_key UNIQUE (id);
--
-- Definition for index tax_id_key (OID = 117125181) :
--
ALTER TABLE ONLY tax
    ADD CONSTRAINT tax_id_key UNIQUE (id);
--
-- Definition for index surveycroprotationelement_id_key (OID = 117125183) :
--
ALTER TABLE ONLY surveycroprotationelement
    ADD CONSTRAINT surveycroprotationelement_id_key UNIQUE (id);
--
-- Definition for index supplyresponse_id_key (OID = 117125185) :
--
ALTER TABLE ONLY supplyresponse
    ADD CONSTRAINT supplyresponse_id_key UNIQUE (id);
--
-- Definition for index sugarcontentnorainthreshold_id_key (OID = 117125187) :
--
ALTER TABLE ONLY sugarcontentnorainthreshold
    ADD CONSTRAINT sugarcontentnorainthreshold_id_key UNIQUE (id);
--
-- Definition for index sucklercow_id_key (OID = 117125189) :
--
ALTER TABLE ONLY sucklercow
    ADD CONSTRAINT sucklercow_id_key UNIQUE (id);
--
-- Definition for index subtheme_id_key (OID = 117125191) :
--
ALTER TABLE ONLY subtheme
```



```
ADD CONSTRAINT subtheme_id_key UNIQUE (id);
--
-- Definition for index subsidycrosscompliance_id_key (OID = 117125193) :
--
ALTER TABLE ONLY subsidycrosscompliance
  ADD CONSTRAINT subsidycrosscompliance_id_key UNIQUE (id);
--
-- Definition for index subsidy_id_key (OID = 117125195) :
--
ALTER TABLE ONLY subsidy
  ADD CONSTRAINT subsidy_id_key UNIQUE (id);
--
-- Definition for index subsidisedexport_id_key (OID = 117125197) :
--
ALTER TABLE ONLY subsidisedexport
  ADD CONSTRAINT subsidisedexport_id_key UNIQUE (id);
--
-- Definition for index spatialscale_id_key (OID = 117125199) :
--
ALTER TABLE ONLY spatialscale
  ADD CONSTRAINT spatialscale_id_key UNIQUE (id);
--
-- Definition for index sowingoperationregional_id_key (OID = 117125201) :
--
ALTER TABLE ONLY sowingoperationregional
  ADD CONSTRAINT sowingoperationregional_id_key UNIQUE (id);
--
-- Definition for index sowingoperation_id_key (OID = 117125203) :
--
ALTER TABLE ONLY sowingoperation
  ADD CONSTRAINT sowingoperation_id_key UNIQUE (id);
--
-- Definition for index sowingimplement_id_key (OID = 117125205) :
--
ALTER TABLE ONLY sowingimplement
  ADD CONSTRAINT sowingimplement_id_key UNIQUE (id);
--
-- Definition for index soilwaterrootingdepththreshold_id_key (OID = 117125207) :
--
ALTER TABLE ONLY soilwaterrootingdepththreshold
```

```
ADD CONSTRAINT soilwaterrootingdepththreshold_id_key UNIQUE (id);
--
-- Definition for index soilwaterrepetitionthreshold_id_key (OID = 117125209) :
--
ALTER TABLE ONLY soilwaterrepetitionthreshold
ADD CONSTRAINT soilwaterrepetitionthreshold_id_key UNIQUE (id);
--
-- Definition for index soilwaterlevelthreshold_id_key (OID = 117125211) :
--
ALTER TABLE ONLY soilwaterlevelthreshold
ADD CONSTRAINT soilwaterlevelthreshold_id_key UNIQUE (id);
--
-- Definition for index soiltype_id_key (OID = 117125213) :
--
ALTER TABLE ONLY soiltype
ADD CONSTRAINT soiltype_id_key UNIQUE (id);
--
-- Definition for index soiltemperaturethreshold_id_key (OID = 117125215) :
--
ALTER TABLE ONLY soiltemperaturethreshold
ADD CONSTRAINT soiltemperaturethreshold_id_key UNIQUE (id);
--
-- Definition for index soilcharacteristics_id_key (OID = 117125217) :
--
ALTER TABLE ONLY soilcharacteristics
ADD CONSTRAINT soilcharacteristics_id_key UNIQUE (id);
--
-- Definition for index simplesurveyrotationelement_id_key (OID = 117125219) :
--
ALTER TABLE ONLY simplesurveyrotationelement
ADD CONSTRAINT simplesurveyrotationelement_id_key UNIQUE (id);
--
-- Definition for index simplecurrentsmalldairyruminantactivity_id_key (OID = 117125221) :
--
ALTER TABLE ONLY simplecurrentsmalldairyruminantactivity
ADD CONSTRAINT simplecurrentsmalldairyruminantactivity_id_key UNIQUE (id);
--
-- Definition for index simplecurrentsmallbeefruminants_id_key (OID = 117125223) :
--
ALTER TABLE ONLY simplecurrentsmallbeefruminants
```

```
ADD CONSTRAINT simplecurrentsmallbeefruminants_id_key UNIQUE (id);
--
-- Definition for index simplecurrentdairyactivity_id_key (OID = 117125225) :
--
ALTER TABLE ONLY simplecurrentdairyactivity
  ADD CONSTRAINT simplecurrentdairyactivity_id_key UNIQUE (id);
--
-- Definition for index simplecurrentbeefactivity_id_key (OID = 117125227) :
--
ALTER TABLE ONLY simplecurrentbeefactivity
  ADD CONSTRAINT simplecurrentbeefactivity_id_key UNIQUE (id);
--
-- Definition for index simplecropmanagementinzone_id_key (OID = 117125229) :
--
ALTER TABLE ONLY simplecropmanagementinzone
  ADD CONSTRAINT simplecropmanagementinzone_id_key UNIQUE (id);
--
-- Definition for index simplecropmanagement_id_key (OID = 117125231) :
--
ALTER TABLE ONLY simplecropmanagement
  ADD CONSTRAINT simplecropmanagement_id_key UNIQUE (id);
--
-- Definition for index simplecropgroup_id_key (OID = 117125233) :
--
ALTER TABLE ONLY simplecropgroup
  ADD CONSTRAINT simplecropgroup_id_key UNIQUE (id);
--
-- Definition for index setasideregulation_id_key (OID = 117125235) :
--
ALTER TABLE ONLY setasideregulation
  ADD CONSTRAINT setasideregulation_id_key UNIQUE (id);
--
-- Definition for index seed_id_key (OID = 117125237) :
--
ALTER TABLE ONLY seed
  ADD CONSTRAINT seed_id_key UNIQUE (id);
--
-- Definition for index roughagefeeds_id_key (OID = 117125239) :
--
ALTER TABLE ONLY roughagefeeds
```

```
ADD CONSTRAINT roughagefeeds_id_key UNIQUE (id);
--
-- Definition for index rotationyear_id_key (OID = 117125241) :
--
ALTER TABLE ONLY rotationyear
ADD CONSTRAINT rotationyear_id_key UNIQUE (id);
--
-- Definition for index rotationwithproductionorientationforfarm_id_key (OID = 117125243) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarm
ADD CONSTRAINT rotationwithproductionorientationforfarm_id_key UNIQUE (id);
--
-- Definition for index rotationwithproductionorientation_id_key (OID = 117125245) :
--
ALTER TABLE ONLY rotationwithproductionorientation
ADD CONSTRAINT rotationwithproductionorientation_id_key UNIQUE (id);
--
-- Definition for index rotation_id_key (OID = 117125247) :
--
ALTER TABLE ONLY rotation
ADD CONSTRAINT rotation_id_key UNIQUE (id);
--
-- Definition for index representativefarminagrienvregion_id_key (OID = 117125249) :
--
ALTER TABLE ONLY representativefarminagrienvregion
ADD CONSTRAINT representativefarminagrienvregion_id_key UNIQUE (id);
--
-- Definition for index representativefarmgroup_id_key (OID = 117125251) :
--
ALTER TABLE ONLY representativefarmgroup
ADD CONSTRAINT representativefarmgroup_id_key UNIQUE (id);
--
-- Definition for index representativefarm_id_key (OID = 117125253) :
--
ALTER TABLE ONLY representativefarm
ADD CONSTRAINT representativefarm_id_key UNIQUE (id);
--
-- Definition for index repetitionthreshold_id_key (OID = 117125255) :
--
ALTER TABLE ONLY repetitionthreshold
```

```
ADD CONSTRAINT repetitionthreshold_id_key UNIQUE (id);
--
-- Definition for index relativeday_id_key (OID = 117125257) :
--
ALTER TABLE ONLY relativeday
ADD CONSTRAINT relativeday_id_key UNIQUE (id);
--
-- Definition for index regionalwage_id_key (OID = 117125259) :
--
ALTER TABLE ONLY regionalwage
ADD CONSTRAINT regionalwage_id_key UNIQUE (id);
--
-- Definition for index regionaltypologyvalue_id_key (OID = 117125261) :
--
ALTER TABLE ONLY regionaltypologyvalue
ADD CONSTRAINT regionaltypologyvalue_id_key UNIQUE (id);
--
-- Definition for index regionaltypologyclass_id_key (OID = 117125263) :
--
ALTER TABLE ONLY regionaltypologyclass
ADD CONSTRAINT regionaltypologyclass_id_key UNIQUE (id);
--
-- Definition for index regionaltypology_id_key (OID = 117125265) :
--
ALTER TABLE ONLY regionaltypology
ADD CONSTRAINT regionaltypology_id_key UNIQUE (id);
--
-- Definition for index regionalagromanagementzone_id_key (OID = 117125267) :
--
ALTER TABLE ONLY regionalagromanagementzone
ADD CONSTRAINT regionalagromanagementzone_id_key UNIQUE (id);
--
-- Definition for index reduceleafareaindexclippingoperation_id_key (OID = 117125269) :
--
ALTER TABLE ONLY reduceleafareaindexclippingoperation
ADD CONSTRAINT reduceleafareaindexclippingoperation_id_key UNIQUE (id);
--
-- Definition for index reducedtillage_id_key (OID = 117125271) :
--
ALTER TABLE ONLY reducedtillage
```

```
ADD CONSTRAINT reducedtillage_id_key UNIQUE (id);
--
-- Definition for index reducebiomassclippingoperation_id_key (OID = 117125273) :
--
ALTER TABLE ONLY reducebiomassclippingoperation
ADD CONSTRAINT reducebiomassclippingoperation_id_key UNIQUE (id);
--
-- Definition for index quotacountry_id_key (OID = 117125275) :
--
ALTER TABLE ONLY quotacountry
ADD CONSTRAINT quotacountry_id_key UNIQUE (id);
--
-- Definition for index propertyrightschanges_id_key (OID = 117125277) :
--
ALTER TABLE ONLY propertyrightschanges
ADD CONSTRAINT propertyrightschanges_id_key UNIQUE (id);
--
-- Definition for index projectrole_id_key (OID = 117125279) :
--
ALTER TABLE ONLY projectrole
ADD CONSTRAINT projectrole_id_key UNIQUE (id);
--
-- Definition for index project_id_key (OID = 117125281) :
--
ALTER TABLE ONLY project
ADD CONSTRAINT project_id_key UNIQUE (id);
--
-- Definition for index producttype_id_key (OID = 117125283) :
--
ALTER TABLE ONLY producttype
ADD CONSTRAINT producttype_id_key UNIQUE (id);
--
-- Definition for index productsforregion_id_key (OID = 117125285) :
--
ALTER TABLE ONLY productsforregion
ADD CONSTRAINT productsforregion_id_key UNIQUE (id);
--
-- Definition for index productonsoil_id_key (OID = 117125287) :
--
ALTER TABLE ONLY productonsoil
```

```
ADD CONSTRAINT productionsoil_id_key UNIQUE (id);
--
-- Definition for index productiontechnique_id_key (OID = 117125289) :
--
ALTER TABLE ONLY productiontechnique
    ADD CONSTRAINT productiontechnique_id_key UNIQUE (id);
--
-- Definition for index productionorientation_id_key (OID = 117125291) :
--
ALTER TABLE ONLY productionorientation
    ADD CONSTRAINT productionorientation_id_key UNIQUE (id);
--
-- Definition for index productioncoefficient_id_key (OID = 117125293) :
--
ALTER TABLE ONLY productioncoefficient
    ADD CONSTRAINT productioncoefficient_id_key UNIQUE (id);
--
-- Definition for index productionactivityperfssimfarm_id_key (OID = 117125295) :
--
ALTER TABLE ONLY productionactivityperfssimfarm
    ADD CONSTRAINT productionactivityperfssimfarm_id_key UNIQUE (id);
--
-- Definition for index productionactivity_id_key (OID = 117125297) :
--
ALTER TABLE ONLY productionactivity
    ADD CONSTRAINT productionactivity_id_key UNIQUE (id);
--
-- Definition for index productgroup_id_key (OID = 117125299) :
--
ALTER TABLE ONLY productgroup
    ADD CONSTRAINT productgroup_id_key UNIQUE (id);
--
-- Definition for index problem_id_key (OID = 117125301) :
--
ALTER TABLE ONLY problem
    ADD CONSTRAINT problem_id_key UNIQUE (id);
--
-- Definition for index priceelasticity_id_key (OID = 117125303) :
--
ALTER TABLE ONLY priceelasticity
```

```
ADD CONSTRAINT priceelasticity_id_key UNIQUE (id);
--
-- Definition for index price_id_key (OID = 117125305) :
--
ALTER TABLE ONLY price
ADD CONSTRAINT price_id_key UNIQUE (id);
--
-- Definition for index premiumgroup_id_key (OID = 117125307) :
--
ALTER TABLE ONLY premiumgroup
ADD CONSTRAINT premiumgroup_id_key UNIQUE (id);
--
-- Definition for index policytype_id_key (OID = 117125309) :
--
ALTER TABLE ONLY policytype
ADD CONSTRAINT policytype_id_key UNIQUE (id);
--
-- Definition for index policyoption_id_key (OID = 117125311) :
--
ALTER TABLE ONLY policyoption
ADD CONSTRAINT policyoption_id_key UNIQUE (id);
--
-- Definition for index policyassessment_id_key (OID = 117125313) :
--
ALTER TABLE ONLY policyassessment
ADD CONSTRAINT policyassessment_id_key UNIQUE (id);
--
-- Definition for index picaspatiallevel_id_key (OID = 117125315) :
--
ALTER TABLE ONLY picaspatiallevel
ADD CONSTRAINT picaspatiallevel_id_key UNIQUE (id);
--
-- Definition for index picaindicatorvalue_id_key (OID = 117125317) :
--
ALTER TABLE ONLY picaindicatorvalue
ADD CONSTRAINT picaindicatorvalue_id_key UNIQUE (id);
--
-- Definition for index picaindicatorgeneral_id_key (OID = 117125319) :
--
ALTER TABLE ONLY picaindicatorgeneral
```



```
ADD CONSTRAINT picaindicatorgeneral_id_key UNIQUE (id);
--
-- Definition for index picaindicator_id_key (OID = 117125321) :
--
ALTER TABLE ONLY picaindicator
ADD CONSTRAINT picaindicator_id_key UNIQUE (id);
--
-- Definition for index picaassessment_id_key (OID = 117125323) :
--
ALTER TABLE ONLY picaassessment
ADD CONSTRAINT picaassessment_id_key UNIQUE (id);
--
-- Definition for index pesticidesmixtures_id_key (OID = 117125325) :
--
ALTER TABLE ONLY pesticidesmixtures
ADD CONSTRAINT pesticidesmixtures_id_key UNIQUE (id);
--
-- Definition for index pesticideoperation_id_key (OID = 117125327) :
--
ALTER TABLE ONLY pesticideoperation
ADD CONSTRAINT pesticideoperation_id_key UNIQUE (id);
--
-- Definition for index pesticideapplicationmethod_id_key (OID = 117125329) :
--
ALTER TABLE ONLY pesticideapplicationmethod
ADD CONSTRAINT pesticideapplicationmethod_id_key UNIQUE (id);
--
-- Definition for index pesticide_id_key (OID = 117125331) :
--
ALTER TABLE ONLY pesticide
ADD CONSTRAINT pesticide_id_key UNIQUE (id);
--
-- Definition for index permission_id_key (OID = 117125333) :
--
ALTER TABLE ONLY permission
ADD CONSTRAINT permission_id_key UNIQUE (id);
--
-- Definition for index permissiongroup_id_key (OID = 117125335) :
--
ALTER TABLE ONLY permissiongroup
```

```
ADD CONSTRAINT permissiongroup_id_key UNIQUE (id);
--
-- Definition for index perennialrotations_id_key (OID = 117125337) :
--
ALTER TABLE ONLY perennialrotations
ADD CONSTRAINT perennialrotations_id_key UNIQUE (id);
--
-- Definition for index penalty_id_key (OID = 117125339) :
--
ALTER TABLE ONLY penalty
ADD CONSTRAINT penalty_id_key UNIQUE (id);
--
-- Definition for index outlook_id_key (OID = 117125341) :
--
ALTER TABLE ONLY outlook
ADD CONSTRAINT outlook_id_key UNIQUE (id);
--
-- Definition for index organicfertiliser_id_key (OID = 117125343) :
--
ALTER TABLE ONLY organicfertiliser
ADD CONSTRAINT organicfertiliser_id_key UNIQUE (id);
--
-- Definition for index optimalproductioncoefficient_id_key (OID = 117125345) :
--
ALTER TABLE ONLY optimalproductioncoefficient
ADD CONSTRAINT optimalproductioncoefficient_id_key UNIQUE (id);
--
-- Definition for index optimallivestockactivity_id_key (OID = 117125347) :
--
ALTER TABLE ONLY optimallivestockactivity
ADD CONSTRAINT optimallivestockactivity_id_key UNIQUE (id);
--
-- Definition for index optimalfarmbehaviour_id_key (OID = 117125349) :
--
ALTER TABLE ONLY optimalfarmbehaviour
ADD CONSTRAINT optimalfarmbehaviour_id_key UNIQUE (id);
--
-- Definition for index observedanimallevels_id_key (OID = 117125351) :
--
ALTER TABLE ONLY observedanimallevels
```

```
ADD CONSTRAINT observedanimallevels_id_key UNIQUE (id);
--
-- Definition for index nutsregion_id_key (OID = 117125353) :
--
ALTER TABLE ONLY nutsregion
ADD CONSTRAINT nutsregion_id_key UNIQUE (id);
--
-- Definition for index nutrientoperation_id_key (OID = 117125355) :
--
ALTER TABLE ONLY nutrientoperation
ADD CONSTRAINT nutrientoperation_id_key UNIQUE (id);
--
-- Definition for index nutrientmanagement_id_key (OID = 117125357) :
--
ALTER TABLE ONLY nutrientmanagement
ADD CONSTRAINT nutrientmanagement_id_key UNIQUE (id);
--
-- Definition for index naturalresourcefocus_id_key (OID = 117125359) :
--
ALTER TABLE ONLY naturalresourcefocus
ADD CONSTRAINT naturalresourcefocus_id_key UNIQUE (id);
--
-- Definition for index narrativeoption_id_key (OID = 117125361) :
--
ALTER TABLE ONLY narrativeoption
ADD CONSTRAINT narrativeoption_id_key UNIQUE (id);
--
-- Definition for index narrative_id_key (OID = 117125363) :
--
ALTER TABLE ONLY narrative
ADD CONSTRAINT narrative_id_key UNIQUE (id);
--
-- Definition for index multiplerepetitionthreshold_id_key (OID = 117125365) :
--
ALTER TABLE ONLY multiplerepetitionthreshold
ADD CONSTRAINT multiplerepetitionthreshold_id_key UNIQUE (id);
--
-- Definition for index modulation_id_key (OID = 117125367) :
--
ALTER TABLE ONLY modulation
```

```
ADD CONSTRAINT modulation_id_key UNIQUE (id);
--
-- Definition for index modelvariable_id_key (OID = 117125369) :
--
ALTER TABLE ONLY modelvariable
ADD CONSTRAINT modelvariable_id_key UNIQUE (id);
--
-- Definition for index modelchain_id_key (OID = 117125371) :
--
ALTER TABLE ONLY modelchain
ADD CONSTRAINT modelchain_id_key UNIQUE (id);
--
-- Definition for index model_id_key (OID = 117125373) :
--
ALTER TABLE ONLY model
ADD CONSTRAINT model_id_key UNIQUE (id);
--
-- Definition for index manuresimple_id_key (OID = 117125375) :
--
ALTER TABLE ONLY manuresimple
ADD CONSTRAINT manuresimple_id_key UNIQUE (id);
--
-- Definition for index managementprocedureandtiming_id_key (OID = 117125377) :
--
ALTER TABLE ONLY managementprocedureandtiming
ADD CONSTRAINT managementprocedureandtiming_id_key UNIQUE (id);
--
-- Definition for index managementprocedure_id_key (OID = 117125379) :
--
ALTER TABLE ONLY managementprocedure
ADD CONSTRAINT managementprocedure_id_key UNIQUE (id);
--
-- Definition for index livestockinformation_id_key (OID = 117125381) :
--
ALTER TABLE ONLY livestockinformation
ADD CONSTRAINT livestockinformation_id_key UNIQUE (id);
--
-- Definition for index leafareaindexthreshold_id_key (OID = 117125383) :
--
ALTER TABLE ONLY leafareaindexthreshold
```

```
    ADD CONSTRAINT leafareaindexthreshold_id_key UNIQUE (id);
--
-- Definition for index lamb_id_key (OID = 117125385) :
--
ALTER TABLE ONLY lamb
    ADD CONSTRAINT lamb_id_key UNIQUE (id);
--
-- Definition for index irrigationwindow_id_key (OID = 117125387) :
--
ALTER TABLE ONLY irrigationwindow
    ADD CONSTRAINT irrigationwindow_id_key UNIQUE (id);
--
-- Definition for index irrigationwater_id_key (OID = 117125389) :
--
ALTER TABLE ONLY irrigationwater
    ADD CONSTRAINT irrigationwater_id_key UNIQUE (id);
--
-- Definition for index irrigationsimple_id_key (OID = 117125391) :
--
ALTER TABLE ONLY irrigationsimple
    ADD CONSTRAINT irrigationsimple_id_key UNIQUE (id);
--
-- Definition for index irrigationoperation_id_key (OID = 117125393) :
--
ALTER TABLE ONLY irrigationoperation
    ADD CONSTRAINT irrigationoperation_id_key UNIQUE (id);
--
-- Definition for index irrigationmethod_id_key (OID = 117125395) :
--
ALTER TABLE ONLY irrigationmethod
    ADD CONSTRAINT irrigationmethod_id_key UNIQUE (id);
--
-- Definition for index intercropping_id_key (OID = 117125397) :
--
ALTER TABLE ONLY intercropping
    ADD CONSTRAINT intercropping_id_key UNIQUE (id);
--
-- Definition for index institutionalcompatibility_id_key (OID = 117125399) :
--
ALTER TABLE ONLY institutionalcompatibility
```

```
ADD CONSTRAINT institutionalcompatibility_id_key UNIQUE (id);
--
-- Definition for index inputonsoilinmanagementprocedure_id_key (OID = 117125401) :
--
ALTER TABLE ONLY inputonsoilinmanagementprocedure
  ADD CONSTRAINT inputonsoilinmanagementprocedure_id_key UNIQUE (id);
--
-- Definition for index inputgroup_id_key (OID = 117125403) :
--
ALTER TABLE ONLY inputgroup
  ADD CONSTRAINT inputgroup_id_key UNIQUE (id);
--
-- Definition for index input__id_key (OID = 117125405) :
--
ALTER TABLE ONLY input_
  ADD CONSTRAINT input__id_key UNIQUE (id);
--
-- Definition for index inorganicfertiliser_id_key (OID = 117125407) :
--
ALTER TABLE ONLY inorganicfertiliser
  ADD CONSTRAINT inorganicfertiliser_id_key UNIQUE (id);
--
-- Definition for index inflationrate_id_key (OID = 117125409) :
--
ALTER TABLE ONLY inflationrate
  ADD CONSTRAINT inflationrate_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluetable_id_key (OID = 117125411) :
--
ALTER TABLE ONLY indicatorvaluetable
  ADD CONSTRAINT indicatorvaluetable_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluesimple_id_key (OID = 117125413) :
--
ALTER TABLE ONLY indicatorvaluesimple
  ADD CONSTRAINT indicatorvaluesimple_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueproductgroupnutsregion_id_key (OID = 117125415) :
--
ALTER TABLE ONLY indicatorvalueproductgroupnutsregion
```

```
ADD CONSTRAINT indicatorvalueproductgroupnutsregion_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueproductgroupcountryaggregate_id_key (OID = 117125417) :
--
ALTER TABLE ONLY indicatorvalueproductgroupcountryaggregate
  ADD CONSTRAINT indicatorvalueproductgroupcountryaggregate_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueproductgroupcountry_id_key (OID = 117125419) :
--
ALTER TABLE ONLY indicatorvalueproductgroupcountry
  ADD CONSTRAINT indicatorvalueproductgroupcountry_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluenutsregion_id_key (OID = 117125421) :
--
ALTER TABLE ONLY indicatorvaluenutsregion
  ADD CONSTRAINT indicatorvaluenutsregion_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueinputgroupnutsregion_id_key (OID = 117125423) :
--
ALTER TABLE ONLY indicatorvalueinputgroupnutsregion
  ADD CONSTRAINT indicatorvalueinputgroupnutsregion_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueinputgroupcountryaggregate_id_key (OID = 117125425) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountryaggregate
  ADD CONSTRAINT indicatorvalueinputgroupcountryaggregate_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueinputgroupcountry_id_key (OID = 117125427) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountry
  ADD CONSTRAINT indicatorvalueinputgroupcountry_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluefarmagrienvIRONMENTALzone_id_key (OID = 117125429) :
--
ALTER TABLE ONLY indicatorvaluefarmagrienvIRONMENTALzone
  ADD CONSTRAINT indicatorvaluefarmagrienvIRONMENTALzone_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluefarm_id_key (OID = 117125431) :
--
ALTER TABLE ONLY indicatorvaluefarm
```

```
ADD CONSTRAINT indicatorvaluefarm_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluecrop_id_key (OID = 117125433) :
--
ALTER TABLE ONLY indicatorvaluecrop
ADD CONSTRAINT indicatorvaluecrop_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluecountryaggregate_id_key (OID = 117125435) :
--
ALTER TABLE ONLY indicatorvaluecountryaggregate
ADD CONSTRAINT indicatorvaluecountryaggregate_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluecountry_id_key (OID = 117125437) :
--
ALTER TABLE ONLY indicatorvaluecountry
ADD CONSTRAINT indicatorvaluecountry_id_key UNIQUE (id);
--
-- Definition for index indicatorvaluebetweencountryaggregates_id_key (OID = 117125439) :
--
ALTER TABLE ONLY indicatorvaluebetweencountryaggregates
ADD CONSTRAINT indicatorvaluebetweencountryaggregates_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueactivitygroupnutsregion_id_key (OID = 117125441) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupnutsregion
ADD CONSTRAINT indicatorvalueactivitygroupnutsregion_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueactivitygroupcountryaggregate_id_key (OID = 117125443) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupcountryaggregate
ADD CONSTRAINT indicatorvalueactivitygroupcountryaggregate_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueactivitygroupcountry_id_key (OID = 117125445) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupcountry
ADD CONSTRAINT indicatorvalueactivitygroupcountry_id_key UNIQUE (id);
--
-- Definition for index indicatorvalueactivity_id_key (OID = 117125447) :
--
ALTER TABLE ONLY indicatorvalueactivity
```

```
ADD CONSTRAINT indicatorvalueactivity_id_key UNIQUE (id);
--
-- Definition for index indicatorgroup_id_key (OID = 117125449) :
--
ALTER TABLE ONLY indicatorgroup
ADD CONSTRAINT indicatorgroup_id_key UNIQUE (id);
--
-- Definition for index implement_id_key (OID = 117125451) :
--
ALTER TABLE ONLY implement
ADD CONSTRAINT implement_id_key UNIQUE (id);
--
-- Definition for index image_id_key (OID = 117125453) :
--
ALTER TABLE ONLY image
ADD CONSTRAINT image_id_key UNIQUE (id);
--
-- Definition for index helptopic_id_key (OID = 117125455) :
--
ALTER TABLE ONLY helptopic
ADD CONSTRAINT helptopic_id_key UNIQUE (id);
--
-- Definition for index grassproduction_id_key (OID = 117125457) :
--
ALTER TABLE ONLY grassproduction
ADD CONSTRAINT grassproduction_id_key UNIQUE (id);
--
-- Definition for index grassmanagementalternative_id_key (OID = 117125459) :
--
ALTER TABLE ONLY grassmanagementalternative
ADD CONSTRAINT grassmanagementalternative_id_key UNIQUE (id);
--
-- Definition for index grassmanagement_id_key (OID = 117125461) :
--
ALTER TABLE ONLY grassmanagement
ADD CONSTRAINT grassmanagement_id_key UNIQUE (id);
--
-- Definition for index grasslandactivity_id_key (OID = 117125463) :
--
ALTER TABLE ONLY grasslandactivity
```

```
ADD CONSTRAINT grasslandactivity_id_key UNIQUE (id);
--
-- Definition for index grassfeeds_id_key (OID = 117125465) :
--
ALTER TABLE ONLY grassfeeds
    ADD CONSTRAINT grassfeeds_id_key UNIQUE (id);
--
-- Definition for index goatling_id_key (OID = 117125467) :
--
ALTER TABLE ONLY goatling
    ADD CONSTRAINT goatling_id_key UNIQUE (id);
--
-- Definition for index goat_id_key (OID = 117125469) :
--
ALTER TABLE ONLY goat
    ADD CONSTRAINT goat_id_key UNIQUE (id);
--
-- Definition for index globaltariff_id_key (OID = 117125471) :
--
ALTER TABLE ONLY globaltariff
    ADD CONSTRAINT globaltariff_id_key UNIQUE (id);
--
-- Definition for index generictheme_id_key (OID = 117125473) :
--
ALTER TABLE ONLY generictheme
    ADD CONSTRAINT generictheme_id_key UNIQUE (id);
--
-- Definition for index fssimlivestockfarm_id_key (OID = 117125475) :
--
ALTER TABLE ONLY fssimlivestockfarm
    ADD CONSTRAINT fssimlivestockfarm_id_key UNIQUE (id);
--
-- Definition for index fssimablefarm_id_key (OID = 117125477) :
--
ALTER TABLE ONLY fssimablefarm
    ADD CONSTRAINT fssimablefarm_id_key UNIQUE (id);
--
-- Definition for index fieldborders_id_key (OID = 117125479) :
--
ALTER TABLE ONLY fieldborders
```

```
ADD CONSTRAINT fieldborders_id_key UNIQUE (id);
--
-- Definition for index fertilisersplit_id_key (OID = 117125481) :
--
ALTER TABLE ONLY fertilisersplit
  ADD CONSTRAINT fertilisersplit_id_key UNIQUE (id);
--
-- Definition for index fertiliserapplicationmethod_id_key (OID = 117125483) :
--
ALTER TABLE ONLY fertiliserapplicationmethod
  ADD CONSTRAINT fertiliserapplicationmethod_id_key UNIQUE (id);
--
-- Definition for index fertiliser_id_key (OID = 117125485) :
--
ALTER TABLE ONLY fertiliser
  ADD CONSTRAINT fertiliser_id_key UNIQUE (id);
--
-- Definition for index farmspecialization_id_key (OID = 117125487) :
--
ALTER TABLE ONLY farmspecialization
  ADD CONSTRAINT farmspecialization_id_key UNIQUE (id);
--
-- Definition for index farmsize_id_key (OID = 117125489) :
--
ALTER TABLE ONLY farmsize
  ADD CONSTRAINT farmsize_id_key UNIQUE (id);
--
-- Definition for index farmquota_id_key (OID = 117125491) :
--
ALTER TABLE ONLY farmquota
  ADD CONSTRAINT farmquota_id_key UNIQUE (id);
--
-- Definition for index farmintensity_id_key (OID = 117125493) :
--
ALTER TABLE ONLY farmintensity
  ADD CONSTRAINT farmintensity_id_key UNIQUE (id);
--
-- Definition for index farmconstraint_id_key (OID = 117125495) :
--
ALTER TABLE ONLY farmconstraint
```

```
ADD CONSTRAINT farmconstraint_id_key UNIQUE (id);
--
-- Definition for index farmareaperagrienvironmentalzone_id_key (OID = 117125497) :
--
ALTER TABLE ONLY farmareaperagrienvironmentalzone
    ADD CONSTRAINT farmareaperagrienvironmentalzone_id_key UNIQUE (id);
--
-- Definition for index fadnregion_id_key (OID = 117125499) :
--
ALTER TABLE ONLY fadnregion
    ADD CONSTRAINT fadnregion_id_key UNIQUE (id);
--
-- Definition for index experimentrun_id_key (OID = 117125501) :
--
ALTER TABLE ONLY experimentrun
    ADD CONSTRAINT experimentrun_id_key UNIQUE (id);
--
-- Definition for index experimentqueue_id_key (OID = 117125503) :
--
ALTER TABLE ONLY experimentqueue
    ADD CONSTRAINT experimentqueue_id_key UNIQUE (id);
--
-- Definition for index experimentplan_id_key (OID = 117125505) :
--
ALTER TABLE ONLY experimentplan
    ADD CONSTRAINT experimentplan_id_key UNIQUE (id);
--
-- Definition for index experiment_id_key (OID = 117125507) :
--
ALTER TABLE ONLY experiment
    ADD CONSTRAINT experiment_id_key UNIQUE (id);
--
-- Definition for index expectedimpact_id_key (OID = 117125509) :
--
ALTER TABLE ONLY expectedimpact
    ADD CONSTRAINT expectedimpact_id_key UNIQUE (id);
--
-- Definition for index exchangerates_id_key (OID = 117125511) :
--
ALTER TABLE ONLY exchangerates
```

```
ADD CONSTRAINT exchangerates_id_key UNIQUE (id);
--
-- Definition for index ewe_id_key (OID = 117125513) :
--
ALTER TABLE ONLY ewe
ADD CONSTRAINT ewe_id_key UNIQUE (id);
--
-- Definition for index event_id_key (OID = 117125515) :
--
ALTER TABLE ONLY event
ADD CONSTRAINT event_id_key UNIQUE (id);
--
-- Definition for index equilibriumprice_id_key (OID = 117125517) :
--
ALTER TABLE ONLY equilibriumprice
ADD CONSTRAINT equilibriumprice_id_key UNIQUE (id);
--
-- Definition for index environmentalzone_id_key (OID = 117125519) :
--
ALTER TABLE ONLY environmentalzone
ADD CONSTRAINT environmentalzone_id_key UNIQUE (id);
--
-- Definition for index environmentaleffects_id_key (OID = 117125521) :
--
ALTER TABLE ONLY environmentaleffects
ADD CONSTRAINT environmentaleffects_id_key UNIQUE (id);
--
-- Definition for index energyprice_id_key (OID = 117125523) :
--
ALTER TABLE ONLY energyprice
ADD CONSTRAINT energyprice_id_key UNIQUE (id);
--
-- Definition for index endorsedindicator_id_key (OID = 117125525) :
--
ALTER TABLE ONLY endorsedindicator
ADD CONSTRAINT endorsedindicator_id_key UNIQUE (id);
--
-- Definition for index domain__id_key (OID = 117125527) :
--
ALTER TABLE ONLY domain_
```

```
ADD CONSTRAINT domain__id_key UNIQUE (id);
--
-- Definition for index dimension_id_key (OID = 117125529) :
--
ALTER TABLE ONLY dimension
ADD CONSTRAINT dimension_id_key UNIQUE (id);
--
-- Definition for index detailedcropmanagement_id_key (OID = 117125531) :
--
ALTER TABLE ONLY detailedcropmanagement
ADD CONSTRAINT detailedcropmanagement_id_key UNIQUE (id);
--
-- Definition for index demandshift_id_key (OID = 117125533) :
--
ALTER TABLE ONLY demandshift
ADD CONSTRAINT demandshift_id_key UNIQUE (id);
--
-- Definition for index defaultimplements_id_key (OID = 117125535) :
--
ALTER TABLE ONLY defaultimplements
ADD CONSTRAINT defaultimplements_id_key UNIQUE (id);
--
-- Definition for index dayswithoutrainthreshold_id_key (OID = 117125537) :
--
ALTER TABLE ONLY dayswithoutrainthreshold
ADD CONSTRAINT dayswithoutrainthreshold_id_key UNIQUE (id);
--
-- Definition for index dayswithoutrainrepetitionthreshold_id_key (OID = 117125539) :
--
ALTER TABLE ONLY dayswithoutrainrepetitionthreshold
ADD CONSTRAINT dayswithoutrainrepetitionthreshold_id_key UNIQUE (id);
--
-- Definition for index dayswithoutraincropphenologicalstagethreshold_id_key (OID = 117125541) :
--
ALTER TABLE ONLY dayswithoutraincropphenologicalstagethreshold
ADD CONSTRAINT dayswithoutraincropphenologicalstagethreshold_id_key UNIQUE (id);
--
-- Definition for index dairymanagement_id_key (OID = 117125543) :
--
ALTER TABLE ONLY dairymanagement
```

```
ADD CONSTRAINT dairymanagement_id_key UNIQUE (id);
--
-- Definition for index dairyheifer_id_key (OID = 117125545) :
--
ALTER TABLE ONLY dairyheifer
ADD CONSTRAINT dairyheifer_id_key UNIQUE (id);
--
-- Definition for index dairycow_id_key (OID = 117125547) :
--
ALTER TABLE ONLY dairycow
ADD CONSTRAINT dairycow_id_key UNIQUE (id);
--
-- Definition for index dairycalve_id_key (OID = 117125549) :
--
ALTER TABLE ONLY dairycalve
ADD CONSTRAINT dairycalve_id_key UNIQUE (id);
--
-- Definition for index dailyclimate_id_key (OID = 117125551) :
--
ALTER TABLE ONLY dailyclimate
ADD CONSTRAINT dailyclimate_id_key UNIQUE (id);
--
-- Definition for index cutfactorsubsidies_id_key (OID = 117125553) :
--
ALTER TABLE ONLY cutfactorsubsidies
ADD CONSTRAINT cutfactorsubsidies_id_key UNIQUE (id);
--
-- Definition for index currentarableactivity_id_key (OID = 117125555) :
--
ALTER TABLE ONLY currentarableactivity
ADD CONSTRAINT currentarableactivity_id_key UNIQUE (id);
--
-- Definition for index crucialinstitutionalaspect_id_key (OID = 117125557) :
--
ALTER TABLE ONLY crucialinstitutionalaspect
ADD CONSTRAINT crucialinstitutionalaspect_id_key UNIQUE (id);
--
-- Definition for index cropyearmanagement_id_key (OID = 117125559) :
--
ALTER TABLE ONLY cropyearmanagement
```

```
ADD CONSTRAINT copyearmanagement_id_key UNIQUE (id);
--
-- Definition for index cropsoilrequirements_id_key (OID = 117125561) :
--
ALTER TABLE ONLY cropsoilrequirements
ADD CONSTRAINT cropsoilrequirements_id_key UNIQUE (id);
--
-- Definition for index croprotonationrequirements_id_key (OID = 117125563) :
--
ALTER TABLE ONLY croprotonationrequirements
ADD CONSTRAINT croprotonationrequirements_id_key UNIQUE (id);
--
-- Definition for index cropresiduemanagement_id_key (OID = 117125565) :
--
ALTER TABLE ONLY cropresiduemanagement
ADD CONSTRAINT cropresiduemanagement_id_key UNIQUE (id);
--
-- Definition for index cropproduction_id_key (OID = 117125567) :
--
ALTER TABLE ONLY cropproduction
ADD CONSTRAINT cropproduction_id_key UNIQUE (id);
--
-- Definition for index cropproductinyear_id_key (OID = 117125569) :
--
ALTER TABLE ONLY cropproductinyear
ADD CONSTRAINT cropproductinyear_id_key UNIQUE (id);
--
-- Definition for index cropproduct_id_key (OID = 117125571) :
--
ALTER TABLE ONLY cropproduct
ADD CONSTRAINT cropproduct_id_key UNIQUE (id);
--
-- Definition for index cropphenologicalstagethreshold_id_key (OID = 117125573) :
--
ALTER TABLE ONLY cropphenologicalstagethreshold
ADD CONSTRAINT cropphenologicalstagethreshold_id_key UNIQUE (id);
--
-- Definition for index cropphenologicalstagetemperaturethreshold_id_key (OID = 117125575) :
--
ALTER TABLE ONLY cropphenologicalstagetemperaturethreshold
```

```
ADD CONSTRAINT cropphenologicalstagetemperaturethreshold_id_key UNIQUE (id);
--
-- Definition for index cropphenologicalstage_id_key (OID = 117125577) :
--
ALTER TABLE ONLY cropphenologicalstage
  ADD CONSTRAINT cropphenologicalstage_id_key UNIQUE (id);
--
-- Definition for index cropperyear_id_key (OID = 117125579) :
--
ALTER TABLE ONLY cropperyear
  ADD CONSTRAINT cropperyear_id_key UNIQUE (id);
--
-- Definition for index cropphenologicalstage_id_key (OID = 117125581) :
--
ALTER TABLE ONLY cropphenologicalstage
  ADD CONSTRAINT cropphenologicalstage_id_key UNIQUE (id);
--
-- Definition for index cropmanagementrule_id_key (OID = 117125583) :
--
ALTER TABLE ONLY cropmanagementrule
  ADD CONSTRAINT cropmanagementrule_id_key UNIQUE (id);
--
-- Definition for index cropinformation_id_key (OID = 117125585) :
--
ALTER TABLE ONLY cropinformation
  ADD CONSTRAINT cropinformation_id_key UNIQUE (id);
--
-- Definition for index cropgrouprotationrequirements_id_key (OID = 117125587) :
--
ALTER TABLE ONLY cropgrouprotationrequirements
  ADD CONSTRAINT cropgrouprotationrequirements_id_key UNIQUE (id);
--
-- Definition for index cropclimaterequirements_id_key (OID = 117125589) :
--
ALTER TABLE ONLY cropclimaterequirements
  ADD CONSTRAINT cropclimaterequirements_id_key UNIQUE (id);
--
-- Definition for index croparea_id_key (OID = 117125591) :
--
ALTER TABLE ONLY croparea
```

```
ADD CONSTRAINT croparea_id_key UNIQUE (id);
--
-- Definition for index crop_id_key (OID = 117125593) :
--
ALTER TABLE ONLY crop
ADD CONSTRAINT crop_id_key UNIQUE (id);
--
-- Definition for index couplingdegree_id_key (OID = 117125595) :
--
ALTER TABLE ONLY couplingdegree
ADD CONSTRAINT couplingdegree_id_key UNIQUE (id);
--
-- Definition for index countryaggregate_id_key (OID = 117125597) :
--
ALTER TABLE ONLY countryaggregate
ADD CONSTRAINT countryaggregate_id_key UNIQUE (id);
--
-- Definition for index country_id_key (OID = 117125599) :
--
ALTER TABLE ONLY country
ADD CONSTRAINT country_id_key UNIQUE (id);
--
-- Definition for index costandlabourperregionalzone_id_key (OID = 117125601) :
--
ALTER TABLE ONLY costandlabourperregionalzone
ADD CONSTRAINT costandlabourperregionalzone_id_key UNIQUE (id);
--
-- Definition for index context_id_key (OID = 117125603) :
--
ALTER TABLE ONLY context
ADD CONSTRAINT context_id_key UNIQUE (id);
--
-- Definition for index constraints__id_key (OID = 117125605) :
--
ALTER TABLE ONLY constraints_
ADD CONSTRAINT constraints__id_key UNIQUE (id);
--
-- Definition for index conservationmanagement_id_key (OID = 117125607) :
--
ALTER TABLE ONLY conservationmanagement
```

```
ADD CONSTRAINT conservationmanagement_id_key UNIQUE (id);
--
-- Definition for index concentratedfeeds_id_key (OID = 117125609) :
--
ALTER TABLE ONLY concentratedfeeds
ADD CONSTRAINT concentratedfeeds_id_key UNIQUE (id);
--
-- Definition for index clippingoperation_id_key (OID = 117125611) :
--
ALTER TABLE ONLY clippingoperation
ADD CONSTRAINT clippingoperation_id_key UNIQUE (id);
--
-- Definition for index clippingharvestimplement_id_key (OID = 117125613) :
--
ALTER TABLE ONLY clippingharvestimplement
ADD CONSTRAINT clippingharvestimplement_id_key UNIQUE (id);
--
-- Definition for index climatezone_id_key (OID = 117125615) :
--
ALTER TABLE ONLY climatezone
ADD CONSTRAINT climatezone_id_key UNIQUE (id);
--
-- Definition for index capriparameter_id_key (OID = 117125617) :
--
ALTER TABLE ONLY capriparameter
ADD CONSTRAINT capriparameter_id_key UNIQUE (id);
--
-- Definition for index calibrationterm_id_key (OID = 117125619) :
--
ALTER TABLE ONLY calibrationterm
ADD CONSTRAINT calibrationterm_id_key UNIQUE (id);
--
-- Definition for index bull_id_key (OID = 117125621) :
--
ALTER TABLE ONLY bull
ADD CONSTRAINT bull_id_key UNIQUE (id);
--
-- Definition for index biophysicalsimulation_id_key (OID = 117125623) :
--
ALTER TABLE ONLY biophysicalsimulation
```

```
ADD CONSTRAINT biophysimalsimulation_id_key UNIQUE (id);
--
-- Definition for index biomassthreshold_id_key (OID = 117125625) :
--
ALTER TABLE ONLY biomassthreshold
ADD CONSTRAINT biomassthreshold_id_key UNIQUE (id);
--
-- Definition for index biofueldemand_id_key (OID = 117125627) :
--
ALTER TABLE ONLY biofueldemand
ADD CONSTRAINT biofueldemand_id_key UNIQUE (id);
--
-- Definition for index bilateraltariff_id_key (OID = 117125629) :
--
ALTER TABLE ONLY bilateraltariff
ADD CONSTRAINT bilateraltariff_id_key UNIQUE (id);
--
-- Definition for index beefmanagement_id_key (OID = 117125631) :
--
ALTER TABLE ONLY beefmanagement
ADD CONSTRAINT beefmanagement_id_key UNIQUE (id);
--
-- Definition for index beefcattle_id_key (OID = 117125633) :
--
ALTER TABLE ONLY beefcattle
ADD CONSTRAINT beefcattle_id_key UNIQUE (id);
--
-- Definition for index beefcalve_id_key (OID = 117125635) :
--
ALTER TABLE ONLY beefcalve
ADD CONSTRAINT beefcalve_id_key UNIQUE (id);
--
-- Definition for index basicpremium_id_key (OID = 117125637) :
--
ALTER TABLE ONLY basicpremium
ADD CONSTRAINT basicpremium_id_key UNIQUE (id);
--
-- Definition for index arableactivity_id_key (OID = 117125639) :
--
ALTER TABLE ONLY arableactivity
```

```
ADD CONSTRAINT arableactivity_id_key UNIQUE (id);
--
-- Definition for index applicationrole_id_key (OID = 117125641) :
--
ALTER TABLE ONLY applicationrole
    ADD CONSTRAINT applicationrole_id_key UNIQUE (id);
--
-- Definition for index animalshares_id_key (OID = 117125643) :
--
ALTER TABLE ONLY animalshares
    ADD CONSTRAINT animalshares_id_key UNIQUE (id);
--
-- Definition for index animalproduction_id_key (OID = 117125645) :
--
ALTER TABLE ONLY animalproduction
    ADD CONSTRAINT animalproduction_id_key UNIQUE (id);
--
-- Definition for index animalproduct_id_key (OID = 117125647) :
--
ALTER TABLE ONLY animalproduct
    ADD CONSTRAINT animalproduct_id_key UNIQUE (id);
--
-- Definition for index animalactivity_id_key (OID = 117125649) :
--
ALTER TABLE ONLY animalactivity
    ADD CONSTRAINT animalactivity_id_key UNIQUE (id);
--
-- Definition for index alternativedaairyoption_id_key (OID = 117125651) :
--
ALTER TABLE ONLY alternativedaairyoption
    ADD CONSTRAINT alternativedaairyoption_id_key UNIQUE (id);
--
-- Definition for index alternativebeefoption_id_key (OID = 117125653) :
--
ALTER TABLE ONLY alternativebeefoption
    ADD CONSTRAINT alternativebeefoption_id_key UNIQUE (id);
--
-- Definition for index alternativearableactivity_id_key (OID = 117125655) :
--
ALTER TABLE ONLY alternativearableactivity
```

```
ADD CONSTRAINT alternativevariableactivity_id_key UNIQUE (id);
--
-- Definition for index airtemperaturethreshold_id_key (OID = 117125657) :
--
ALTER TABLE ONLY airtemperaturethreshold
ADD CONSTRAINT airtemperaturethreshold_id_key UNIQUE (id);
--
-- Definition for index agromanagementconfiguration_id_key (OID = 117125659) :
--
ALTER TABLE ONLY agromanagementconfiguration
ADD CONSTRAINT agromanagementconfiguration_id_key UNIQUE (id);
--
-- Definition for index agrienvironmentalzone_id_key (OID = 117125661) :
--
ALTER TABLE ONLY agrienvironmentalzone
ADD CONSTRAINT agrienvironmentalzone_id_key UNIQUE (id);
--
-- Definition for index yieldtrend_pkey (OID = 117125663) :
--
ALTER TABLE ONLY yieldtrend
ADD CONSTRAINT yieldtrend_pkey PRIMARY KEY (id);
--
-- Definition for index yieldofcropproduct_pkey (OID = 117125665) :
--
ALTER TABLE ONLY yieldofcropproduct
ADD CONSTRAINT yieldofcropproduct_pkey PRIMARY KEY (id);
--
-- Definition for index yieldgrowth_pkey (OID = 117125667) :
--
ALTER TABLE ONLY yieldgrowth
ADD CONSTRAINT yieldgrowth_pkey PRIMARY KEY (id);
--
-- Definition for index yieldenergyproteinofgrass_pkey (OID = 117125669) :
--
ALTER TABLE ONLY yieldenergyproteinofgrass
ADD CONSTRAINT yieldenergyproteinofgrass_pkey PRIMARY KEY (id);
--
-- Definition for index yieldenergyproteinoffeedproduct_pkey (OID = 117125671) :
--
ALTER TABLE ONLY yieldenergyproteinoffeedproduct
```

```
ADD CONSTRAINT yieldenergyproteinoffeedproduct_pkey PRIMARY KEY (id);
--
-- Definition for index watermanagementcrops_pkey (OID = 117125673) :
--
ALTER TABLE ONLY watermanagementcrops
  ADD CONSTRAINT watermanagementcrops_pkey PRIMARY KEY (watermanagement_id, crop_id);
--
-- Definition for index watermanagement_pkey (OID = 117125675) :
--
ALTER TABLE ONLY watermanagement
  ADD CONSTRAINT watermanagement_pkey PRIMARY KEY (id);
--
-- Definition for index volumestones_pkey (OID = 117125677) :
--
ALTER TABLE ONLY volumestones
  ADD CONSTRAINT volumestones_pkey PRIMARY KEY (id);
--
-- Definition for index vineyardharvest_pkey (OID = 117125679) :
--
ALTER TABLE ONLY vineyardharvest
  ADD CONSTRAINT vineyardharvest_pkey PRIMARY KEY (id);
--
-- Definition for index user_roles_pkey (OID = 117125681) :
--
ALTER TABLE ONLY user_roles
  ADD CONSTRAINT user_roles_pkey PRIMARY KEY (user__id, role__id);
--
-- Definition for index user__pkey (OID = 117125683) :
--
ALTER TABLE ONLY user_
  ADD CONSTRAINT user__pkey PRIMARY KEY (id);
--
-- Definition for index upscalingprocedure_pkey (OID = 117125685) :
--
ALTER TABLE ONLY upscalingprocedure
  ADD CONSTRAINT upscalingprocedure_pkey PRIMARY KEY (id);
--
-- Definition for index treestart_pkey (OID = 117125687) :
--
ALTER TABLE ONLY treestart
```

```
ADD CONSTRAINT treestart_pkey PRIMARY KEY (id);
--
-- Definition for index transitionprobability_pkey (OID = 117125689) :
--
ALTER TABLE ONLY transitionprobability
ADD CONSTRAINT transitionprobability_pkey PRIMARY KEY (id);
--
-- Definition for index tradereformproposaltradereformproposalcuts_pkey (OID = 117125691) :
--
ALTER TABLE ONLY tradereformproposaltradereformproposalcuts
ADD CONSTRAINT tradereformproposaltradereformproposalcuts_pkey PRIMARY KEY
(tradereformproposal_id, tradereformproposalcut_id);
--
-- Definition for index tradereformproposalcut_pkey (OID = 117125693) :
--
ALTER TABLE ONLY tradereformproposalcut
ADD CONSTRAINT tradereformproposalcut_pkey PRIMARY KEY (id);
--
-- Definition for index tradereformproposal_pkey (OID = 117125695) :
--
ALTER TABLE ONLY tradereformproposal
ADD CONSTRAINT tradereformproposal_pkey PRIMARY KEY (id);
--
-- Definition for index timeperiod_pkey (OID = 117125697) :
--
ALTER TABLE ONLY timeperiod
ADD CONSTRAINT timeperiod_pkey PRIMARY KEY (id);
--
-- Definition for index timedecade_pkey (OID = 117125699) :
--
ALTER TABLE ONLY timedecade
ADD CONSTRAINT timedecade_pkey PRIMARY KEY (id);
--
-- Definition for index tillagesimple_pkey (OID = 117125701) :
--
ALTER TABLE ONLY tillagesimple
ADD CONSTRAINT tillagesimple_pkey PRIMARY KEY (id);
--
-- Definition for index tillageoperation_pkey (OID = 117125703) :
--
ALTER TABLE ONLY tillageoperation
```



```
ADD CONSTRAINT tillageoperation_pkey PRIMARY KEY (id);
--
-- Definition for index tillagemachinebased_pkey (OID = 117125705) :
--
ALTER TABLE ONLY tillagemachinebased
    ADD CONSTRAINT tillagemachinebased_pkey PRIMARY KEY (id);
--
-- Definition for index tillageimplement_pkey (OID = 117125707) :
--
ALTER TABLE ONLY tillageimplement
    ADD CONSTRAINT tillageimplement_pkey PRIMARY KEY (id);
--
-- Definition for index theme_pkey (OID = 117125709) :
--
ALTER TABLE ONLY theme
    ADD CONSTRAINT theme_pkey PRIMARY KEY (id);
--
-- Definition for index texturalclasssoil_pkey (OID = 117125711) :
--
ALTER TABLE ONLY texturalclasssoil
    ADD CONSTRAINT texturalclasssoil_pkey PRIMARY KEY (id);
--
-- Definition for index temporalscale_pkey (OID = 117125713) :
--
ALTER TABLE ONLY temporalscale
    ADD CONSTRAINT temporalscale_pkey PRIMARY KEY (id);
--
-- Definition for index tax_pkey (OID = 117125715) :
--
ALTER TABLE ONLY tax
    ADD CONSTRAINT tax_pkey PRIMARY KEY (id);
--
-- Definition for index surveycroprotationelementproductonsoil_pkey (OID = 117125717) :
--
ALTER TABLE ONLY surveycroprotationelementproductonsoil
    ADD CONSTRAINT surveycroprotationelementproductonsoil_pkey PRIMARY KEY
(surveycroprotationelement_id, productonsoil_id);
--
-- Definition for index surveycroprotationelementinputonsoilinmanagementprocedure_pkey (OID = 117125719) :
--
ALTER TABLE ONLY surveycroprotationelementinputonsoilinmanagementprocedure
```

```
ADD CONSTRAINT surveycroprotationelementinputonsoilinmanagementprocedure_pkey PRIMARY KEY
(surveycroprotationelement_id, inputonsoilinmanagementprocedure_id);
--
-- Definition for index surveycroprotationelementcostsandlabour_pkey (OID = 117125721) :
--
ALTER TABLE ONLY surveycroprotationelementcostsandlabour
ADD CONSTRAINT surveycroprotationelementcostsandlabour_pkey PRIMARY KEY
(surveycroprotationelement_id, costandlabourperregionalzone_id);
--
-- Definition for index surveycroprotationelement_pkey (OID = 117125723) :
--
ALTER TABLE ONLY surveycroprotationelement
ADD CONSTRAINT surveycroprotationelement_pkey PRIMARY KEY (id);
--
-- Definition for index supplyresponsecropproduction_pkey (OID = 117125725) :
--
ALTER TABLE ONLY supplyresponsecropproduction
ADD CONSTRAINT supplyresponsecropproduction_pkey PRIMARY KEY (supplyresponse_id,
cropproduction_id);
--
-- Definition for index supplyresponse_pkey (OID = 117125727) :
--
ALTER TABLE ONLY supplyresponse
ADD CONSTRAINT supplyresponse_pkey PRIMARY KEY (id);
--
-- Definition for index sugarcontentnorainthreshold_pkey (OID = 117125729) :
--
ALTER TABLE ONLY sugarcontentnorainthreshold
ADD CONSTRAINT sugarcontentnorainthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index sucklercow_pkey (OID = 117125731) :
--
ALTER TABLE ONLY sucklercow
ADD CONSTRAINT sucklercow_pkey PRIMARY KEY (id);
--
-- Definition for index subtheme_pkey (OID = 117125733) :
--
ALTER TABLE ONLY subtheme
ADD CONSTRAINT subtheme_pkey PRIMARY KEY (id);
--
-- Definition for index subsidycrosscompliance_pkey (OID = 117125735) :
--
```

```
ALTER TABLE ONLY subsidycrosscompliance
  ADD CONSTRAINT subsidycrosscompliance_pkey PRIMARY KEY (id);
--
-- Definition for index subsidy_pkey (OID = 117125737) :
--
ALTER TABLE ONLY subsidy
  ADD CONSTRAINT subsidy_pkey PRIMARY KEY (id);
--
-- Definition for index subsidisedexport_pkey (OID = 117125739) :
--
ALTER TABLE ONLY subsidisedexport
  ADD CONSTRAINT subsidisedexport_pkey PRIMARY KEY (id);
--
-- Definition for index spatialscale_pkey (OID = 117125741) :
--
ALTER TABLE ONLY spatialscale
  ADD CONSTRAINT spatialscale_pkey PRIMARY KEY (id);
--
-- Definition for index sowingoperationregional_pkey (OID = 117125743) :
--
ALTER TABLE ONLY sowingoperationregional
  ADD CONSTRAINT sowingoperationregional_pkey PRIMARY KEY (id);
--
-- Definition for index sowingoperation_pkey (OID = 117125745) :
--
ALTER TABLE ONLY sowingoperation
  ADD CONSTRAINT sowingoperation_pkey PRIMARY KEY (id);
--
-- Definition for index sowingimplement_pkey (OID = 117125747) :
--
ALTER TABLE ONLY sowingimplement
  ADD CONSTRAINT sowingimplement_pkey PRIMARY KEY (id);
--
-- Definition for index soilwaterrootingdepththreshold_pkey (OID = 117125749) :
--
ALTER TABLE ONLY soilwaterrootingdepththreshold
  ADD CONSTRAINT soilwaterrootingdepththreshold_pkey PRIMARY KEY (id);
--
-- Definition for index soilwaterrepetitionthreshold_pkey (OID = 117125751) :
--
```

```
ALTER TABLE ONLY soilwaterrepetitionthreshold
  ADD CONSTRAINT soilwaterrepetitionthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index soilwaterlevelthreshold_pkey (OID = 117125753) :
--
ALTER TABLE ONLY soilwaterlevelthreshold
  ADD CONSTRAINT soilwaterlevelthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index soiltype_pkey (OID = 117125755) :
--
ALTER TABLE ONLY soiltype
  ADD CONSTRAINT soiltype_pkey PRIMARY KEY (id);
--
-- Definition for index soiltemperaturethreshold_pkey (OID = 117125757) :
--
ALTER TABLE ONLY soiltemperaturethreshold
  ADD CONSTRAINT soiltemperaturethreshold_pkey PRIMARY KEY (id);
--
-- Definition for index soilcharacteristics_pkey (OID = 117125759) :
--
ALTER TABLE ONLY soilcharacteristics
  ADD CONSTRAINT soilcharacteristics_pkey PRIMARY KEY (id);
--
-- Definition for index simplesurveyrotationelementsimplecropmanagementinzone_pkey (OID = 117125761) :
--
ALTER TABLE ONLY simplesurveyrotationelementsimplecropmanagementinzone
  ADD CONSTRAINT simplesurveyrotationelementsimplecropmanagementinzone_pkey PRIMARY KEY
(simplesurveyrotationelement_id, simplecropmanagementinzone_id);
--
-- Definition for index simplesurveyrotationelement_pkey (OID = 117125763) :
--
ALTER TABLE ONLY simplesurveyrotationelement
  ADD CONSTRAINT simplesurveyrotationelement_pkey PRIMARY KEY (id);
--
-- Definition for index simplecurrentsmalldairyruminantactivity_pkey (OID = 117125765) :
--
ALTER TABLE ONLY simplecurrentsmalldairyruminantactivity
  ADD CONSTRAINT simplecurrentsmalldairyruminantactivity_pkey PRIMARY KEY (id);
--
-- Definition for index simplecurrentsmallbeefruminants_pkey (OID = 117125767) :
--
```

```
ALTER TABLE ONLY simplecurrentsmallbeefruminants
  ADD CONSTRAINT simplecurrentsmallbeefruminants_pkey PRIMARY KEY (id);
--
-- Definition for index simplecurrentdairyactivity_pkey (OID = 117125769) :
--
ALTER TABLE ONLY simplecurrentdairyactivity
  ADD CONSTRAINT simplecurrentdairyactivity_pkey PRIMARY KEY (id);
--
-- Definition for index simplecurrentbeefactivity_pkey (OID = 117125771) :
--
ALTER TABLE ONLY simplecurrentbeefactivity
  ADD CONSTRAINT simplecurrentbeefactivity_pkey PRIMARY KEY (id);
--
-- Definition for index simplecropmanagementinzonesimplecropmanagement_pkey (OID = 117125773) :
--
ALTER TABLE ONLY simplecropmanagementinzonesimplecropmanagement
  ADD CONSTRAINT simplecropmanagementinzonesimplecropmanagement_pkey PRIMARY KEY
(simplecropmanagementinzone_id, simplecropmanagement_id);
--
-- Definition for index simplecropmanagementinzone_pkey (OID = 117125775) :
--
ALTER TABLE ONLY simplecropmanagementinzone
  ADD CONSTRAINT simplecropmanagementinzone_pkey PRIMARY KEY (id);
--
-- Definition for index simplecropmanagement_pkey (OID = 117125777) :
--
ALTER TABLE ONLY simplecropmanagement
  ADD CONSTRAINT simplecropmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index simplecropgroup_pkey (OID = 117125779) :
--
ALTER TABLE ONLY simplecropgroup
  ADD CONSTRAINT simplecropgroup_pkey PRIMARY KEY (id);
--
-- Definition for index setasideregulation_pkey (OID = 117125781) :
--
ALTER TABLE ONLY setasideregulation
  ADD CONSTRAINT setasideregulation_pkey PRIMARY KEY (id);
--
-- Definition for index seed_pkey (OID = 117125783) :
--
```

```
ALTER TABLE ONLY seed
  ADD CONSTRAINT seed_pkey PRIMARY KEY (id);
--
-- Definition for index roughagefeeds_pkey (OID = 117125785) :
--
ALTER TABLE ONLY roughagefeeds
  ADD CONSTRAINT roughagefeeds_pkey PRIMARY KEY (id);
--
-- Definition for index rotationyear_pkey (OID = 117125787) :
--
ALTER TABLE ONLY rotationyear
  ADD CONSTRAINT rotationyear_pkey PRIMARY KEY (id);
--
-- Definition for index rotationwithproductionorientationforfarmrotationwithproduc_pkey (OID = 117125789) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarmrotationwithproductiono
  ADD CONSTRAINT rotationwithproductionorientationforfarmrotationwithproduc_pkey PRIMARY KEY
(rotationwithproductionorientationforfarm_id, rotationwithproductionorientation_id);
--
-- Definition for index rotationwithproductionorientationforfarm_pkey (OID = 117125791) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarm
  ADD CONSTRAINT rotationwithproductionorientationforfarm_pkey PRIMARY KEY (id);
--
-- Definition for index rotationwithproductionorientation_pkey (OID = 117125793) :
--
ALTER TABLE ONLY rotationwithproductionorientation
  ADD CONSTRAINT rotationwithproductionorientation_pkey PRIMARY KEY (id);
--
-- Definition for index rotationcropperyear_pkey (OID = 117125795) :
--
ALTER TABLE ONLY rotationcropperyear
  ADD CONSTRAINT rotationcropperyear_pkey PRIMARY KEY (rotation_id, cropperyear_id);
--
-- Definition for index rotation_pkey (OID = 117125797) :
--
ALTER TABLE ONLY rotation
  ADD CONSTRAINT rotation_pkey PRIMARY KEY (id);
--
-- Definition for index role_permissions_pkey (OID = 117125799) :
--
```

```
ALTER TABLE ONLY role_permissions
  ADD CONSTRAINT role_permissions_pkey PRIMARY KEY (role__id, permission_id);
--
-- Definition for index representativefarminagrienvregion_pkey (OID = 117125801) :
--
ALTER TABLE ONLY representativefarminagrienvregion
  ADD CONSTRAINT representativefarminagrienvregion_pkey PRIMARY KEY (id);
--
-- Definition for index representativefarmgroup_pkey (OID = 117125803) :
--
ALTER TABLE ONLY representativefarmgroup
  ADD CONSTRAINT representativefarmgroup_pkey PRIMARY KEY (id);
--
-- Definition for index representativefarm_pkey (OID = 117125805) :
--
ALTER TABLE ONLY representativefarm
  ADD CONSTRAINT representativefarm_pkey PRIMARY KEY (id);
--
-- Definition for index repetitionthreshold_pkey (OID = 117125807) :
--
ALTER TABLE ONLY repetitionthreshold
  ADD CONSTRAINT repetitionthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index relativeday_pkey (OID = 117125809) :
--
ALTER TABLE ONLY relativeday
  ADD CONSTRAINT relativeday_pkey PRIMARY KEY (id);
--
-- Definition for index regionalwage_pkey (OID = 117125811) :
--
ALTER TABLE ONLY regionalwage
  ADD CONSTRAINT regionalwage_pkey PRIMARY KEY (id);
--
-- Definition for index regionaltypologyvalue_pkey (OID = 117125813) :
--
ALTER TABLE ONLY regionaltypologyvalue
  ADD CONSTRAINT regionaltypologyvalue_pkey PRIMARY KEY (id);
--
-- Definition for index regionaltypologyclass_pkey (OID = 117125815) :
--
```

```
ALTER TABLE ONLY regionaltypologyclass
  ADD CONSTRAINT regionaltypologyclass_pkey PRIMARY KEY (id);
--
-- Definition for index regionaltypology_pkey (OID = 117125817) :
--
ALTER TABLE ONLY regionaltypology
  ADD CONSTRAINT regionaltypology_pkey PRIMARY KEY (id);
--
-- Definition for index regionalagromanagementzoneagrienvironmentalzones_pkey (OID = 117125819) :
--
ALTER TABLE ONLY regionalagromanagementzoneagrienvironmentalzones
  ADD CONSTRAINT regionalagromanagementzoneagrienvironmentalzones_pkey PRIMARY KEY
  (regionalagromanagementzone_id, agrienvironmentalzone_id);
--
-- Definition for index regionalagromanagementzone_pkey (OID = 117125821) :
--
ALTER TABLE ONLY regionalagromanagementzone
  ADD CONSTRAINT regionalagromanagementzone_pkey PRIMARY KEY (id);
--
-- Definition for index reduceleafareaindexclippingoperation_pkey (OID = 117125823) :
--
ALTER TABLE ONLY reduceleafareaindexclippingoperation
  ADD CONSTRAINT reduceleafareaindexclippingoperation_pkey PRIMARY KEY (id);
--
-- Definition for index reducedtillageevents_pkey (OID = 117125825) :
--
ALTER TABLE ONLY reducedtillageevents
  ADD CONSTRAINT reducedtillageevents_pkey PRIMARY KEY (reducedtillage_id, event_id);
--
-- Definition for index reducedtillage_pkey (OID = 117125827) :
--
ALTER TABLE ONLY reducedtillage
  ADD CONSTRAINT reducedtillage_pkey PRIMARY KEY (id);
--
-- Definition for index reducebiomassclippingoperation_pkey (OID = 117125829) :
--
ALTER TABLE ONLY reducebiomassclippingoperation
  ADD CONSTRAINT reducebiomassclippingoperation_pkey PRIMARY KEY (id);
--
-- Definition for index quotacountry_pkey (OID = 117125831) :
--
```

```
ALTER TABLE ONLY quotacountry
  ADD CONSTRAINT quotacountry_pkey PRIMARY KEY (id);
--
-- Definition for index propertyrightschanges_pkey (OID = 117125833) :
--
ALTER TABLE ONLY propertyrightschanges
  ADD CONSTRAINT propertyrightschanges_pkey PRIMARY KEY (id);
--
-- Definition for index projectrole_pkey (OID = 117125835) :
--
ALTER TABLE ONLY projectrole
  ADD CONSTRAINT projectrole_pkey PRIMARY KEY (id);
--
-- Definition for index project_pkey (OID = 117125837) :
--
ALTER TABLE ONLY project
  ADD CONSTRAINT project_pkey PRIMARY KEY (id);
--
-- Definition for index producttype_pkey (OID = 117125839) :
--
ALTER TABLE ONLY producttype
  ADD CONSTRAINT producttype_pkey PRIMARY KEY (id);
--
-- Definition for index productsforregion_pkey (OID = 117125841) :
--
ALTER TABLE ONLY productsforregion
  ADD CONSTRAINT productsforregion_pkey PRIMARY KEY (id);
--
-- Definition for index productionsoil_pkey (OID = 117125843) :
--
ALTER TABLE ONLY productionsoil
  ADD CONSTRAINT productionsoil_pkey PRIMARY KEY (id);
--
-- Definition for index productiontechnique_pkey (OID = 117125845) :
--
ALTER TABLE ONLY productiontechnique
  ADD CONSTRAINT productiontechnique_pkey PRIMARY KEY (id);
--
-- Definition for index productionorientationsmllldairyruminantmanagements_pkey (OID = 117125847) :
--
```

```
ALTER TABLE ONLY productionorientationsmalldairyruminantmanagements
  ADD CONSTRAINT productionorientationsmalldairyruminantmanagements_pkey PRIMARY KEY
  (productionorientation_id, dairymanagement_id);
--
-- Definition for index productionorientationsmallbeefruminantmanagements_pkey (OID = 117125849) :
--
ALTER TABLE ONLY productionorientationsmallbeefruminantmanagements
  ADD CONSTRAINT productionorientationsmallbeefruminantmanagements_pkey PRIMARY KEY
  (productionorientation_id, beefmanagement_id);
--
-- Definition for index productionorientationgrassmanagementalternatives_pkey (OID = 117125851) :
--
ALTER TABLE ONLY productionorientationgrassmanagementalternatives
  ADD CONSTRAINT productionorientationgrassmanagementalternatives_pkey PRIMARY KEY
  (productionorientation_id, grassmanagementalternative_id);
--
-- Definition for index productionorientationdairymanagements_pkey (OID = 117125853) :
--
ALTER TABLE ONLY productionorientationdairymanagements
  ADD CONSTRAINT productionorientationdairymanagements_pkey PRIMARY KEY
  (productionorientation_id, dairymanagement_id);
--
-- Definition for index productionorientationbeefmanagements_pkey (OID = 117125855) :
--
ALTER TABLE ONLY productionorientationbeefmanagements
  ADD CONSTRAINT productionorientationbeefmanagements_pkey PRIMARY KEY
  (productionorientation_id, beefmanagement_id);
--
-- Definition for index productionorientation_pkey (OID = 117125857) :
--
ALTER TABLE ONLY productionorientation
  ADD CONSTRAINT productionorientation_pkey PRIMARY KEY (id);
--
-- Definition for index productioncoefficientyieldofcropproducts_pkey (OID = 117125859) :
--
ALTER TABLE ONLY productioncoefficientyieldofcropproducts
  ADD CONSTRAINT productioncoefficientyieldofcropproducts_pkey PRIMARY KEY
  (productioncoefficient_id, yieldofcropproduct_id);
--
-- Definition for index productioncoefficient_pkey (OID = 117125861) :
--
ALTER TABLE ONLY productioncoefficient
  ADD CONSTRAINT productioncoefficient_pkey PRIMARY KEY (id);
```

```
--  
-- Definition for index productionactivityperfssimfarmagriculturalactivities_pkey (OID = 117125863) :  
--  
ALTER TABLE ONLY productionactivityperfssimfarmagriculturalactivities  
  ADD CONSTRAINT productionactivityperfssimfarmagriculturalactivities_pkey PRIMARY KEY  
(productionactivityperfssimfarm_id, agriculturalactivity_id);  
--  
-- Definition for index productionactivityperfssimfarm_pkey (OID = 117125865) :  
--  
ALTER TABLE ONLY productionactivityperfssimfarm  
  ADD CONSTRAINT productionactivityperfssimfarm_pkey PRIMARY KEY (id);  
--  
-- Definition for index productionactivitycropproductyearmanagements_pkey (OID = 117125867) :  
--  
ALTER TABLE ONLY productionactivitycropproductyearmanagements  
  ADD CONSTRAINT productionactivitycropproductyearmanagements_pkey PRIMARY KEY  
(productionactivity_id, productioncoefficient_id);  
--  
-- Definition for index productionactivity_pkey (OID = 117125869) :  
--  
ALTER TABLE ONLY productionactivity  
  ADD CONSTRAINT productionactivity_pkey PRIMARY KEY (id);  
--  
-- Definition for index productgroupproductsetofproducts_pkey (OID = 117125871) :  
--  
ALTER TABLE ONLY productgroupproductsetofproducts  
  ADD CONSTRAINT productgroupproductsetofproducts_pkey PRIMARY KEY (productgroup_id,  
product_id);  
--  
-- Definition for index productgroup_pkey (OID = 117125873) :  
--  
ALTER TABLE ONLY productgroup  
  ADD CONSTRAINT productgroup_pkey PRIMARY KEY (id);  
--  
-- Definition for index problemmodels_pkey (OID = 117125875) :  
--  
ALTER TABLE ONLY problemmodels  
  ADD CONSTRAINT problemmodels_pkey PRIMARY KEY (problem_id, model_id);  
--  
-- Definition for index problemindicators_pkey (OID = 117125877) :  
--  
ALTER TABLE ONLY problemindicators
```

```
ADD CONSTRAINT problemindicators_pkey PRIMARY KEY (problem_id, indicator__id);
--
-- Definition for index problemexperimentplans_pkey (OID = 117125879) :
--
ALTER TABLE ONLY problemexperimentplans
ADD CONSTRAINT problemexperimentplans_pkey PRIMARY KEY (problem_id, experimentplan_id);
--
-- Definition for index problem_pkey (OID = 117125881) :
--
ALTER TABLE ONLY problem
ADD CONSTRAINT problem_pkey PRIMARY KEY (id);
--
-- Definition for index priceelasticity_pkey (OID = 117125883) :
--
ALTER TABLE ONLY priceelasticity
ADD CONSTRAINT priceelasticity_pkey PRIMARY KEY (id);
--
-- Definition for index price_pkey (OID = 117125885) :
--
ALTER TABLE ONLY price
ADD CONSTRAINT price_pkey PRIMARY KEY (id);
--
-- Definition for index premiumgroup_pkey (OID = 117125887) :
--
ALTER TABLE ONLY premiumgroup
ADD CONSTRAINT premiumgroup_pkey PRIMARY KEY (id);
--
-- Definition for index policytype_pkey (OID = 117125889) :
--
ALTER TABLE ONLY policytype
ADD CONSTRAINT policytype_pkey PRIMARY KEY (id);
--
-- Definition for index policyoptionyieldtrend_pkey (OID = 117125891) :
--
ALTER TABLE ONLY policyoptionyieldtrend
ADD CONSTRAINT policyoptionyieldtrend_pkey PRIMARY KEY (policyoption_id, yieldtrend_id);
--
-- Definition for index policyoptiontradereformproposals_pkey (OID = 117125893) :
--
ALTER TABLE ONLY policyoptiontradereformproposals
```

```
ADD CONSTRAINT policyoptiontradereformproposals_pkey PRIMARY KEY (policyoption_id,
tradereformproposal_id);
--
-- Definition for index policyoptionsubsidisedexports_pkey (OID = 117125895) :
--
ALTER TABLE ONLY policyoptionsubsidisedexports
ADD CONSTRAINT policyoptionsubsidisedexports_pkey PRIMARY KEY (policyoption_id,
subsidisedexport_id);
--
-- Definition for index policyoptionsubsidies_pkey (OID = 117125897) :
--
ALTER TABLE ONLY policyoptionsubsidies
ADD CONSTRAINT policyoptionsubsidies_pkey PRIMARY KEY (policyoption_id, subsidy_id);
--
-- Definition for index policyoptionsetasideregulations_pkey (OID = 117125899) :
--
ALTER TABLE ONLY policyoptionsetasideregulations
ADD CONSTRAINT policyoptionsetasideregulations_pkey PRIMARY KEY (policyoption_id,
setasideregulation_id);
--
-- Definition for index policyoptionquotacountries_pkey (OID = 117125901) :
--
ALTER TABLE ONLY policyoptionquotacountries
ADD CONSTRAINT policyoptionquotacountries_pkey PRIMARY KEY (policyoption_id, quotacountry_id);
--
-- Definition for index policyoptionpricechange_pkey (OID = 117125903) :
--
ALTER TABLE ONLY policyoptionpricechange
ADD CONSTRAINT policyoptionpricechange_pkey PRIMARY KEY (policyoption_id, price_id);
--
-- Definition for index policyoptionpolicymeasures_pkey (OID = 117125905) :
--
ALTER TABLE ONLY policyoptionpolicymeasures
ADD CONSTRAINT policyoptionpolicymeasures_pkey PRIMARY KEY (policyoption_id, policymeasure_id);
--
-- Definition for index policyoptioninstitutionalcompatibility_pkey (OID = 117125907) :
--
ALTER TABLE ONLY policyoptioninstitutionalcompatibility
ADD CONSTRAINT policyoptioninstitutionalcompatibility_pkey PRIMARY KEY (policyoption_id,
institutionalcompatibility_id);
--
-- Definition for index policyoptionglobaltariffs_pkey (OID = 117125909) :
```

```
--  
ALTER TABLE ONLY policyoptionglobaltariffs  
  ADD CONSTRAINT policyoptionglobaltariffs_pkey PRIMARY KEY (policyoption_id, globaltariff_id);  
--  
-- Definition for index policyoptionfarmquotas_pkey (OID = 117125911) :  
--  
ALTER TABLE ONLY policyoptionfarmquotas  
  ADD CONSTRAINT policyoptionfarmquotas_pkey PRIMARY KEY (policyoption_id, farmquota_id);  
--  
-- Definition for index policyoptionfarmconstraints_pkey (OID = 117125913) :  
--  
ALTER TABLE ONLY policyoptionfarmconstraints  
  ADD CONSTRAINT policyoptionfarmconstraints_pkey PRIMARY KEY (policyoption_id, farmconstraint_id);  
--  
-- Definition for index policyoptioncouplingdegrees_pkey (OID = 117125915) :  
--  
ALTER TABLE ONLY policyoptioncouplingdegrees  
  ADD CONSTRAINT policyoptioncouplingdegrees_pkey PRIMARY KEY (policyoption_id,  
couplingdegree_id);  
--  
-- Definition for index policyoptionbilateraltariffs_pkey (OID = 117125917) :  
--  
ALTER TABLE ONLY policyoptionbilateraltariffs  
  ADD CONSTRAINT policyoptionbilateraltariffs_pkey PRIMARY KEY (policyoption_id, bilateraltariff_id);  
--  
-- Definition for index policyoptionbasicpremiums_pkey (OID = 117125919) :  
--  
ALTER TABLE ONLY policyoptionbasicpremiums  
  ADD CONSTRAINT policyoptionbasicpremiums_pkey PRIMARY KEY (policyoption_id, basicpremium_id);  
--  
-- Definition for index policyoption_pkey (OID = 117125921) :  
--  
ALTER TABLE ONLY policyoption  
  ADD CONSTRAINT policyoption_pkey PRIMARY KEY (id);  
--  
-- Definition for index policyassessmentpriceelasticities_pkey (OID = 117125923) :  
--  
ALTER TABLE ONLY policyassessmentpriceelasticities  
  ADD CONSTRAINT policyassessmentpriceelasticities_pkey PRIMARY KEY (policyassessment_id,  
priceelasticity_id);  
--
```

```
-- Definition for index policyassessmentfssimfarindicators_pkey (OID = 117125925) :
--
ALTER TABLE ONLY policyassessmentfssimfarindicators
  ADD CONSTRAINT policyassessmentfssimfarindicators_pkey PRIMARY KEY (policyassessment_id,
  optimalfarmbehaviour_id);
--
-- Definition for index policyassessmentequilibriumprices_pkey (OID = 117125927) :
--
ALTER TABLE ONLY policyassessmentequilibriumprices
  ADD CONSTRAINT policyassessmentequilibriumprices_pkey PRIMARY KEY (policyassessment_id,
  equilibriumprice_id);
--
-- Definition for index policyassessmentcutfactorsubsidies_pkey (OID = 117125929) :
--
ALTER TABLE ONLY policyassessmentcutfactorsubsidies
  ADD CONSTRAINT policyassessmentcutfactorsubsidies_pkey PRIMARY KEY (policyassessment_id,
  cutfactorsubsidies_id);
--
-- Definition for index policyassessment_pkey (OID = 117125931) :
--
ALTER TABLE ONLY policyassessment
  ADD CONSTRAINT policyassessment_pkey PRIMARY KEY (id);
--
-- Definition for index picaspatiallevel_pkey (OID = 117125933) :
--
ALTER TABLE ONLY picaspatiallevel
  ADD CONSTRAINT picaspatiallevel_pkey PRIMARY KEY (id);
--
-- Definition for index picaindicatorvalue_pkey (OID = 117125935) :
--
ALTER TABLE ONLY picaindicatorvalue
  ADD CONSTRAINT picaindicatorvalue_pkey PRIMARY KEY (id);
--
-- Definition for index picaindicatorgeneralcrucialinstitutionalaspectlinkagecruci_pkey (OID = 117125937) :
--
ALTER TABLE ONLY picaindicatorgeneralcrucialinstitutionalaspectlinkagecrucialins
  ADD CONSTRAINT picaindicatorgeneralcrucialinstitutionalaspectlinkagecruci_pkey PRIMARY KEY
  (picaindicatorgeneral_id, crucialinstitutionalaspect_id);
--
-- Definition for index picaindicatorgeneral_pkey (OID = 117125939) :
--
ALTER TABLE ONLY picaindicatorgeneral
```

```
ADD CONSTRAINT picaindicatorgeneral_pkey PRIMARY KEY (id);
--
-- Definition for index picaindicator_pkey (OID = 117125941) :
--
ALTER TABLE ONLY picaindicator
    ADD CONSTRAINT picaindicator_pkey PRIMARY KEY (id);
--
-- Definition for index picaassessment_pkey (OID = 117125943) :
--
ALTER TABLE ONLY picaassessment
    ADD CONSTRAINT picaassessment_pkey PRIMARY KEY (id);
--
-- Definition for index pesticidesmixturespesticideoperations_pkey (OID = 117125945) :
--
ALTER TABLE ONLY pesticidesmixturespesticideoperations
    ADD CONSTRAINT pesticidesmixturespesticideoperations_pkey PRIMARY KEY (pesticidesmixtures_id,
pesticideoperation_id);
--
-- Definition for index pesticidesmixtures_pkey (OID = 117125947) :
--
ALTER TABLE ONLY pesticidesmixtures
    ADD CONSTRAINT pesticidesmixtures_pkey PRIMARY KEY (id);
--
-- Definition for index pesticideoperation_pkey (OID = 117125949) :
--
ALTER TABLE ONLY pesticideoperation
    ADD CONSTRAINT pesticideoperation_pkey PRIMARY KEY (id);
--
-- Definition for index pesticideapplicationmethod_pkey (OID = 117125951) :
--
ALTER TABLE ONLY pesticideapplicationmethod
    ADD CONSTRAINT pesticideapplicationmethod_pkey PRIMARY KEY (id);
--
-- Definition for index pesticide_pkey (OID = 117125953) :
--
ALTER TABLE ONLY pesticide
    ADD CONSTRAINT pesticide_pkey PRIMARY KEY (id);
--
-- Definition for index permission_pkey (OID = 117125955) :
--
ALTER TABLE ONLY permission
```



```
ADD CONSTRAINT permission_pkey PRIMARY KEY (id);
--
-- Definition for index permissiongrouppermissions_pkey (OID = 117125957) :
--
ALTER TABLE ONLY permissiongrouppermissions
    ADD CONSTRAINT permissiongrouppermissions_pkey PRIMARY KEY (permissiongroup_id, permission_id);
--
-- Definition for index permissiongroup_pkey (OID = 117125959) :
--
ALTER TABLE ONLY permissiongroup
    ADD CONSTRAINT permissiongroup_pkey PRIMARY KEY (id);
--
-- Definition for index perennialrotations_pkey (OID = 117125961) :
--
ALTER TABLE ONLY perennialrotations
    ADD CONSTRAINT perennialrotations_pkey PRIMARY KEY (id);
--
-- Definition for index penalty_pkey (OID = 117125963) :
--
ALTER TABLE ONLY penalty
    ADD CONSTRAINT penalty_pkey PRIMARY KEY (id);
--
-- Definition for index outlookyieldgrowth_pkey (OID = 117125965) :
--
ALTER TABLE ONLY outlookyieldgrowth
    ADD CONSTRAINT outlookyieldgrowth_pkey PRIMARY KEY (outlook_id, yieldgrowth_id);
--
-- Definition for index outlookmodulations_pkey (OID = 117125967) :
--
ALTER TABLE ONLY outlookmodulations
    ADD CONSTRAINT outlookmodulations_pkey PRIMARY KEY (outlook_id, modulation_id);
--
-- Definition for index outlookinflationrates_pkey (OID = 117125969) :
--
ALTER TABLE ONLY outlookinflationrates
    ADD CONSTRAINT outlookinflationrates_pkey PRIMARY KEY (outlook_id, inflationrate_id);
--
-- Definition for index outlookexchangerates_pkey (OID = 117125971) :
--
ALTER TABLE ONLY outlookexchangerates
```

```
ADD CONSTRAINT outlookexchangerates_pkey PRIMARY KEY (outlook_id, exchangerates_id);
--
-- Definition for index outlookenergyprice_pkey (OID = 117125973) :
--
ALTER TABLE ONLY outlookenergyprice
ADD CONSTRAINT outlookenergyprice_pkey PRIMARY KEY (outlook_id, energyprice_id);
--
-- Definition for index outlookdemandshifts_pkey (OID = 117125975) :
--
ALTER TABLE ONLY outlookdemandshifts
ADD CONSTRAINT outlookdemandshifts_pkey PRIMARY KEY (outlook_id, demandshift_id);
--
-- Definition for index outlookbiofueldemands_pkey (OID = 117125977) :
--
ALTER TABLE ONLY outlookbiofueldemands
ADD CONSTRAINT outlookbiofueldemands_pkey PRIMARY KEY (outlook_id, biofueldemand_id);
--
-- Definition for index outlook_pkey (OID = 117125979) :
--
ALTER TABLE ONLY outlook
ADD CONSTRAINT outlook_pkey PRIMARY KEY (id);
--
-- Definition for index organicfertiliser_pkey (OID = 117125981) :
--
ALTER TABLE ONLY organicfertiliser
ADD CONSTRAINT organicfertiliser_pkey PRIMARY KEY (id);
--
-- Definition for index optimalproductioncoefficient_pkey (OID = 117125983) :
--
ALTER TABLE ONLY optimalproductioncoefficient
ADD CONSTRAINT optimalproductioncoefficient_pkey PRIMARY KEY (id);
--
-- Definition for index optimallivestockactivity_pkey (OID = 117125985) :
--
ALTER TABLE ONLY optimallivestockactivity
ADD CONSTRAINT optimallivestockactivity_pkey PRIMARY KEY (id);
--
-- Definition for index optimalfarmbehavioursupplyresponses_pkey (OID = 117125987) :
--
ALTER TABLE ONLY optimalfarmbehavioursupplyresponses
```

```
ADD CONSTRAINT optimalfarmbehavioursupplyresponses_pkey PRIMARY KEY
(optimalfarmbehaviour_id, supplyresponse_id);
--
-- Definition for index optimalfarmbehaviouroptimallivestockactivity_pkey (OID = 117125989) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimallivestockactivity
ADD CONSTRAINT optimalfarmbehaviouroptimallivestockactivity_pkey PRIMARY KEY
(optimalfarmbehaviour_id, optimallivestockactivity_id);
--
-- Definition for index optimalfarmbehaviouroptimalcroppingpattern_pkey (OID = 117125991) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimalcroppingpattern
ADD CONSTRAINT optimalfarmbehaviouroptimalcroppingpattern_pkey PRIMARY KEY
(optimalfarmbehaviour_id, optimalproductioncoefficient_id);
--
-- Definition for index optimalfarmbehaviourcalibrationterms_pkey (OID = 117125993) :
--
ALTER TABLE ONLY optimalfarmbehaviourcalibrationterms
ADD CONSTRAINT optimalfarmbehaviourcalibrationterms_pkey PRIMARY KEY
(optimalfarmbehaviour_id, calibrationterm_id);
--
-- Definition for index optimalfarmbehaviour_pkey (OID = 117125995) :
--
ALTER TABLE ONLY optimalfarmbehaviour
ADD CONSTRAINT optimalfarmbehaviour_pkey PRIMARY KEY (id);
--
-- Definition for index observedanimallevels_pkey (OID = 117125997) :
--
ALTER TABLE ONLY observedanimallevels
ADD CONSTRAINT observedanimallevels_pkey PRIMARY KEY (id);
--
-- Definition for index nutsregion_pkey (OID = 117125999) :
--
ALTER TABLE ONLY nutsregion
ADD CONSTRAINT nutsregion_pkey PRIMARY KEY (id);
--
-- Definition for index nutrientoperation_pkey (OID = 117126001) :
--
ALTER TABLE ONLY nutrientoperation
ADD CONSTRAINT nutrientoperation_pkey PRIMARY KEY (id);
--
-- Definition for index nutrientmanagementcrops_pkey (OID = 117126003) :
```

```
--  
ALTER TABLE ONLY nutrientmanagementcrops  
  ADD CONSTRAINT nutrientmanagementcrops_pkey PRIMARY KEY (nutrientmanagement_id, crop_id);  
--  
-- Definition for index nutrientmanagement_pkey (OID = 117126005) :  
--  
ALTER TABLE ONLY nutrientmanagement  
  ADD CONSTRAINT nutrientmanagement_pkey PRIMARY KEY (id);  
--  
-- Definition for index naturalresourcefocus_pkey (OID = 117126007) :  
--  
ALTER TABLE ONLY naturalresourcefocus  
  ADD CONSTRAINT naturalresourcefocus_pkey PRIMARY KEY (id);  
--  
-- Definition for index narrativeoption_pkey (OID = 117126009) :  
--  
ALTER TABLE ONLY narrativeoption  
  ADD CONSTRAINT narrativeoption_pkey PRIMARY KEY (id);  
--  
-- Definition for index narrativenarrativeoptions_pkey (OID = 117126011) :  
--  
ALTER TABLE ONLY narrativenarrativeoptions  
  ADD CONSTRAINT narrativenarrativeoptions_pkey PRIMARY KEY (narrative_id, narrativeoption_id);  
--  
-- Definition for index narrative_pkey (OID = 117126013) :  
--  
ALTER TABLE ONLY narrative  
  ADD CONSTRAINT narrative_pkey PRIMARY KEY (id);  
--  
-- Definition for index multiplerepetitionthreshold_pkey (OID = 117126015) :  
--  
ALTER TABLE ONLY multiplerepetitionthreshold  
  ADD CONSTRAINT multiplerepetitionthreshold_pkey PRIMARY KEY (id);  
--  
-- Definition for index modulation_pkey (OID = 117126017) :  
--  
ALTER TABLE ONLY modulation  
  ADD CONSTRAINT modulation_pkey PRIMARY KEY (id);  
--  
-- Definition for index modelvariable_pkey (OID = 117126019) :
```

```
--  
ALTER TABLE ONLY modelvariable  
    ADD CONSTRAINT modelvariable_pkey PRIMARY KEY (id);  
--  
-- Definition for index modelspatialscales_pkey (OID = 117126021) :  
--  
ALTER TABLE ONLY modelspatialscales  
    ADD CONSTRAINT modelspatialscales_pkey PRIMARY KEY (model_id, spatialscale_id);  
--  
-- Definition for index modelchainmodels_pkey (OID = 117126023) :  
--  
ALTER TABLE ONLY modelchainmodels  
    ADD CONSTRAINT modelchainmodels_pkey PRIMARY KEY (modelchain_id, model_id);  
--  
-- Definition for index modelchain_pkey (OID = 117126025) :  
--  
ALTER TABLE ONLY modelchain  
    ADD CONSTRAINT modelchain_pkey PRIMARY KEY (id);  
--  
-- Definition for index model_pkey (OID = 117126027) :  
--  
ALTER TABLE ONLY model  
    ADD CONSTRAINT model_pkey PRIMARY KEY (id);  
--  
-- Definition for index manuresimple_pkey (OID = 117126029) :  
--  
ALTER TABLE ONLY manuresimple  
    ADD CONSTRAINT manuresimple_pkey PRIMARY KEY (id);  
--  
-- Definition for index managementprocedureinputsandimplements_pkey (OID = 117126031) :  
--  
ALTER TABLE ONLY managementprocedureinputsandimplements  
    ADD CONSTRAINT managementprocedureinputsandimplements_pkey PRIMARY KEY  
(managementprocedure_id, inputsandimplements_id);  
--  
-- Definition for index managementprocedureandtimingtimedecade_pkey (OID = 117126033) :  
--  
ALTER TABLE ONLY managementprocedureandtimingtimedecade  
    ADD CONSTRAINT managementprocedureandtimingtimedecade_pkey PRIMARY KEY  
(managementprocedureandtiming_id, timedecade_id);  
--
```

```
-- Definition for index managementprocedureandtiming_pkey (OID = 117126035) :
--
ALTER TABLE ONLY managementprocedureandtiming
  ADD CONSTRAINT managementprocedureandtiming_pkey PRIMARY KEY (id);
--
-- Definition for index managementprocedure_pkey (OID = 117126037) :
--
ALTER TABLE ONLY managementprocedure
  ADD CONSTRAINT managementprocedure_pkey PRIMARY KEY (id);
--
-- Definition for index livestockinformation_pkey (OID = 117126039) :
--
ALTER TABLE ONLY livestockinformation
  ADD CONSTRAINT livestockinformation_pkey PRIMARY KEY (id);
--
-- Definition for index leafareaindexthreshold_pkey (OID = 117126041) :
--
ALTER TABLE ONLY leafareaindexthreshold
  ADD CONSTRAINT leafareaindexthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index lamb_pkey (OID = 117126043) :
--
ALTER TABLE ONLY lamb
  ADD CONSTRAINT lamb_pkey PRIMARY KEY (id);
--
-- Definition for index irrigationwindow_pkey (OID = 117126045) :
--
ALTER TABLE ONLY irrigationwindow
  ADD CONSTRAINT irrigationwindow_pkey PRIMARY KEY (id);
--
-- Definition for index irrigationwater_pkey (OID = 117126047) :
--
ALTER TABLE ONLY irrigationwater
  ADD CONSTRAINT irrigationwater_pkey PRIMARY KEY (id);
--
-- Definition for index irrigationsimple_pkey (OID = 117126049) :
--
ALTER TABLE ONLY irrigationsimple
  ADD CONSTRAINT irrigationsimple_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index irrigationoperation_pkey (OID = 117126051) :
--
ALTER TABLE ONLY irrigationoperation
    ADD CONSTRAINT irrigationoperation_pkey PRIMARY KEY (id);
--
-- Definition for index irrigationmethod_pkey (OID = 117126053) :
--
ALTER TABLE ONLY irrigationmethod
    ADD CONSTRAINT irrigationmethod_pkey PRIMARY KEY (id);
--
-- Definition for index intercropping_pkey (OID = 117126055) :
--
ALTER TABLE ONLY intercropping
    ADD CONSTRAINT intercropping_pkey PRIMARY KEY (id);
--
-- Definition for index institutionalcompatibilitypicaspatiallevels_pkey (OID = 117126057) :
--
ALTER TABLE ONLY institutionalcompatibilitypicaspatiallevels
    ADD CONSTRAINT institutionalcompatibilitypicaspatiallevels_pkey PRIMARY KEY
(institutionalcompatibility_id, picaspatiallevel_id);
--
-- Definition for index institutionalcompatibility_pkey (OID = 117126059) :
--
ALTER TABLE ONLY institutionalcompatibility
    ADD CONSTRAINT institutionalcompatibility_pkey PRIMARY KEY (id);
--
-- Definition for index inputonsoilinmanagementprocedure_pkey (OID = 117126061) :
--
ALTER TABLE ONLY inputonsoilinmanagementprocedure
    ADD CONSTRAINT inputonsoilinmanagementprocedure_pkey PRIMARY KEY (id);
--
-- Definition for index inputgroup_pkey (OID = 117126063) :
--
ALTER TABLE ONLY inputgroup
    ADD CONSTRAINT inputgroup_pkey PRIMARY KEY (id);
--
-- Definition for index input__pkey (OID = 117126065) :
--
ALTER TABLE ONLY input_
    ADD CONSTRAINT input__pkey PRIMARY KEY (id);
--
```

```
-- Definition for index inorganicfertiliser_pkey (OID = 117126067) :
--
ALTER TABLE ONLY inorganicfertiliser
  ADD CONSTRAINT inorganicfertiliser_pkey PRIMARY KEY (id);
--
-- Definition for index inflationrate_pkey (OID = 117126069) :
--
ALTER TABLE ONLY inflationrate
  ADD CONSTRAINT inflationrate_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluetable_pkey (OID = 117126071) :
--
ALTER TABLE ONLY indicatorvaluetable
  ADD CONSTRAINT indicatorvaluetable_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluesimple_pkey (OID = 117126073) :
--
ALTER TABLE ONLY indicatorvaluesimple
  ADD CONSTRAINT indicatorvaluesimple_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueproductgroupnutsregion_pkey (OID = 117126075) :
--
ALTER TABLE ONLY indicatorvalueproductgroupnutsregion
  ADD CONSTRAINT indicatorvalueproductgroupnutsregion_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueproductgroupcountryaggregate_pkey (OID = 117126077) :
--
ALTER TABLE ONLY indicatorvalueproductgroupcountryaggregate
  ADD CONSTRAINT indicatorvalueproductgroupcountryaggregate_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueproductgroupcountry_pkey (OID = 117126079) :
--
ALTER TABLE ONLY indicatorvalueproductgroupcountry
  ADD CONSTRAINT indicatorvalueproductgroupcountry_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluenutsregion_pkey (OID = 117126081) :
--
ALTER TABLE ONLY indicatorvaluenutsregion
  ADD CONSTRAINT indicatorvaluenutsregion_pkey PRIMARY KEY (id);
--
```



```
-- Definition for index indicatorvalueinputgroupnutsregion_pkey (OID = 117126083) :
--
ALTER TABLE ONLY indicatorvalueinputgroupnutsregion
  ADD CONSTRAINT indicatorvalueinputgroupnutsregion_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueinputgroupcountryaggregate_pkey (OID = 117126085) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountryaggregate
  ADD CONSTRAINT indicatorvalueinputgroupcountryaggregate_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueinputgroupcountry_pkey (OID = 117126087) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountry
  ADD CONSTRAINT indicatorvalueinputgroupcountry_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluefarmagrienvironmentalzone_pkey (OID = 117126089) :
--
ALTER TABLE ONLY indicatorvaluefarmagrienvironmentalzone
  ADD CONSTRAINT indicatorvaluefarmagrienvironmentalzone_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluefarm_pkey (OID = 117126091) :
--
ALTER TABLE ONLY indicatorvaluefarm
  ADD CONSTRAINT indicatorvaluefarm_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluecrop_pkey (OID = 117126093) :
--
ALTER TABLE ONLY indicatorvaluecrop
  ADD CONSTRAINT indicatorvaluecrop_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluecountryaggregate_pkey (OID = 117126095) :
--
ALTER TABLE ONLY indicatorvaluecountryaggregate
  ADD CONSTRAINT indicatorvaluecountryaggregate_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvaluecountry_pkey (OID = 117126097) :
--
ALTER TABLE ONLY indicatorvaluecountry
  ADD CONSTRAINT indicatorvaluecountry_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index indicatorvaluebetweenecountryaggregates_pkey (OID = 117126099) :
--
ALTER TABLE ONLY indicatorvaluebetweenecountryaggregates
  ADD CONSTRAINT indicatorvaluebetweenecountryaggregates_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueactivitygroupnutsregion_pkey (OID = 117126101) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupnutsregion
  ADD CONSTRAINT indicatorvalueactivitygroupnutsregion_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueactivitygroupcountryaggregate_pkey (OID = 117126103) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupcountryaggregate
  ADD CONSTRAINT indicatorvalueactivitygroupcountryaggregate_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueactivitygroupcountry_pkey (OID = 117126105) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupcountry
  ADD CONSTRAINT indicatorvalueactivitygroupcountry_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorvalueactivity_pkey (OID = 117126107) :
--
ALTER TABLE ONLY indicatorvalueactivity
  ADD CONSTRAINT indicatorvalueactivity_pkey PRIMARY KEY (id);
--
-- Definition for index indicatorgrouptradeoff_pkey (OID = 117126109) :
--
ALTER TABLE ONLY indicatorgrouptradeoff
  ADD CONSTRAINT indicatorgrouptradeoff_pkey PRIMARY KEY (indicatorgroup_id, indicatorgroup_id1);
--
-- Definition for index indicatorgroupsubthemes_pkey (OID = 117126111) :
--
ALTER TABLE ONLY indicatorgroupsubthemes
  ADD CONSTRAINT indicatorgroupsubthemes_pkey PRIMARY KEY (indicatorgroup_id, subtheme_id);
--
-- Definition for index indicatorgroupdomains_pkey (OID = 117126113) :
--
ALTER TABLE ONLY indicatorgroupdomains
  ADD CONSTRAINT indicatorgroupdomains_pkey PRIMARY KEY (indicatorgroup_id, domain__id);
--
```

```
-- Definition for index indicatorgroupdimensions_pkey (OID = 117126115) :
--
ALTER TABLE ONLY indicatorgroupdimensions
    ADD CONSTRAINT indicatorgroupdimensions_pkey PRIMARY KEY (indicatorgroup_id, dimension_id);
--
-- Definition for index indicatorgroup_pkey (OID = 117126117) :
--
ALTER TABLE ONLY indicatorgroup
    ADD CONSTRAINT indicatorgroup_pkey PRIMARY KEY (id);
--
-- Definition for index implement_pkey (OID = 117126119) :
--
ALTER TABLE ONLY implement
    ADD CONSTRAINT implement_pkey PRIMARY KEY (id);
--
-- Definition for index image_pkey (OID = 117126121) :
--
ALTER TABLE ONLY image
    ADD CONSTRAINT image_pkey PRIMARY KEY (id);
--
-- Definition for index helptopic_pkey (OID = 117126123) :
--
ALTER TABLE ONLY helptopic
    ADD CONSTRAINT helptopic_pkey PRIMARY KEY (id);
--
-- Definition for index grassproduction_pkey (OID = 117126125) :
--
ALTER TABLE ONLY grassproduction
    ADD CONSTRAINT grassproduction_pkey PRIMARY KEY (id);
--
-- Definition for index grassmanagementalternativealternativegrassmanagement_pkey (OID = 117126127) :
--
ALTER TABLE ONLY grassmanagementalternativealternativegrassmanagement
    ADD CONSTRAINT grassmanagementalternativealternativegrassmanagement_pkey PRIMARY KEY
    (grassmanagementalternative_id, grassmanagement_id);
--
-- Definition for index grassmanagementalternative_pkey (OID = 117126129) :
--
ALTER TABLE ONLY grassmanagementalternative
    ADD CONSTRAINT grassmanagementalternative_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index grassmanagement_pkey (OID = 117126131) :
--
ALTER TABLE ONLY grassmanagement
    ADD CONSTRAINT grassmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index grasslandactivitygrassproductions_pkey (OID = 117126133) :
--
ALTER TABLE ONLY grasslandactivitygrassproductions
    ADD CONSTRAINT grasslandactivitygrassproductions_pkey PRIMARY KEY (grasslandactivity_id,
grassproduction_id);
--
-- Definition for index grasslandactivity_pkey (OID = 117126135) :
--
ALTER TABLE ONLY grasslandactivity
    ADD CONSTRAINT grasslandactivity_pkey PRIMARY KEY (id);
--
-- Definition for index grassfeeds_pkey (OID = 117126137) :
--
ALTER TABLE ONLY grassfeeds
    ADD CONSTRAINT grassfeeds_pkey PRIMARY KEY (id);
--
-- Definition for index goatling_pkey (OID = 117126139) :
--
ALTER TABLE ONLY goatling
    ADD CONSTRAINT goatling_pkey PRIMARY KEY (id);
--
-- Definition for index goat_pkey (OID = 117126141) :
--
ALTER TABLE ONLY goat
    ADD CONSTRAINT goat_pkey PRIMARY KEY (id);
--
-- Definition for index globaltariff_pkey (OID = 117126143) :
--
ALTER TABLE ONLY globaltariff
    ADD CONSTRAINT globaltariff_pkey PRIMARY KEY (id);
--
-- Definition for index generictheme_pkey (OID = 117126145) :
--
ALTER TABLE ONLY generictheme
    ADD CONSTRAINT generictheme_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index fssimlivestockfarmobservedanimallevels_pkey (OID = 117126147) :
--
ALTER TABLE ONLY fssimlivestockfarmobservedanimallevels
  ADD CONSTRAINT fssimlivestockfarmobservedanimallevels_pkey PRIMARY KEY (fssimlivestockfarm_id,
observedanimallevels_id);
--
-- Definition for index fssimlivestockfarm_pkey (OID = 117126149) :
--
ALTER TABLE ONLY fssimlivestockfarm
  ADD CONSTRAINT fssimlivestockfarm_pkey PRIMARY KEY (id);
--
-- Definition for index fssimfarmobservedcroppattern_pkey (OID = 117126151) :
--
ALTER TABLE ONLY fssimfarmobservedcroppattern
  ADD CONSTRAINT fssimfarmobservedcroppattern_pkey PRIMARY KEY (fssimfarm_id, croparea_id);
--
-- Definition for index fssimfarmfarmareaperagrienvrionmentalzone_pkey (OID = 117126153) :
--
ALTER TABLE ONLY fssimfarmfarmareaperagrienvrionmentalzone
  ADD CONSTRAINT fssimfarmfarmareaperagrienvrionmentalzone_pkey PRIMARY KEY (fssimfarm_id,
farmareaperagrienvrionmentalzone_id);
--
-- Definition for index fssimfarmfarm_pkey (OID = 117126155) :
--
ALTER TABLE ONLY fssimfarmfarm
  ADD CONSTRAINT fssimfarmfarm_pkey PRIMARY KEY (id);
--
-- Definition for index fieldborders_pkey (OID = 117126157) :
--
ALTER TABLE ONLY fieldborders
  ADD CONSTRAINT fieldborders_pkey PRIMARY KEY (id);
--
-- Definition for index fertilisersplit_pkey (OID = 117126159) :
--
ALTER TABLE ONLY fertilisersplit
  ADD CONSTRAINT fertilisersplit_pkey PRIMARY KEY (id);
--
-- Definition for index fertiliserapplicationmethod_pkey (OID = 117126161) :
--
ALTER TABLE ONLY fertiliserapplicationmethod
  ADD CONSTRAINT fertiliserapplicationmethod_pkey PRIMARY KEY (id);
```

```
--  
-- Definition for index fertiliser_pkey (OID = 117126163) :  
--  
ALTER TABLE ONLY fertiliser  
  ADD CONSTRAINT fertiliser_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmspecialization_pkey (OID = 117126165) :  
--  
ALTER TABLE ONLY farmspecialization  
  ADD CONSTRAINT farmspecialization_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmsize_pkey (OID = 117126167) :  
--  
ALTER TABLE ONLY farmsize  
  ADD CONSTRAINT farmsize_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmquota_pkey (OID = 117126169) :  
--  
ALTER TABLE ONLY farmquota  
  ADD CONSTRAINT farmquota_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmintensity_pkey (OID = 117126171) :  
--  
ALTER TABLE ONLY farmintensity  
  ADD CONSTRAINT farmintensity_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmconstraint_pkey (OID = 117126173) :  
--  
ALTER TABLE ONLY farmconstraint  
  ADD CONSTRAINT farmconstraint_pkey PRIMARY KEY (id);  
--  
-- Definition for index farmareaperagrienvrimentalzone_pkey (OID = 117126175) :  
--  
ALTER TABLE ONLY farmareaperagrienvrimentalzone  
  ADD CONSTRAINT farmareaperagrienvrimentalzone_pkey PRIMARY KEY (id);  
--  
-- Definition for index fadnregion_pkey (OID = 117126177) :  
--  
ALTER TABLE ONLY fadnregion  
  ADD CONSTRAINT fadnregion_pkey PRIMARY KEY (id);
```

```
--
-- Definition for index experimentrun_pkey (OID = 117126179) :
--
ALTER TABLE ONLY experimentrun
    ADD CONSTRAINT experimentrun_pkey PRIMARY KEY (id);
--
-- Definition for index experimentqueueexperimentruns_pkey (OID = 117126181) :
--
ALTER TABLE ONLY experimentqueueexperimentruns
    ADD CONSTRAINT experimentqueueexperimentruns_pkey PRIMARY KEY (experimentqueue_id,
experimentrun_id);
--
-- Definition for index experimentqueue_pkey (OID = 117126183) :
--
ALTER TABLE ONLY experimentqueue
    ADD CONSTRAINT experimentqueue_pkey PRIMARY KEY (id);
--
-- Definition for index experimentplantwoexperiments_pkey (OID = 117126185) :
--
ALTER TABLE ONLY experimentplantwoexperiments
    ADD CONSTRAINT experimentplantwoexperiments_pkey PRIMARY KEY (experimentplan_id,
experiment_id);
--
-- Definition for index experimentplan_pkey (OID = 117126187) :
--
ALTER TABLE ONLY experimentplan
    ADD CONSTRAINT experimentplan_pkey PRIMARY KEY (id);
--
-- Definition for index experiment_pkey (OID = 117126189) :
--
ALTER TABLE ONLY experiment
    ADD CONSTRAINT experiment_pkey PRIMARY KEY (id);
--
-- Definition for index expectedimpact_pkey (OID = 117126191) :
--
ALTER TABLE ONLY expectedimpact
    ADD CONSTRAINT expectedimpact_pkey PRIMARY KEY (id);
--
-- Definition for index exchangerates_pkey (OID = 117126193) :
--
ALTER TABLE ONLY exchangerates
```

```
ADD CONSTRAINT exchangerates_pkey PRIMARY KEY (id);
--
-- Definition for index ewe_pkey (OID = 117126195) :
--
ALTER TABLE ONLY ewe
ADD CONSTRAINT ewe_pkey PRIMARY KEY (id);
--
-- Definition for index event_pkey (OID = 117126197) :
--
ALTER TABLE ONLY event
ADD CONSTRAINT event_pkey PRIMARY KEY (id);
--
-- Definition for index equilibriumprice_pkey (OID = 117126199) :
--
ALTER TABLE ONLY equilibriumprice
ADD CONSTRAINT equilibriumprice_pkey PRIMARY KEY (id);
--
-- Definition for index environmentalzone_pkey (OID = 117126201) :
--
ALTER TABLE ONLY environmentalzone
ADD CONSTRAINT environmentalzone_pkey PRIMARY KEY (id);
--
-- Definition for index environmentaleffects_pkey (OID = 117126203) :
--
ALTER TABLE ONLY environmentaleffects
ADD CONSTRAINT environmentaleffects_pkey PRIMARY KEY (id);
--
-- Definition for index energyprice_pkey (OID = 117126205) :
--
ALTER TABLE ONLY energyprice
ADD CONSTRAINT energyprice_pkey PRIMARY KEY (id);
--
-- Definition for index endorsedindicatorinformativemodelvariables_pkey (OID = 117126207) :
--
ALTER TABLE ONLY endorsedindicatorinformativemodelvariables
ADD CONSTRAINT endorsedindicatorinformativemodelvariables_pkey PRIMARY KEY
(endorsedindicator_id, modelvariable_id);
--
-- Definition for index endorsedindicator_pkey (OID = 117126209) :
--
ALTER TABLE ONLY endorsedindicator
```



```
ADD CONSTRAINT endorsedindicator_pkey PRIMARY KEY (id);
--
-- Definition for index domain__pkey (OID = 117126211) :
--
ALTER TABLE ONLY domain_
    ADD CONSTRAINT domain__pkey PRIMARY KEY (id);
--
-- Definition for index dimension_pkey (OID = 117126213) :
--
ALTER TABLE ONLY dimension
    ADD CONSTRAINT dimension_pkey PRIMARY KEY (id);
--
-- Definition for index detailedcropmanagementevents_pkey (OID = 117126215) :
--
ALTER TABLE ONLY detailedcropmanagementevents
    ADD CONSTRAINT detailedcropmanagementevents_pkey PRIMARY KEY (detailedcropmanagement_id,
event_id);
--
-- Definition for index detailedcropmanagement_pkey (OID = 117126217) :
--
ALTER TABLE ONLY detailedcropmanagement
    ADD CONSTRAINT detailedcropmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index demandshift_pkey (OID = 117126219) :
--
ALTER TABLE ONLY demandshift
    ADD CONSTRAINT demandshift_pkey PRIMARY KEY (id);
--
-- Definition for index defaultimplements_pkey (OID = 117126221) :
--
ALTER TABLE ONLY defaultimplements
    ADD CONSTRAINT defaultimplements_pkey PRIMARY KEY (id);
--
-- Definition for index dayswithoutrainthreshold_pkey (OID = 117126223) :
--
ALTER TABLE ONLY dayswithoutrainthreshold
    ADD CONSTRAINT dayswithoutrainthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index dayswithoutrainrepetitionthreshold_pkey (OID = 117126225) :
--
ALTER TABLE ONLY dayswithoutrainrepetitionthreshold
```

```
ADD CONSTRAINT dayswithoutrainrepetitionthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index dayswithoutraincropphenologicalstagethreshold_pkey (OID = 117126227) :
--
ALTER TABLE ONLY dayswithoutraincropphenologicalstagethreshold
ADD CONSTRAINT dayswithoutraincropphenologicalstagethreshold_pkey PRIMARY KEY (id);
--
-- Definition for index dairymanagementalternativedairyoptions_pkey (OID = 117126229) :
--
ALTER TABLE ONLY dairymanagementalternativedairyoptions
ADD CONSTRAINT dairymanagementalternativedairyoptions_pkey PRIMARY KEY (dairymanagement_id,
alternativedairyoption_id);
--
-- Definition for index dairymanagement_pkey (OID = 117126231) :
--
ALTER TABLE ONLY dairymanagement
ADD CONSTRAINT dairymanagement_pkey PRIMARY KEY (id);
--
-- Definition for index dairyheifer_pkey (OID = 117126233) :
--
ALTER TABLE ONLY dairyheifer
ADD CONSTRAINT dairyheifer_pkey PRIMARY KEY (id);
--
-- Definition for index dairycow_pkey (OID = 117126235) :
--
ALTER TABLE ONLY dairycow
ADD CONSTRAINT dairycow_pkey PRIMARY KEY (id);
--
-- Definition for index dairycalve_pkey (OID = 117126237) :
--
ALTER TABLE ONLY dairycalve
ADD CONSTRAINT dairycalve_pkey PRIMARY KEY (id);
--
-- Definition for index dailyclimate_pkey (OID = 117126239) :
--
ALTER TABLE ONLY dailyclimate
ADD CONSTRAINT dailyclimate_pkey PRIMARY KEY (id);
--
-- Definition for index cutfactorsubsidies_pkey (OID = 117126241) :
--
ALTER TABLE ONLY cutfactorsubsidies
```

```
ADD CONSTRAINT cutfactorsubsidies_pkey PRIMARY KEY (id);
--
-- Definition for index currentarableactivityproductinyear_pkey (OID = 117126243) :
--
ALTER TABLE ONLY currentarableactivityproductinyear
ADD CONSTRAINT currentarableactivityproductinyear_pkey PRIMARY KEY (currentarableactivity_id,
cropproductinyear_id);
--
-- Definition for index currentarableactivitycropyearmanagements_pkey (OID = 117126245) :
--
ALTER TABLE ONLY currentarableactivitycropyearmanagements
ADD CONSTRAINT currentarableactivitycropyearmanagements_pkey PRIMARY KEY
(currentarableactivity_id, cropyearmanagement_id);
--
-- Definition for index currentarableactivity_pkey (OID = 117126247) :
--
ALTER TABLE ONLY currentarableactivity
ADD CONSTRAINT currentarableactivity_pkey PRIMARY KEY (id);
--
-- Definition for index crucialinstitutionalaspectpropertyrightschanges_pkey (OID = 117126249) :
--
ALTER TABLE ONLY crucialinstitutionalaspectpropertyrightschanges
ADD CONSTRAINT crucialinstitutionalaspectpropertyrightschanges_pkey PRIMARY KEY
(crucialinstitutionalaspect_id, propertyrightschanges_id);
--
-- Definition for index crucialinstitutionalaspectpolicytypes_pkey (OID = 117126251) :
--
ALTER TABLE ONLY crucialinstitutionalaspectpolicytypes
ADD CONSTRAINT crucialinstitutionalaspectpolicytypes_pkey PRIMARY KEY
(crucialinstitutionalaspect_id, policytype_id);
--
-- Definition for index crucialinstitutionalaspectnaturalresourcefoci_pkey (OID = 117126253) :
--
ALTER TABLE ONLY crucialinstitutionalaspectnaturalresourcefoci
ADD CONSTRAINT crucialinstitutionalaspectnaturalresourcefoci_pkey PRIMARY KEY
(crucialinstitutionalaspect_id, naturalresourcefocus_id);
--
-- Definition for index crucialinstitutionalaspect_pkey (OID = 117126255) :
--
ALTER TABLE ONLY crucialinstitutionalaspect
ADD CONSTRAINT crucialinstitutionalaspect_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index cropyearmanagement_pkey (OID = 117126257) :
--
ALTER TABLE ONLY cropyearmanagement
    ADD CONSTRAINT cropyearmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index cropsoilrequirements_pkey (OID = 117126259) :
--
ALTER TABLE ONLY cropsoilrequirements
    ADD CONSTRAINT cropsoilrequirements_pkey PRIMARY KEY (id);
--
-- Definition for index croprotationrequirementsnotpossiblepreviouscrops_pkey (OID = 117126261) :
--
ALTER TABLE ONLY croprotationrequirementsnotpossiblepreviouscrops
    ADD CONSTRAINT croprotationrequirementsnotpossiblepreviouscrops_pkey PRIMARY KEY
(croprotationrequirements_id, crop_id);
--
-- Definition for index croprotationrequirements_pkey (OID = 117126263) :
--
ALTER TABLE ONLY croprotationrequirements
    ADD CONSTRAINT croprotationrequirements_pkey PRIMARY KEY (id);
--
-- Definition for index cropresiduemanagement_pkey (OID = 117126265) :
--
ALTER TABLE ONLY cropresiduemanagement
    ADD CONSTRAINT cropresiduemanagement_pkey PRIMARY KEY (id);
--
-- Definition for index cropproduction_pkey (OID = 117126267) :
--
ALTER TABLE ONLY cropproduction
    ADD CONSTRAINT cropproduction_pkey PRIMARY KEY (id);
--
-- Definition for index cropproductinyear_pkey (OID = 117126269) :
--
ALTER TABLE ONLY cropproductinyear
    ADD CONSTRAINT cropproductinyear_pkey PRIMARY KEY (id);
--
-- Definition for index cropproduct_pkey (OID = 117126271) :
--
ALTER TABLE ONLY cropproduct
    ADD CONSTRAINT cropproduct_pkey PRIMARY KEY (id);
--
```

```
-- Definition for index cropphenologicalstagethreshold_pkey (OID = 117126273) :
--
ALTER TABLE ONLY cropphenologicalstagethreshold
  ADD CONSTRAINT cropphenologicalstagethreshold_pkey PRIMARY KEY (id);
--
-- Definition for index cropphenologicalstagetemperaturethreshold_pkey (OID = 117126275) :
--
ALTER TABLE ONLY cropphenologicalstagetemperaturethreshold
  ADD CONSTRAINT cropphenologicalstagetemperaturethreshold_pkey PRIMARY KEY (id);
--
-- Definition for index cropphenologicalstage_pkey (OID = 117126277) :
--
ALTER TABLE ONLY cropphenologicalstage
  ADD CONSTRAINT cropphenologicalstage_pkey PRIMARY KEY (id);
--
-- Definition for index cropperyear_pkey (OID = 117126279) :
--
ALTER TABLE ONLY cropperyear
  ADD CONSTRAINT cropperyear_pkey PRIMARY KEY (id);
--
-- Definition for index croppnitrogenrecovery_pkey (OID = 117126281) :
--
ALTER TABLE ONLY croppnitrogenrecovery
  ADD CONSTRAINT croppnitrogenrecovery_pkey PRIMARY KEY (id);
--
-- Definition for index croppnitrogenrecoveries_pkey (OID = 117126283) :
--
ALTER TABLE ONLY croppnitrogenrecoveries
  ADD CONSTRAINT croppnitrogenrecoveries_pkey PRIMARY KEY (crop_id, croppnitrogenrecovery_id);
--
-- Definition for index croppmanagementruleirrigationwindows_pkey (OID = 117126285) :
--
ALTER TABLE ONLY croppmanagementruleirrigationwindows
  ADD CONSTRAINT croppmanagementruleirrigationwindows_pkey PRIMARY KEY (croppmanagementrule_id,
irrigationwindow_id);
--
-- Definition for index croppmanagementrulefertilisersplits_pkey (OID = 117126287) :
--
ALTER TABLE ONLY croppmanagementrulefertilisersplits
  ADD CONSTRAINT croppmanagementrulefertilisersplits_pkey PRIMARY KEY (croppmanagementrule_id,
fertilisersplit_id);
```

```
--  
-- Definition for index cropmanagementruledefaultimplements_pkey (OID = 117126289) :  
--  
ALTER TABLE ONLY cropmanagementruledefaultimplements  
  ADD CONSTRAINT cropmanagementruledefaultimplements_pkey PRIMARY KEY (cropmanagementrule_id,  
defaultimplements_id);  
--  
-- Definition for index cropmanagementrule_pkey (OID = 117126291) :  
--  
ALTER TABLE ONLY cropmanagementrule  
  ADD CONSTRAINT cropmanagementrule_pkey PRIMARY KEY (id);  
--  
-- Definition for index cropinformation_pkey (OID = 117126293) :  
--  
ALTER TABLE ONLY cropinformation  
  ADD CONSTRAINT cropinformation_pkey PRIMARY KEY (id);  
--  
-- Definition for index cropgrouprotationrequirements_pkey (OID = 117126295) :  
--  
ALTER TABLE ONLY cropgrouprotationrequirements  
  ADD CONSTRAINT cropgrouprotationrequirements_pkey PRIMARY KEY (id);  
--  
-- Definition for index cropgroupcropsetofcrops_pkey (OID = 117126297) :  
--  
ALTER TABLE ONLY cropgroupcropsetofcrops  
  ADD CONSTRAINT cropgroupcropsetofcrops_pkey PRIMARY KEY (cropgroup_id, crop_id);  
--  
-- Definition for index cropclimaterequirements_pkey (OID = 117126299) :  
--  
ALTER TABLE ONLY cropclimaterequirements  
  ADD CONSTRAINT cropclimaterequirements_pkey PRIMARY KEY (id);  
--  
-- Definition for index croparea_pkey (OID = 117126301) :  
--  
ALTER TABLE ONLY croparea  
  ADD CONSTRAINT croparea_pkey PRIMARY KEY (id);  
--  
-- Definition for index crop_pkey (OID = 117126303) :  
--  
ALTER TABLE ONLY crop  
  ADD CONSTRAINT crop_pkey PRIMARY KEY (id);
```

```
--
-- Definition for index couplingdegree_pkey (OID = 117126305) :
--
ALTER TABLE ONLY couplingdegree
    ADD CONSTRAINT couplingdegree_pkey PRIMARY KEY (id);
--
-- Definition for index countryaggregatesetofcountries_pkey (OID = 117126307) :
--
ALTER TABLE ONLY countryaggregatesetofcountries
    ADD CONSTRAINT countryaggregatesetofcountries_pkey PRIMARY KEY (countryaggregate_id,
country_id);
--
-- Definition for index countryaggregate_pkey (OID = 117126309) :
--
ALTER TABLE ONLY countryaggregate
    ADD CONSTRAINT countryaggregate_pkey PRIMARY KEY (id);
--
-- Definition for index country_pkey (OID = 117126311) :
--
ALTER TABLE ONLY country
    ADD CONSTRAINT country_pkey PRIMARY KEY (id);
--
-- Definition for index costandlabourperregionalzone_pkey (OID = 117126313) :
--
ALTER TABLE ONLY costandlabourperregionalzone
    ADD CONSTRAINT costandlabourperregionalzone_pkey PRIMARY KEY (id);
--
-- Definition for index contextrepresentativefarm_pkey (OID = 117126315) :
--
ALTER TABLE ONLY contextrepresentativefarm
    ADD CONSTRAINT contextrepresentativefarm_pkey PRIMARY KEY (context_id, representativefarm_id);
--
-- Definition for index contextregionalwages_pkey (OID = 117126317) :
--
ALTER TABLE ONLY contextregionalwages
    ADD CONSTRAINT contextregionalwages_pkey PRIMARY KEY (context_id, regionalwage_id);
--
-- Definition for index contextregion_pkey (OID = 117126319) :
--
ALTER TABLE ONLY contextregion
    ADD CONSTRAINT contextregion_pkey PRIMARY KEY (context_id, nutsregion_id);
```

```
--
-- Definition for index contextproducts_pkey (OID = 117126321) :
--
ALTER TABLE ONLY contextproducts
    ADD CONSTRAINT contextproducts_pkey PRIMARY KEY (context_id, productsforregion_id);
--
-- Definition for index contextproductionorientation_pkey (OID = 117126323) :
--
ALTER TABLE ONLY contextproductionorientation
    ADD CONSTRAINT contextproductionorientation_pkey PRIMARY KEY (context_id,
productionorientation_id);
--
-- Definition for index context_pkey (OID = 117126325) :
--
ALTER TABLE ONLY context
    ADD CONSTRAINT context_pkey PRIMARY KEY (id);
--
-- Definition for index constraints__pkey (OID = 117126327) :
--
ALTER TABLE ONLY constraints_
    ADD CONSTRAINT constraints__pkey PRIMARY KEY (id);
--
-- Definition for index conservationoptionscrops_pkey (OID = 117126329) :
--
ALTER TABLE ONLY conservationoptionscrops
    ADD CONSTRAINT conservationoptionscrops_pkey PRIMARY KEY (conservationoptions_id, crop_id);
--
-- Definition for index conservationmanagementconservationoptions_pkey (OID = 117126331) :
--
ALTER TABLE ONLY conservationmanagementconservationoptions
    ADD CONSTRAINT conservationmanagementconservationoptions_pkey PRIMARY KEY
(conservationmanagement_id, conservationoptions_id);
--
-- Definition for index conservationmanagement_pkey (OID = 117126333) :
--
ALTER TABLE ONLY conservationmanagement
    ADD CONSTRAINT conservationmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index concentratedfeeds_pkey (OID = 117126335) :
--
ALTER TABLE ONLY concentratedfeeds
```

```
ADD CONSTRAINT concentratedfeeds_pkey PRIMARY KEY (id);
--
-- Definition for index clippingoperation_pkey (OID = 117126337) :
--
ALTER TABLE ONLY clippingoperation
ADD CONSTRAINT clippingoperation_pkey PRIMARY KEY (id);
--
-- Definition for index clippingharvestimplement_pkey (OID = 117126339) :
--
ALTER TABLE ONLY clippingharvestimplement
ADD CONSTRAINT clippingharvestimplement_pkey PRIMARY KEY (id);
--
-- Definition for index climatezonedailyclimate_pkey (OID = 117126341) :
--
ALTER TABLE ONLY climatezonedailyclimate
ADD CONSTRAINT climatezonedailyclimate_pkey PRIMARY KEY (climatezone_id, dailyclimate_id);
--
-- Definition for index climatezone_pkey (OID = 117126343) :
--
ALTER TABLE ONLY climatezone
ADD CONSTRAINT climatezone_pkey PRIMARY KEY (id);
--
-- Definition for index capriparameter_pkey (OID = 117126345) :
--
ALTER TABLE ONLY capriparameter
ADD CONSTRAINT capriparameter_pkey PRIMARY KEY (id);
--
-- Definition for index calibrationterm_pkey (OID = 117126347) :
--
ALTER TABLE ONLY calibrationterm
ADD CONSTRAINT calibrationterm_pkey PRIMARY KEY (id);
--
-- Definition for index bull_pkey (OID = 117126349) :
--
ALTER TABLE ONLY bull
ADD CONSTRAINT bull_pkey PRIMARY KEY (id);
--
-- Definition for index biophysimalsimulationcalculatedproductioncoefficients_pkey (OID = 117126351) :
--
ALTER TABLE ONLY biophysimalsimulationcalculatedproductioncoefficients
```

```
ADD CONSTRAINT biophysimalsimulationcalculatedproductioncoefficients_pkey PRIMARY KEY
(biophysimalsimulation_id, productionactivityperfssimfarm_id);
--
-- Definition for index biophysimalsimulation_pkey (OID = 117126353) :
--
ALTER TABLE ONLY biophysimalsimulation
ADD CONSTRAINT biophysimalsimulation_pkey PRIMARY KEY (id);
--
-- Definition for index biomassthreshold_pkey (OID = 117126355) :
--
ALTER TABLE ONLY biomassthreshold
ADD CONSTRAINT biomassthreshold_pkey PRIMARY KEY (id);
--
-- Definition for index biofueldemand_pkey (OID = 117126357) :
--
ALTER TABLE ONLY biofueldemand
ADD CONSTRAINT biofueldemand_pkey PRIMARY KEY (id);
--
-- Definition for index bilateraltariff_pkey (OID = 117126359) :
--
ALTER TABLE ONLY bilateraltariff
ADD CONSTRAINT bilateraltariff_pkey PRIMARY KEY (id);
--
-- Definition for index beefmanagementalternativebeefoptions_pkey (OID = 117126361) :
--
ALTER TABLE ONLY beefmanagementalternativebeefoptions
ADD CONSTRAINT beefmanagementalternativebeefoptions_pkey PRIMARY KEY (beefmanagement_id,
alternativebeefoption_id);
--
-- Definition for index beefmanagement_pkey (OID = 117126363) :
--
ALTER TABLE ONLY beefmanagement
ADD CONSTRAINT beefmanagement_pkey PRIMARY KEY (id);
--
-- Definition for index beefcattle_pkey (OID = 117126365) :
--
ALTER TABLE ONLY beefcattle
ADD CONSTRAINT beefcattle_pkey PRIMARY KEY (id);
--
-- Definition for index beefcalve_pkey (OID = 117126367) :
--
```

```
ALTER TABLE ONLY beefcalve
  ADD CONSTRAINT beefcalve_pkey PRIMARY KEY (id);
--
-- Definition for index basicpremium_pkey (OID = 117126369) :
--
ALTER TABLE ONLY basicpremium
  ADD CONSTRAINT basicpremium_pkey PRIMARY KEY (id);
--
-- Definition for index arableactivitycropyearmanagements_pkey (OID = 117126371) :
--
ALTER TABLE ONLY arableactivitycropyearmanagements
  ADD CONSTRAINT arableactivitycropyearmanagements_pkey PRIMARY KEY (arableactivity_id,
cropyearmanagement_id);
--
-- Definition for index arableactivity_pkey (OID = 117126373) :
--
ALTER TABLE ONLY arableactivity
  ADD CONSTRAINT arableactivity_pkey PRIMARY KEY (id);
--
-- Definition for index applicationrole_pkey (OID = 117126375) :
--
ALTER TABLE ONLY applicationrole
  ADD CONSTRAINT applicationrole_pkey PRIMARY KEY (id);
--
-- Definition for index animalshares_pkey (OID = 117126377) :
--
ALTER TABLE ONLY animalshares
  ADD CONSTRAINT animalshares_pkey PRIMARY KEY (id);
--
-- Definition for index animalproduction_pkey (OID = 117126379) :
--
ALTER TABLE ONLY animalproduction
  ADD CONSTRAINT animalproduction_pkey PRIMARY KEY (id);
--
-- Definition for index animalproduct_pkey (OID = 117126381) :
--
ALTER TABLE ONLY animalproduct
  ADD CONSTRAINT animalproduct_pkey PRIMARY KEY (id);
--
-- Definition for index animalactivityanimalshares_pkey (OID = 117126383) :
--
```

```
ALTER TABLE ONLY animalactivityanimalshares
  ADD CONSTRAINT animalactivityanimalshares_pkey PRIMARY KEY (animalactivity_id, animalshares_id);
--
-- Definition for index animalactivityanimalproduction_pkey (OID = 117126385) :
--
ALTER TABLE ONLY animalactivityanimalproduction
  ADD CONSTRAINT animalactivityanimalproduction_pkey PRIMARY KEY (animalactivity_id,
animalproduction_id);
--
-- Definition for index animalactivity_pkey (OID = 117126387) :
--
ALTER TABLE ONLY animalactivity
  ADD CONSTRAINT animalactivity_pkey PRIMARY KEY (id);
--
-- Definition for index alternativedaairyoption_pkey (OID = 117126389) :
--
ALTER TABLE ONLY alternativedaairyoption
  ADD CONSTRAINT alternativedaairyoption_pkey PRIMARY KEY (id);
--
-- Definition for index alternativebeefoption_pkey (OID = 117126391) :
--
ALTER TABLE ONLY alternativebeefoption
  ADD CONSTRAINT alternativebeefoption_pkey PRIMARY KEY (id);
--
-- Definition for index alternativearableactivitycropyearmanagements_pkey (OID = 117126393) :
--
ALTER TABLE ONLY alternativearableactivitycropyearmanagements
  ADD CONSTRAINT alternativearableactivitycropyearmanagements_pkey PRIMARY KEY
(alternativearableactivity_id, cropyearmanagement_id);
--
-- Definition for index alternativearableactivity_pkey (OID = 117126395) :
--
ALTER TABLE ONLY alternativearableactivity
  ADD CONSTRAINT alternativearableactivity_pkey PRIMARY KEY (id);
--
-- Definition for index airtemperaturethreshold_pkey (OID = 117126397) :
--
ALTER TABLE ONLY airtemperaturethreshold
  ADD CONSTRAINT airtemperaturethreshold_pkey PRIMARY KEY (id);
--
-- Definition for index agromanagementconfigurationcropmanagementrules_pkey (OID = 117126399) :
```

```
--  
ALTER TABLE ONLY agromanagementconfigurationcropmanagementrules  
  ADD CONSTRAINT agromanagementconfigurationcropmanagementrules_pkey PRIMARY KEY  
(agromanagementconfiguration_id, cropmanagementrule_id);  
--  
-- Definition for index agromanagementconfiguration_pkey (OID = 117126401) :  
--  
ALTER TABLE ONLY agromanagementconfiguration  
  ADD CONSTRAINT agromanagementconfiguration_pkey PRIMARY KEY (id);  
--  
-- Definition for index agrienvironmentalzone_pkey (OID = 117126403) :  
--  
ALTER TABLE ONLY agrienvironmentalzone  
  ADD CONSTRAINT agrienvironmentalzone_pkey PRIMARY KEY (id);  
--  
-- Definition for index agriculturalactivityperfarmagriculturalactivities_pkey (OID = 117126405) :  
--  
ALTER TABLE ONLY agriculturalactivityperfarmagriculturalactivities  
  ADD CONSTRAINT agriculturalactivityperfarmagriculturalactivities_pkey PRIMARY KEY  
(agriculturalactivityperfarm_id, agriculturalactivity_id);  
--  
-- Definition for index fkba0b3e3059788dc3 (OID = 117126407) :  
--  
ALTER TABLE ONLY yieldtrend  
  ADD CONSTRAINT fkba0b3e3059788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)  
MATCH FULL;  
--  
-- Definition for index fkba0b3e304d5ae8ae (OID = 117126412) :  
--  
ALTER TABLE ONLY yieldtrend  
  ADD CONSTRAINT fkba0b3e304d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH  
FULL;  
--  
-- Definition for index fkd740cf9b5b364b18 (OID = 117126417) :  
--  
ALTER TABLE ONLY yieldofcropproduct  
  ADD CONSTRAINT fkd740cf9b5b364b18 FOREIGN KEY (cropproduct) REFERENCES cropproduct(id)  
MATCH FULL;  
--  
-- Definition for index fk713237947ae831af (OID = 117126422) :  
--  
ALTER TABLE ONLY yieldgrowth
```

```
ADD CONSTRAINT fk713237947ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;
--
-- Definition for index fk7132379459788dc3 (OID = 117126427) :
--
ALTER TABLE ONLY yieldgrowth
ADD CONSTRAINT fk7132379459788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)
MATCH FULL;
--
-- Definition for index fk36ec44d15b364b18 (OID = 117126432) :
--
ALTER TABLE ONLY yieldenergyproteinofgrass
ADD CONSTRAINT fk36ec44d15b364b18 FOREIGN KEY (cropproduct) REFERENCES cropproduct(id)
MATCH FULL;
--
-- Definition for index fk793a144c5b364b18 (OID = 117126437) :
--
ALTER TABLE ONLY yieldenergyproteinoffeedproduct
ADD CONSTRAINT fk793a144c5b364b18 FOREIGN KEY (cropproduct) REFERENCES cropproduct(id)
MATCH FULL;
--
-- Definition for index fkeb0457693eb3b7c8 (OID = 117126442) :
--
ALTER TABLE ONLY watermanagementcrops
ADD CONSTRAINT fkeb0457693eb3b7c8 FOREIGN KEY (watermanagement_id) REFERENCES
watermanagement(id) MATCH FULL;
--
-- Definition for index fkeb04576931df8a80 (OID = 117126447) :
--
ALTER TABLE ONLY watermanagementcrops
ADD CONSTRAINT fkeb04576931df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH
FULL;
--
-- Definition for index fke85185496ad9d8ec (OID = 117126452) :
--
ALTER TABLE ONLY user_roles
ADD CONSTRAINT fke85185496ad9d8ec FOREIGN KEY (user__id) REFERENCES user_(id) MATCH
FULL;
--
-- Definition for index fk4e39dd4e17cd03b (OID = 117126457) :
--
ALTER TABLE ONLY user_
ADD CONSTRAINT fk4e39dd4e17cd03b FOREIGN KEY (image) REFERENCES image(id) MATCH FULL;
```

```
--  
-- Definition for index fk98a8eb80e6dac523 (OID = 117126462) :  
--  
ALTER TABLE ONLY transitionprobability  
  ADD CONSTRAINT fk98a8eb80e6dac523 FOREIGN KEY (togrouprepresentativefarm) REFERENCES  
representativefarmgroup(id) MATCH FULL;  
--  
-- Definition for index fk98a8eb802f9d714 (OID = 117126467) :  
--  
ALTER TABLE ONLY transitionprobability  
  ADD CONSTRAINT fk98a8eb802f9d714 FOREIGN KEY (fromgrouprepresentativefarm) REFERENCES  
representativefarmgroup(id) MATCH FULL;  
--  
-- Definition for index fk3453e171b14e48dd (OID = 117126472) :  
--  
ALTER TABLE ONLY tradereformproposaltradereformproposalcuts  
  ADD CONSTRAINT fk3453e171b14e48dd FOREIGN KEY (tradereformproposal_id) REFERENCES  
tradereformproposal(id) MATCH FULL;  
--  
-- Definition for index fk3453e1714c976c57 (OID = 117126477) :  
--  
ALTER TABLE ONLY tradereformproposaltradereformproposalcuts  
  ADD CONSTRAINT fk3453e1714c976c57 FOREIGN KEY (tradereformproposalcut_id) REFERENCES  
tradereformproposalcut(id) MATCH FULL;  
--  
-- Definition for index fkeaf977ed5736e239 (OID = 117126482) :  
--  
ALTER TABLE ONLY tradereformproposal  
  ADD CONSTRAINT fkeaf977ed5736e239 FOREIGN KEY (fromcountryaggregate) REFERENCES  
countryaggregate(id) MATCH FULL;  
--  
-- Definition for index fkb64bb45cba911e6f (OID = 117126487) :  
--  
ALTER TABLE ONLY tillagesimple  
  ADD CONSTRAINT fkb64bb45cba911e6f FOREIGN KEY (tillageimplement) REFERENCES  
tillageimplement(id) MATCH FULL;  
--  
-- Definition for index fkd58d5a7dba911e6f (OID = 117126492) :  
--  
ALTER TABLE ONLY tillageoperation  
  ADD CONSTRAINT fkd58d5a7dba911e6f FOREIGN KEY (tillageimplement) REFERENCES  
tillageimplement(id) MATCH FULL;  
--
```

```
-- Definition for index fkc8be8ed6ba911e6f (OID = 117126497) :
--
ALTER TABLE ONLY tillagemachinebased
  ADD CONSTRAINT fkc8be8ed6ba911e6f FOREIGN KEY (tillageimplement) REFERENCES
tillageimplement(id) MATCH FULL;
--
-- Definition for index fk4d085a9922169b0 (OID = 117126502) :
--
ALTER TABLE ONLY theme
  ADD CONSTRAINT fk4d085a9922169b0 FOREIGN KEY (generictheme) REFERENCES generictheme(id)
MATCH FULL;
--
-- Definition for index fkec9eebacdda532b41478b (OID = 117126507) :
--
ALTER TABLE ONLY tax
  ADD CONSTRAINT fkec9eebacdda532b41478b FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
--
-- Definition for index fk591ae219fbf3569e (OID = 117126512) :
--
ALTER TABLE ONLY surveycroprotationelementproductonsoil
  ADD CONSTRAINT fk591ae219fbf3569e FOREIGN KEY (productonsoil_id) REFERENCES
productonsoil(id) MATCH FULL;
--
-- Definition for index fk591ae2192cb4569e (OID = 117126517) :
--
ALTER TABLE ONLY surveycroprotationelementproductonsoil
  ADD CONSTRAINT fk591ae2192cb4569e FOREIGN KEY (surveycroprotationelement_id) REFERENCES
surveycroprotationelement(id) MATCH FULL;
--
-- Definition for index fkd13cc5178b013f6 (OID = 117126522) :
--
ALTER TABLE ONLY surveycroprotationelementinputonsoilinmanagementprocedure
  ADD CONSTRAINT fkd13cc5178b013f6 FOREIGN KEY (inputonsoilinmanagementprocedure_id)
REFERENCES inputonsoilinmanagementprocedure(id) MATCH FULL;
--
-- Definition for index fkd13cc5172cb4569e (OID = 117126527) :
--
ALTER TABLE ONLY surveycroprotationelementinputonsoilinmanagementprocedure
  ADD CONSTRAINT fkd13cc5172cb4569e FOREIGN KEY (surveycroprotationelement_id) REFERENCES
surveycroprotationelement(id) MATCH FULL;
--
-- Definition for index fk90c194042ee3e916 (OID = 117126532) :
```

```
--  
ALTER TABLE ONLY surveycroprotationelementcostsandlabour  
  ADD CONSTRAINT fk90c194042ee3e916 FOREIGN KEY (costandlabourperregionalzone_id)  
  REFERENCES costandlabourperregionalzone(id) MATCH FULL;  
--  
-- Definition for index fk90c194042cb4569e (OID = 117126537) :  
--  
ALTER TABLE ONLY surveycroprotationelementcostsandlabour  
  ADD CONSTRAINT fk90c194042cb4569e FOREIGN KEY (surveycroprotationelement_id) REFERENCES  
  surveycroprotationelement(id) MATCH FULL;  
--  
-- Definition for index fkd961e714f42c57e6 (OID = 117126542) :  
--  
ALTER TABLE ONLY surveycroprotationelement  
  ADD CONSTRAINT fkd961e714f42c57e6 FOREIGN KEY (crop) REFERENCES crop(id) MATCH FULL;  
--  
-- Definition for index fk12d71b07f864532fd961e714 (OID = 117126547) :  
--  
ALTER TABLE ONLY surveycroprotationelement  
  ADD CONSTRAINT fk12d71b07f864532fd961e714 FOREIGN KEY (year_) REFERENCES rotationyear(id)  
  MATCH FULL;  
--  
-- Definition for index fk12d71b07dda532b4d961e714 (OID = 117126552) :  
--  
ALTER TABLE ONLY surveycroprotationelement  
  ADD CONSTRAINT fk12d71b07dda532b4d961e714 FOREIGN KEY (nutsregion) REFERENCES  
  nutsregion(id) MATCH FULL;  
--  
-- Definition for index fkbace9f9d3f263a3 (OID = 117126557) :  
--  
ALTER TABLE ONLY supplyresponsecropproduction  
  ADD CONSTRAINT fkbace9f9d3f263a3 FOREIGN KEY (cropproduction_id) REFERENCES  
  cropproduction(id) MATCH FULL;  
--  
-- Definition for index fkbace9f94eba2e43 (OID = 117126562) :  
--  
ALTER TABLE ONLY supplyresponsecropproduction  
  ADD CONSTRAINT fkbace9f94eba2e43 FOREIGN KEY (supplyresponse_id) REFERENCES  
  supplyresponse(id) MATCH FULL;  
--  
-- Definition for index fk890903a912e2bfe6 (OID = 117126567) :  
--  
ALTER TABLE ONLY subtheme
```

ADD CONSTRAINT fk890903a912e2bfe6 FOREIGN KEY (theme) REFERENCES theme(id) MATCH FULL;

--

-- Definition for index fkec9eebacdda532b4612d9170 (OID = 117126572) :

--

ALTER TABLE ONLY subsidycrosscompliance

ADD CONSTRAINT fkec9eebacdda532b4612d9170 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id) MATCH FULL;

--

-- Definition for index fkf3e7138b5359ffa6 (OID = 117126577) :

--

ALTER TABLE ONLY subsidy

ADD CONSTRAINT fkf3e7138b5359ffa6 FOREIGN KEY (representativefarm) REFERENCES representativefarm(id) MATCH FULL;

--

-- Definition for index fkfb95d8be3475e8f (OID = 117126582) :

--

ALTER TABLE ONLY subsidisedexport

ADD CONSTRAINT fkfb95d8be3475e8f FOREIGN KEY (countryaggregate) REFERENCES countryaggregate(id) MATCH FULL;

--

-- Definition for index fkfb95d8bd4c99a86 (OID = 117126587) :

--

ALTER TABLE ONLY subsidisedexport

ADD CONSTRAINT fkfb95d8bd4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id) MATCH FULL;

--

-- Definition for index fkbaeb0adf9014427f (OID = 117126592) :

--

ALTER TABLE ONLY sowingoperationregional

ADD CONSTRAINT fkbaeb0adf9014427f FOREIGN KEY (seed) REFERENCES seed(id) MATCH FULL;

--

-- Definition for index fkbaeb0adf5068075b (OID = 117126597) :

--

ALTER TABLE ONLY sowingoperationregional

ADD CONSTRAINT fkbaeb0adf5068075b FOREIGN KEY (sowingimplement) REFERENCES sowingimplement(id) MATCH FULL;

--

-- Definition for index fk367100a09014427f (OID = 117126602) :

--

ALTER TABLE ONLY sowingoperation

ADD CONSTRAINT fk367100a09014427f FOREIGN KEY (seed) REFERENCES seed(id) MATCH FULL;

--

-- Definition for index fk367100a05068075b (OID = 117126607) :

--

ALTER TABLE ONLY sowingoperation

ADD CONSTRAINT fk367100a05068075b FOREIGN KEY (sowingimplement) REFERENCES sowingimplement(id) MATCH FULL;

--

-- Definition for index fk526f8ff04f5237be (OID = 117126612) :

--

ALTER TABLE ONLY soilwaterrootingdepththreshold

ADD CONSTRAINT fk526f8ff04f5237be FOREIGN KEY (cropphenologicalstageend) REFERENCES cropphenologicalstage(id) MATCH FULL;

--

-- Definition for index fk526f8ff03cf61c05 (OID = 117126617) :

--

ALTER TABLE ONLY soilwaterrootingdepththreshold

ADD CONSTRAINT fk526f8ff03cf61c05 FOREIGN KEY (cropphenologicalstagestart) REFERENCES cropphenologicalstage(id) MATCH FULL;

--

-- Definition for index fk9221cf997cc2dd92 (OID = 117126622) :

--

ALTER TABLE ONLY soilcharacteristics

ADD CONSTRAINT fk9221cf997cc2dd92 FOREIGN KEY (texturalclasssubsurface) REFERENCES texturalclasssoil(id) MATCH FULL;

--

-- Definition for index fk9221cf99612ff56c (OID = 117126627) :

--

ALTER TABLE ONLY soilcharacteristics

ADD CONSTRAINT fk9221cf99612ff56c FOREIGN KEY (texturalclasssurface) REFERENCES texturalclasssoil(id) MATCH FULL;

--

-- Definition for index fk9221cf992915e990 (OID = 117126632) :

--

ALTER TABLE ONLY soilcharacteristics

ADD CONSTRAINT fk9221cf992915e990 FOREIGN KEY (volumestones) REFERENCES volumestones(id) MATCH FULL;

--

-- Definition for index fk15f155c8d07180de (OID = 117126637) :

--

ALTER TABLE ONLY simplesurveyrotationelementsimplecropmanagementinzone

ADD CONSTRAINT fk15f155c8d07180de FOREIGN KEY (simplesurveyrotationelement_id) REFERENCES simplesurveyrotationelement(id) MATCH FULL;

--

-- Definition for index fk15f155c8a4b40116 (OID = 117126642) :

```
--  
ALTER TABLE ONLY simplesurveyrotationelementsimplecropmanagementinzone  
  ADD CONSTRAINT fk15f155c8a4b40116 FOREIGN KEY (simplecropmanagementinzone_id)  
  REFERENCES simplecropmanagementinzone(id) MATCH FULL;  
--  
-- Definition for index fk12d71b07f864532f20677832 (OID = 117126647) :  
--  
ALTER TABLE ONLY simplesurveyrotationelement  
  ADD CONSTRAINT fk12d71b07f864532f20677832 FOREIGN KEY (year_) REFERENCES rotationyear(id)  
  MATCH FULL;  
--  
-- Definition for index fk12d71b07dda532b420677832 (OID = 117126652) :  
--  
ALTER TABLE ONLY simplesurveyrotationelement  
  ADD CONSTRAINT fk12d71b07dda532b420677832 FOREIGN KEY (nutsregion) REFERENCES  
  nutsregion(id) MATCH FULL;  
--  
-- Definition for index fk81dd47274d5ae8aeb958e45a (OID = 117126657) :  
--  
ALTER TABLE ONLY simplecurrentsmalldairyruminantactivity  
  ADD CONSTRAINT fk81dd47274d5ae8aeb958e45a FOREIGN KEY (region) REFERENCES nutsregion(id)  
  MATCH FULL;  
--  
-- Definition for index fk81dd47274d5ae8aee1701337 (OID = 117126662) :  
--  
ALTER TABLE ONLY simplecurrentsmallbeefruminants  
  ADD CONSTRAINT fk81dd47274d5ae8aee1701337 FOREIGN KEY (region) REFERENCES nutsregion(id)  
  MATCH FULL;  
--  
-- Definition for index fk81dd47274d5ae8ae27acc6fb (OID = 117126667) :  
--  
ALTER TABLE ONLY simplecurrentdairyactivity  
  ADD CONSTRAINT fk81dd47274d5ae8ae27acc6fb FOREIGN KEY (region) REFERENCES nutsregion(id)  
  MATCH FULL;  
--  
-- Definition for index fk81dd47274d5ae8aec9d3103a (OID = 117126672) :  
--  
ALTER TABLE ONLY simplecurrentbeefactivity  
  ADD CONSTRAINT fk81dd47274d5ae8aec9d3103a FOREIGN KEY (region) REFERENCES nutsregion(id)  
  MATCH FULL;  
--  
-- Definition for index fk83691e7ba4b40116 (OID = 117126677) :  
--
```

```
ALTER TABLE ONLY simplecropmanagementinzonesimplecropmanagement
  ADD CONSTRAINT fk83691e7ba4b40116 FOREIGN KEY (simplecropmanagementinzone_id)
REFERENCES simplecropmanagementinzone(id) MATCH FULL;
--
-- Definition for index fk83691e7ba39e6f81 (OID = 117126682) :
--
ALTER TABLE ONLY simplecropmanagementinzonesimplecropmanagement
  ADD CONSTRAINT fk83691e7ba39e6f81 FOREIGN KEY (simplecropmanagement_id) REFERENCES
simplecropmanagement(id) MATCH FULL;
--
-- Definition for index fkef96e98ffa804bfe69a9816 (OID = 117126687) :
--
ALTER TABLE ONLY simplecropmanagementinzone
  ADD CONSTRAINT fkef96e98ffa804bfe69a9816 FOREIGN KEY (regionalagromanagementzone)
REFERENCES regionalagromanagementzone(id) MATCH FULL;
--
-- Definition for index fkc33f85afa28918fa651d41d (OID = 117126692) :
--
ALTER TABLE ONLY simplecropgroup
  ADD CONSTRAINT fkc33f85afa28918fa651d41d FOREIGN KEY (iscropgroupof) REFERENCES
activitygroup(id) MATCH FULL;
--
-- Definition for index fk144e8e60e3475e8f (OID = 117126697) :
--
ALTER TABLE ONLY setasideregulation
  ADD CONSTRAINT fk144e8e60e3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fk14cf2ad641e107a8a335446f (OID = 117126702) :
--
ALTER TABLE ONLY roughagefeeds
  ADD CONSTRAINT fk14cf2ad641e107a8a335446f FOREIGN KEY (product) REFERENCES
cropproduct(id) MATCH FULL;
--
-- Definition for index fkac8f8c7ebf1722c (OID = 117126707) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarmrotationwithproductiono
  ADD CONSTRAINT fkac8f8c7ebf1722c FOREIGN KEY (rotationwithproductionorientationforfarm_id)
REFERENCES rotationwithproductionorientationforfarm(id) MATCH FULL;
--
-- Definition for index fkac8f8c7c464a128 (OID = 117126712) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarmrotationwithproductiono
```

```
ADD CONSTRAINT fkac8f8c7c464a128 FOREIGN KEY (rotationwithproductionorientation_id)
REFERENCES rotationwithproductionorientation(id) MATCH FULL;

--
-- Definition for index fk68be14ec5359ffa6 (OID = 117126717) :
--
ALTER TABLE ONLY rotationwithproductionorientationforfarm
ADD CONSTRAINT fk68be14ec5359ffa6 FOREIGN KEY (representativefarm) REFERENCES
representativefarm(id) MATCH FULL;

--
-- Definition for index fkf2bc033c320ee8e (OID = 117126722) :
--
ALTER TABLE ONLY rotationwithproductionorientation
ADD CONSTRAINT fkf2bc033c320ee8e FOREIGN KEY (rotation) REFERENCES rotation(id) MATCH
FULL;

--
-- Definition for index fkf2bc033bad9ffd9 (OID = 117126727) :
--
ALTER TABLE ONLY rotationwithproductionorientation
ADD CONSTRAINT fkf2bc033bad9ffd9 FOREIGN KEY (managementzone) REFERENCES
environmentalzone(id) MATCH FULL;

--
-- Definition for index fkf2bc0338201447c (OID = 117126732) :
--
ALTER TABLE ONLY rotationwithproductionorientation
ADD CONSTRAINT fkf2bc0338201447c FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;

--
-- Definition for index fked1617cc3c5b288c (OID = 117126737) :
--
ALTER TABLE ONLY rotationcropperyear
ADD CONSTRAINT fked1617cc3c5b288c FOREIGN KEY (rotation_id) REFERENCES rotation(id) MATCH
FULL;

--
-- Definition for index fked1617cc191090a8 (OID = 117126742) :
--
ALTER TABLE ONLY rotationcropperyear
ADD CONSTRAINT fked1617cc191090a8 FOREIGN KEY (cropperyear_id) REFERENCES cropperyear(id)
MATCH FULL;

--
-- Definition for index fk1c07be3b436098f5 (OID = 117126747) :
--
ALTER TABLE ONLY role_permissions
```

ADD CONSTRAINT fk1c07be3b436098f5 FOREIGN KEY (permission_id) REFERENCES permission(id)
MATCH FULL;

--

-- Definition for index fkcf0070acb6840fa (OID = 117126752) :

--

ALTER TABLE ONLY representativefarminagrienvregion

ADD CONSTRAINT fkcf0070acb6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;

--

-- Definition for index fkcf0070ac5359ffa6 (OID = 117126757) :

--

ALTER TABLE ONLY representativefarminagrienvregion

ADD CONSTRAINT fkcf0070ac5359ffa6 FOREIGN KEY (representativefarm) REFERENCES
representativefarm(id) MATCH FULL;

--

-- Definition for index fk34b54b93f9858038 (OID = 117126762) :

--

ALTER TABLE ONLY representativefarm

ADD CONSTRAINT fk34b54b93f9858038 FOREIGN KEY (cropinformation) REFERENCES
cropinformation(id) MATCH FULL;

--

-- Definition for index fk34b54b93bf3f37dd (OID = 117126767) :

--

ALTER TABLE ONLY representativefarm

ADD CONSTRAINT fk34b54b93bf3f37dd FOREIGN KEY (memberof) REFERENCES
representativefarmgroup(id) MATCH FULL;

--

-- Definition for index fk34b54b93bac773f0 (OID = 117126772) :

--

ALTER TABLE ONLY representativefarm

ADD CONSTRAINT fk34b54b93bac773f0 FOREIGN KEY (intensity) REFERENCES farmintensity(id)
MATCH FULL;

--

-- Definition for index fk34b54b9372f345cc (OID = 117126777) :

--

ALTER TABLE ONLY representativefarm

ADD CONSTRAINT fk34b54b9372f345cc FOREIGN KEY (specialization) REFERENCES
farmspecialization(id) MATCH FULL;

--

-- Definition for index fk34b54b936138dc32 (OID = 117126782) :

--

ALTER TABLE ONLY representativefarm

```
ADD CONSTRAINT fk34b54b936138dc32 FOREIGN KEY (fadnregion) REFERENCES fadnregion(id)
MATCH FULL;
--
-- Definition for index fk34b54b93412d2eb5 (OID = 117126787) :
--
ALTER TABLE ONLY representativefarm
ADD CONSTRAINT fk34b54b93412d2eb5 FOREIGN KEY (size_) REFERENCES farmsize(id) MATCH
FULL;
--
-- Definition for index fkbff07807dda532b4 (OID = 117126792) :
--
ALTER TABLE ONLY regionalwage
ADD CONSTRAINT fkbff07807dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
--
-- Definition for index fkb0a6e5f9dfce1ba0 (OID = 117126797) :
--
ALTER TABLE ONLY regionaltypologyvalue
ADD CONSTRAINT fkb0a6e5f9dfce1ba0 FOREIGN KEY (regionaltypologyclass) REFERENCES
regionaltypologyclass(id) MATCH FULL;
--
-- Definition for index fkb0a6e5f9dda532b4 (OID = 117126802) :
--
ALTER TABLE ONLY regionaltypologyvalue
ADD CONSTRAINT fkb0a6e5f9dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
--
-- Definition for index fkb0a6e5f9769e0530 (OID = 117126807) :
--
ALTER TABLE ONLY regionaltypologyvalue
ADD CONSTRAINT fkb0a6e5f9769e0530 FOREIGN KEY (regionaltypology) REFERENCES
regionaltypology(id) MATCH FULL;
--
-- Definition for index fk3b8f2b77a921df36 (OID = 117126812) :
--
ALTER TABLE ONLY regionalagromanagementzoneagrienvironmentalzones
ADD CONSTRAINT fk3b8f2b77a921df36 FOREIGN KEY (regionalagromanagementzone_id)
REFERENCES regionalagromanagementzone(id) MATCH FULL;
--
-- Definition for index fk3b8f2b774e1221ba (OID = 117126817) :
--
ALTER TABLE ONLY regionalagromanagementzoneagrienvironmentalzones
```

```
ADD CONSTRAINT fk3b8f2b774e1221ba FOREIGN KEY (agrienvironmentalzone_id) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fk8565e4e57bc6417d (OID = 117126822) :
```

```
--
ALTER TABLE ONLY reducedtillageevents
```

```
ADD CONSTRAINT fk8565e4e57bc6417d FOREIGN KEY (event_id) REFERENCES event(id) MATCH
FULL;
```

```
--
-- Definition for index fk8565e4e54d73142c (OID = 117126827) :
```

```
--
ALTER TABLE ONLY reducedtillageevents
```

```
ADD CONSTRAINT fk8565e4e54d73142c FOREIGN KEY (reducedtillage_id) REFERENCES
reducedtillage(id) MATCH FULL;
```

```
--
-- Definition for index fkc4747dcf5bb21a55 (OID = 117126832) :
```

```
--
ALTER TABLE ONLY reducebiomassclippingoperation
```

```
ADD CONSTRAINT fkc4747dcf5bb21a55 FOREIGN KEY (clippingharvestimplement) REFERENCES
clippingharvestimplement(id) MATCH FULL;
```

```
--
-- Definition for index fk8f374e1ed4c99a86 (OID = 117126837) :
```

```
--
ALTER TABLE ONLY quotacountry
```

```
ADD CONSTRAINT fk8f374e1ed4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
--
-- Definition for index fk8f374e1e7ae831af (OID = 117126842) :
```

```
--
ALTER TABLE ONLY quotacountry
```

```
ADD CONSTRAINT fk8f374e1e7ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;
```

```
--
-- Definition for index fk2b63b30f6cbec677 (OID = 117126847) :
```

```
--
ALTER TABLE ONLY projectrole
```

```
ADD CONSTRAINT fk2b63b30f6cbec677 FOREIGN KEY (project) REFERENCES project(id) MATCH
FULL;
```

```
--
-- Definition for index fk50c8e2f9e17cd03b (OID = 117126852) :
```

```
--
ALTER TABLE ONLY project
```

```
ADD CONSTRAINT fk50c8e2f9e17cd03b FOREIGN KEY (image) REFERENCES image(id) MATCH FULL;
```

```
--  
-- Definition for index fk50c8e2f96cb7b583 (OID = 117126857) :
```

```
--  
ALTER TABLE ONLY project
```

```
ADD CONSTRAINT fk50c8e2f96cb7b583 FOREIGN KEY (problem) REFERENCES problem(id) MATCH FULL;
```

```
--  
-- Definition for index fkbe9003f9dda532b4 (OID = 117126862) :
```

```
--  
ALTER TABLE ONLY productsforregion
```

```
ADD CONSTRAINT fkbe9003f9dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id) MATCH FULL;
```

```
--  
-- Definition for index fk6699a8adfa804bfe (OID = 117126867) :
```

```
--  
ALTER TABLE ONLY productonsoil
```

```
ADD CONSTRAINT fk6699a8adfa804bfe FOREIGN KEY (regionalagromanagementzone) REFERENCES regionalagromanagementzone(id) MATCH FULL;
```

```
--  
-- Definition for index fk7a904575ce565fe8 (OID = 117126872) :
```

```
--  
ALTER TABLE ONLY productionorientationsmalldairyruminantmanagements
```

```
ADD CONSTRAINT fk7a904575ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES productionorientation(id) MATCH FULL;
```

```
--  
-- Definition for index fk7a9045755b7147be (OID = 117126877) :
```

```
--  
ALTER TABLE ONLY productionorientationsmalldairyruminantmanagements
```

```
ADD CONSTRAINT fk7a9045755b7147be FOREIGN KEY (dairymanagement_id) REFERENCES dairymanagement(id) MATCH FULL;
```

```
--  
-- Definition for index fk69027624f2543a56 (OID = 117126882) :
```

```
--  
ALTER TABLE ONLY productionorientationsmallbeefruminantmanagements
```

```
ADD CONSTRAINT fk69027624f2543a56 FOREIGN KEY (beefmanagement_id) REFERENCES beefmanagement(id) MATCH FULL;
```

```
--  
-- Definition for index fk69027624ce565fe8 (OID = 117126887) :
```

```
--  
ALTER TABLE ONLY productionorientationsmallbeefruminantmanagements
```

```
ADD CONSTRAINT fk69027624ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk5dd18de8ce565fe8 (OID = 117126892) :
```

```
ALTER TABLE ONLY productionorientationgrassmanagementalternatives
```

```
ADD CONSTRAINT fk5dd18de8ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk5dd18de8134d60d6 (OID = 117126897) :
```

```
ALTER TABLE ONLY productionorientationgrassmanagementalternatives
```

```
ADD CONSTRAINT fk5dd18de8134d60d6 FOREIGN KEY (grassmanagementalternative_id) REFERENCES
grassmanagementalternative(id) MATCH FULL;
```

```
--
-- Definition for index fk84385d14ce565fe8 (OID = 117126902) :
```

```
ALTER TABLE ONLY productionorientationdairymanagements
```

```
ADD CONSTRAINT fk84385d14ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk84385d145b7147be (OID = 117126907) :
```

```
ALTER TABLE ONLY productionorientationdairymanagements
```

```
ADD CONSTRAINT fk84385d145b7147be FOREIGN KEY (dairymanagement_id) REFERENCES
dairymanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk502ae995f2543a56 (OID = 117126912) :
```

```
ALTER TABLE ONLY productionorientationbeefmanagements
```

```
ADD CONSTRAINT fk502ae995f2543a56 FOREIGN KEY (beefmanagement_id) REFERENCES
beefmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk502ae995ce565fe8 (OID = 117126917) :
```

```
ALTER TABLE ONLY productionorientationbeefmanagements
```

```
ADD CONSTRAINT fk502ae995ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk46eb7f37d1226406 (OID = 117126922) :
```

```
ALTER TABLE ONLY productionorientation
```

```
ADD CONSTRAINT fk46eb7f37d1226406 FOREIGN KEY (nutrientmanagement) REFERENCES
nutrientmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk46eb7f378aedd82 (OID = 117126927) :
```

```
ALTER TABLE ONLY productionorientation
```

```
ADD CONSTRAINT fk46eb7f378aedd82 FOREIGN KEY (watermanagement) REFERENCES
watermanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk46eb7f375e2b86f2 (OID = 117126932) :
```

```
ALTER TABLE ONLY productionorientation
```

```
ADD CONSTRAINT fk46eb7f375e2b86f2 FOREIGN KEY (conservationmanagement) REFERENCES
conservationmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk2550541c2d203d91 (OID = 117126937) :
```

```
ALTER TABLE ONLY productioncoefficientyieldofcropproducts
```

```
ADD CONSTRAINT fk2550541c2d203d91 FOREIGN KEY (productioncoefficient_id) REFERENCES
productioncoefficient(id) MATCH FULL;
```

```
--
-- Definition for index fk2550541c1e85bd83 (OID = 117126942) :
```

```
ALTER TABLE ONLY productioncoefficientyieldofcropproducts
```

```
ADD CONSTRAINT fk2550541c1e85bd83 FOREIGN KEY (yieldofcropproduct_id) REFERENCES
yieldofcropproduct(id) MATCH FULL;
```

```
--
-- Definition for index fkcc46329c92174347 (OID = 117126947) :
```

```
ALTER TABLE ONLY productioncoefficient
```

```
ADD CONSTRAINT fkcc46329c92174347 FOREIGN KEY (croppyearmanagement) REFERENCES
croppyearmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk5d9d5dd7a37d3e83 (OID = 117126952) :
```

```
ALTER TABLE ONLY productionactivityperfssimfarmagriculturalactivities
```

```
ADD CONSTRAINT fk5d9d5dd7a37d3e83 FOREIGN KEY (productionactivityperfssimfarm_id)
REFERENCES productionactivityperfssimfarm(id) MATCH FULL;
```

```
--
-- Definition for index fkac765efcceca6ac3 (OID = 117126957) :
```

```
ALTER TABLE ONLY productionactivitycropproductyearmanagements
```

```
ADD CONSTRAINT fkac765efcceca6ac3 FOREIGN KEY (productionactivity_id) REFERENCES
productionactivity(id) MATCH FULL;
```

```
--
-- Definition for index fkac765efc2d203d91 (OID = 117126962) :
```

```
ALTER TABLE ONLY productionactivitycropproductyearmanagements
```

```
ADD CONSTRAINT fkac765efc2d203d91 FOREIGN KEY (productioncoefficient_id) REFERENCES
productioncoefficient(id) MATCH FULL;
```

```
--
-- Definition for index fk88eb3b08f177f11 (OID = 117126967) :
```

```
ALTER TABLE ONLY productionactivity
```

```
ADD CONSTRAINT fk88eb3b08f177f11 FOREIGN KEY (environmentaleffects) REFERENCES
environmentaleffects(id) MATCH FULL;
```

```
--
-- Definition for index fk88eb3b08c320ee8e (OID = 117126972) :
```

```
ALTER TABLE ONLY productionactivity
```

```
ADD CONSTRAINT fk88eb3b08c320ee8e FOREIGN KEY (rotation) REFERENCES rotation(id) MATCH
FULL;
```

```
--
-- Definition for index fk88eb3b08b6840fa (OID = 117126977) :
```

```
ALTER TABLE ONLY productionactivity
```

```
ADD CONSTRAINT fk88eb3b08b6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fk88eb3b085147fe85 (OID = 117126982) :
```

```
ALTER TABLE ONLY productionactivity
```

```
ADD CONSTRAINT fk88eb3b085147fe85 FOREIGN KEY (productiontechnique) REFERENCES
productiontechnique(id) MATCH FULL;
```

```
--
-- Definition for index fk67c9182e8201447c88eb3b08 (OID = 117126987) :
```

```
ALTER TABLE ONLY productionactivity
```

```
ADD CONSTRAINT fk67c9182e8201447c88eb3b08 FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk620748bebaf49860 (OID = 117126992) :
```

```
ALTER TABLE ONLY productgroupproductsetofproducts
```

```
ADD CONSTRAINT fk620748bebef49860 FOREIGN KEY (productgroup_id) REFERENCES
productgroup(id) MATCH FULL;
--
-- Definition for index fka1c195c9b6d5b29f (OID = 117126997) :
--
ALTER TABLE ONLY problemmodels
ADD CONSTRAINT fka1c195c9b6d5b29f FOREIGN KEY (model_id) REFERENCES model(id) MATCH
FULL;
--
-- Definition for index fka1c195c96e98a99f (OID = 117127002) :
--
ALTER TABLE ONLY problemmodels
ADD CONSTRAINT fka1c195c96e98a99f FOREIGN KEY (problem_id) REFERENCES problem(id)
MATCH FULL;
--
-- Definition for index fk760b68236e98a99f (OID = 117127007) :
--
ALTER TABLE ONLY problemindicators
ADD CONSTRAINT fk760b68236e98a99f FOREIGN KEY (problem_id) REFERENCES problem(id)
MATCH FULL;
--
-- Definition for index fk38e633ee7dc74435 (OID = 117127012) :
--
ALTER TABLE ONLY problemexperimentplans
ADD CONSTRAINT fk38e633ee7dc74435 FOREIGN KEY (experimentplan_id) REFERENCES
experimentplan(id) MATCH FULL;
--
-- Definition for index fk38e633ee6e98a99f (OID = 117127017) :
--
ALTER TABLE ONLY problemexperimentplans
ADD CONSTRAINT fk38e633ee6e98a99f FOREIGN KEY (problem_id) REFERENCES problem(id)
MATCH FULL;
--
-- Definition for index fk50c55a7f97eb2047 (OID = 117127022) :
--
ALTER TABLE ONLY problem
ADD CONSTRAINT fk50c55a7f97eb2047 FOREIGN KEY (spatialscale) REFERENCES spatialscale(id)
MATCH FULL;
--
-- Definition for index fk855177c2dda532b4 (OID = 117127027) :
--
ALTER TABLE ONLY priceelasticity
```

```
ADD CONSTRAINT fk855177c2dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
-- Definition for index fk855177c29818c881 (OID = 117127032) :
```

```
ALTER TABLE ONLY priceelasticity
```

```
ADD CONSTRAINT fk855177c29818c881 FOREIGN KEY (topproductgroup) REFERENCES
productgroup(id) MATCH FULL;
```

```
--
-- Definition for index fk855177c235918330 (OID = 117127037) :
```

```
ALTER TABLE ONLY priceelasticity
```

```
ADD CONSTRAINT fk855177c235918330 FOREIGN KEY (fromproductgroup) REFERENCES
productgroup(id) MATCH FULL;
```

```
--
-- Definition for index fk49cc1294d5ae8ae (OID = 117127042) :
```

```
ALTER TABLE ONLY price
```

```
ADD CONSTRAINT fk49cc1294d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH
FULL;
```

```
--
-- Definition for index fkda8f69d72db5f683 (OID = 117127047) :
```

```
ALTER TABLE ONLY policyoptionyieldtrend
```

```
ADD CONSTRAINT fkda8f69d72db5f683 FOREIGN KEY (yieldtrend_id) REFERENCES yieldtrend(id)
MATCH FULL;
```

```
--
-- Definition for index fkda8f69d724f64b55 (OID = 117127052) :
```

```
ALTER TABLE ONLY policyoptionyieldtrend
```

```
ADD CONSTRAINT fkda8f69d724f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
```

```
--
-- Definition for index fk4af08d0db14e48dd (OID = 117127057) :
```

```
ALTER TABLE ONLY policyoptiontradereformproposals
```

```
ADD CONSTRAINT fk4af08d0db14e48dd FOREIGN KEY (tradereformproposal_id) REFERENCES
tradereformproposal(id) MATCH FULL;
```

```
--
-- Definition for index fk4af08d0d24f64b55 (OID = 117127062) :
```

```
ALTER TABLE ONLY policyoptiontradereformproposals
```

```
ADD CONSTRAINT fk4af08d0d24f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
```

```
--
-- Definition for index fk80dc0ec1586af6d7 (OID = 117127067) :
```

```
ALTER TABLE ONLY policyoptionsubsidisedexports
```

```
ADD CONSTRAINT fk80dc0ec1586af6d7 FOREIGN KEY (subsidisedexport_id) REFERENCES
subsidisedexport(id) MATCH FULL;
```

```
--
-- Definition for index fk80dc0ec124f64b55 (OID = 117127072) :
```

```
ALTER TABLE ONLY policyoptionsubsidisedexports
```

```
ADD CONSTRAINT fk80dc0ec124f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
```

```
--
-- Definition for index fk767470e224f64b55 (OID = 117127077) :
```

```
ALTER TABLE ONLY policyoptionsubsidies
```

```
ADD CONSTRAINT fk767470e224f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
```

```
--
-- Definition for index fk767470e213867b91 (OID = 117127082) :
```

```
ALTER TABLE ONLY policyoptionsubsidies
```

```
ADD CONSTRAINT fk767470e213867b91 FOREIGN KEY (subsidy_id) REFERENCES subsidy(id)
MATCH FULL;
```

```
--
-- Definition for index fk5b683e4c5d7b3b57 (OID = 117127087) :
```

```
ALTER TABLE ONLY policyoptionsetasideregulations
```

```
ADD CONSTRAINT fk5b683e4c5d7b3b57 FOREIGN KEY (setasideregulation_id) REFERENCES
setasideregulation(id) MATCH FULL;
```

```
--
-- Definition for index fk5b683e4c24f64b55 (OID = 117127092) :
```

```
ALTER TABLE ONLY policyoptionsetasideregulations
```

```
ADD CONSTRAINT fk5b683e4c24f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
```

```
--
-- Definition for index fk44440f63b7670437 (OID = 117127097) :
```

```
ALTER TABLE ONLY policyoptionquotacountries
```

```
ADD CONSTRAINT fk44440f63b7670437 FOREIGN KEY (quotacountry_id) REFERENCES
quotacountry(id) MATCH FULL;
--
-- Definition for index fk44440f6324f64b55 (OID = 117127102) :
--
ALTER TABLE ONLY policyoptionquotacountries
ADD CONSTRAINT fk44440f6324f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
--
-- Definition for index fk9364c77224f64b55 (OID = 117127107) :
--
ALTER TABLE ONLY policyoptionpricechange
ADD CONSTRAINT fk9364c77224f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
--
-- Definition for index fk9364c7721c543091 (OID = 117127112) :
--
ALTER TABLE ONLY policyoptionpricechange
ADD CONSTRAINT fk9364c7721c543091 FOREIGN KEY (price_id) REFERENCES price(id) MATCH
FULL;
--
-- Definition for index fk4ce68a6e24f64b55 (OID = 117127117) :
--
ALTER TABLE ONLY policyoptionpolicymeasures
ADD CONSTRAINT fk4ce68a6e24f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
--
-- Definition for index fk5a2414147a8dd6d9 (OID = 117127122) :
--
ALTER TABLE ONLY policyoptioninstitutionalcompatibility
ADD CONSTRAINT fk5a2414147a8dd6d9 FOREIGN KEY (institutionalcompatibility_id) REFERENCES
institutionalcompatibility(id) MATCH FULL;
--
-- Definition for index fk5a24141424f64b55 (OID = 117127127) :
--
ALTER TABLE ONLY policyoptioninstitutionalcompatibility
ADD CONSTRAINT fk5a24141424f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
--
-- Definition for index fk75d981852bea93d7 (OID = 117127132) :
--
ALTER TABLE ONLY policyoptionglobaltariffs
```

```
ADD CONSTRAINT fk75d981852bea93d7 FOREIGN KEY (globaltariff_id) REFERENCES globaltariff(id)
MATCH FULL;
```

```
--
-- Definition for index fk75d9818524f64b55 (OID = 117127137) :
```

```
--
ALTER TABLE ONLY policyoptionglobaltariffs
```

```
ADD CONSTRAINT fk75d9818524f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
```

```
--
-- Definition for index fk73b1dc9861210651 (OID = 117127142) :
```

```
--
ALTER TABLE ONLY policyoptionfarmquotas
```

```
ADD CONSTRAINT fk73b1dc9861210651 FOREIGN KEY (farmquota_id) REFERENCES farmquota(id)
MATCH FULL;
```

```
--
-- Definition for index fk73b1dc9824f64b55 (OID = 117127147) :
```

```
--
ALTER TABLE ONLY policyoptionfarmquotas
```

```
ADD CONSTRAINT fk73b1dc9824f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
```

```
--
-- Definition for index fkb70214b93282763 (OID = 117127152) :
```

```
--
ALTER TABLE ONLY policyoptionfarmconstraints
```

```
ADD CONSTRAINT fkb70214b93282763 FOREIGN KEY (farmconstraint_id) REFERENCES
farmconstraint(id) MATCH FULL;
```

```
--
-- Definition for index fkb70214b924f64b55 (OID = 117127157) :
```

```
--
ALTER TABLE ONLY policyoptionfarmconstraints
```

```
ADD CONSTRAINT fkb70214b924f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
```

```
--
-- Definition for index fk258724837ae73957 (OID = 117127162) :
```

```
--
ALTER TABLE ONLY policyoptioncouplingdegrees
```

```
ADD CONSTRAINT fk258724837ae73957 FOREIGN KEY (couplingdegree_id) REFERENCES
couplingdegree(id) MATCH FULL;
```

```
--
-- Definition for index fk2587248324f64b55 (OID = 117127167) :
```

```
--
ALTER TABLE ONLY policyoptioncouplingdegrees
```

```
ADD CONSTRAINT fk2587248324f64b55 FOREIGN KEY (policyoption_id) REFERENCES
policyoption(id) MATCH FULL;
--
-- Definition for index fk935cf6a64b09c0dd (OID = 117127172) :
--
ALTER TABLE ONLY policyoptionbilateraltariffs
ADD CONSTRAINT fk935cf6a64b09c0dd FOREIGN KEY (bilateraltariff_id) REFERENCES
bilateraltariff(id) MATCH FULL;
--
-- Definition for index fk935cf6a624f64b55 (OID = 117127177) :
--
ALTER TABLE ONLY policyoptionbilateraltariffs
ADD CONSTRAINT fk935cf6a624f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
--
-- Definition for index fk7fad36239cf81c57 (OID = 117127182) :
--
ALTER TABLE ONLY policyoptionbasicpremiums
ADD CONSTRAINT fk7fad36239cf81c57 FOREIGN KEY (basicpremium_id) REFERENCES
basicpremium(id) MATCH FULL;
--
-- Definition for index fk7fad362324f64b55 (OID = 117127187) :
--
ALTER TABLE ONLY policyoptionbasicpremiums
ADD CONSTRAINT fk7fad362324f64b55 FOREIGN KEY (policyoption_id) REFERENCES policyoption(id)
MATCH FULL;
--
-- Definition for index fk8fd04067737ec3e9 (OID = 117127192) :
--
ALTER TABLE ONLY policyoption
ADD CONSTRAINT fk8fd04067737ec3e9 FOREIGN KEY (narrative) REFERENCES narrative(id) MATCH
FULL;
--
-- Definition for index fke10c58ace90136b5 (OID = 117127197) :
--
ALTER TABLE ONLY policyassessmentpriceelasticities
ADD CONSTRAINT fke10c58ace90136b5 FOREIGN KEY (policyassessment_id) REFERENCES
policyassessment(id) MATCH FULL;
--
-- Definition for index fke10c58ac65f8ee1d (OID = 117127202) :
--
ALTER TABLE ONLY policyassessmentpriceelasticities
```

```
ADD CONSTRAINT fke10c58ac65f8ee1d FOREIGN KEY (priceelasticity_id) REFERENCES
priceelasticity(id) MATCH FULL;
--
-- Definition for index fk994d7650e90136b5 (OID = 117127207) :
--
ALTER TABLE ONLY policyassessmentfssimfarindicators
ADD CONSTRAINT fk994d7650e90136b5 FOREIGN KEY (policyassessment_id) REFERENCES
policyassessment(id) MATCH FULL;
--
-- Definition for index fk994d7650461d3b03 (OID = 117127212) :
--
ALTER TABLE ONLY policyassessmentfssimfarindicators
ADD CONSTRAINT fk994d7650461d3b03 FOREIGN KEY (optimalfarmbehaviour_id) REFERENCES
optimalfarmbehaviour(id) MATCH FULL;
--
-- Definition for index fk5d0708eae90136b5 (OID = 117127217) :
--
ALTER TABLE ONLY policyassessmentequilibriumprices
ADD CONSTRAINT fk5d0708eae90136b5 FOREIGN KEY (policyassessment_id) REFERENCES
policyassessment(id) MATCH FULL;
--
-- Definition for index fk5d0708ea42b14257 (OID = 117127222) :
--
ALTER TABLE ONLY policyassessmentequilibriumprices
ADD CONSTRAINT fk5d0708ea42b14257 FOREIGN KEY (equilibriumprice_id) REFERENCES
equilibriumprice(id) MATCH FULL;
--
-- Definition for index fk316f432ce90136b5 (OID = 117127227) :
--
ALTER TABLE ONLY policyassessmentcutfactorsubsidies
ADD CONSTRAINT fk316f432ce90136b5 FOREIGN KEY (policyassessment_id) REFERENCES
policyassessment(id) MATCH FULL;
--
-- Definition for index fk316f432c482ec837 (OID = 117127232) :
--
ALTER TABLE ONLY policyassessmentcutfactorsubsidies
ADD CONSTRAINT fk316f432c482ec837 FOREIGN KEY (cutfactorsubsidies_id) REFERENCES
cutfactorsubsidies(id) MATCH FULL;
--
-- Definition for index fkdf7a5b462231f49 (OID = 117127237) :
--
ALTER TABLE ONLY policyassessment
```

```
ADD CONSTRAINT fkdff7a5b462231f49 FOREIGN KEY (policyoption) REFERENCES policyoption(id)
MATCH FULL;
```

```
--
-- Definition for index fk8e35f2977e6303ce (OID = 117127242) :
```

```
ALTER TABLE ONLY picaspatiallevel
```

```
ADD CONSTRAINT fk8e35f2977e6303ce FOREIGN KEY (frominstitutionalcompability) REFERENCES
institutionalcompatibility(id) MATCH FULL;
```

```
--
-- Definition for index fkaf4a2499f6d5d8d1 (OID = 117127247) :
```

```
ALTER TABLE ONLY picaindicatorvalue
```

```
ADD CONSTRAINT fkaf4a2499f6d5d8d1 FOREIGN KEY (picaindicator) REFERENCES picaindicator(id)
MATCH FULL;
```

```
--
-- Definition for index fkaf4a2499ead0482d (OID = 117127252) :
```

```
ALTER TABLE ONLY picaindicatorvalue
```

```
ADD CONSTRAINT fkaf4a2499ead0482d FOREIGN KEY (picaspatiallevel) REFERENCES
picaspatiallevel(id) MATCH FULL;
```

```
--
-- Definition for index fkb2857c3edb155b99 (OID = 117127257) :
```

```
ALTER TABLE ONLY picaindicatorgeneralcrucialinstitutionalaspectlinkagecrucialins
```

```
ADD CONSTRAINT fkb2857c3edb155b99 FOREIGN KEY (crucialinstitutionalaspect_id) REFERENCES
crucialinstitutionalaspect(id) MATCH FULL;
```

```
--
-- Definition for index fkb2857c3e937df339 (OID = 117127262) :
```

```
ALTER TABLE ONLY picaindicatorgeneralcrucialinstitutionalaspectlinkagecrucialins
```

```
ADD CONSTRAINT fkb2857c3e937df339 FOREIGN KEY (picaindicatorgeneral_id) REFERENCES
picaindicatorgeneral(id) MATCH FULL;
```

```
--
-- Definition for index fkf2be7210da078220 (OID = 117127267) :
```

```
ALTER TABLE ONLY picaindicatorgeneral
```

```
ADD CONSTRAINT fkf2be7210da078220 FOREIGN KEY (maincrucialinstitutionalaspect) REFERENCES
crucialinstitutionalaspect(id) MATCH FULL;
```

```
--
-- Definition for index fk2215b798aa79ad19 (OID = 117127272) :
```

```
ALTER TABLE ONLY picaindicator
```

```
ADD CONSTRAINT fk2215b798aa79ad19 FOREIGN KEY (institutionalcompatibility) REFERENCES
institutionalcompatibility(id) MATCH FULL;
```

```
--
-- Definition for index fk2215b7986923379f (OID = 117127277) :
```

```
ALTER TABLE ONLY picaindicator
```

```
ADD CONSTRAINT fk2215b7986923379f FOREIGN KEY (picaindicatorgeneral) REFERENCES
picaindicatorgeneral(id) MATCH FULL;
```

```
--
-- Definition for index fke88ebe19eb688c30 (OID = 117127282) :
```

```
ALTER TABLE ONLY picaassessment
```

```
ADD CONSTRAINT fke88ebe19eb688c30 FOREIGN KEY (ofinstitutionalcompatibility) REFERENCES
institutionalcompatibility(id) MATCH FULL;
```

```
--
-- Definition for index fke88ebe1982aba1a7 (OID = 117127287) :
```

```
ALTER TABLE ONLY picaassessment
```

```
ADD CONSTRAINT fke88ebe1982aba1a7 FOREIGN KEY (crucialinstitutionalaspect) REFERENCES
crucialinstitutionalaspect(id) MATCH FULL;
```

```
--
-- Definition for index fk12c214ad1547737 (OID = 117127292) :
```

```
ALTER TABLE ONLY pesticidesmixturespesticideoperations
```

```
ADD CONSTRAINT fk12c214ad1547737 FOREIGN KEY (pesticidesmixtures_id) REFERENCES
pesticidesmixtures(id) MATCH FULL;
```

```
--
-- Definition for index fk12c214aa8554557 (OID = 117127297) :
```

```
ALTER TABLE ONLY pesticidesmixturespesticideoperations
```

```
ADD CONSTRAINT fk12c214aa8554557 FOREIGN KEY (pesticideoperation_id) REFERENCES
pesticideoperation(id) MATCH FULL;
```

```
--
-- Definition for index fkb9ea84adb4a69ccb (OID = 117127302) :
```

```
ALTER TABLE ONLY pesticideoperation
```

```
ADD CONSTRAINT fkb9ea84adb4a69ccb FOREIGN KEY (pesticideapplicationmethod) REFERENCES
pesticideapplicationmethod(id) MATCH FULL;
```

```
--
-- Definition for index fkb9ea84ad5366e2b1 (OID = 117127307) :
```

```
ALTER TABLE ONLY pesticideoperation
```

```
ADD CONSTRAINT fkb9ea84ad5366e2b1 FOREIGN KEY (pesticide) REFERENCES pesticide(id)
MATCH FULL;
```

```
--
-- Definition for index fkd37de339f9a3415 (OID = 117127312) :
```

```
ALTER TABLE ONLY permissiongrouppermissions
```

```
ADD CONSTRAINT fkd37de339f9a3415 FOREIGN KEY (permissiongroup_id) REFERENCES
permissiongroup(id) MATCH FULL;
```

```
--
-- Definition for index fkd37de33436098f5 (OID = 117127317) :
```

```
ALTER TABLE ONLY permissiongrouppermissions
```

```
ADD CONSTRAINT fkd37de33436098f5 FOREIGN KEY (permission_id) REFERENCES permission(id)
MATCH FULL;
```

```
--
-- Definition for index fkec9eebacdda532b43a87d069 (OID = 117127322) :
```

```
ALTER TABLE ONLY penalty
```

```
ADD CONSTRAINT fkec9eebacdda532b43a87d069 FOREIGN KEY (nutsregion) REFERENCES
nutsregion(id) MATCH FULL;
```

```
--
-- Definition for index fka7bd2ea7c8414e5d (OID = 117127327) :
```

```
ALTER TABLE ONLY outlookyieldgrowth
```

```
ADD CONSTRAINT fka7bd2ea7c8414e5d FOREIGN KEY (yieldgrowth_id) REFERENCES yieldgrowth(id)
MATCH FULL;
```

```
--
-- Definition for index fka7bd2ea725ae9edf (OID = 117127332) :
```

```
ALTER TABLE ONLY outlookyieldgrowth
```

```
ADD CONSTRAINT fka7bd2ea725ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
```

```
--
-- Definition for index fk4d0cc96a65aa7ad7 (OID = 117127337) :
```

```
ALTER TABLE ONLY outlookmodulations
```

```
ADD CONSTRAINT fk4d0cc96a65aa7ad7 FOREIGN KEY (modulation_id) REFERENCES modulation(id)
MATCH FULL;
```

```
--
-- Definition for index fk4d0cc96a25ae9edf (OID = 117127342) :
```

```
ALTER TABLE ONLY outlookmodulations
```

```
ADD CONSTRAINT fk4d0cc96a25ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
--
-- Definition for index fk5c098b689ee25dd (OID = 117127347) :
--
ALTER TABLE ONLY outlookinflationrates
ADD CONSTRAINT fk5c098b689ee25dd FOREIGN KEY (inflationrate_id) REFERENCES inflationrate(id)
MATCH FULL;
--
-- Definition for index fk5c098b625ae9edf (OID = 117127352) :
--
ALTER TABLE ONLY outlookinflationrates
ADD CONSTRAINT fk5c098b625ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
--
-- Definition for index fk40e2dd63493ad3dd (OID = 117127357) :
--
ALTER TABLE ONLY outlookexchangerates
ADD CONSTRAINT fk40e2dd63493ad3dd FOREIGN KEY (exchangerates_id) REFERENCES
exchangerates(id) MATCH FULL;
--
-- Definition for index fk40e2dd6325ae9edf (OID = 117127362) :
--
ALTER TABLE ONLY outlookexchangerates
ADD CONSTRAINT fk40e2dd6325ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
--
-- Definition for index fk2cbc8294cd9fe6fd (OID = 117127367) :
--
ALTER TABLE ONLY outlookenergyprice
ADD CONSTRAINT fk2cbc8294cd9fe6fd FOREIGN KEY (energyprice_id) REFERENCES energyprice(id)
MATCH FULL;
--
-- Definition for index fk2cbc829425ae9edf (OID = 117127372) :
--
ALTER TABLE ONLY outlookenergyprice
ADD CONSTRAINT fk2cbc829425ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
--
-- Definition for index fk75af15c96e10df3d (OID = 117127377) :
--
ALTER TABLE ONLY outlookdemandshifts
```

```
ADD CONSTRAINT fk75af15c96e10df3d FOREIGN KEY (demandshift_id) REFERENCES demandshift(id)
MATCH FULL;
```

```
--
-- Definition for index fk75af15c925ae9edf (OID = 117127382) :
```

```
--
ALTER TABLE ONLY outlookdemandshifts
```

```
ADD CONSTRAINT fk75af15c925ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
```

```
--
-- Definition for index fka4d643175054397d (OID = 117127387) :
```

```
--
ALTER TABLE ONLY outlookbiofueldemands
```

```
ADD CONSTRAINT fka4d643175054397d FOREIGN KEY (biofueldemand_id) REFERENCES
biofueldemand(id) MATCH FULL;
```

```
--
-- Definition for index fka4d6431725ae9edf (OID = 117127392) :
```

```
--
ALTER TABLE ONLY outlookbiofueldemands
```

```
ADD CONSTRAINT fka4d6431725ae9edf FOREIGN KEY (outlook_id) REFERENCES outlook(id) MATCH
FULL;
```

```
--
-- Definition for index fk2148b6cd737ec3e9 (OID = 117127397) :
```

```
--
ALTER TABLE ONLY outlook
```

```
ADD CONSTRAINT fk2148b6cd737ec3e9 FOREIGN KEY (narrative) REFERENCES narrative(id) MATCH
FULL;
```

```
--
-- Definition for index fk161761977f426812 (OID = 117127402) :
```

```
--
ALTER TABLE ONLY optimallivestockactivity
```

```
ADD CONSTRAINT fk161761977f426812 FOREIGN KEY (animalactivity) REFERENCES
animalactivity(id) MATCH FULL;
```

```
--
-- Definition for index fk51b9d27e4eba2e43 (OID = 117127407) :
```

```
--
ALTER TABLE ONLY optimalfarmbehavioursupplyresponses
```

```
ADD CONSTRAINT fk51b9d27e4eba2e43 FOREIGN KEY (supplyresponse_id) REFERENCES
supplyresponse(id) MATCH FULL;
```

```
--
-- Definition for index fk51b9d27e461d3b03 (OID = 117127412) :
```

```
--
ALTER TABLE ONLY optimalfarmbehavioursupplyresponses
```

```
ADD CONSTRAINT fk51b9d27e461d3b03 FOREIGN KEY (optimalfarmbehaviour_id) REFERENCES
optimalfarmbehaviour(id) MATCH FULL;
--
-- Definition for index fk6d46697cee6e6536 (OID = 117127417) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimallivestockactivity
ADD CONSTRAINT fk6d46697cee6e6536 FOREIGN KEY (optimallivestockactivity_id) REFERENCES
optimallivestockactivity(id) MATCH FULL;
--
-- Definition for index fk6d46697c461d3b03 (OID = 117127422) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimallivestockactivity
ADD CONSTRAINT fk6d46697c461d3b03 FOREIGN KEY (optimalfarmbehaviour_id) REFERENCES
optimalfarmbehaviour(id) MATCH FULL;
--
-- Definition for index fka0d9891461d3b03 (OID = 117127427) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimalcroppingpattern
ADD CONSTRAINT fka0d9891461d3b03 FOREIGN KEY (optimalfarmbehaviour_id) REFERENCES
optimalfarmbehaviour(id) MATCH FULL;
--
-- Definition for index fka0d9891389085e3 (OID = 117127432) :
--
ALTER TABLE ONLY optimalfarmbehaviouroptimalcroppingpattern
ADD CONSTRAINT fka0d9891389085e3 FOREIGN KEY (optimalproductioncoefficient_id) REFERENCES
optimalproductioncoefficient(id) MATCH FULL;
--
-- Definition for index fk147562c275fae4d1 (OID = 117127437) :
--
ALTER TABLE ONLY optimalfarmbehaviourcalibrationterms
ADD CONSTRAINT fk147562c275fae4d1 FOREIGN KEY (calibrationterm_id) REFERENCES
calibrationterm(id) MATCH FULL;
--
-- Definition for index fk147562c2461d3b03 (OID = 117127442) :
--
ALTER TABLE ONLY optimalfarmbehaviourcalibrationterms
ADD CONSTRAINT fk147562c2461d3b03 FOREIGN KEY (optimalfarmbehaviour_id) REFERENCES
optimalfarmbehaviour(id) MATCH FULL;
--
-- Definition for index fkade968fa6138dc32 (OID = 117127447) :
--
ALTER TABLE ONLY nutsregion
```

```
ADD CONSTRAINT fkade968fa6138dc32 FOREIGN KEY (fadnregion) REFERENCES fadnregion(id)
MATCH FULL;
```

```
--
-- Definition for index fkade968fa284c33f8 (OID = 117127452) :
```

```
--
ALTER TABLE ONLY nutsregion
```

```
ADD CONSTRAINT fkade968fa284c33f8 FOREIGN KEY (ofcountry) REFERENCES country(id) MATCH
FULL;
```

```
--
-- Definition for index fk5a88e920976316d3 (OID = 117127457) :
```

```
--
ALTER TABLE ONLY nutrientoperation
```

```
ADD CONSTRAINT fk5a88e920976316d3 FOREIGN KEY (fertiliser) REFERENCES fertiliser(id) MATCH
FULL;
```

```
--
-- Definition for index fk5a88e9202ddb69ef (OID = 117127462) :
```

```
--
ALTER TABLE ONLY nutrientoperation
```

```
ADD CONSTRAINT fk5a88e9202ddb69ef FOREIGN KEY (fertiliserapplicationmethod) REFERENCES
fertiliserapplicationmethod(id) MATCH FULL;
```

```
--
-- Definition for index fka683865931df8a80 (OID = 117127467) :
```

```
--
ALTER TABLE ONLY nutrientmanagementcrops
```

```
ADD CONSTRAINT fka683865931df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH
FULL;
```

```
--
-- Definition for index fka683865912be9eac (OID = 117127472) :
```

```
--
ALTER TABLE ONLY nutrientmanagementcrops
```

```
ADD CONSTRAINT fka683865912be9eac FOREIGN KEY (nutrientmanagement_id) REFERENCES
nutrientmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fkcb439a3eabd46bbf (OID = 117127477) :
```

```
--
ALTER TABLE ONLY narrativenarrativeoptions
```

```
ADD CONSTRAINT fkcb439a3eabd46bbf FOREIGN KEY (narrativeoption_id) REFERENCES
narrativeoption(id) MATCH FULL;
```

```
--
-- Definition for index fkcb439a3ea1d3777f (OID = 117127482) :
```

```
--
ALTER TABLE ONLY narrativenarrativeoptions
```

```
ADD CONSTRAINT fkc439a3ea1d3777f FOREIGN KEY (narrative_id) REFERENCES narrative(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fkd485d90d23455a8 (OID = 117127487) :
```

```
--
```

```
ALTER TABLE ONLY multiplerepetitionthreshold_arrayofdayintervals
```

```
ADD CONSTRAINT fkd485d90d23455a8 FOREIGN KEY (id) REFERENCES multiplerepetitionthreshold(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fk42ca619c5736e239 (OID = 117127492) :
```

```
--
```

```
ALTER TABLE ONLY modulation
```

```
ADD CONSTRAINT fk42ca619c5736e239 FOREIGN KEY (fromcountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e050e1ef73d7e3fd28a5 (OID = 117127497) :
```

```
--
```

```
ALTER TABLE ONLY modelvariable
```

```
ADD CONSTRAINT fk5339e050e1ef73d7e3fd28a5 FOREIGN KEY (model) REFERENCES model(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e05097eb2047e3fd28a5 (OID = 117127502) :
```

```
--
```

```
ALTER TABLE ONLY modelvariable
```

```
ADD CONSTRAINT fk5339e05097eb2047e3fd28a5 FOREIGN KEY (spatialscale) REFERENCES
spatialscale(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e050471bddece3fd28a5 (OID = 117127507) :
```

```
--
```

```
ALTER TABLE ONLY modelvariable
```

```
ADD CONSTRAINT fk5339e050471bddece3fd28a5 FOREIGN KEY (indicatorvaluetable) REFERENCES
indicatorvaluetable(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e0503e6cc735e3fd28a5 (OID = 117127512) :
```

```
--
```

```
ALTER TABLE ONLY modelvariable
```

```
ADD CONSTRAINT fk5339e0503e6cc735e3fd28a5 FOREIGN KEY (temporalscale) REFERENCES
temporalscale(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fkd28ef204dee7f6b5 (OID = 117127517) :
```

```
--
```

```
ALTER TABLE ONLY modelspatial scales
```

```
ADD CONSTRAINT fkd28ef204dee7f6b5 FOREIGN KEY (spatialscale_id) REFERENCES spatialscale(id)
MATCH FULL;
```

```
--
-- Definition for index fkd28ef204b6d5b29f (OID = 117127522) :
```

```
--
ALTER TABLE ONLY modelspatialscales
```

```
ADD CONSTRAINT fkd28ef204b6d5b29f FOREIGN KEY (model_id) REFERENCES model(id) MATCH
FULL;
```

```
--
-- Definition for index fka5e0e5c2b6d5b29f (OID = 117127527) :
```

```
--
ALTER TABLE ONLY modelchainmodels
```

```
ADD CONSTRAINT fka5e0e5c2b6d5b29f FOREIGN KEY (model_id) REFERENCES model(id) MATCH
FULL;
```

```
--
-- Definition for index fka5e0e5c283980435 (OID = 117127532) :
```

```
--
ALTER TABLE ONLY modelchainmodels
```

```
ADD CONSTRAINT fka5e0e5c283980435 FOREIGN KEY (modelchain_id) REFERENCES modelchain(id)
MATCH FULL;
```

```
--
-- Definition for index fkf2ba593897eb2047 (OID = 117127537) :
```

```
--
ALTER TABLE ONLY modelchain
```

```
ADD CONSTRAINT fkf2ba593897eb2047 FOREIGN KEY (spatialscale) REFERENCES spatialscale(id)
MATCH FULL;
```

```
--
-- Definition for index fkf2ba59383e6cc735 (OID = 117127542) :
```

```
--
ALTER TABLE ONLY modelchain
```

```
ADD CONSTRAINT fkf2ba59383e6cc735 FOREIGN KEY (temporalscale) REFERENCES temporalscale(id)
MATCH FULL;
```

```
--
-- Definition for index fk2aa44940976316d3 (OID = 117127547) :
```

```
--
ALTER TABLE ONLY manuresimple
```

```
ADD CONSTRAINT fk2aa44940976316d3 FOREIGN KEY (fertiliser) REFERENCES fertiliser(id) MATCH
FULL;
```

```
--
-- Definition for index fk2aa449402ddb69ef (OID = 117127552) :
```

```
--
ALTER TABLE ONLY manuresimple
```

ADD CONSTRAINT fk2aa449402ddb69ef FOREIGN KEY (fertiliserapplicationmethod) REFERENCES fertiliserapplicationmethod(id) MATCH FULL;

--
-- Definition for index fka94eb9acebe145e (OID = 117127557) :

--
ALTER TABLE ONLY managementprocedureinputsandimplements

ADD CONSTRAINT fka94eb9acebe145e FOREIGN KEY (managementprocedure_id) REFERENCES managementprocedure(id) MATCH FULL;

--
-- Definition for index fk8723b29e9fdd5bf6 (OID = 117127562) :

--
ALTER TABLE ONLY managementprocedureandtimingtimedecade

ADD CONSTRAINT fk8723b29e9fdd5bf6 FOREIGN KEY (managementprocedureandtiming_id) REFERENCES managementprocedureandtiming(id) MATCH FULL;

--
-- Definition for index fk8723b29e2447e697 (OID = 117127567) :

--
ALTER TABLE ONLY managementprocedureandtimingtimedecade

ADD CONSTRAINT fk8723b29e2447e697 FOREIGN KEY (timedecade_id) REFERENCES timedecade(id) MATCH FULL;

--
-- Definition for index fk93e7513114f0f484 (OID = 117127572) :

--
ALTER TABLE ONLY managementprocedureandtiming

ADD CONSTRAINT fk93e7513114f0f484 FOREIGN KEY (managementprocedure) REFERENCES managementprocedure(id) MATCH FULL;

--
-- Definition for index fkd4f989425b19c896 (OID = 117127577) :

--
ALTER TABLE ONLY livestockinformation

ADD CONSTRAINT fkd4f989425b19c896 FOREIGN KEY (islivestockinformationof) REFERENCES representativefarm(id) MATCH FULL;

--
-- Definition for index fk2349c9be4f5237be (OID = 117127582) :

--
ALTER TABLE ONLY irrigationwindow

ADD CONSTRAINT fk2349c9be4f5237be FOREIGN KEY (cropphenologicalstageend) REFERENCES cropphenologicalstage(id) MATCH FULL;

--
-- Definition for index fk2349c9be3cf61c05 (OID = 117127587) :

--
ALTER TABLE ONLY irrigationwindow

```
ADD CONSTRAINT fk2349c9be3cf61c05 FOREIGN KEY (cropphenologicalstagestart) REFERENCES
cropphenologicalstage(id) MATCH FULL;
```

```
--
-- Definition for index fk1c761f80cc4e2b1b (OID = 117127592) :
```

```
ALTER TABLE ONLY irrigationsimple
```

```
ADD CONSTRAINT fk1c761f80cc4e2b1b FOREIGN KEY (irrigationmethod) REFERENCES
irrigationmethod(id) MATCH FULL;
```

```
--
-- Definition for index fk1c761f8051fff1b5 (OID = 117127597) :
```

```
ALTER TABLE ONLY irrigationsimple
```

```
ADD CONSTRAINT fk1c761f8051fff1b5 FOREIGN KEY (irrigationwater) REFERENCES
irrigationwater(id) MATCH FULL;
```

```
--
-- Definition for index fkf7d76cd9cc4e2b1b (OID = 117127602) :
```

```
ALTER TABLE ONLY irrigationoperation
```

```
ADD CONSTRAINT fkf7d76cd9cc4e2b1b FOREIGN KEY (irrigationmethod) REFERENCES
irrigationmethod(id) MATCH FULL;
```

```
--
-- Definition for index fkf7d76cd951fff1b5 (OID = 117127607) :
```

```
ALTER TABLE ONLY irrigationoperation
```

```
ADD CONSTRAINT fkf7d76cd951fff1b5 FOREIGN KEY (irrigationwater) REFERENCES
irrigationwater(id) MATCH FULL;
```

```
--
-- Definition for index fkaf296cbe11f1eec2 (OID = 117127612) :
```

```
ALTER TABLE ONLY intercropping
```

```
ADD CONSTRAINT fkaf296cbe11f1eec2 FOREIGN KEY (intercrop) REFERENCES crop(id) MATCH
FULL;
```

```
--
-- Definition for index fk764e51efe9657159 (OID = 117127617) :
```

```
ALTER TABLE ONLY institutionalcompatibilitypicaspatiallevels
```

```
ADD CONSTRAINT fk764e51efe9657159 FOREIGN KEY (picaspatiallevel_id) REFERENCES
picaspatiallevel(id) MATCH FULL;
```

```
--
-- Definition for index fk764e51ef7a8dd6d9 (OID = 117127622) :
```

```
ALTER TABLE ONLY institutionalcompatibilitypicaspatiallevels
```

```
ADD CONSTRAINT fk764e51ef7a8dd6d9 FOREIGN KEY (institutionalcompatibility_id) REFERENCES
institutionalcompatibility(id) MATCH FULL;
```

```
--
-- Definition for index fk9a86166d6dcbd361 (OID = 117127627) :
```

```
ALTER TABLE ONLY institutionalcompatibility
```

```
ADD CONSTRAINT fk9a86166d6dcbd361 FOREIGN KEY (naturalresourcefocus) REFERENCES
naturalresourcefocus(id) MATCH FULL;
```

```
--
-- Definition for index fk9a86166d6cbec677 (OID = 117127632) :
```

```
ALTER TABLE ONLY institutionalcompatibility
```

```
ADD CONSTRAINT fk9a86166d6cbec677 FOREIGN KEY (project) REFERENCES project(id) MATCH
FULL;
```

```
--
-- Definition for index fk9a86166d47809157 (OID = 117127637) :
```

```
ALTER TABLE ONLY institutionalcompatibility
```

```
ADD CONSTRAINT fk9a86166d47809157 FOREIGN KEY (policytype) REFERENCES policytype(id)
MATCH FULL;
```

```
--
-- Definition for index fk9a86166d4045b3f4 (OID = 117127642) :
```

```
ALTER TABLE ONLY institutionalcompatibility
```

```
ADD CONSTRAINT fk9a86166d4045b3f4 FOREIGN KEY (propertyrightschange) REFERENCES
propertyrightschanges(id) MATCH FULL;
```

```
--
-- Definition for index fkef96e98ffa804bfe3c5c2e03 (OID = 117127647) :
```

```
ALTER TABLE ONLY inputonsoilinmanagementprocedure
```

```
ADD CONSTRAINT fkef96e98ffa804bfe3c5c2e03 FOREIGN KEY (regionalagromanagementzone)
REFERENCES regionalagromanagementzone(id) MATCH FULL;
```

```
--
-- Definition for index fk3c5c2e03b8ea9513 (OID = 117127652) :
```

```
ALTER TABLE ONLY inputonsoilinmanagementprocedure
```

```
ADD CONSTRAINT fk3c5c2e03b8ea9513 FOREIGN KEY (input_) REFERENCES input_(id) MATCH
FULL;
```

```
--
-- Definition for index fk3c5c2e035a51bf4d (OID = 117127657) :
```

```
ALTER TABLE ONLY inputonsoilinmanagementprocedure
```

```
ADD CONSTRAINT fk3c5c2e035a51bf4d FOREIGN KEY (managementprocedurewithtiming)
REFERENCES managementprocedureandtiming(id) MATCH FULL;
```

```
--
-- Definition for index fk69d0550ae3475e8f (OID = 117127662) :
```

```
ALTER TABLE ONLY inflationrate
```

```
ADD CONSTRAINT fk69d0550ae3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
-- Definition for index fk676020c2ad66e595d0de2514 (OID = 117127667) :
```

```
ALTER TABLE ONLY indicatorvaluesimple
```

```
ADD CONSTRAINT fk676020c2ad66e595d0de2514 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
-- Definition for index fkc130f74cd4c99a86 (OID = 117127672) :
```

```
ALTER TABLE ONLY indicatorvalueproductgroupnutsregion
```

```
ADD CONSTRAINT fkc130f74cd4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
--
-- Definition for index fkc130f74c4d5ae8ae (OID = 117127677) :
```

```
ALTER TABLE ONLY indicatorvalueproductgroupnutsregion
```

```
ADD CONSTRAINT fkc130f74c4d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH
FULL;
```

```
--
-- Definition for index fk676020c2ad66e595c130f74c (OID = 117127682) :
```

```
ALTER TABLE ONLY indicatorvalueproductgroupnutsregion
```

```
ADD CONSTRAINT fk676020c2ad66e595c130f74c FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
-- Definition for index fk676020c2ad66e59557c2e79b (OID = 117127687) :
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountryaggregate
```

```
ADD CONSTRAINT fk676020c2ad66e59557c2e79b FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
-- Definition for index fk57c2e79be3475e8f (OID = 117127692) :
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountryaggregate
```

```
ADD CONSTRAINT fk57c2e79be3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk57c2e79bd4c99a86 (OID = 117127697) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountryaggregate
```

```
ADD CONSTRAINT fk57c2e79bd4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fkf061ca84d4c99a86 (OID = 117127702) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountry
```

```
ADD CONSTRAINT fkf061ca84d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fkf061ca847ae831af (OID = 117127707) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountry
```

```
ADD CONSTRAINT fkf061ca847ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;
```

```
--
```

```
-- Definition for index fk676020c2ad66e595f061ca84 (OID = 117127712) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvalueproductgroupcountry
```

```
ADD CONSTRAINT fk676020c2ad66e595f061ca84 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk9255eb5c4d5ae8ae (OID = 117127717) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvaluenutsregion
```

```
ADD CONSTRAINT fk9255eb5c4d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH
FULL;
```

```
--
```

```
-- Definition for index fk676020c2ad66e5959255eb5c (OID = 117127722) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvaluenutsregion
```

```
ADD CONSTRAINT fk676020c2ad66e5959255eb5c FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk676020c2ad66e5952cdf6b91 (OID = 117127727) :
```

```
--
```

```
ALTER TABLE ONLY indicatorvalueinputgroupnutsregion
```

```
ADD CONSTRAINT fk676020c2ad66e5952cdf6b91 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
--
-- Definition for index fk2cdf6b91f065b467 (OID = 117127732) :
--
ALTER TABLE ONLY indicatorvalueinputgroupnutsregion
ADD CONSTRAINT fk2cdf6b91f065b467 FOREIGN KEY (inputgroup) REFERENCES inputgroup(id)
MATCH FULL;
--
-- Definition for index fk2cdf6b914d5ae8ae (OID = 117127737) :
--
ALTER TABLE ONLY indicatorvalueinputgroupnutsregion
ADD CONSTRAINT fk2cdf6b914d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH
FULL;
--
-- Definition for index fk676020c2ad66e5955dd85420 (OID = 117127742) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountryaggregate
ADD CONSTRAINT fk676020c2ad66e5955dd85420 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
--
-- Definition for index fk5dd85420f065b467 (OID = 117127747) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountryaggregate
ADD CONSTRAINT fk5dd85420f065b467 FOREIGN KEY (inputgroup) REFERENCES inputgroup(id)
MATCH FULL;
--
-- Definition for index fk5dd85420e3475e8f (OID = 117127752) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountryaggregate
ADD CONSTRAINT fk5dd85420e3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fk676020c2ad66e5953058445f (OID = 117127757) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountry
ADD CONSTRAINT fk676020c2ad66e5953058445f FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
--
-- Definition for index fk3058445ff065b467 (OID = 117127762) :
--
ALTER TABLE ONLY indicatorvalueinputgroupcountry
```

ADD CONSTRAINT fk3058445ff065b467 FOREIGN KEY (inputgroup) REFERENCES inputgroup(id)
MATCH FULL;

--

-- Definition for index fk3058445f7ae831af (OID = 117127767) :

--

ALTER TABLE ONLY indicatorvalueinputgroupcountry

ADD CONSTRAINT fk3058445f7ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;

--

-- Definition for index fkcc618db5b6840fa (OID = 117127772) :

--

ALTER TABLE ONLY indicatorvaluefarmagrienvIRONMENTALZONE

ADD CONSTRAINT fkcc618db5b6840fa FOREIGN KEY (agrienvIRONMENTALZONE) REFERENCES
agrienvIRONMENTALZONE(id) MATCH FULL;

--

-- Definition for index fkcc618db58c89bc89 (OID = 117127777) :

--

ALTER TABLE ONLY indicatorvaluefarmagrienvIRONMENTALZONE

ADD CONSTRAINT fkcc618db58c89bc89 FOREIGN KEY (farm) REFERENCES representativefarm(id)
MATCH FULL;

--

-- Definition for index fk676020c2ad66e595cc618db5 (OID = 117127782) :

--

ALTER TABLE ONLY indicatorvaluefarmagrienvIRONMENTALZONE

ADD CONSTRAINT fk676020c2ad66e595cc618db5 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;

--

-- Definition for index fk851f3c188c89bc89 (OID = 117127787) :

--

ALTER TABLE ONLY indicatorvaluefarm

ADD CONSTRAINT fk851f3c188c89bc89 FOREIGN KEY (farm) REFERENCES representativefarm(id)
MATCH FULL;

--

-- Definition for index fk676020c2ad66e595851f3c18 (OID = 117127792) :

--

ALTER TABLE ONLY indicatorvaluefarm

ADD CONSTRAINT fk676020c2ad66e595851f3c18 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;

--

-- Definition for index fk851e1e72f42c57e6 (OID = 117127797) :

--

ALTER TABLE ONLY indicatorvaluecrop

ADD CONSTRAINT fk851e1e72f42c57e6 FOREIGN KEY (crop) REFERENCES crop(id) MATCH FULL;

```
--  
-- Definition for index fk851e1e728c89bc89 (OID = 117127802) :  
--  
ALTER TABLE ONLY indicatorvaluecrop  
  ADD CONSTRAINT fk851e1e728c89bc89 FOREIGN KEY (farm) REFERENCES representativefarm(id)  
  MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e595851e1e72 (OID = 117127807) :  
--  
ALTER TABLE ONLY indicatorvaluecrop  
  ADD CONSTRAINT fk676020c2ad66e595851e1e72 FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--  
-- Definition for index fk7cc48fabe3475e8f (OID = 117127812) :  
--  
ALTER TABLE ONLY indicatorvaluecountryaggregate  
  ADD CONSTRAINT fk7cc48fabe3475e8f FOREIGN KEY (countryaggregate) REFERENCES  
  countryaggregate(id) MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e5957cc48fab (OID = 117127817) :  
--  
ALTER TABLE ONLY indicatorvaluecountryaggregate  
  ADD CONSTRAINT fk676020c2ad66e5957cc48fab FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--  
-- Definition for index fk72fd0747ae831af (OID = 117127822) :  
--  
ALTER TABLE ONLY indicatorvaluecountry  
  ADD CONSTRAINT fk72fd0747ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH  
  FULL;  
--  
-- Definition for index fk676020c2ad66e59572fd074 (OID = 117127827) :  
--  
ALTER TABLE ONLY indicatorvaluecountry  
  ADD CONSTRAINT fk676020c2ad66e59572fd074 FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e5952d62ee84 (OID = 117127832) :  
--  
ALTER TABLE ONLY indicatorvaluebetweencountryaggregates  
  ADD CONSTRAINT fk676020c2ad66e5952d62ee84 FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--
```

```
-- Definition for index fk2d62ee84ef09170a (OID = 117127837) :
--
ALTER TABLE ONLY indicatorvaluebetweencountryaggregates
  ADD CONSTRAINT fk2d62ee84ef09170a FOREIGN KEY (tocountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fk2d62ee84d4c99a86 (OID = 117127842) :
--
ALTER TABLE ONLY indicatorvaluebetweencountryaggregates
  ADD CONSTRAINT fk2d62ee84d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
--
-- Definition for index fk2d62ee845736e239 (OID = 117127847) :
--
ALTER TABLE ONLY indicatorvaluebetweencountryaggregates
  ADD CONSTRAINT fk2d62ee845736e239 FOREIGN KEY (fromcountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fkaceddaa859788dc3 (OID = 117127852) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupnutsregion
  ADD CONSTRAINT fkaceddaa859788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)
MATCH FULL;
--
-- Definition for index fkaceddaa84d5ae8ae (OID = 117127857) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupnutsregion
  ADD CONSTRAINT fkaceddaa84d5ae8ae FOREIGN KEY (region) REFERENCES nutsregion(id) MATCH
FULL;
--
-- Definition for index fk676020c2ad66e595aceddaa8 (OID = 117127862) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupnutsregion
  ADD CONSTRAINT fk676020c2ad66e595aceddaa8 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
--
-- Definition for index fkafc6d5f7e3475e8f (OID = 117127867) :
--
ALTER TABLE ONLY indicatorvalueactivitygroupcountryaggregate
  ADD CONSTRAINT fkafc6d5f7e3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fkafc6d5f759788dc3 (OID = 117127872) :
```

```
--  
ALTER TABLE ONLY indicatorvalueactivitygroupcountryaggregate  
  ADD CONSTRAINT fkafc6d5f759788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)  
  MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e595afc6d5f7 (OID = 117127877) :  
--  
ALTER TABLE ONLY indicatorvalueactivitygroupcountryaggregate  
  ADD CONSTRAINT fk676020c2ad66e595afc6d5f7 FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e595397304a8 (OID = 117127882) :  
--  
ALTER TABLE ONLY indicatorvalueactivitygroupcountry  
  ADD CONSTRAINT fk676020c2ad66e595397304a8 FOREIGN KEY (experiment) REFERENCES  
  experiment(id) MATCH FULL;  
--  
-- Definition for index fk397304a87ae831af (OID = 117127887) :  
--  
ALTER TABLE ONLY indicatorvalueactivitygroupcountry  
  ADD CONSTRAINT fk397304a87ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH  
  FULL;  
--  
-- Definition for index fk397304a859788dc3 (OID = 117127892) :  
--  
ALTER TABLE ONLY indicatorvalueactivitygroupcountry  
  ADD CONSTRAINT fk397304a859788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)  
  MATCH FULL;  
--  
-- Definition for index fk924295f18c89bc89 (OID = 117127897) :  
--  
ALTER TABLE ONLY indicatorvalueactivity  
  ADD CONSTRAINT fk924295f18c89bc89 FOREIGN KEY (farm) REFERENCES representativefarm(id)  
  MATCH FULL;  
--  
-- Definition for index fk924295f150568399 (OID = 117127902) :  
--  
ALTER TABLE ONLY indicatorvalueactivity  
  ADD CONSTRAINT fk924295f150568399 FOREIGN KEY (productionactivity) REFERENCES  
  productionactivity(id) MATCH FULL;  
--  
-- Definition for index fk676020c2ad66e595924295f1 (OID = 117127907) :  
--
```

ALTER TABLE ONLY indicatorvalueactivity

```
ADD CONSTRAINT fk676020c2ad66e595924295f1 FOREIGN KEY (experiment) REFERENCES
experiment(id) MATCH FULL;
```

--

-- Definition for index fke779335b4ded8b63 (OID = 117127912) :

--

ALTER TABLE ONLY indicatorgrouptradeoff

```
ADD CONSTRAINT fke779335b4ded8b63 FOREIGN KEY (indicatorgroup_id1) REFERENCES
indicatorgroup(id) MATCH FULL;
```

--

-- Definition for index fke779335b47dc39c6 (OID = 117127917) :

--

ALTER TABLE ONLY indicatorgrouptradeoff

```
ADD CONSTRAINT fke779335b47dc39c6 FOREIGN KEY (indicatorgroup_id) REFERENCES
indicatorgroup(id) MATCH FULL;
```

--

-- Definition for index fkfb74761a4eb13446 (OID = 117127922) :

--

ALTER TABLE ONLY indicatorgroupsubthemes

```
ADD CONSTRAINT fkfb74761a4eb13446 FOREIGN KEY (subtheme_id) REFERENCES
subtheme(id) MATCH FULL;
```

--

-- Definition for index fkfb74761a47dc39c6 (OID = 117127927) :

--

ALTER TABLE ONLY indicatorgroupsubthemes

```
ADD CONSTRAINT fkfb74761a47dc39c6 FOREIGN KEY (indicatorgroup_id) REFERENCES
indicatorgroup(id) MATCH FULL;
```

--

-- Definition for index fkfeefac3f47dc39c6 (OID = 117127932) :

--

ALTER TABLE ONLY indicatorgroupdomains

```
ADD CONSTRAINT fkfeefac3f47dc39c6 FOREIGN KEY (indicatorgroup_id) REFERENCES
indicatorgroup(id) MATCH FULL;
```

--

-- Definition for index fkfeefac3f1892feaf (OID = 117127937) :

--

ALTER TABLE ONLY indicatorgroupdomains

```
ADD CONSTRAINT fkfeefac3f1892feaf FOREIGN KEY (domain__id) REFERENCES
domain_(id) MATCH FULL;
```

--

-- Definition for index fk97c79dbdd42e3a4e (OID = 117127942) :

--

ALTER TABLE ONLY indicatorgroupdimensions

```
ADD CONSTRAINT fk97c79dbdd42e3a4e FOREIGN KEY (dimension_id) REFERENCES dimension(id)
MATCH FULL;
```

```
--
-- Definition for index fk97c79dbd47dc39c6 (OID = 117127947) :
```

```
ALTER TABLE ONLY indicatorgroupdimensions
```

```
ADD CONSTRAINT fk97c79dbd47dc39c6 FOREIGN KEY (indicatorgroup_id) REFERENCES
indicatorgroup(id) MATCH FULL;
```

```
--
-- Definition for index fk6fa15c0cb4c7333 (OID = 117127952) :
```

```
ALTER TABLE ONLY grassmanagementalternativealternativegrassmanagement
```

```
ADD CONSTRAINT fk6fa15c0cb4c7333 FOREIGN KEY (grassmanagement_id) REFERENCES
grassmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk6fa15c0134d60d6 (OID = 117127957) :
```

```
ALTER TABLE ONLY grassmanagementalternativealternativegrassmanagement
```

```
ADD CONSTRAINT fk6fa15c0134d60d6 FOREIGN KEY (grassmanagementalternative_id) REFERENCES
grassmanagementalternative(id) MATCH FULL;
```

```
--
-- Definition for index fk2ad71774dda532b4 (OID = 117127962) :
```

```
ALTER TABLE ONLY grassmanagementalternative
```

```
ADD CONSTRAINT fk2ad71774dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
-- Definition for index fk4355a279dda532b4 (OID = 117127967) :
```

```
ALTER TABLE ONLY grassmanagement
```

```
ADD CONSTRAINT fk4355a279dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
-- Definition for index fke42ee634b056b5b3 (OID = 117127972) :
```

```
ALTER TABLE ONLY grasslandactivitygrassproductions
```

```
ADD CONSTRAINT fke42ee634b056b5b3 FOREIGN KEY (grasslandactivity_id) REFERENCES
grasslandactivity(id) MATCH FULL;
```

```
--
-- Definition for index fke42ee634244f1773 (OID = 117127977) :
```

```
ALTER TABLE ONLY grasslandactivitygrassproductions
```

```
ADD CONSTRAINT fke42ee634244f1773 FOREIGN KEY (grassproduction_id) REFERENCES
grassproduction(id) MATCH FULL;
```

```
--
-- Definition for index fkb08742d0b6840fa (OID = 117127982) :
```

```
ALTER TABLE ONLY grasslandactivity
```

```
ADD CONSTRAINT fkb08742d0b6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fkb08742d0a638dd0b (OID = 117127987) :
```

```
ALTER TABLE ONLY grasslandactivity
```

```
ADD CONSTRAINT fkb08742d0a638dd0b FOREIGN KEY (grassmanagement) REFERENCES
grassmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk67c9182e8201447cb08742d0 (OID = 117127992) :
```

```
ALTER TABLE ONLY grasslandactivity
```

```
ADD CONSTRAINT fk67c9182e8201447cb08742d0 FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fkaedd9a9ff0b17794 (OID = 117127997) :
```

```
ALTER TABLE ONLY grassfeeds
```

```
ADD CONSTRAINT fkaedd9a9ff0b17794 FOREIGN KEY (environmentalzone) REFERENCES
environmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fk14cf2ad641e107a8aedd9a9f (OID = 117128002) :
```

```
ALTER TABLE ONLY grassfeeds
```

```
ADD CONSTRAINT fk14cf2ad641e107a8aedd9a9f FOREIGN KEY (product) REFERENCES
cropproduct(id) MATCH FULL;
```

```
--
-- Definition for index fke32136c7e3475e8f (OID = 117128007) :
```

```
ALTER TABLE ONLY globaltariff
```

```
ADD CONSTRAINT fke32136c7e3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
-- Definition for index fke32136c7d4c99a86 (OID = 117128012) :
```

```
ALTER TABLE ONLY globaltariff
```

ADD CONSTRAINT fke32136c7d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id) MATCH FULL;

--
-- Definition for index fk3e0b8ae98fbf93e3 (OID = 117128017) :

--
ALTER TABLE ONLY fssimlivestockfarmobservedanimallevels

ADD CONSTRAINT fk3e0b8ae98fbf93e3 FOREIGN KEY (fssimlivestockfarm_id) REFERENCES fssimlivestockfarm(id) MATCH FULL;

--
-- Definition for index fk3e0b8ae9589065f6 (OID = 117128022) :

--
ALTER TABLE ONLY fssimlivestockfarmobservedanimallevels

ADD CONSTRAINT fk3e0b8ae9589065f6 FOREIGN KEY (observedanimallevels_id) REFERENCES observedanimallevels(id) MATCH FULL;

--
-- Definition for index fke04d40205359ffa6dd3e4056 (OID = 117128027) :

--
ALTER TABLE ONLY fssimlivestockfarm

ADD CONSTRAINT fke04d40205359ffa6dd3e4056 FOREIGN KEY (representativefarm) REFERENCES representativefarm(id) MATCH FULL;

--
-- Definition for index fke28462b8eabdbde3 (OID = 117128032) :

--
ALTER TABLE ONLY fssimfarmobservedcroppattern

ADD CONSTRAINT fke28462b8eabdbde3 FOREIGN KEY (croparea_id) REFERENCES croparea(id) MATCH FULL;

--
-- Definition for index fk313f1f1387042b23 (OID = 117128037) :

--
ALTER TABLE ONLY fssimfarmfarmareaperagrienvIRONMENTALZONE

ADD CONSTRAINT fk313f1f1387042b23 FOREIGN KEY (farmareaperagrienvIRONMENTALZONE_id) REFERENCES farmareaperagrienvIRONMENTALZONE(id) MATCH FULL;

--
-- Definition for index fke04d40205359ffa68364404b (OID = 117128042) :

--
ALTER TABLE ONLY fssimrablefarm

ADD CONSTRAINT fke04d40205359ffa68364404b FOREIGN KEY (representativefarm) REFERENCES representativefarm(id) MATCH FULL;

--
-- Definition for index fka27d2a3f4a835a9 (OID = 117128047) :

--
ALTER TABLE ONLY fertilisersplit

```
ADD CONSTRAINT fka27d2a3f4a835a9 FOREIGN KEY (cropphenologicalstage) REFERENCES
cropphenologicalstage(id) MATCH FULL;
```

```
--
-- Definition for index fk343b47c25359ffa6 (OID = 117128052) :
```

```
ALTER TABLE ONLY farmquota
```

```
ADD CONSTRAINT fk343b47c25359ffa6 FOREIGN KEY (representativefarm) REFERENCES
representativefarm(id) MATCH FULL;
```

```
--
-- Definition for index fk603f4ad37f364156 (OID = 117128057) :
```

```
ALTER TABLE ONLY farmconstraint
```

```
ADD CONSTRAINT fk603f4ad37f364156 FOREIGN KEY (constraints_) REFERENCES constraints_(id)
MATCH FULL;
```

```
--
-- Definition for index fk603f4ad35359ffa6 (OID = 117128062) :
```

```
ALTER TABLE ONLY farmconstraint
```

```
ADD CONSTRAINT fk603f4ad35359ffa6 FOREIGN KEY (representativefarm) REFERENCES
representativefarm(id) MATCH FULL;
```

```
--
-- Definition for index fk1afa5ef3b6840fa (OID = 117128067) :
```

```
ALTER TABLE ONLY farmareaperagrienvIRONMENTALZONE
```

```
ADD CONSTRAINT fk1afa5ef3b6840fa FOREIGN KEY (agrienvIRONMENTALZONE) REFERENCES
agrienvIRONMENTALZONE(id) MATCH FULL;
```

```
--
-- Definition for index fk4417b92ead66e595 (OID = 117128072) :
```

```
ALTER TABLE ONLY experimentrun
```

```
ADD CONSTRAINT fk4417b92ead66e595 FOREIGN KEY (experiment) REFERENCES experiment(id)
MATCH FULL;
```

```
--
-- Definition for index fk4417b92eaa43604 (OID = 117128077) :
```

```
ALTER TABLE ONLY experimentrun
```

```
ADD CONSTRAINT fk4417b92eaa43604 FOREIGN KEY (lastcompetedmodel) REFERENCES model(id)
MATCH FULL;
```

```
--
-- Definition for index fk9c832cf98665605f (OID = 117128082) :
```

```
ALTER TABLE ONLY experimentqueueexperimentruns
```

```
ADD CONSTRAINT fk9c832cf98665605f FOREIGN KEY (experimentqueue_id) REFERENCES
experimentqueue(id) MATCH FULL;
--
-- Definition for index fk9c832cf9524f835f (OID = 117128087) :
--
ALTER TABLE ONLY experimentqueueexperimentruns
ADD CONSTRAINT fk9c832cf9524f835f FOREIGN KEY (experimentrun_id) REFERENCES
experimentrun(id) MATCH FULL;
--
-- Definition for index fkfcc804b0c6f5c235 (OID = 117128092) :
--
ALTER TABLE ONLY experimentplantwoexperiments
ADD CONSTRAINT fkfcc804b0c6f5c235 FOREIGN KEY (experiment_id) REFERENCES experiment(id)
MATCH FULL;
--
-- Definition for index fkfcc804b07dc74435 (OID = 117128097) :
--
ALTER TABLE ONLY experimentplantwoexperiments
ADD CONSTRAINT fkfcc804b07dc74435 FOREIGN KEY (experimentplan_id) REFERENCES
experimentplan(id) MATCH FULL;
--
-- Definition for index fk71bbb81db12717eb (OID = 117128102) :
--
ALTER TABLE ONLY experiment
ADD CONSTRAINT fk71bbb81db12717eb FOREIGN KEY (modelchain) REFERENCES modelchain(id)
MATCH FULL;
--
-- Definition for index fk71bbb81daab83463 (OID = 117128107) :
--
ALTER TABLE ONLY experiment
ADD CONSTRAINT fk71bbb81daab83463 FOREIGN KEY (policyassessment) REFERENCES
policyassessment(id) MATCH FULL;
--
-- Definition for index fk71bbb81d6f92799a (OID = 117128112) :
--
ALTER TABLE ONLY experiment
ADD CONSTRAINT fk71bbb81d6f92799a FOREIGN KEY (baselineexperiment) REFERENCES
experiment(id) MATCH FULL;
--
-- Definition for index fk71bbb81d59614aa3 (OID = 117128117) :
--
ALTER TABLE ONLY experiment
```

```
ADD CONSTRAINT fk71bbb81d59614aa3 FOREIGN KEY (baseyearexperiment) REFERENCES
experiment(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk71bbb81d572c91f1 (OID = 117128122) :
```

```
--
```

```
ALTER TABLE ONLY experiment
```

```
ADD CONSTRAINT fk71bbb81d572c91f1 FOREIGN KEY (biophysimalsimulation) REFERENCES
biophysimalsimulation(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk71bbb81d3e6cc735 (OID = 117128127) :
```

```
--
```

```
ALTER TABLE ONLY experiment
```

```
ADD CONSTRAINT fk71bbb81d3e6cc735 FOREIGN KEY (temporalscale) REFERENCES
temporalscale(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk71bbb81d1a1bb7cc (OID = 117128132) :
```

```
--
```

```
ALTER TABLE ONLY experiment
```

```
ADD CONSTRAINT fk71bbb81d1a1bb7cc FOREIGN KEY (ofproblem) REFERENCES
problem(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk9a1a523e2dfa9d87 (OID = 117128137) :
```

```
--
```

```
ALTER TABLE ONLY expectedimpact
```

```
ADD CONSTRAINT fk9a1a523e2dfa9d87 FOREIGN KEY (experimentplan) REFERENCES
experimentplan(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk81395f10ef09170a (OID = 117128142) :
```

```
--
```

```
ALTER TABLE ONLY exchangerates
```

```
ADD CONSTRAINT fk81395f10ef09170a FOREIGN KEY (tocountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk81395f105736e239 (OID = 117128147) :
```

```
--
```

```
ALTER TABLE ONLY exchangerates
```

```
ADD CONSTRAINT fk81395f105736e239 FOREIGN KEY (fromcountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fke6cccef5dda532b4 (OID = 117128152) :
```

```
--
```

```
ALTER TABLE ONLY equilibriumprice
```

```
ADD CONSTRAINT fke6cccef5dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
--
-- Definition for index fke6cccef5d4c99a86 (OID = 117128157) :
--
ALTER TABLE ONLY equilibriumprice
ADD CONSTRAINT fke6cccef5d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
--
-- Definition for index fkf6318b81f065b467 (OID = 117128162) :
--
ALTER TABLE ONLY energyprice
ADD CONSTRAINT fkf6318b81f065b467 FOREIGN KEY (inputgroup) REFERENCES inputgroup(id)
MATCH FULL;
--
-- Definition for index fkf6318b81e3475e8f (OID = 117128167) :
--
ALTER TABLE ONLY energyprice
ADD CONSTRAINT fkf6318b81e3475e8f FOREIGN KEY (countryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
--
-- Definition for index fk3c6f4eff4a0220e (OID = 117128172) :
--
ALTER TABLE ONLY endorsedindicatorinformativemodelvariables
ADD CONSTRAINT fk3c6f4eff4a0220e FOREIGN KEY (endorsedindicator_id) REFERENCES
endorsedindicator(id) MATCH FULL;
--
-- Definition for index fk3c6f4ef41aa980e (OID = 117128177) :
--
ALTER TABLE ONLY endorsedindicatorinformativemodelvariables
ADD CONSTRAINT fk3c6f4ef41aa980e FOREIGN KEY (modelvariable_id) REFERENCES
modelvariable(id) MATCH FULL;
--
-- Definition for index fkd668dcbbc97f039a (OID = 117128182) :
--
ALTER TABLE ONLY endorsedindicator
ADD CONSTRAINT fkd668dcbbc97f039a FOREIGN KEY (upscalingprocedure) REFERENCES
upscalingprocedure(id) MATCH FULL;
--
-- Definition for index fkd668dcb4851a960 (OID = 117128187) :
--
ALTER TABLE ONLY endorsedindicator
```

```
ADD CONSTRAINT fkd668dcbb4851a960 FOREIGN KEY (ispartofindicatorgroup) REFERENCES
indicatorgroup(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e050e1ef73d7d668dcbb (OID = 117128192) :
```

```
--
```

```
ALTER TABLE ONLY endorsedindicator
```

```
ADD CONSTRAINT fk5339e050e1ef73d7d668dcbb FOREIGN KEY (model) REFERENCES model(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e05097eb2047d668dcbb (OID = 117128197) :
```

```
--
```

```
ALTER TABLE ONLY endorsedindicator
```

```
ADD CONSTRAINT fk5339e05097eb2047d668dcbb FOREIGN KEY (spatialscale) REFERENCES
spatialscale(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e050471bddec668dcbb (OID = 117128202) :
```

```
--
```

```
ALTER TABLE ONLY endorsedindicator
```

```
ADD CONSTRAINT fk5339e050471bddec668dcbb FOREIGN KEY (indicatorvaluetable) REFERENCES
indicatorvaluetable(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk5339e0503e6cc735d668dcbb (OID = 117128207) :
```

```
--
```

```
ALTER TABLE ONLY endorsedindicator
```

```
ADD CONSTRAINT fk5339e0503e6cc735d668dcbb FOREIGN KEY (temporalscale) REFERENCES
temporalscale(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fka6970adc99e7a901 (OID = 117128212) :
```

```
--
```

```
ALTER TABLE ONLY detailedcropmanagementevents
```

```
ADD CONSTRAINT fka6970adc99e7a901 FOREIGN KEY (detailedcropmanagement_id) REFERENCES
detailedcropmanagement(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fka6970adc7bc6417d (OID = 117128217) :
```

```
--
```

```
ALTER TABLE ONLY detailedcropmanagementevents
```

```
ADD CONSTRAINT fka6970adc7bc6417d FOREIGN KEY (event_id) REFERENCES event(id) MATCH
FULL;
```

```
--
```

```
-- Definition for index fkd582f0d7d4c99a86 (OID = 117128222) :
```

```
--
```

```
ALTER TABLE ONLY demandshift
```

ADD CONSTRAINT fkd582f0d7d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id) MATCH FULL;

--
-- Definition for index fkd582f0d77ae831af (OID = 117128227) :

ALTER TABLE ONLY demandshift

ADD CONSTRAINT fkd582f0d77ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH FULL;

--
-- Definition for index fkc6d82cb1ca80a391 (OID = 117128232) :

ALTER TABLE ONLY defaultimplementations

ADD CONSTRAINT fkc6d82cb1ca80a391 FOREIGN KEY (tillageimplementsecondary) REFERENCES tillageimplement(id) MATCH FULL;

--
-- Definition for index fkc6d82cb16ae8ddf (OID = 117128237) :

ALTER TABLE ONLY defaultimplementations

ADD CONSTRAINT fkc6d82cb16ae8ddf FOREIGN KEY (tillageimplementprimary) REFERENCES tillageimplement(id) MATCH FULL;

--
-- Definition for index fkc6d82cb15068075b (OID = 117128242) :

ALTER TABLE ONLY defaultimplementations

ADD CONSTRAINT fkc6d82cb15068075b FOREIGN KEY (sowingimplement) REFERENCES sowingimplement(id) MATCH FULL;

--
-- Definition for index fkc6d82cb111c39981 (OID = 117128247) :

ALTER TABLE ONLY defaultimplementations

ADD CONSTRAINT fkc6d82cb111c39981 FOREIGN KEY (irrigationimplement) REFERENCES irrigationmethod(id) MATCH FULL;

--
-- Definition for index fk64d403dd4a835a9 (OID = 117128252) :

ALTER TABLE ONLY dayswithoutraincropphenologicalstagerthreshold

ADD CONSTRAINT fk64d403dd4a835a9 FOREIGN KEY (cropphenologicalstage) REFERENCES cropphenologicalstage(id) MATCH FULL;

--
-- Definition for index fk91ac1462dafa55b6 (OID = 117128257) :

ALTER TABLE ONLY dairymanagementalternativedairyoptions

```
ADD CONSTRAINT fk91ac1462dafa55b6 FOREIGN KEY (alternativedairyoption_id) REFERENCES
alternativedairyoption(id) MATCH FULL;
```

```
--
-- Definition for index fk91ac14625b7147be (OID = 117128262) :
```

```
--
ALTER TABLE ONLY dairymanagementalternativedairyoptions
```

```
ADD CONSTRAINT fk91ac14625b7147be FOREIGN KEY (dairymanagement_id) REFERENCES
dairymanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk1fcbbf56dda532b4 (OID = 117128267) :
```

```
--
ALTER TABLE ONLY dairymanagement
```

```
ADD CONSTRAINT fk1fcbbf56dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
-- Definition for index fk8fd76a98dda532b4 (OID = 117128272) :
```

```
--
ALTER TABLE ONLY cutfactorsubsidies
```

```
ADD CONSTRAINT fk8fd76a98dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
-- Definition for index fk8fd76a9859788dc3 (OID = 117128277) :
```

```
--
ALTER TABLE ONLY cutfactorsubsidies
```

```
ADD CONSTRAINT fk8fd76a9859788dc3 FOREIGN KEY (activitygroup) REFERENCES activitygroup(id)
MATCH FULL;
```

```
--
-- Definition for index fka61bc9eaede1253 (OID = 117128282) :
```

```
--
ALTER TABLE ONLY currentarableactivityproductyear
```

```
ADD CONSTRAINT fka61bc9eaede1253 FOREIGN KEY (currentarableactivity_id) REFERENCES
currentarableactivity(id) MATCH FULL;
```

```
--
-- Definition for index fka61bc9e86663ff3 (OID = 117128287) :
```

```
--
ALTER TABLE ONLY currentarableactivityproductyear
```

```
ADD CONSTRAINT fka61bc9e86663ff3 FOREIGN KEY (cropproductyear_id) REFERENCES
cropproductyear(id) MATCH FULL;
```

```
--
-- Definition for index fk63bf9970aede1253 (OID = 117128292) :
```

```
--
ALTER TABLE ONLY currentarableactivitycropyearmanagements
```

```
ADD CONSTRAINT fk63bf9970aede1253 FOREIGN KEY (currentarableactivity_id) REFERENCES
currentarableactivity(id) MATCH FULL;
```

```
--
-- Definition for index fk63bf9970ab465561 (OID = 117128297) :
```

```
--
ALTER TABLE ONLY currentarableactivitycropyearmanagements
```

```
ADD CONSTRAINT fk63bf9970ab465561 FOREIGN KEY (cropyearmanagement_id) REFERENCES
cropyearmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fk67c9182e8201447c679a8ef3 (OID = 117128302) :
```

```
--
ALTER TABLE ONLY currentarableactivity
```

```
ADD CONSTRAINT fk67c9182e8201447c679a8ef3 FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fk679a8ef3c320ee8e (OID = 117128307) :
```

```
--
ALTER TABLE ONLY currentarableactivity
```

```
ADD CONSTRAINT fk679a8ef3c320ee8e FOREIGN KEY (rotation) REFERENCES rotation(id) MATCH
FULL;
```

```
--
-- Definition for index fk679a8ef3b6840fa (OID = 117128312) :
```

```
--
ALTER TABLE ONLY currentarableactivity
```

```
ADD CONSTRAINT fk679a8ef3b6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fk679a8ef35147fe85 (OID = 117128317) :
```

```
--
ALTER TABLE ONLY currentarableactivity
```

```
ADD CONSTRAINT fk679a8ef35147fe85 FOREIGN KEY (productiontechnique) REFERENCES
productiontechnique(id) MATCH FULL;
```

```
--
-- Definition for index fk7d65dcb3db155b99 (OID = 117128322) :
```

```
--
ALTER TABLE ONLY crucialinstitutionalaspectpropertyrightschanges
```

```
ADD CONSTRAINT fk7d65dcb3db155b99 FOREIGN KEY (crucialinstitutionalaspect_id) REFERENCES
crucialinstitutionalaspect(id) MATCH FULL;
```

```
--
-- Definition for index fk7d65dcb36f32be5b (OID = 117128327) :
```

```
--
ALTER TABLE ONLY crucialinstitutionalaspectpropertyrightschanges
```

ADD CONSTRAINT fk7d65dcb36f32be5b FOREIGN KEY (propertyrightschanges_id) REFERENCES propertyrightschanges(id) MATCH FULL;

--
-- Definition for index fk1d56503db155b99 (OID = 117128332) :

ALTER TABLE ONLY crucialinstitutionalaspectpolicytypes

ADD CONSTRAINT fk1d56503db155b99 FOREIGN KEY (crucialinstitutionalaspect_id) REFERENCES crucialinstitutionalaspect(id) MATCH FULL;

--
-- Definition for index fk1d56503d776a4b9 (OID = 117128337) :

ALTER TABLE ONLY crucialinstitutionalaspectpolicytypes

ADD CONSTRAINT fk1d56503d776a4b9 FOREIGN KEY (policytype_id) REFERENCES policytype(id) MATCH FULL;

--
-- Definition for index fk79bbd982db155b99 (OID = 117128342) :

ALTER TABLE ONLY crucialinstitutionalaspectnaturalresourcefoci

ADD CONSTRAINT fk79bbd982db155b99 FOREIGN KEY (crucialinstitutionalaspect_id) REFERENCES crucialinstitutionalaspect(id) MATCH FULL;

--
-- Definition for index fk79bbd9821f220179 (OID = 117128347) :

ALTER TABLE ONLY crucialinstitutionalaspectnaturalresourcefoci

ADD CONSTRAINT fk79bbd9821f220179 FOREIGN KEY (naturalresourcefocus_id) REFERENCES naturalresourcefocus(id) MATCH FULL;

--
-- Definition for index fk5f8cfb30f864532f (OID = 117128352) :

ALTER TABLE ONLY cropyearmanagement

ADD CONSTRAINT fk5f8cfb30f864532f FOREIGN KEY (year_) REFERENCES rotationyear(id) MATCH FULL;

--
-- Definition for index fk5f8cfb30f42c57e6 (OID = 117128357) :

ALTER TABLE ONLY cropyearmanagement

ADD CONSTRAINT fk5f8cfb30f42c57e6 FOREIGN KEY (crop) REFERENCES crop(id) MATCH FULL;

--
-- Definition for index fk46fbc446437798cc (OID = 117128362) :

ALTER TABLE ONLY croproportionrequirementsnotpossiblepreviouscrops

ADD CONSTRAINT fk46fbc446437798cc FOREIGN KEY (croproportionrequirements_id) REFERENCES croproportionrequirements(id) MATCH FULL;

```
--  
-- Definition for index fk46fbc44631df8a80 (OID = 117128367) :  
--  
ALTER TABLE ONLY croprotectionrequirementsnotpossiblepreviouscrops  
  ADD CONSTRAINT fk46fbc44631df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH  
  FULL;  
--  
-- Definition for index fkfc60edfebad9ffd9 (OID = 117128372) :  
--  
ALTER TABLE ONLY croprotectionrequirements  
  ADD CONSTRAINT fkfc60edfebad9ffd9 FOREIGN KEY (managementzone) REFERENCES  
  environmentalzone(id) MATCH FULL;  
--  
-- Definition for index fkfc60edfe289c89f5 (OID = 117128377) :  
--  
ALTER TABLE ONLY croprotectionrequirements  
  ADD CONSTRAINT fkfc60edfe289c89f5 FOREIGN KEY (iscroprotectionrequirements) REFERENCES  
  crop(id) MATCH FULL;  
--  
-- Definition for index fkb2f45801f864532f (OID = 117128382) :  
--  
ALTER TABLE ONLY cropproductyear  
  ADD CONSTRAINT fkb2f45801f864532f FOREIGN KEY (year_) REFERENCES rotationyear(id) MATCH  
  FULL;  
--  
-- Definition for index fkb2f458014cdcaff2 (OID = 117128387) :  
--  
ALTER TABLE ONLY cropproductyear  
  ADD CONSTRAINT fkb2f458014cdcaff2 FOREIGN KEY (cropproductyield) REFERENCES  
  yieldofcropproduct(id) MATCH FULL;  
--  
-- Definition for index fkcd85501fb733a23d (OID = 117128392) :  
--  
ALTER TABLE ONLY cropproduct  
  ADD CONSTRAINT fkcd85501fb733a23d FOREIGN KEY (ofcrop) REFERENCES crop(id) MATCH FULL;  
--  
-- Definition for index fk50c664cf548d2cd4cd85501f (OID = 117128397) :  
--  
ALTER TABLE ONLY cropproduct  
  ADD CONSTRAINT fk50c664cf548d2cd4cd85501f FOREIGN KEY (oftype) REFERENCES producttype(id)  
  MATCH FULL;  
--  
-- Definition for index fk48d67b184a835a9 (OID = 117128402) :  
--
```

```
--  
ALTER TABLE ONLY cropphenologicalstagethreshold  
  ADD CONSTRAINT fk48d67b184a835a9 FOREIGN KEY (cropphenologicalstage) REFERENCES  
cropphenologicalstage(id) MATCH FULL;  
--  
-- Definition for index fkd37a8c8a4a835a9 (OID = 117128407) :  
--  
ALTER TABLE ONLY cropphenologicalstagetemperaturethreshold  
  ADD CONSTRAINT fkd37a8c8a4a835a9 FOREIGN KEY (cropphenologicalstage) REFERENCES  
cropphenologicalstage(id) MATCH FULL;  
--  
-- Definition for index fkb77b5a2af864532f (OID = 117128412) :  
--  
ALTER TABLE ONLY cropperyear  
  ADD CONSTRAINT fkb77b5a2af864532f FOREIGN KEY (year_) REFERENCES rotationyear(id) MATCH  
FULL;  
--  
-- Definition for index fkb77b5a2af42c57e6 (OID = 117128417) :  
--  
ALTER TABLE ONLY cropperyear  
  ADD CONSTRAINT fkb77b5a2af42c57e6 FOREIGN KEY (crop) REFERENCES crop(id) MATCH FULL;  
--  
-- Definition for index fk7ba15ff7dd116e5 (OID = 117128422) :  
--  
ALTER TABLE ONLY croppnitrogenrecovery  
  ADD CONSTRAINT fk7ba15ff7dd116e5 FOREIGN KEY (texturalclass) REFERENCES texturalclasssoil(id)  
MATCH FULL;  
--  
-- Definition for index fk18c62ddbc097141 (OID = 117128427) :  
--  
ALTER TABLE ONLY croppnitrogenrecoveries  
  ADD CONSTRAINT fk18c62ddbc097141 FOREIGN KEY (croppnitrogenrecovery_id) REFERENCES  
croppnitrogenrecovery(id) MATCH FULL;  
--  
-- Definition for index fk18c62dd31df8a80 (OID = 117128432) :  
--  
ALTER TABLE ONLY croppnitrogenrecoveries  
  ADD CONSTRAINT fk18c62dd31df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH FULL;  
--  
-- Definition for index fka645d1a669952a77 (OID = 117128437) :  
--  
ALTER TABLE ONLY cropmanagementruleirrigationwindows
```

```
ADD CONSTRAINT fka645d1a669952a77 FOREIGN KEY (cropmanagementrule_id) REFERENCES
cropmanagementrule(id) MATCH FULL;
```

```
--
-- Definition for index fka645d1a628612737 (OID = 117128442) :
```

```
ALTER TABLE ONLY cropmanagementruleirrigationwindows
```

```
ADD CONSTRAINT fka645d1a628612737 FOREIGN KEY (irrigationwindow_id) REFERENCES
irrigationwindow(id) MATCH FULL;
```

```
-- Definition for index fke1d010c369952a77 (OID = 117128447) :
```

```
ALTER TABLE ONLY cropmanagementrulefertilisersplits
```

```
ADD CONSTRAINT fke1d010c369952a77 FOREIGN KEY (cropmanagementrule_id) REFERENCES
cropmanagementrule(id) MATCH FULL;
```

```
-- Definition for index fke1d010c33ec5a37d (OID = 117128452) :
```

```
ALTER TABLE ONLY cropmanagementrulefertilisersplits
```

```
ADD CONSTRAINT fke1d010c33ec5a37d FOREIGN KEY (fertilisersplit_id) REFERENCES
fertilisersplit(id) MATCH FULL;
```

```
-- Definition for index fk272e8fe2f879e5bd (OID = 117128457) :
```

```
ALTER TABLE ONLY cropmanagementruledefaultimplements
```

```
ADD CONSTRAINT fk272e8fe2f879e5bd FOREIGN KEY (defaultimplements_id) REFERENCES
defaultimplements(id) MATCH FULL;
```

```
-- Definition for index fk272e8fe269952a77 (OID = 117128462) :
```

```
ALTER TABLE ONLY cropmanagementruledefaultimplements
```

```
ADD CONSTRAINT fk272e8fe269952a77 FOREIGN KEY (cropmanagementrule_id) REFERENCES
cropmanagementrule(id) MATCH FULL;
```

```
-- Definition for index fk28e930aff42c57e6 (OID = 117128467) :
```

```
ALTER TABLE ONLY cropmanagementrule
```

```
ADD CONSTRAINT fk28e930aff42c57e6 FOREIGN KEY (crop) REFERENCES crop(id) MATCH FULL;
```

```
-- Definition for index fkc33f85afa28918fe8d5cf7d (OID = 117128472) :
```

```
ALTER TABLE ONLY cropgrouprotationrequirements
```

```
ADD CONSTRAINT fkc33f85afa28918fe8d5cf7d FOREIGN KEY (iscropgroupof) REFERENCES
activitygroup(id) MATCH FULL;
```

```
--
-- Definition for index fkab8207c931df8a80 (OID = 117128477) :
--
ALTER TABLE ONLY cropgroupcropsetofcrops
  ADD CONSTRAINT fkab8207c931df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH
FULL;
--
-- Definition for index fk82289b5d54a4ce34 (OID = 117128482) :
--
ALTER TABLE ONLY croparea
  ADD CONSTRAINT fk82289b5d54a4ce34 FOREIGN KEY (simplecropgroup) REFERENCES
simplecropgroup(id) MATCH FULL;
--
-- Definition for index fk202eb0dc3e8710 (OID = 117128487) :
--
ALTER TABLE ONLY crop
  ADD CONSTRAINT fk202eb0dc3e8710 FOREIGN KEY (cropsoilrequirements) REFERENCES
cropsoilrequirements(id) MATCH FULL;
--
-- Definition for index fk202eb0c01b5778 (OID = 117128492) :
--
ALTER TABLE ONLY crop
  ADD CONSTRAINT fk202eb0c01b5778 FOREIGN KEY (cropclimaterequirements) REFERENCES
cropclimaterequirements(id) MATCH FULL;
--
-- Definition for index fk745419c9a2f4b44d (OID = 117128497) :
--
ALTER TABLE ONLY couplingdegree
  ADD CONSTRAINT fk745419c9a2f4b44d FOREIGN KEY (premiumgroup) REFERENCES
premiumgroup(id) MATCH FULL;
--
-- Definition for index fk745419c97ae831af (OID = 117128502) :
--
ALTER TABLE ONLY couplingdegree
  ADD CONSTRAINT fk745419c97ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;
--
-- Definition for index fk1bdf3c2459105dd7 (OID = 117128507) :
--
ALTER TABLE ONLY countryaggregatesetofcountries
  ADD CONSTRAINT fk1bdf3c2459105dd7 FOREIGN KEY (countryaggregate_id) REFERENCES
countryaggregate(id) MATCH FULL;
--
```

```
-- Definition for index fk1bdf3c2452bc47d (OID = 117128512) :
--
ALTER TABLE ONLY countryaggregatesetofcountries
  ADD CONSTRAINT fk1bdf3c2452bc47d FOREIGN KEY (country_id) REFERENCES country(id) MATCH
FULL;
--
-- Definition for index fk75abd6dffa804bfe (OID = 117128517) :
--
ALTER TABLE ONLY costandlabourperregionalzone
  ADD CONSTRAINT fk75abd6dffa804bfe FOREIGN KEY (regionalagromanagementzone) REFERENCES
regionalagromanagementzone(id) MATCH FULL;
--
-- Definition for index fka5587362daa70f9f (OID = 117128522) :
--
ALTER TABLE ONLY contextrepresentativefarm
  ADD CONSTRAINT fka5587362daa70f9f FOREIGN KEY (context_id) REFERENCES context(id) MATCH
FULL;
--
-- Definition for index fka558736271c715da (OID = 117128527) :
--
ALTER TABLE ONLY contextrepresentativefarm
  ADD CONSTRAINT fka558736271c715da FOREIGN KEY (representativefarm_id) REFERENCES
representativefarm(id) MATCH FULL;
--
-- Definition for index fk83e77c1ddaa70f9f (OID = 117128532) :
--
ALTER TABLE ONLY contextregionalwages
  ADD CONSTRAINT fk83e77c1ddaa70f9f FOREIGN KEY (context_id) REFERENCES context(id) MATCH
FULL;
--
-- Definition for index fk83e77c1d3f68c923 (OID = 117128537) :
--
ALTER TABLE ONLY contextregionalwages
  ADD CONSTRAINT fk83e77c1d3f68c923 FOREIGN KEY (regionalwage_id) REFERENCES
regionalwage(id) MATCH FULL;
--
-- Definition for index fk286a3963daa70f9f (OID = 117128542) :
--
ALTER TABLE ONLY contextregion
  ADD CONSTRAINT fk286a3963daa70f9f FOREIGN KEY (context_id) REFERENCES context(id) MATCH
FULL;
--
-- Definition for index fk286a3963be9d683a (OID = 117128547) :
```

```
--  
ALTER TABLE ONLY contextregion  
  ADD CONSTRAINT fk286a3963be9d683a FOREIGN KEY (nutsregion_id) REFERENCES nutsregion(id)  
  MATCH FULL;  
--  
-- Definition for index fka4130413daa70f9f (OID = 117128552) :  
--  
ALTER TABLE ONLY contextproducts  
  ADD CONSTRAINT fka4130413daa70f9f FOREIGN KEY (context_id) REFERENCES context(id) MATCH  
  FULL;  
--  
-- Definition for index fka413041338356fc8 (OID = 117128557) :  
--  
ALTER TABLE ONLY contextproducts  
  ADD CONSTRAINT fka413041338356fc8 FOREIGN KEY (productsforregion_id) REFERENCES  
  productsforregion(id) MATCH FULL;  
--  
-- Definition for index fk1811108daa70f9f (OID = 117128562) :  
--  
ALTER TABLE ONLY contextproductionorientation  
  ADD CONSTRAINT fk1811108daa70f9f FOREIGN KEY (context_id) REFERENCES context(id) MATCH  
  FULL;  
--  
-- Definition for index fk1811108ce565fe8 (OID = 117128567) :  
--  
ALTER TABLE ONLY contextproductionorientation  
  ADD CONSTRAINT fk1811108ce565fe8 FOREIGN KEY (productionorientation_id) REFERENCES  
  productionorientation(id) MATCH FULL;  
--  
-- Definition for index fk9befcd8fd5471c43 (OID = 117128572) :  
--  
ALTER TABLE ONLY context  
  ADD CONSTRAINT fk9befcd8fd5471c43 FOREIGN KEY (agromanagementconfiguration) REFERENCES  
  agromanagementconfiguration(id) MATCH FULL;  
--  
-- Definition for index fk9befcd8f737ec3e9 (OID = 117128577) :  
--  
ALTER TABLE ONLY context  
  ADD CONSTRAINT fk9befcd8f737ec3e9 FOREIGN KEY (narrative) REFERENCES narrative(id) MATCH  
  FULL;  
--  
-- Definition for index fkc9e5020231df8a80 (OID = 117128582) :  
--
```

ALTER TABLE ONLY conservationoptionscrops

ADD CONSTRAINT fkc9e5020231df8a80 FOREIGN KEY (crop_id) REFERENCES crop(id) MATCH FULL;

--

-- Definition for index fk41208cc173a679ec (OID = 117128587) :

--

ALTER TABLE ONLY conservationmanagementconservationoptions

ADD CONSTRAINT fk41208cc173a679ec FOREIGN KEY (conservationmanagement_id) REFERENCES conservationmanagement(id) MATCH FULL;

--

-- Definition for index fk55972efbdda532b4 (OID = 117128592) :

--

ALTER TABLE ONLY concentratedfeeds

ADD CONSTRAINT fk55972efbdda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id) MATCH FULL;

--

-- Definition for index fk14cf2ad641e107a855972efb (OID = 117128597) :

--

ALTER TABLE ONLY concentratedfeeds

ADD CONSTRAINT fk14cf2ad641e107a855972efb FOREIGN KEY (product) REFERENCES cropproduct(id) MATCH FULL;

--

-- Definition for index fk919372a55bb21a55 (OID = 117128602) :

--

ALTER TABLE ONLY clippingoperation

ADD CONSTRAINT fk919372a55bb21a55 FOREIGN KEY (clippingharvestimplement) REFERENCES clippingharvestimplement(id) MATCH FULL;

--

-- Definition for index fk17edd3bd8b48eefa (OID = 117128607) :

--

ALTER TABLE ONLY climatezonedailyclimate

ADD CONSTRAINT fk17edd3bd8b48eefa FOREIGN KEY (dailyclimate_id) REFERENCES dailyclimate(id) MATCH FULL;

--

-- Definition for index fk17edd3bd30077f5a (OID = 117128612) :

--

ALTER TABLE ONLY climatezonedailyclimate

ADD CONSTRAINT fk17edd3bd30077f5a FOREIGN KEY (climatezone_id) REFERENCES climatezone(id) MATCH FULL;

--

-- Definition for index fk5edf055654a4ce34 (OID = 117128617) :

--

ALTER TABLE ONLY calibrationterm

```
ADD CONSTRAINT fk5edf055654a4ce34 FOREIGN KEY (simplecropgroup) REFERENCES
simplecropgroup(id) MATCH FULL;
```

```
--
-- Definition for index fk5aa211dba37d3e83 (OID = 117128622) :
```

```
ALTER TABLE ONLY biophysimalsimulationcalculatedproductioncoefficients
```

```
ADD CONSTRAINT fk5aa211dba37d3e83 FOREIGN KEY (productionactivityperfssimfarm_id)
REFERENCES productionactivityperfssimfarm(id) MATCH FULL;
```

```
--
-- Definition for index fk5aa211db3bb0c79f (OID = 117128627) :
```

```
ALTER TABLE ONLY biophysimalsimulationcalculatedproductioncoefficients
```

```
ADD CONSTRAINT fk5aa211db3bb0c79f FOREIGN KEY (biophysimalsimulation_id) REFERENCES
biophysimalsimulation(id) MATCH FULL;
```

```
--
-- Definition for index fkf3499d26dbe6e1f (OID = 117128632) :
```

```
ALTER TABLE ONLY biophysimalsimulation
```

```
ADD CONSTRAINT fkf3499d26dbe6e1f FOREIGN KEY (outlook) REFERENCES outlook(id) MATCH
FULL;
```

```
--
-- Definition for index fkf3499d2630c9ba3 (OID = 117128637) :
```

```
ALTER TABLE ONLY biophysimalsimulation
```

```
ADD CONSTRAINT fkf3499d2630c9ba3 FOREIGN KEY (context) REFERENCES context(id) MATCH
FULL;
```

```
--
-- Definition for index fk141b5a89d4c99a86 (OID = 117128642) :
```

```
ALTER TABLE ONLY biofueldemand
```

```
ADD CONSTRAINT fk141b5a89d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
--
-- Definition for index fk141b5a897ae831af (OID = 117128647) :
```

```
ALTER TABLE ONLY biofueldemand
```

```
ADD CONSTRAINT fk141b5a897ae831af FOREIGN KEY (country) REFERENCES country(id) MATCH
FULL;
```

```
--
-- Definition for index fk7989f2b4ef09170a (OID = 117128652) :
```

```
ALTER TABLE ONLY bilateraltariff
```

```
ADD CONSTRAINT fk7989f2b4ef09170a FOREIGN KEY (tocountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
--
-- Definition for index fk7989f2b4d4c99a86 (OID = 117128657) :
```

```
ALTER TABLE ONLY bilateraltariff
```

```
ADD CONSTRAINT fk7989f2b4d4c99a86 FOREIGN KEY (productgroup) REFERENCES productgroup(id)
MATCH FULL;
```

```
-- Definition for index fk7989f2b45736e239 (OID = 117128662) :
```

```
ALTER TABLE ONLY bilateraltariff
```

```
ADD CONSTRAINT fk7989f2b45736e239 FOREIGN KEY (fromcountryaggregate) REFERENCES
countryaggregate(id) MATCH FULL;
```

```
-- Definition for index fk4ad57874f2543a56 (OID = 117128667) :
```

```
ALTER TABLE ONLY beefmanagementalternativebeefoptions
```

```
ADD CONSTRAINT fk4ad57874f2543a56 FOREIGN KEY (beefmanagement_id) REFERENCES
beefmanagement(id) MATCH FULL;
```

```
-- Definition for index fk4ad578746ca0cade (OID = 117128672) :
```

```
ALTER TABLE ONLY beefmanagementalternativebeefoptions
```

```
ADD CONSTRAINT fk4ad578746ca0cade FOREIGN KEY (alternativebeefoption_id) REFERENCES
alternativebeefoption(id) MATCH FULL;
```

```
-- Definition for index fkbc9d57a7dda532b4 (OID = 117128677) :
```

```
ALTER TABLE ONLY beefmanagement
```

```
ADD CONSTRAINT fkbc9d57a7dda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
-- Definition for index fk6fd57669a2f4b44d (OID = 117128682) :
```

```
ALTER TABLE ONLY basicpremium
```

```
ADD CONSTRAINT fk6fd57669a2f4b44d FOREIGN KEY (premiumgroup) REFERENCES
premiumgroup(id) MATCH FULL;
```

```
-- Definition for index fke17a1fa9ab465561 (OID = 117128687) :
```

```
ALTER TABLE ONLY arableactivitycropyearmanagements
```

```
ADD CONSTRAINT fke17a1fa9ab465561 FOREIGN KEY (croyearmanagement_id) REFERENCES
croyearmanagement(id) MATCH FULL;
```

```
--
-- Definition for index fke17a1fa99b374c5c (OID = 117128692) :
```

```
ALTER TABLE ONLY arableactivitycroyearmanagements
```

```
ADD CONSTRAINT fke17a1fa99b374c5c FOREIGN KEY (arableactivity_id) REFERENCES
arableactivity(id) MATCH FULL;
```

```
--
-- Definition for index fka8a7095ac320ee8e (OID = 117128697) :
```

```
ALTER TABLE ONLY arableactivity
```

```
ADD CONSTRAINT fka8a7095ac320ee8e FOREIGN KEY (rotation) REFERENCES rotation(id) MATCH
FULL;
```

```
--
-- Definition for index fka8a7095ab6840fa (OID = 117128702) :
```

```
ALTER TABLE ONLY arableactivity
```

```
ADD CONSTRAINT fka8a7095ab6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
```

```
--
-- Definition for index fka8a7095a5147fe85 (OID = 117128707) :
```

```
ALTER TABLE ONLY arableactivity
```

```
ADD CONSTRAINT fka8a7095a5147fe85 FOREIGN KEY (productiontechnique) REFERENCES
productiontechnique(id) MATCH FULL;
```

```
--
-- Definition for index fk67c9182e8201447ca8a7095a (OID = 117128712) :
```

```
ALTER TABLE ONLY arableactivity
```

```
ADD CONSTRAINT fk67c9182e8201447ca8a7095a FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;
```

```
--
-- Definition for index fkae2c53f5edf096a (OID = 117128717) :
```

```
ALTER TABLE ONLY animalproduction
```

```
ADD CONSTRAINT fkae2c53f5edf096a FOREIGN KEY (animalproduct) REFERENCES animalproduct(id)
MATCH FULL;
```

```
--
-- Definition for index fk50c664cf548d2cd4445f9333 (OID = 117128722) :
```

```
ALTER TABLE ONLY animalproduct
```

ADD CONSTRAINT fk50c664cf548d2cd4445f9333 FOREIGN KEY (oftype) REFERENCES producttype(id)
MATCH FULL;

--
-- Definition for index fk6ded6a7bb19b68b6 (OID = 117128727) :

--
ALTER TABLE ONLY animalactivityanimalshares

ADD CONSTRAINT fk6ded6a7bb19b68b6 FOREIGN KEY (animalshares_id) REFERENCES
animalshares(id) MATCH FULL;

--
-- Definition for index fk6ded6a7b12132fd6 (OID = 117128732) :

--
ALTER TABLE ONLY animalactivityanimalshares

ADD CONSTRAINT fk6ded6a7b12132fd6 FOREIGN KEY (animalactivity_id) REFERENCES
animalactivity(id) MATCH FULL;

--
-- Definition for index fk5e19534069a22896 (OID = 117128737) :

--
ALTER TABLE ONLY animalactivityanimalproduction

ADD CONSTRAINT fk5e19534069a22896 FOREIGN KEY (animalproduction_id) REFERENCES
animalproduction(id) MATCH FULL;

--
-- Definition for index fk5e19534012132fd6 (OID = 117128742) :

--
ALTER TABLE ONLY animalactivityanimalproduction

ADD CONSTRAINT fk5e19534012132fd6 FOREIGN KEY (animalactivity_id) REFERENCES
animalactivity(id) MATCH FULL;

--
-- Definition for index fk67c9182e8201447c20b2f54b (OID = 117128747) :

--
ALTER TABLE ONLY animalactivity

ADD CONSTRAINT fk67c9182e8201447c20b2f54b FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;

--
-- Definition for index fk11a035bcab465561 (OID = 117128752) :

--
ALTER TABLE ONLY alternativearableactivitycropyearmanagements

ADD CONSTRAINT fk11a035bcab465561 FOREIGN KEY (cropyearmanagement_id) REFERENCES
cropyearmanagement(id) MATCH FULL;

--
-- Definition for index fk11a035bc148a1153 (OID = 117128757) :

--
ALTER TABLE ONLY alternativearableactivitycropyearmanagements

```
ADD CONSTRAINT fk11a035bc148a1153 FOREIGN KEY (alternativearableactivity_id) REFERENCES
alternativearableactivity(id) MATCH FULL;
--
-- Definition for index fke0991e27c320ee8e (OID = 117128762) :
--
ALTER TABLE ONLY alternativearableactivity
ADD CONSTRAINT fke0991e27c320ee8e FOREIGN KEY (rotation) REFERENCES rotation(id) MATCH
FULL;
--
-- Definition for index fke0991e27b6840fa (OID = 117128767) :
--
ALTER TABLE ONLY alternativearableactivity
ADD CONSTRAINT fke0991e27b6840fa FOREIGN KEY (agrienvironmentalzone) REFERENCES
agrienvironmentalzone(id) MATCH FULL;
--
-- Definition for index fke0991e275147fe85 (OID = 117128772) :
--
ALTER TABLE ONLY alternativearableactivity
ADD CONSTRAINT fke0991e275147fe85 FOREIGN KEY (productiontechnique) REFERENCES
productiontechnique(id) MATCH FULL;
--
-- Definition for index fk67c9182e8201447ce0991e27 (OID = 117128777) :
--
ALTER TABLE ONLY alternativearableactivity
ADD CONSTRAINT fk67c9182e8201447ce0991e27 FOREIGN KEY (productionorientation) REFERENCES
productionorientation(id) MATCH FULL;
--
-- Definition for index fk9c4ca94a146b95d (OID = 117128782) :
--
ALTER TABLE ONLY agromanagementconfigurationcropmanagementrules
ADD CONSTRAINT fk9c4ca94a146b95d FOREIGN KEY (agromanagementconfiguration_id) REFERENCES
agromanagementconfiguration(id) MATCH FULL;
--
-- Definition for index fk9c4ca9469952a77 (OID = 117128787) :
--
ALTER TABLE ONLY agromanagementconfigurationcropmanagementrules
ADD CONSTRAINT fk9c4ca9469952a77 FOREIGN KEY (cropmanagementrule_id) REFERENCES
cropmanagementrule(id) MATCH FULL;
--
-- Definition for index fka3d9cacdf0b17794 (OID = 117128792) :
--
ALTER TABLE ONLY agrienvironmentalzone
```

```
ADD CONSTRAINT fka3d9cacdf0b17794 FOREIGN KEY (environmentalzone) REFERENCES
environmentalzone(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fka3d9cacdda532b4 (OID = 117128797) :
```

```
--
```

```
ALTER TABLE ONLY agrienvironmentalzone
```

```
ADD CONSTRAINT fka3d9cacdda532b4 FOREIGN KEY (nutsregion) REFERENCES nutsregion(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fka3d9cacdb1eb9eb2 (OID = 117128802) :
```

```
--
```

```
ALTER TABLE ONLY agrienvironmentalzone
```

```
ADD CONSTRAINT fka3d9cacdb1eb9eb2 FOREIGN KEY (soilcharacteristics) REFERENCES
soilcharacteristics(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fka3d9cacda9a34552 (OID = 117128807) :
```

```
--
```

```
ALTER TABLE ONLY agrienvironmentalzone
```

```
ADD CONSTRAINT fka3d9cacda9a34552 FOREIGN KEY (soiltype) REFERENCES soiltype(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fka3d9cacd7c07dde2 (OID = 117128812) :
```

```
--
```

```
ALTER TABLE ONLY agrienvironmentalzone
```

```
ADD CONSTRAINT fka3d9cacd7c07dde2 FOREIGN KEY (climatezone) REFERENCES climatezone(id)
MATCH FULL;
```

```
--
```

```
-- Definition for index fk7aeae27180a8ddf3 (OID = 117128817) :
```

```
--
```

```
ALTER TABLE ONLY agriculturalactivityperfarmagriculturalactivities
```

```
ADD CONSTRAINT fk7aeae27180a8ddf3 FOREIGN KEY (agriculturalactivityperfarm_id) REFERENCES
agriculturalactivityperfarm(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fkf575b6e55359ffa6 (OID = 117128822) :
```

```
--
```

```
ALTER TABLE ONLY agriculturalactivityperfarm
```

```
ADD CONSTRAINT fkf575b6e55359ffa6 FOREIGN KEY (representativefarm) REFERENCES
representativefarm(id) MATCH FULL;
```

```
--
```

```
-- Definition for index fk641246d37ca4e3dd (OID = 117128827) :
```

```
--
```

```
ALTER TABLE ONLY activitygrouppremiumgrouppremiumgroups
```

```
ADD CONSTRAINT fk641246d37ca4e3dd FOREIGN KEY (activitygroup_id) REFERENCES
activitygroup(id) MATCH FULL;
--
-- Definition for index fk641246d328992bf7 (OID = 117128832) :
--
ALTER TABLE ONLY activitygrouppremiumgrouppremiumgroups
ADD CONSTRAINT fk641246d328992bf7 FOREIGN KEY (premiumgroup_id) REFERENCES
premiumgroup(id) MATCH FULL;
--
-- Comments
--
COMMENT ON SCHEMA public IS 'Standard public schema';
COMMENT ON TABLE public.agriculturalactivityperfarm IS 'this links agricultural activities to the farm for
which they have been generated.http://ontologies.seamless-ip.org/activity.owl#AgriculturalActivityPerFarm';
COMMENT ON TABLE public.agromanagementconfiguration IS 'http://ontologies.seamless-
ip.org/agrirule.owl#AgromanagementConfiguration';
COMMENT ON TABLE public.alternativebeefoption IS 'http://ontologies.seamless-
ip.org/livestock.owl#AlternativeBeefOption';
COMMENT ON TABLE public.alternativedairyoption IS 'http://ontologies.seamless-
ip.org/livestock.owl#AlternativeDairyOption';
COMMENT ON TABLE public.animalproduction IS 'http://ontologies.seamless-
ip.org/livestock.owl#AnimalProduction';
COMMENT ON TABLE public.animalshares IS 'http://ontologies.seamless-ip.org/livestock.owl#AnimalShares';
COMMENT ON TABLE public.basicpremium IS 'http://ontologies.seamless-ip.org/capri.owl#BasicPremium';
COMMENT ON TABLE public.beefmanagement IS 'http://ontologies.seamless-
ip.org/livestock.owl#BeefManagement';
COMMENT ON TABLE public.bilateraltariff IS 'http://ontologies.seamless-ip.org/capri.owl#BilateralTariff';
COMMENT ON TABLE public.biofueldemand IS 'http://ontologies.seamless-ip.org/capri.owl#BiofuelDemand';
COMMENT ON TABLE public.biophysicalsimulation IS 'http://ontologies.seamless-
ip.org/seamproj.owl#BiophysicalSimulation';
COMMENT ON TABLE public.calibrationterm IS 'these are the PMP terms, used to calibrate FSSIM to the base
year situation.http://ontologies.seamless-ip.org/farmopt.owl#CalibrationTerm';
COMMENT ON TABLE public.capriparameter IS 'http://ontologies.seamless-ip.org/capri.owl#CAPRIParameter';
COMMENT ON TABLE public.climatezone IS 'formerly as
AgriEnvironmentalTypicalDailyClimatehttp://ontologies.seamless-ip.org/farm.owl#ClimateZone';
COMMENT ON TABLE public.constraints_ IS 'http://ontologies.seamless-ip.org/farmopt.owl#Constraints';
COMMENT ON TABLE public.context IS 'The context defines the boundaries of the Seamless simulator, i.e
limits the problem solution space. Sometimes is referred to as "System aspects". (c.f. WP6). It consists of a set of
selected crops, a set of production orientations, a set of regions and a set of representative
farms.http://ontologies.seamless-ip.org/seamproj.owl#Context';
COMMENT ON TABLE public.costandlabourperregionalzone IS 'This class links each
surveycroprotationelement to information of costs and labour per regional agro-management
zone.http://ontologies.seamless-ip.org/cropman.owl#CostandLabourPerRegionalZone';
COMMENT ON TABLE public.couplingdegree IS 'http://ontologies.seamless-ip.org/capri.owl#CouplingDegree';
COMMENT ON TABLE public.crop IS 'This is the classification list of crops we are using in Seamless. Crops are
defined in the most fine level, i.e. that of APES and FSSIMhttp://ontologies.seamless-ip.org/crop.owl#Crop';
```

COMMENT ON TABLE public.croparea IS 'This is the area of one crop grown on a FSSIM Farm in a reference year, for example 2003, or 2000.<http://ontologies.seamless-ip.org/farmopt.owl#CropArea>';

COMMENT ON TABLE public.cropinformation IS 'Crop Information holds all the information in FADN related to crops (area, production and outputs)<http://ontologies.seamless-ip.org/farm.owl#CropInformation>';

COMMENT ON TABLE public.cropmanagementrule IS '<http://ontologies.seamless-ip.org/agrirule.owl#CropManagementRule>';

COMMENT ON TABLE public.cropnitrogenrecovery IS '<http://ontologies.seamless-ip.org/activity.owl#CropNitrogenRecovery>';

COMMENT ON TABLE public.cropperyear IS 'a Rotation is build up of several CropPerYears, which means that one crop is grown in one year and attached to this year.<http://ontologies.seamless-ip.org/prodent.owl#CropPerYear>';

COMMENT ON TABLE public.cropphenologicalstage IS '<http://ontologies.seamless-ip.org/agrirule.owl#CropPhenologicalStage>';

COMMENT ON TABLE public.cropproductinyear IS '<http://ontologies.seamless-ip.org/activity.owl#CropProductInYear>';

COMMENT ON TABLE public.cropproduction IS 'Production of one crop product<http://ontologies.seamless-ip.org/farmopt.owl#CropProduction>';

COMMENT ON TABLE public.cropyearmanagement IS 'describes the crop as part of an activity occuring in a year with a certain type of management.<http://ontologies.seamless-ip.org/activity.owl#CropYearManagement>';

COMMENT ON TABLE public.crucialinstitutionalaspect IS '<http://ontologies.seamless-ip.org/pica.owl#CrucialInstitutionalAspect>';

COMMENT ON TABLE public.cutfactorsubsidies IS '<http://ontologies.seamless-ip.org/capri.owl#CutfactorSubsidies>';

COMMENT ON TABLE public.dairymanagement IS '<http://ontologies.seamless-ip.org/livestock.owl#DairyManagement>';

COMMENT ON TABLE public.defaultimplements IS '<http://ontologies.seamless-ip.org/agrirule.owl#DefaultImplements>';

COMMENT ON TABLE public.demandshift IS '<http://ontologies.seamless-ip.org/capri.owl#DemandShift>';

COMMENT ON TABLE public.dimension IS '<http://ontologies.seamless-ip.org/indi.owl#Dimension>';

COMMENT ON TABLE public.domain_ IS '<http://ontologies.seamless-ip.org/indi.owl#Domain>';

COMMENT ON TABLE public.energyprice IS '<http://ontologies.seamless-ip.org/capri.owl#EnergyPrice>';

COMMENT ON TABLE public.environmentaleffects IS 'the environmental effects, relevant of growing a crop in with a management in a year, as calculated by APES or based on some expert knowledge.<http://ontologies.seamless-ip.org/farmopt.owl#EnvironmentalEffects>';

COMMENT ON TABLE public.environmentalzone IS 'A spatial unit represented by one timeseries of climate data<http://ontologies.seamless-ip.org/farm.owl#EnvironmentalZone>';

COMMENT ON TABLE public.equilibriumprice IS '<http://ontologies.seamless-ip.org/capri.owl#EquilibriumPrice>';

COMMENT ON TABLE public.event IS '<http://ontologies.seamless-ip.org/agrirule.owl#Event>';

COMMENT ON TABLE public.exchangerates IS '<http://ontologies.seamless-ip.org/capri.owl#ExchangeRates>';

COMMENT ON TABLE public.expectedimpact IS '<http://ontologies.seamless-ip.org/seamproj.owl#ExpectedImpact>';

COMMENT ON TABLE public.experiment IS 'Experiment is a single run of a policy evaluation and a biophysical simulation. Results can be tracked from the linked concepts.<http://ontologies.seamless-ip.org/seamproj.owl#Experiment>';

COMMENT ON TABLE public.experimentplan IS '<http://ontologies.seamless-ip.org/seamproj.owl#ExperimentPlan>';

COMMENT ON TABLE public.experimentqueue IS '<http://ontologies.seamless-ip.org/seamproj.owl#ExperimentQueue>';

COMMENT ON TABLE public.experimentrun IS 'http://ontologies.seamless-ip.org/seamproj.owl#ExperimentRun';

COMMENT ON TABLE public.farmareaperagrienvrimentalzone IS 'This is the area in hectares per agri-environmental Zone something has, for example an fssim-farmhttp://ontologies.seamless-ip.org/farmopt.owl#FarmAreaPerAgriEnvironmentalZone';

COMMENT ON TABLE public.farmconstraint IS 'http://ontologies.seamless-ip.org/farmopt.owl#FarmConstraint';

COMMENT ON TABLE public.farmintensity IS 'the intensity of the farmtype in terms of output per hectare.http://ontologies.seamless-ip.org/farm.owl#FarmIntensity';

COMMENT ON TABLE public.farmquota IS 'Production limitation of a certain product as set by the European Unionhttp://ontologies.seamless-ip.org/farmopt.owl#FarmQuota';

COMMENT ON TABLE public.farmsize IS 'the size of the farm in ESUhttp://ontologies.seamless-ip.org/farm.owl#FarmSize';

COMMENT ON TABLE public.farmspecialization IS 'http://ontologies.seamless-ip.org/farm.owl#FarmSpecialization';

COMMENT ON TABLE public.fertilisersplit IS 'http://ontologies.seamless-ip.org/agrirule.owl#FertiliserSplit';

COMMENT ON TABLE public.generictheme IS 'http://ontologies.seamless-ip.org/indi.owl#GenericTheme';

COMMENT ON TABLE public.globaltariff IS 'http://ontologies.seamless-ip.org/capri.owl#GlobalTariff';

COMMENT ON TABLE public.grassmanagement IS 'This describes the management of a grass crophhttp://ontologies.seamless-ip.org/activity.owl#GrassManagement';

COMMENT ON TABLE public.grassmanagementalternative IS 'http://ontologies.seamless-ip.org/livestock.owl#GrassManagementAlternative';

COMMENT ON TABLE public.grassproduction IS 'http://ontologies.seamless-ip.org/activity.owl#GrassProduction';

COMMENT ON TABLE public.helptopic IS 'http://ontologies.seamless-ip.org/seamproj.owl#HelpTopic';

COMMENT ON TABLE public.image IS 'http://ontologies.seamless-ip.org/seamproj.owl#Image';

COMMENT ON TABLE public.indicatorgroup IS 'http://ontologies.seamless-ip.org/indi.owl#IndicatorGroup';

COMMENT ON TABLE public.indicatorvaluetable IS 'http://ontologies.seamless-ip.org/indi.owl#IndicatorValueTable';

COMMENT ON TABLE public.inflationrate IS 'http://ontologies.seamless-ip.org/capri.owl#InflationRate';

COMMENT ON TABLE public.institutionalcompatibility IS 'http://ontologies.seamless-ip.org/pica.owl#InstitutionalCompatibility';

COMMENT ON TABLE public.irrigationwindow IS 'http://ontologies.seamless-ip.org/agrirule.owl#IrrigationWindow';

COMMENT ON TABLE public.livestockinformation IS 'Livestock information holds all the variables in FADN related to livestockhttp://ontologies.seamless-ip.org/farm.owl#LivestockInformation';

COMMENT ON TABLE public.managementprocedure IS 'This is the management procedure used for current activities; a management procedure is a set of events which are closely connected in time, for example seed bed preparation, seeding and pre-emergence spraying. Based on the inputs and implements specified on the management procedure events can be specified which form th activities.http://ontologies.seamless-ip.org/cropman.owl#ManagementProcedure';

COMMENT ON TABLE public.managementprocedureandtiming IS 'this relates the management procedure to the timing relevant for this management procedure.http://ontologies.seamless-ip.org/cropman.owl#ManagementProcedureAndTiming';

COMMENT ON TABLE public.model IS 'http://ontologies.seamless-ip.org/seamproj.owl#Model';

COMMENT ON TABLE public.modelchain IS 'http://ontologies.seamless-ip.org/seamproj.owl#ModelChain';

COMMENT ON TABLE public.modulation IS 'http://ontologies.seamless-ip.org/capri.owl#Modulation';

COMMENT ON TABLE public.narrative IS 'http://ontologies.seamless-ip.org/seamproj.owl#Narrative';

COMMENT ON TABLE public.narrativeoption IS 'http://ontologies.seamless-ip.org/seamproj.owl#NarrativeOption';

COMMENT ON TABLE public.naturalresourcefocus IS 'http://ontologies.seamless-ip.org/pica.owl#NaturalResourceFocus';

COMMENT ON TABLE public.observedanimallevels IS 'the observed levels of animals on the farm with price and yield variabilityhttp://ontologies.seamless-ip.org/livestock.owl#ObservedAnimalLevels';

COMMENT ON TABLE public.optimalfarmbehaviour IS 'this is the optimal farm behaviour as calculated by the FSSIM model for one FSSIM farm. The optimal farm behaviour consists of choosing a number of Production Coefficients that are considered optimal according to the objective function and the constraints active on this farm.http://ontologies.seamless-ip.org/farmopt.owl#OptimalFarmBehaviour';

COMMENT ON TABLE public.optimallivestockactivity IS 'the optimal animal activities in terms of number of animals as found for livestock farms in FSSIMhttp://ontologies.seamless-ip.org/livestock.owl#OptimalLivestockActivity';

COMMENT ON TABLE public.optimalproductioncoefficient IS 'Each production coefficient that is found in the optimal solution has an area attached to it, that is found by the model. This area is one of the decision variables of the FSSIM-modelhttp://ontologies.seamless-ip.org/farmopt.owl#OptimalProductionCoefficient';

COMMENT ON TABLE public.outlook IS 'a Outlook sets the boundaries to the problem in broad terms: it defines the context for which input parameters to the problem have to be generated, it defines the policy options that seem a suitable way of achieving some goal in the future and it refers to indicators on which the effect of different policy options can be investigated.http://ontologies.seamless-ip.org/seamproj.owl#Outlook';

COMMENT ON TABLE public.permissiongroup IS 'http://ontologies.seamless-ip.org/seamproj.owl#PermissionGroup';

COMMENT ON TABLE public.permission IS 'http://ontologies.seamless-ip.org/seamproj.owl#Permission';

COMMENT ON TABLE public.picaassessment IS 'http://ontologies.seamless-ip.org/pica.owl#PICAassessment';

COMMENT ON TABLE public.picaindicator IS 'http://ontologies.seamless-ip.org/pica.owl#PicaIndicator';

COMMENT ON TABLE public.picaindicatorgeneral IS 'http://ontologies.seamless-ip.org/pica.owl#PICAIndicatorGeneral';

COMMENT ON TABLE public.picaindicatorvalue IS 'http://ontologies.seamless-ip.org/pica.owl#PICAIndicatorValue';

COMMENT ON TABLE public.picaspatiallevel IS 'http://ontologies.seamless-ip.org/pica.owl#PICASpatialLevel';

COMMENT ON TABLE public.policyassessment IS 'The outcomes of the assessment of the policy. It investigates ex-ante the impacts of a policy on agricultural sustainability.http://ontologies.seamless-ip.org/seamproj.owl#PolicyAssessment';

COMMENT ON TABLE public.policyoption IS 'Each policy option is a combination of one or more policy changes as described in a set of policy parameters, that could potentially occur in the future. Several policy options can be compared in their effect on different indicators.http://ontologies.seamless-ip.org/seamproj.owl#PolicyOption';

COMMENT ON TABLE public.policytype IS 'http://ontologies.seamless-ip.org/pica.owl#PolicyType';

COMMENT ON TABLE public.premiumgroup IS 'http://ontologies.seamless-ip.org/capri.owl#PremiumGroup';

COMMENT ON TABLE public.price IS 'the changes of prices as part of policy optionshttp://ontologies.seamless-ip.org/farmopt.owl#Price';

COMMENT ON TABLE public.priceelasticity IS 'http://ontologies.seamless-ip.org/capri.owl#PriceElasticity';

COMMENT ON TABLE public.problem IS 'A problem has a description and a set of available Contexts, Outlooks, Policy Options and Indicators.http://ontologies.seamless-ip.org/seamproj.owl#Problem';

COMMENT ON TABLE public.productionactivityperfssimfarm IS 'Production coefficients are related to FSSIM farm, in the sense that when a set of productions coefficients has been constructed, it is relevant for a certain agri-environmental zone, and thus for the representative farms/fssim farms found within this agrienvironmental zone.http://ontologies.seamless-ip.org/farmopt.owl#ProductionActivityPerFSSIMFarm';

COMMENT ON TABLE public.productioncoefficient IS 'A completely quantified input to FSSIM-MP in terms of crop, management inputs, rotationyear, crop production and externalities. The Production Coefficient specifies for

one crop in one rotation year, which management is being used on this crop, for which agri-environmental zone it is valid, etc.<http://ontologies.seamless-ip.org/farmopt.owl#ProductionCoefficient>;

COMMENT ON TABLE public.productionorientation IS 'Value driven aims and restrictions of the agricultural activity that direct the input and output levels (Van Ittersum et al., 1997), for example integrated, organic, conventional or highly innovative.<http://ontologies.seamless-ip.org/prodent.owl#ProductionOrientation>';

COMMENT ON TABLE public.productiontechnique IS 'A Production Technique describes all crop managements of the crops belonging to one rotation, so a collection of crop managements. <http://ontologies.seamless-ip.org/farmopt.owl#ProductionTechnique>';

COMMENT ON TABLE public.productonsoil IS '<http://ontologies.seamless-ip.org/cropman.owl#ProductOnSoil>';

COMMENT ON TABLE public.productsforregion IS 'a default list of products that are of relevance to a region with a regional price attached to them.<http://ontologies.seamless-ip.org/prodent.owl#ProductsForRegion>';

COMMENT ON TABLE public.producttype IS 'This a classification list of Product Types (formerly known as Products)<http://ontologies.seamless-ip.org/crop.owl#ProductType>';

COMMENT ON TABLE public.project IS '<http://ontologies.seamless-ip.org/seamproj.owl#Project>';

COMMENT ON TABLE public.propertyrightschanges IS '<http://ontologies.seamless-ip.org/pica.owl#PropertyRightsChanges>';

COMMENT ON TABLE public.quotacountry IS '<http://ontologies.seamless-ip.org/capri.owl#QuotaCountry>';

COMMENT ON TABLE public.regionalagromanagementzone IS 'This is a zonation of a region in zones, which are relevant to specify current agricultural management data. These zones are used in local agricultural management handbooks, that are describing the pre-dominant agricultural practices in the region. (siteclass in ZALF database).<http://ontologies.seamless-ip.org/cropman.owl#RegionalAgroManagementZone>';

COMMENT ON TABLE public.regionaltypology IS 'these are the regional typologies, specifying different types of typologies from the one used on agri-environmental zones.<http://ontologies.seamless-ip.org/farm.owl#RegionalTypology>';

COMMENT ON TABLE public.regionaltypologyclass IS '<http://ontologies.seamless-ip.org/farm.owl#RegionalTypologyClass>';

COMMENT ON TABLE public.regionaltypologyvalue IS '<http://ontologies.seamless-ip.org/farm.owl#RegionalTypologyValue>';

COMMENT ON TABLE public.regionalwage IS 'this is the wage paid in a specific region<http://ontologies.seamless-ip.org/farmopt.owl#RegionalWage>';

COMMENT ON TABLE public.representativefarm IS 'The representative farm holds the data on a collection of farms found in a Nuts-2, with a specialisation, intensity-class and size-class, for example an arable-specialised crops farm in the Flevoland region with medium intensity and large size-class.<http://ontologies.seamless-ip.org/farm.owl#RepresentativeFarm>';

COMMENT ON TABLE public.representativefarmgroup IS 'this is a group of Representative Farms<http://ontologies.seamless-ip.org/farm.owl#RepresentativeFarmGroup>';

COMMENT ON TABLE public.representativefarminagrienvregion IS '<http://ontologies.seamless-ip.org/farm.owl#RepresentativeFarmInAgriEnvRegion>';

COMMENT ON TABLE public.rotation IS 'A succession of crops in time (cropping sequence) and space (cropping pattern), where the last crop is the predecessor of the first crop (creating a loop), which is an example of a production enterprise.<http://ontologies.seamless-ip.org/prodent.owl#Rotation>';

COMMENT ON TABLE public.rotationwithproductionorientation IS 'the rotation is always made for a certain production orientation, but one rotation might occur in a large number of production orientations.<http://ontologies.seamless-ip.org/prodent.owl#RotationWithProductionOrientation>';

COMMENT ON TABLE public.rotationwithproductionorientationforfarm IS 'this rotation with production orientation for farm describes which rotation with a certain production orientation are valid for a representative farm as part of an production enterprise generator run.<http://ontologies.seamless-ip.org/prodent.owl#RotationWithProductionOrientationForFarm>';

COMMENT ON TABLE public.rotationyear IS 'the year in a rotation, so for example the first rotation year has maize, the second has potatoes and so on.<http://ontologies.seamless-ip.org/prodent.owl#RotationYear>';

COMMENT ON TABLE public.setaside regulation IS 'http://ontologies.seamless-ip.org/capri.owl#SetAsideRegulation';

COMMENT ON TABLE public.soilcharacteristics IS 'http://ontologies.seamless-ip.org/farm.owl#SoilCharacteristics';

COMMENT ON TABLE public.soiltype IS 'this is the soiltype as characterised by the OCTOP classes. OCTOP stands for organic carbon content. It has a proxy value, which gives a value for % Organic Carbon content of the Class. The class 8.86-63.0% is set to 15. A spatial unit within an environmental zone and NUTS2 region represented by one soil profilehttp://ontologies.seamless-ip.org/farm.owl#Soiltype';

COMMENT ON TABLE public.subsidisedexport IS 'http://ontologies.seamless-ip.org/capri.owl#SubsidisedExport';

COMMENT ON TABLE public.subsidy IS 'a subsidy for a product, that is provided in euros per tonnes.http://ontologies.seamless-ip.org/farmopt.owl#Subsidy';

COMMENT ON TABLE public.subtheme IS 'http://ontologies.seamless-ip.org/indi.owl#Subtheme';

COMMENT ON TABLE public.supplyresponse IS 'the change in supply of a crop product due to a change in pricehttp://ontologies.seamless-ip.org/farmopt.owl#SupplyResponse';

COMMENT ON TABLE public.texturalclasssoil IS 'Dominant surface or subsurface textural class (abbreviation: textsrf or textsub)http://ontologies.seamless-ip.org/farm.owl#TexturalClassSoil';

COMMENT ON TABLE public.theme IS 'http://ontologies.seamless-ip.org/indi.owl#Theme';

COMMENT ON TABLE public.tradereformproposal IS 'http://ontologies.seamless-ip.org/capri.owl#TradeReformProposal';

COMMENT ON TABLE public.tradereformproposalcut IS 'http://ontologies.seamless-ip.org/capri.owl#TradeReformProposalCut';

COMMENT ON TABLE public.transitionprobability IS 'This describes the probability of one representative farm going into transition to another farm type.http://ontologies.seamless-ip.org/farm.owl#TransitionProbability';

COMMENT ON TABLE public.upscalingprocedure IS 'http://ontologies.seamless-ip.org/indi.owl#UpscalingProcedure';

COMMENT ON TABLE public.user_ IS 'http://ontologies.seamless-ip.org/seamproj.owl#User';

COMMENT ON TABLE public.volumestones IS 'Volume of Stones (abbreviation: vs) with a proxy value for stone content in % of the VS Class.http://ontologies.seamless-ip.org/farm.owl#VolumeStones';

COMMENT ON TABLE public.yieldenergyproteinoffeedproduct IS 'this describes the energy, protein and fill units content of different feed products, together with their yieldhttp://ontologies.seamless-ip.org/livestock.owl#YieldEnergyProteinOfFeedProduct';

COMMENT ON TABLE public.yieldenergyproteinofgrass IS 'http://ontologies.seamless-ip.org/livestock.owl#YieldEnergyProteinOfGrass';

COMMENT ON TABLE public.yieldgrowth IS 'http://ontologies.seamless-ip.org/capri.owl#YieldGrowth';

COMMENT ON TABLE public.yieldofcropproduct IS 'this gives the yield of a crop product for a certain locationhttp://ontologies.seamless-ip.org/farmopt.owl#YieldofCropProduct';

COMMENT ON TABLE public.yieldtrend IS 'http://ontologies.seamless-ip.org/farmopt.owl#YieldTrend';

COMMENT ON TABLE public.dailyclimate IS 'this is for each day a set of climate variables, that have been observed for that day.http://ontologies.seamless-ip.org/farm.owl#DailyClimate';

Appendix 3: Metadata of original datasets.

This appendix includes metadata on original datasets used as input for the SEAMLESS database. The processing/aggregation of the data for the SEAMLESS database is thus not covered. Appendix 3c with a metadata profile also provides ISO code references.

Appendix 3a: Metadata profiles of environmental datasets

Digital elevation Model Pan Europe

Issue	Required	
Title	*	Digital Elevation Model Pan Europe
Metadata on metadata		
<i>Point of contact:</i>		
Name of contact organisation	*	Eurostat data shop
Name of contact person	*	
Position of contact person		
Role of organisation		
Address: Delivery point	*	
Address: City	*	
Address: Province, state	*	
Address: Postal code	*	
Address: Country	*	
Address: E-mail	*	
Weblink	*	The GISCO Database Manual.
Last modified	*	
Name of standard		??
Version of standard		??
Data set identification:		
Title of the data set	*	DEM Pan Europe
Alternative title	*	DEEU20M
Abstract	*	Digital Elevation (altitude in meters) Grid for Pan Europe
Keywords	*	DEM, Pan Europe
Topic category	*	Elevation

Temporal coverage	*	No information available
Version of data set	*	No information available
Date of version	*	

Reference system:

Name of reference system	(*)	LAEA
Datum name	(*)	
<i>Ellipsoid:</i>		
Name of ellipsoid	(*)	
Semi-major axis	(*)	
Axis units	(*)	
Flattering ratio	(*)	
<i>Projection:</i>		
Name of projection	(*)	
Standard parallel	(*)	
Longitude of central meridian	(*)	
Latitude of projection origin	(*)	
False easting	(*)	
False northing	(*)	
False easting northing units	(*)	
Scale factor at equator	(*)	
Longitude of projection centre	(*)	
Latitude of projection centre	(*)	

Distribution information:

<i>Owner:</i>		(only if different from contact point - line 6)
Name of owner organisation	*	US NGDC: Etopo-5
Name of contact person		
Position of contact person		
Role of owner organisation		
Address: Delivery point		
Address: City		
Address: Province, state		
Address: Postal code		
Address: Country		
Address: E-mail		
<i>Originator:</i>		(only if different from contact point - line 6)

Name of originator organisation

Name of contact person

Position of contact person

Role of originator organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Processor:

(only if different from contact point - line 6)

Name of processor organisation

Name of contact person

Position of contact person

Role of processor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Distributor:

(only if different from contact point - line 6)

Name of distributor organisation

Eurostat data shop

Name of contact person

Position of contact person

Role in distributor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

On-line delivery

Requests for Data GISCO Database Manual should be sent to Eurostat Data Shop.

Access rights:

Type of constraint

[See the restrictions in the GISCO Database Manual.](#)

Description of restriction

When using dataset should be referred to as 'Digital Elevation model for Pan Europe 20 Million scale'.

Other information:

Language within the data set	*	
<i>Exchange format:</i>		
Name of exchange format	*	ARC/INFO GRID
Version of exchange format	*	
Methodology description:		The DEEU20M dataset is derived from the dataset ALWDGG (Theme World data, Layer Altimetry), which contains digital elevation data for the entire world. These data originate from the U.S. National Geophysical Data Centre in Boulder, Colorado (USA).
Link to methodological report		
Changes since last version		No information available
<i>Process steps:</i>		
Description of process steps		??
Resource name		??
Resource date		??
Scale	*	1:20.000.000 (5 arc-minutes grid with a 1 m. contour intervals)
Geographic accuracy		5 minutes longitude/latitude resolution
<i>Geographic box:</i>		
West bound longitude	(*)	
East bound longitude	(*)	
South bound latitude	(*)	
North bound latitude	(*)	
Geographic coverage by name	*	Pan-Europe
List of attributes		Value: elevation of the cell (in meter), count: number of occurrences of the value in the grid, look-up table DEGRLUT, symbol: number used as shade-symbol in grid shading
Data type (vector / raster)		raster

The European Soil Database

Issue	Required
Title	* The European Soil Database
Metadata on metadata	
<i>Point of contact:</i>	
Name of contact organisation	* European Soil Bureau Network (ESBN), Institute for Environment and Sustainability (IES), European Commission - JRC Ispra
Name of contact person	* L Montanarella
Position of contact person	Action Leader
Role of organisation	Monitoring the state of European soils
Address: Delivery point	* TP 280
Address: City	* Ispra
Address: Province, state	* Varese
Address: Postal code	* I-21020
Address: Country	* Italy
Address: E-mail	* luca.montanarella@jrc.it
Weblink	* http://eussoils.jrc.it/esbn/Esbn_overview.html
Last modified	*
Name of standard	??
Version of standard	??
Data set identification:	
Title of the data set	* The European Soil Database
Alternative title	* The European Soil Database
Abstract	* The aim of the database is to provide a harmonised set of soil parameters, covering Europe (the enlarged EU) and bordering Mediterranean countries, to be used in agro-meteorological and environmental modelling at regional, national, and/or continental levels.
Keywords	* Soil, Soil profiles, PedoTransferRules, Hydraulic Properties
Topic category	* Geo-physical environment
Temporal coverage	* 1989-2003
Version of data set	* Distributed version V 2.0
Date of version	* 31/12/2003
Reference system:	

Name of reference system	(*)	LAEA	
Datum name	(*)	D_WGS_1984	
<i>Ellipsoid:</i>			
Name of ellipsoid	(*)	WGS_1984	
Semi-major axis	(*)		6378137
Axis units	(*)	meters	
Flattering ratio	(*)		298,257224
<i>Projection:</i>			
Name of projection	(*)	Lambert_Azimuthal_Equal_Area	
Standard parallel	(*)		
Longitude of central meridian	(*)		
Latitude of projection origin	(*)		
False easting	(*)		4321000
False northing	(*)		3210000
False easting northing units	(*)		
Scale factor at equator	(*)		
Longitude of projection centre	(*)		10
Latitude of projection centre	(*)		52

Distribution information:

Owner: (only if different from contact point - line 6)

Name of owner organisation * National members of ESNB

Name of contact person

Position of contact person

Role of owner organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Originator: (only if different from contact point - line 6)

Name of originator organisation National members of ESNB (Contributors)

Name of contact person

Position of contact person

Role of originator organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Processor:

(only if different from contact point - line 6)

Name of processor organisation

Unite INFOSOL, Centre de recherche d'Orléans,
 INRA

Name of contact person

C LeBas

Position of contact person

Soil scientist

Role of processor organisation

Compilation of soil map

Address: Delivery point

Avenue de la Pomme de Pin

Address: City

Ardon (Orleans)

Address: Province, state

Address: Postal code

BP 20619

Address: Country

France

Address: E-mail

Christine.Le-Bas@orleans.inra.fr

Distributor:

(only if different from contact point - line 6)

Name of distributor organisation

Name of contact person

Position of contact person

Role in distributor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

On-line delivery

Access rights:

Type of constraint

Licence Agreement (OPOCE)

Description of restriction

Beta version; all the documentation is available; actual
 data are not accessible due to license restrictions

Other information:

Language within the data set

* English

Exchange format:

Name of exchange format

* ArcInfo export files

Version of exchange format	*	
Methodology description:		
Link to methodological report		http://eussoils.jrc.it/ESDB_Archive/ESDBv2/fr_intro.htm
Changes since last version		
<i>Process steps:</i>		
Description of process steps		??
Resource name		??
Resource date		??
Scale	*	1: 1.000.000
Geographic accuracy		
<i>Geographic box:</i>		
West bound longitude	(*)	
East bound longitude	(*)	
South bound latitude	(*)	
North bound latitude	(*)	
Geographic coverage by name	*	Pan Europe
List of attributes		The European Soil Database (distribution version v2.0) consists of a number of databases: 1) the Soil Geographical Database of Eurasia at scale 1:1,000,000 (SGDBE), which is a digitized European soil map and related attributes (version 4 beta) 2) the PedoTransfer Rules Database (PTRDB), version 2.0, which holds a number of pedotransfer rules which can be applied to the SGDBE ; the results of the application of the pedotransfer rules to the SGDBE are delivered as a table with new attributes related to the European soil map 4) the Soil Profile Analytical Database of Europa (SPADBE), version 2.1.0.0, delivered as tables 5) the Database of Hydraulic Properties of European Soils (HYPRES), version 1.0, delivered as a set of Word documents
Data type (vector / raster)		vector

European interpolated climate data

Issue	Required
Title	* European interpolated climate data
Metadata on metadata	
<i>Point of contact:</i>	
Name of contact organisation	* AGRIFISH Unit / MARS-STAT Sector / Institute for the Protection and Security of the Citizen (IPSC) European Commission - JRC Ispra
Name of contact person	* Giampiero Genovese
Position of contact person	Coordinator MARS-STAT
Role of organisation	Running MARS project
Address: Delivery point	* TP 266
Address: City	* Ispra
Address: Province, state	* Varese
Address: Postal code	* I-21020
Address: Country	* Italy
Address: E-mail	* giampiero.genovese@jrc.it
Weblink	* http://agrifish.jrc.it/marsstat/datadistribution/
Last modified	*
Name of standard	??
Version of standard	??
Data set identification:	
Title of the data set	* Meteorological data Source JRC/AGRIFISH Data Base - EC - JRC
Alternative title	* DBMETEU
Abstract	* Interpolated daily data for a grid of 50 x 50 km covering Europe and Maghreb (average period 1975 - 2005). The majority of the original observations data originates from around 1500 meteorological stations across European continent, Maghreb countries and Turkey. The Observations at station level are not available in the database, only spatially interpolated data are.
Keywords	* Climate, temperature, precipitation, evaporation, radiation
Topic category	* Climate
Temporal coverage	* Each day from 1975 until day before yesterday
Version of data set	* CGMS_04

Date of version * built during 2004 with CGMS 2.3

Reference system:

Name of reference system (*) LAEA
Datum name (*) D_WGS_1984
Ellipsoid:
Name of ellipsoid (*) WGS_1984
Semi-major axis (*) 6378137
Axis units (*) meters
Flattering ratio (*) 298,257224
Projection:
Name of projection (*) Lambert_Azimuthal_Equal_Area
Standard parallel (*)
Longitude of central meridian (*)
Latitude of projection origin (*)
False easting (*) 4321000
False northing (*) 3210000
False easting northing units (*)
Scale factor at equator (*)
Longitude of projection centre (*) 10
Latitude of projection centre (*) 52

Distribution information:

Owner: (only if different from contact point - line 6)

Name of owner organisation *

Name of contact person

Position of contact person

Role of owner organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Originator: (only if different from contact point - line 6)

Name of originator organisation

Name of contact person

Position of contact person

Role of originator organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Processor:

(only if different from contact point - line 6)

Name of processor organisation

Alterra

Name of contact person

H.L. Boogaard

Position of contact person

Scientist

Role of processor organisation

Contractor

Address: Delivery point

Droevendaalsesteeg 3

Address: City

Wageningen

Address: Province, state

Gelderland

Address: Postal code

6700 AA

Address: Country

The Netherlands

Address: E-mail

Hendrik.Boogaard@wur.nl

Distributor:

(only if different from contact point - line 6)

Name of distributor organisation

Name of contact person

Position of contact person

Role in distributor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

On-line delivery

<http://agrifish.jrc.it/marsstat/datadistribution/>

Access rights:

Type of constraint

Registration + signment of meteorological interpolated data distribution conditions

Description of restriction

When using this dataset, it should be bibliographically referred to as 'Meteorological data Source JRC/AGRIFISH Data Base - EC - JRC'

Other information:

Language within the data set	*	English	
<i>Exchange format:</i>			
Name of exchange format	*	ASCII comma delimited text format	
Version of exchange format	*		1
Methodology description:			
Link to methodological report		http://agrifish.jrc.it/marsstat/Crop_Yield_Forecasting/METAMP	
Changes since last version		Interpolation of current year is changed. The weather stations availability of the current is changed and determined on a daily basis in stead from the January 1st.	
<i>Process steps:</i>			
Description of process steps		calculation of evapotranspiration and global radiation, followed by an analysis of available stations and selection of stations per grid cell and finally the interpolation	
Resource name		??	
Resource date		??	
Scale	*	50 km ² grids	
Geographic accuracy			
<i>Geographic box:</i>			
West bound longitude	(*)		-15
East bound longitude	(*)		60
South bound latitude	(*)		28
North bound latitude	(*)		72
Geographic coverage by name	*	The following countries are included in meteorological ground stations data collection:	
		<ul style="list-style-type: none"> • For Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United-Kingdom. • For Central Europe: Albania, Bosnia-Herz., Bulgaria, Croatia, Czech Rep., Hungary, FYROM Rep., Poland, Romania, Slovak Rep., Slovenia, Yugoslavia. • For Eastern Europe: Belarus, Estonia, Latvia, Lithuania, Moldavia, Ukraine, Western Russia. • Cyprus, Malta and Turkey • For northern Africa: Morocco (north), Algeria (north), Tunisia. 	

List of attributes	maximum temperature (°C) minimum temperature (°C) mean daily vapour pressure (hPa) mean daily windspeed at 10m (m/s) mean daily rainfall (mm) Penman potential evaporation from a free water surface (mm/day) Penman potential evaporation from a moist bare soil surface (mm/day) Penman potential transpiration from a crop canopy (mm/day) daily global radiation (KJ/m2/day) snow depth (cm) (snow depth has no quality check)
Data type (vector / raster)	vector (grid cells at coast line are overlaid with coast line and centre is based on emerged land)

European Environmental Classification

Issue	Required
Title	* European Environmental Classification
Metadata on metadata	
<i>Point of contact:</i>	
Name of contact organisation	* Wageningen University - Plant Production Systems
Name of contact person	* Marc Metzger
Position of contact person	researcher
Role of organisation	
Address: Delivery point	* P.O. Box 430
Address: City	* Wageningen
Address: Province, state	*
Address: Postal code	* 6700 AK
Address: Country	* the Netherlands
Address: E-mail	* Marc.Metzger@wur.nl
Weblink	*
Last modified	* One edition
Name of standard	??
Version of standard	??
Data set identification:	
Title of the data set	* European Environmental Classification
Alternative title	* EnC
Abstract	* Stratification of Europe into 84 homogeneous regions. Created by a Principal Component Analysis and statistical clustering of climatic and topographic variables. "The Environmental classification of Europe" is appropriate for strategic random sampling for source assessment, measurement of change and modelling. EnC is considered as the most robust and scientifically constructed bio-geographical database available and is independent of individual judgement. The only limitation is that the database does not cover pan-Europe entirely. The EnC is appropriate for strategic random sampling for resource assessment, measurement of change, and modelling. Three levels of aggregation are described to further facilitate analysis within thirteen Environmental Zones that are considered appropriate for summary purposes
Keywords	* Environment classification, landscapes, climate, bioclimatic classification, monitoring, statistical

stratification, stratified random sampling.

Topic category	*	Biota/Biodiversity	
Temporal coverage	*	+/- 1990	
Version of data set	*		1
Date of version	*		2004

Reference system:

Name of reference system	(*)	LAEA	
Datum name	(*)		
<i>Ellipsoid:</i>			
Name of ellipsoid	(*)		
Semi-major axis	(*)		
Axis units	(*)		
Flattering ratio	(*)		
<i>Projection:</i>			
Name of projection	(*)		
Standard parallel	(*)		
Longitude of central meridian	(*)		
Latitude of projection origin	(*)		
False easting	(*)		
False northing	(*)		
False easting northing units	(*)		
Scale factor at equator	(*)		
Longitude of projection centre	(*)		
Latitude of projection centre	(*)		

Distribution information:

<i>Owner:</i>		(only if different from contact point - line 6)	
Name of owner organisation	*		
Name of contact person			
Position of contact person			
Role of owner organisation			
Address: Delivery point			
Address: City			
Address: Province, state			
Address: Postal code			
Address: Country			

Address: E-mail

Originator:

(only if different from contact point - line 6)

Name of originator organisation

Name of contact person

Position of contact person

Role of originator organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Processor:

(only if different from contact point - line 6)

Name of processor organisation

Name of contact person

Position of contact person

Role of processor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Distributor:

(only if different from contact point - line 6)

Name of distributor organisation

Name of contact person

Position of contact person

Role in distributor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

On-line delivery

Access rights:

Type of constraint

Description of restriction		Only for non-commercial use
Other information:		
Language within the data set	*	English
<i>Exchange format:</i>		
Name of exchange format	*	ARC/INFO shape file
Version of exchange format	*	
Methodology description:		see Múcher, C.A., R.G.H. Bunce, R.H.G. Jongman, J.A. Klijn, A.J.M. Koomen, M. Metzger & D.M. Wascher Identification and Characterisation of Environments and Landscapes in Europe, gepubliceerd: 10 Jan 2004, 119 pp, €36
Link to methodological report		
Changes since last version		
<i>Process steps:</i>		
Description of process steps		??
Resource name		??
Resource date		??
Scale	*	km2 grid
Geographic accuracy		
<i>Geographic box:</i>		
West bound longitude	(*)	
East bound longitude	(*)	
South bound latitude	(*)	
North bound latitude	(*)	
Geographic coverage by name	*	The classification extends from 11° west to 32° east and from 34° north to 72° north.
List of attributes		The Environmental Classification of Europe in eighty-four classes. Where the size of the class permits, the individual classes are labelled within the main Environmental Zones
Data type (vector / raster)		vector

CORINE Landcover 100m grid

Issue	Required	
Title	*	CORINE Landcover 100m grid
Metadata on metadata		
<i>Point of contact:</i>		
Name of contact organisation	*	European Environmental Agency (EEA)
Name of contact person	*	
Position of contact person		
Role of organisation		
Address: Delivery point	*	Kongens Nytorv 6,
Address: City	*	DK-1050 Copenhagen K
Address: Province, state	*	
Address: Postal code	*	DK-1050
Address: Country	*	Denmark
Address: E-mail	*	
Weblink	*	http://dataservice.eea.eu.int/dataservice/
Last modified	*	21-06-2005
Name of standard		??
Version of standard		??
Data set identification:		
Title of the data set	*	Corine land cover database 2000 - 100m
Alternative title	*	CLC2000 - 100m, lceugr100
Abstract	*	The CORINE land cover database provides a pan-European inventory of biophysical land cover, using a 44 class nomenclature. CORINE land cover is a key database for integrated environmental assessment. The main objective of the CORINE Land Cover Directory is to provide the potential users of the CORINE Land Cover data with information describing the CORINE Land Cover project in each Member state.
Keywords	*	Corine,geographic, landcover, CLC2000
Topic category	*	Land surface
Temporal coverage	*	The Corine Land Cover 2000 inventory was performed in a 3 years period from 1999 to 2001.
Version of data set	*	2
Date of version	*	Version 05/2005

Reference system:		
Name of reference system	(*)	ETRS - Lambert Azimutal Equal Area
Datum name	(*)	D_ETRS_1989
<i>Ellipsoid:</i>		
Name of ellipsoid	(*)	GRS_1980
Semi-major axis	(*)	6378137
Axis units	(*)	Degrees
Flattering ratio	(*)	3,35E+11
<i>Projection:</i>		
Name of projection	(*)	Lambert_Azimutal_Equal_Area
Standard parallel	(*)	
Longitude of central meridian	(*)	
Latitude of projection origin	(*)	
False easting	(*)	4321000 meters
False northing	(*)	3210000 meters
False easting northing units	(*)	
Scale factor at equator	(*)	
Longitude of projection centre	(*)	10 degrees
Latitude of projection centre	(*)	52 degrees
Distribution information:		
<i>Owner:</i>		(only if different from contact point - line 6)
Name of owner organisation	*	EEA
Name of contact person		
Position of contact person		
Role of owner organisation		EEA maintains the aggregated European dataset for Corine land cover. Information concerning individual national datasets should be requested from the National Reference Centre
Address: Delivery point		Kongens Nytorv 6,
Address: City		DK-1050 Copenhagen K
Address: Province, state		
Address: Postal code		DK-1050
Address: Country		Denmark
Address: E-mail		http://www.eea.eu.int
<i>Originator:</i>		
Name of originator organisation		member countries
Name of contact person		

Position of contact person		
Role of originator organisation		
Address: Delivery point		
Address: City		
Address: Province, state		
Address: Postal code		
Address: Country		
Address: E-mail		
<i>Processor:</i>		(only if different from contact point - line 6)
Name of processor organisation		
Name of contact person		
Position of contact person		
Role of processor organisation		
Address: Delivery point		
Address: City		
Address: Province, state		
Address: Postal code		
Address: Country		
Address: E-mail		
<i>Distributor:</i>		(only if different from contact point - line 6)
Name of distributor organisation		European Topic Centre on Terrestrial Environment ETC-TE
Name of contact person		
Position of contact person		
Role in distributor organisation		
Address: Delivery point		Autonomous University of Barcelona (UAB), Building C - Faculty of Sciences, Torre C5-S, 4th floor
Address: City		Barcelona
Address: Province, state		Bellaterra (Barcelona)
Address: Postal code		E-08193
Address: Country		Spain
Address: E-mail		etcte@uab.es
On-line delivery		http://terrestrial.eionet.eu.int/
<i>Access rights:</i>		
Type of constraint		
Description of restriction		The data files for this dataset are password protected. In order to receive the password, an agreement signature form needs to be filled in, it can be found

		under the "Downloads" tab on web.
Other information:		
Language within the data set	*	English
<i>Exchange format:</i>		
Name of exchange format	*	tiff or imagine
Version of exchange format	*	
Methodology description:		Data are derived raster product based on rasterization of vector CLC00 database as provided by National Teams within ICLC2000 project. All features in original vector database were classified and digitised based on satellite images with 100 m positional accuracy (according to CLC specifications) and 25 ha minimum mapping unit into the standardized CLC nomenclature (44 CLC classes). The resolution of the raster data is 100 x 100 metres, compatible with standard EEA reference grids (as released 08 April 2005). Rasterized from vector polygonal data withing ESRI Spatial Analyst environment Each cell on the resulting output raster dataset from the conversion process is assigned based on the value of the polygon found at the center of each cell
Link to methodological report		
Changes since last version		
<i>Process steps:</i>		
Description of process steps		??
Resource name		??
Resource date		??
Scale	*	1: 100.000
Geographic accuracy		Data is based on: IMAGE2000 as the geometric reference for the CLC databases with accuracy <=25m. Vector CLC2000 data with accuracy better than 100m.
<i>Geographic box:</i>		
West bound longitude	(*)	-72,8055682856281
East bound longitude	(*)	90,3822997285030
South bound latitude	(*)	22,2151767490036
North bound latitude	(*)	81,8512303773935
Geographic coverage by name	*	EU 25, AC 3 (with the exception of Turkey) , Albania, Bosnia and Herzegovina, Croatia, Macedonia- the Former Yugoslav Republic of
List of attributes		CLC code

Data type (vector / raster)	raster
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Appendix 3B: Metadata profiles of selected farming, socio-economic and global datasets

FADN (Farm Accountancy Data Network)

General Information	
Year / Edition	Present (continuously updated)
Title of content	FADN (Farm Accountancy Data Network)
Abstract	<p>The Farm Accountancy Data Network (FADN) is an instrument for evaluating the income of agricultural holdings and the impacts of the Common Agricultural Policy.</p> <p>The concept of the FADN was launched in 1965, when Council Regulation 79/65 established the legal basis for the organisation of the network. It consists of an annual survey carried out by the Member States of the European Union. The services responsible in the Union for the operation of the FADN collect every year accountancy data from a sample of the agricultural holdings in the European Union. Derived from national surveys, the FADN is the only source of micro-economic data that is harmonised, i.e. the bookkeeping principles are the same in all countries. Holdings are selected to take part in the survey on the basis of sampling plans established at the level of each region in the Union. The survey does not cover all the agricultural holdings in the Union but only those which due to their size could be considered commercial. The methodology applied aims to provide representative data along three dimensions: region, economic size and type of farming. While the European Commission is the primary user of analyses based on FADN-data, aggregated data can be found in the Standard Results database.</p> <p>The aim of the network is to gather accountancy data from farms for the determination of incomes and business analysis of agricultural holdings.</p> <p>Currently, the annual sample covers approximately 80.000 holdings. They represent a population of about 5.000.000 farms in the 25 Member States, which cover approximately 90% of the total utilized agricultural area (UAA) and account for more than 90% of the total agricultural production of the Union. The information collected, for each sample farm, concerns approximately 1000 variables and is transmitted by Liaison Agencies.</p> <p>These variables described in a Farm Return refer to:</p> <ul style="list-style-type: none"> • Physical and structural data, such as location, crop areas, livestock numbers, labor force, etc. • Economic and financial data, such as the value of production of the different crops, stocks, sales and purchases, production costs, assets, liabilities, production quotas and subsidies, including those connected with the application of CAP measures. <p>Data are confidential</p> <p>Incorporated into the founding legislation of FADN is a stipulation that all data relating to individual farms received by the Commission are to be treated with utmost confidentiality. Consequently, data at the level of individual farms are normally not released outside the Directorate General for Agriculture of the Commission. Only aggregated results for a group of farms and for farms within regions and Member States are published since, at this level of aggregation, information relating to individual farms cannot be discerned.</p> <p>Standard Results</p> <p>The standard results are a set of statistics, calculated from the Farm Returns,</p>

	<p>that are periodically produced and published by the Commission. They describe in considerable detail the economic situation of farmers by different groups.</p> <p>FADN is principally concerned with agriculture The FADN survey covers the entire range of agricultural activities on farms. Moreover, it also collects data on non-agricultural farming activities (such as tourism and forestry).</p>
Metadata source	http://europa.eu.int/comm/agriculture/rica/
Documentation	<p>Farm Return Data Definitions Accounting year 2002: http://forum.europa.eu.int/irc/Download/kjecAgjHmMGs4P3HUqqVMHjEFKTCr5R978bRspY0Sjr2QDq_iHu2Dd2oAfdKE/ricc1256rev2_en.pdf</p> <p>Definitions of Variables used in FADN standard results: http://forum.europa.eu.int/irc/Download/kjefAfl-mdGFv47_XHqpbp2d2xkRjUVtiq4LtGZrU32DTUTFHfRvkRjUikBIQ/ricc882rev7_en.pdf</p> <p>Or via: http://europa.eu.int/comm/agriculture/rica/legalbasis_en.cfm</p> <p>→Other useful information:</p> <ul style="list-style-type: none"> • Farm return : Definitions & instructions (RICC 1256 rev.2 - Farm Return Data Definitions 2002) • Standard Results : Definitions of Variables (RICC 882 EN rev7 Definitions of Variables in EU-FADN standard results)
History dataset	
History	Original data reported to the European Commission, DG Agriculture/G/3 by Liaison Agencies, often together with agricultural research institutes.
Dataset Identification	
Keywords	<p>Themes in Standard Results:</p> <ul style="list-style-type: none"> - Sample and population - Structure and yield - Output - Costs - Subsidies - Balances subsidies and taxes - Income - Balance sheet - Financial indicators
Maintenance	Continuously
Scale	Not relevant
Restrictions	<p>Individual farm data is not public; special permission is needed to work with this database.</p> <p>Data for years before 1989 (FADN has been established since 1965) is not available from the FADN web site.</p> <p>Data for the 10 new Member States is collected since 2004 (is expected to become available in 2006).</p>
Spatial Information	
Coordinate system	Not relevant
Extent	<p>The data are available on two different geographical levels: countries and regions. The 123 FADN regions do not completely match one to one with NUTS codes. They are a mix of NUTS 0 countries, NUTS 1 regions, NUTS 2 regions and deviating territories. So they are also different from the regions as defined in the NUTS Regulation and as defined in FSS).</p> <p>The coverage is the whole EU through the enlargements. Data for the 10 new Member States is collected since 2004 (is expected to become available in 2006).</p>
Temporal coverage	Available on an annual basis.

	Most recent year completed: 2002. Temporal development: 1989-2002 Data for years before 1989 (FADN has been established since 1965) is not available from the FADN web site.
Objects/attributes	Variable
Distribution information	
Source	European Commission (DG Agriculture), Brussels
Copyright	European Commission (DG Agriculture), Brussels
Distributor	European Commission (DG Agriculture), Brussels
Availability	Aggregated farm data is available via download from the FADN web site. Individual farm data is not public; special permission is needed to work with this database. Within the SEAMLESS team, LEI and UBONN already have experience with using these individual farm data set and they also can be contacted about this data set.
Format	Download facilities from the FADN Public database: <ul style="list-style-type: none"> - a set of pre-defined reports that can be viewed and downloaded (in CSV format) - selected sets of standard results called 'Standard Reports': <ul style="list-style-type: none"> o The 'level-1' or detailed report provides a full list of 124 standard results but is available only in flat files (zipped csv format). o The 'level-2' or summary report presents more than 30 main standard results and can be built dynamically. These tables are not displayed on screen but can be (in CSV format) o a set of pre-defined geographical maps downloaded (in JPG format)
On-line delivery	Via http://europa.eu.int/comm/agriculture/rica/diffusion_en.cfm (diffusion) http://europa.eu.int/comm/agriculture/rica/dwh/index_en.cfm#maps (FADN Public database)

EUROFARM (Farm Structure Survey / Standard Gross Margins)

General Information	
Year / Edition	Present (continuously updated)
Title of content	EUROFARM (Farm Structure Survey / Standard Gross Margins)
Abstract	<p>The domain EUROFARM contains information (statistical tables) on structure of agricultural holdings collected through agricultural structure surveys.</p> <p>The data of the domain have been organised into two collections:</p> <ul style="list-style-type: none"> - results of the farm structure surveys from 1990 onwards - first results from on-going surveys and the Standard Gross Margin (SGM) coefficients. <p>Farm Structure Survey data are used to collect information on agricultural holdings in the Member States at different geographic levels (Member States, regions, districts) and over periods (follow up the changes in agricultural sector), thus provide a base for decision making in the Common Agricultural Policy.</p> <p>Two kind of Farm Structure Surveys (FSS) are carried out by Member States:</p> <ul style="list-style-type: none"> - a basic survey (full scope Agricultural Census - AC) every 10 years, - several sample based intermediate surveys between them. <p>However for certain characteristics the Member States may use sample base for every survey.</p>

	<p>The FSS are organised in all Member States on a harmonised base. Whereas the characteristics is based on community legislation, the same data are available for all countries in case of each survey. The variables are arranged into four groups:</p> <ul style="list-style-type: none"> - one general overview with the key variables, - and three specialized ones containing detailed data on <ul style="list-style-type: none"> o land use o livestock o management and farm labour input. <p>The scope of the survey is agriculture, while the survey unit is the agricultural holding.</p> <p>The data on individual agricultural holdings are collected by all Member States and sent to Eurostat. The aggregated results are disseminated through statistical tables.</p> <p>The Eurofarm domain does not cover the whole territory. So the land use data without link with other farm characteristics should be downloaded by the user from the relevant domain. Specific national data about rearing structure or agricultural labour force can be found in other domains, without link between the various productions at farm level.</p> <p>SGM coefficients: The standard gross margin (SGM) for an enterprise estimates its gross margin as the difference between the gross production and the variable specific costs. In this purpose, a coefficient is defined at regional level for each crop (or animal production) per hectare (per livestock place). Each Member State delivers an official set of such coefficients, based on a several-year average (mostly 3) for smoothing the changes in the economic context.</p>
Metadata source	http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/eurofarm/eurofarm_base.htm
Documentation	http://europa.eu.int/eur-lex/pri/en/oj/dat/2000/l_038/l_03820000212en00010057.pdf (list of characteristics regarding the 1999/2000 basic survey on the structure of agricultural holdings)
History dataset	
History	Original data reported to Eurostat by national statistical offices
Dataset Identification	
Keywords	<p>The results of the structure surveys of agricultural holdings are disseminated through statistical tables of the EUROFARM system. A wide range of tables are available crossing various dimensions and variables of time, area size, economic size, or geographical breakdown.</p> <ul style="list-style-type: none"> • Structure of agricultural holdings <ul style="list-style-type: none"> o Standard gross margins - Coefficients o Results of the farm structure surveys from 1990 onwards <ul style="list-style-type: none"> ▪ General overview ▪ Land Use ▪ Livestock ▪ Management and work on the holding o References of publications from Eurofarm <ul style="list-style-type: none"> ▪ First results from on-going surveys • Structure of agricultural holdings by region, main indicators (see also regional databank REGIO)
Maintenance	Continuously
Scale	Not relevant

Restrictions	Information at farm level is available at Eurostat, but not disseminated. Data for years before 1990 (FSS is collected since 1966/67) and more detailed data for the 90s is not available from the Eurostat web site, but can be retrieved from older NewCronos CDROMs or Eurostat publications. Data gaps exist in this data set and depend on territory and time, since information is uploaded when available.
Spatial Information	
Coordinate system	Not relevant
Extent	The level of detail depends on domain and table. The FSS data are available on three different geographical levels. The NUTS nomenclature is used to define the geographical units: countries, regions and districts. However the territorial units do not completely match one to one with NUTS codes. The FSS regions are a mix of NUTS 1 and NUTS 2 regions and the FSS districts are a mix of NUTS 2 and (groups of) NUTS 3 regions. The coverage is the whole EU through the enlargements. Norway provides data since 1999/2000. Data for basic surveys are available in a three-level geographical breakdown of the whole country, the regions and the district; while data for intermediate surveys are only available upon the two-levels of country and regions. The SGM coefficients are available at one territorial level, which is a mix of FADN regions, FSS regions and groupings of FADN and FSS regions. The coverage is the whole EU through the enlargements. The new Member States (except for Slovenia) provide data since 2000.
Temporal coverage	FSS: Basic survey every 10 years, intermediate survey 3 times between them. EUROFARM data are available for the following years: 1990 (1989/90), 1993, 1995, 1997, 2000 (1999/2000) and 2003 (partly available for some EU 15 countries and some new Member States). Most recent year completed: 2000. Temporal development: 1990-2000 SGM: The SGM coefficients are in general available on a two-yearly basis. Most recent year completed: 2000. Temporal development: 1986-2000.
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg
Availability	Available via download. Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat). You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.
Format	Download facilities: <ul style="list-style-type: none"> • For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> ◦ EVALight (with and without password access): HTML or CSV. • Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access:

	<ul style="list-style-type: none"> ○ EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format; e.g. dBase), XML (le format xml) ○ TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.
On-line delivery	<p>Via http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/agric/agri/eurofarm/ef_2000/ef2_soc&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=0 and/or http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/general/regio/agri-r&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=0: Structure of agricultural holdings by region, main indicators (with a limited number of variables at national, regional and district level).</p>

EUROSTAT: REGIO (Regional databank REGIO)

General Information	
Year / Edition	Present (continuously updated)
Title of content	Regional databank REGIO
Abstract	REGIO. A domain of the NewCronos database provided by Eurostat. REGIO emphasises the rural perspective, including information on rural economies, demographic characteristics and socio-economic characteristics. REGIO covers the principal aspects of the economic and social life of the EU, such as demography, economic accounts, employment, etc. at a regional level. REGIO can be used to get insight into rural and regional development across the European Union, Candidate Countries and EFTA countries.
Metadata source	http://epp.eurostat.cec.eu.int/portal/page?_pageid=1553.1788404,1553_1788411&_dad=portal&_schema=PORTAL
Documentation	http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/regio/regio_ref_guide.pdf
History dataset	
History	Original data reported to Eurostat by national statistical offices
Dataset Identification	
Keywords	<p>The regional databank REGIO contains more than 200 tables, divided into 15 statistical domains:</p> <ul style="list-style-type: none"> ● Agriculture ● Demographic statistics ● Economic accounts ● Education statistics ● Environment statistics ● Migration statistics ● Science and Technology (research and development, patents) ● Structural business statistics ● Health statistics ● Tourism statistics ● Transport and energy statistics

	<ul style="list-style-type: none"> • Annual regional statistics • Regional labour market • Regional transport statistics • Regional environment statistics
Maintenance	Continuously
Scale	Not relevant
Restrictions	No information at farm level. Data gaps exist in this data set and depend on domain, table, item (variable and unit), territory and time.
Spatial Information	
Coordinate system	Not relevant
Extent	<p>General</p> <p>In general the data are presented at NUTS 2 or NUTS 3 level, including the higher hierarchical levels, and cover EU 25. Apart from EU 25, some domains and/or tables include candidate countries (Bulgaria, Romania, Turkey) and EFTA countries (Switzerland, Iceland, Liechtenstein, Norway). For these countries a Level 1, 2 and 3 division is used, since they are not included in the NUTS Regulation.</p> <p>The level of detail depends on domain and table.</p> <p>The Nomenclature of Territorial Units for Statistics (NUTS) is established by an EU Regulation. The current division (NUTS 2004) subdivides the territory of the European Union into 89 NUTS 1 major zones, 254 NUTS 2 macro regions and 1114 NUTS 3 smaller regions. The NUTS 1 major zones consist of a whole number of NUTS 2 macro regions and the NUTS 2 macro regions consist of a whole number of NUTS 3 smaller regions.</p> <p>Territorial breakdown</p> <p>To ensure coherence in the data, data are stored only for the currently applicable version of the NUTS nomenclature (the official regional breakdown for all EU countries). In the event of a modification to the NUTS nomenclature, data series are withdrawn for all regions affected by the change (in terms of gaining or losing territory). Until data collected in accordance with the new NUTS breakdown becomes available, there may as a result be temporary gaps in the data coverage.</p> <p>The regional statistics held in the Regio domain of the New Cronos data base comprise data predominately at the NUTS level 2, although individual collections and tables within them also feature data at the NUTS 3 level. Occasionally, data are available only at NUTS 1.</p> <p>Candidate and EFTA countries</p> <p>Data for candidate countries and any data for other non-EU 25 countries are stored in parallel tables to those for EU 25 member States. These tables can be recognised by an initial "X" in the table name. NOTE: In the case of the tourism collection, where non-EU 25 data is particularly extensive, regions in Candidate and EFTA countries are included in the same tables as regions in EU Member States.</p>
Temporal coverage	1970 – 2003 (depends on domain, table, item (variable and unit) and territory) Because of changes in definitions of variables and regions time-series can only be produced for specific variables for the whole collection period.
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg

Availability	<p>Available via download.</p> <p>Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat).</p> <p>You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.</p>
Format	<p>Download facilities:</p> <ul style="list-style-type: none"> • For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> ○ EVAlight (with and without password access): HTML or CSV. • Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access: <ul style="list-style-type: none"> ○ EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format; e.g. dBase), XML (le format xml) ○ TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.
On-line delivery	<p>Via http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/general/regio&language=en&product=EU_general_statistics&root=EU_general_statistics&scrollto=0</p>

EUROSTAT: AGRICULTURE (domain Agriculture)

General Information	
Year / Edition	Present (continuously updated)
Title of content	NewCRONOS database AGRICULTURE
Abstract	NC-AGRICULTURE. A domain of the NewCronos database provided by Eurostat. NC-AGRICULTURE covers the principal aspects of agricultural production in the EU, such as areas, herd sizes, yields, production, balance sheets, economic accounts, employment, etc. at a national level.
Metadata source	http://epp.eurostat.cec.eu.int/portal/page?_pageid=1553,2193430,1553_2193435&_dad=portal&_schema=PORTAL
Documentation	1) Agricultural labour input http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/cosa/ali_manual.pdf 2) Economic accounts for agriculture http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/cosa/ea_eaf_rev1_1.pdf 3) Agricultural prices http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/prag/agri_price_stats_hndbook.pdf
History dataset	
History	Original data reported to Eurostat by national statistical offices
Dataset Identification	
Keywords	The NewCRONOS database AGRICULTURE contains more than 200 tables, divided into 8 statistical domains:

	<ul style="list-style-type: none"> • Agricultural – main indicators • Economic accounts for agriculture and forestry • Structure of agricultural holdings • Animal feed • Agricultural prices and price indices • Agricultural products • European Orchard surveys • Viticulture
Maintenance	Continuously
Scale	Not relevant
Restrictions	Data gaps exist in this data set and depend on domain, table, item (variable and unit), territory and time.
Spatial Information	
Coordinate system	Not relevant
Extent	<p>Depends on domain and table. In general the data are presented at national level for:</p> <ul style="list-style-type: none"> • EU 25, • candidate countries (Bulgaria, Romania, Turkey), • EFTA (European Free Trade Association; Switzerland, Iceland, Liechtenstein, Norway), Iceland and Norway • Other countries (e.g. Croatia, Albania, Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia). <p>The data on <i>Structure of agricultural holdings</i> is also available at regional level (see EUROFARM, for a more detailed description).</p>
Temporal coverage	<p>1970 – 2003 (depends on domain, table, item (variable and unit) and territory) Because of changes in definitions of variables and regions time-series can only be produced for specific variables for the whole collection period.</p>
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg
Availability	<p>Available via download.</p> <p>Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat).</p> <p>You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.</p>
Format	<p>Download facilities:</p> <ul style="list-style-type: none"> • For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> ○ EVALight (with and without password access): HTML or CSV. • Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access: <ul style="list-style-type: none"> ○ EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format;

	e.g. dBase), XML (le format xml) TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.
On-line delivery	Via http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/&product=EU_MASTER_agriculture&depth=2&language=en

EUROSTAT: ENVIRONMENT STATISTICS

General Information	
Year / Edition	Present (continuously updated)
Title of content	Environment Statistics
Abstract	<p>The domain "Environment Statistics" covers a broad spectrum of data.</p> <ul style="list-style-type: none"> • Land use Data on land use is being updated every five years. Breakdown by main category (agriculture, forest and wooded land, built-up and related land, wet open lands, dry open lands, water and total area) measured in km². • Air pollution/climate change Annual data on: <ul style="list-style-type: none"> ○ total greenhouse gas emissions in CO₂ equivalents (a Structural Indicator) ○ 13 different air pollutants by category of polluter. • Waste Annual data on waste generation and treatment: Collection, recovery (incl. recycling) and final disposal, broken down by economic sector. Tables cover municipal waste, non-hazardous industrial waste and hazardous waste and include the Structural Indicator on municipal waste. Units: Quantities are presented in tonnes or 1000 tonnes; one table in the collection concerns numbers of sites and installations for waste disposal. The Structural Indicator is presented in kg per capita. • Water Annual data on a diversity of topics, comprising the following data sets: <ul style="list-style-type: none"> ○ Renewable fresh water resources; ○ Annual fresh water abstraction by source and by sector and other sources of water (marine and brackish water, desalinated water, reused water); ○ Water use by supply category and by sector and by industrial activities; ○ National population connected to wastewater collecting systems and to wastewater treatment plants; ○ Treatment capacity of wastewater treatment plants - design capacity and actual occupation; ○ Sewage sludge production and disposal; ○ Generation (by source and by sector) and discharge (by type of collecting system) of wastewater; • Environmental expenditure and environmental taxes <ul style="list-style-type: none"> ○ Annual data on environmental protection expenditure in Europe (detailed data, by NACE category, environmental domain and type of expenditure, and indicator data) by countries and EU institutions. ○ Annual data on each category of environmental taxes (energy, transport, pollution and resource taxes) for EU15 and at the country level.

	<ul style="list-style-type: none"> • Agriculture Annual data on <ul style="list-style-type: none"> ○ plant protection products, sales and use (in tonnes of active ingredient); ○ nitrogen balances (kg/ha); ○ consumption of fertilisers (in tonnes of active product); ○ organic farming data. • Regional environment statistics Annual data on regional fresh water abstraction and supply (by source and by sector), population connected to sewerage systems, wastewater generation (by sector) and treatment (by category), number of wastewater treatment facilities (design capacity and actual occupation), municipal waste collection (by source), treatment and disposal (by method) and hazardous waste generation and treatment (by method). Tables also include data on total investment in water supply facilities, wastewater collection and treatment facilities and municipal waste treatment and disposal facilities. • Biodiversity Annual data on protected areas under the Birds Directive and the Habitats Directive as % of total area, and on fish catches from stocks considered to be outside 'safe biological limits'. • Indicators on water In addition to the environment related Structural Indicators, this collection provides indicators on water. Indicators are updated annually, in values per person, on: <ul style="list-style-type: none"> ○ water abstraction (by source and by sector) and ○ water usage (by supply category); ○ sewage sludge production and disposal; ○ urban waste water treatment with at least secondary treatment and ○ water use intensity (% of renewable resources used)
Metadata source	http://epp.eurostat.cec.eu.int/portal/page?_pageid=1553,2491214,1553_2491219&_dad=portal&_schema=PORTAL Or via: http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/milieu/milieu_base.htm
Documentation	
History dataset	
History	Original data reported to Eurostat by national statistical offices
Dataset Identification	
Keywords	The domain "Environment Statistics" (milieu) comprises ten collections: <ul style="list-style-type: none"> • land use • air pollution/climate change, • waste • water • transport and environment • environmental expenditure and environmental taxes • agriculture (pesticides, fertilisers, nitrogen balance, organic farming) • regional environment statistics • biodiversity • indicators on water
Maintenance	Continuously
Scale	Not relevant
Restrictions	Data gaps exist in this data set and depend on domain, table, item (variable and unit), territory and time.
Spatial Information	

Coordinate system	Not relevant
Extent	<p>European Union (EU 25, EU 15), Candidate Countries, Countries of the European Economic Area, some Middle Eastern Countries and the United States and Japan for some collections.</p> <p>In general information at country level, except for: (e.g.?)</p> <ul style="list-style-type: none"> Regional Environmental Statistics Data are collected at NUTS 2 level (ideally between 800 000 and 3 million inhabitants) for each Member State of the EU and additionally at regional levels for Romania; Norway and Switzerland. Several of the smaller countries form a single NUTS 2 region, so their “regional” data are identical to the national data. Several countries could not deliver all indicators for all regions. Agriculture → Nitrogen balances (in kg and kg/ha) NUTS 2 level.
Temporal coverage	<p>Depends on domain, table, item (variable and unit) and territory).</p> <ul style="list-style-type: none"> land use: generally covers the years 1950 and 1970, then updated ever five years from 1980 onwards; air pollution/climate change: annually from 1990 onwards; waste: annually from 1990 onwards; water: 1970, 1975, 1980, 1985, 1990 then annually from 1995; environmental expenditure and environmental taxes : annually from 1990; agriculture : varies among tables; regional environment statistics: 1980, 1985, then annually from 1989; biodiversity : 2002, 2003; indicators: 1980, 1985, 1990, then annually from 1995. <p>Data is not more frequent than annual, and some collections with little or no change from year to year have greater periodicities. Data for Land use, Water and Expenditure are collected biennially, and are generally available between 1 and 3 years after the reference year; Waste data are collected annually and become available between 1 and 2 years after the reference year.</p>
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg
Availability	<p>Available via download.</p> <p>Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat).</p> <p>You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.</p>
Format	<p>Download facilities:</p> <ul style="list-style-type: none"> For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> EVALight (with and without password access): HTML or CSV. Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access: <ul style="list-style-type: none"> EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase

	<ul style="list-style-type: none"> ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format; e.g. dBase), XML (le format xml) ○ TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.
On-line delivery	Via http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/envir/milieu&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=0

EUROSTAT: SIRENE (Energy statistics)

General Information	
Year / Edition	Present (continuously updated)
Title of content	SIRENE
Abstract	<p>This domain of the NewCronos database provided by Eurostat gives the information on the development and status of energy supply and demand in the EU Member States and Candidate Countries. The domain contains structural data on energy industry, prices on the main energy sources by type of consumer (industrial or domestic), external trade of energy commodities and internal energy flows. The internal flows cover production, transformation and consumption of energy products: fossil fuels (coal, oil and gas), nuclear energy, electricity and renewable energy sources.</p> <p>The domain "Energy" covers a broad spectrum of data.</p> <ul style="list-style-type: none"> • Energy quantities <p>Annual data on crude oil, oil products, natural gas, electricity, solid fuels and renewable covering the full spectrum of the energy balances positions from supply through transformation to final energy consumption by sector and fuel type.</p> <p>Monthly data on crude oil, oil products, natural gas, electricity and solid fuels, covering mainly the supply side.</p> <p>Also, annual and monthly imports and exports data of various energy carriers by country of origin and destination, as well as infrastructure information.</p> <p>All the above is measured in physical units (t, TJ, kWh, toe, etc.).</p> <p>In general, annual data collections cover the full spectrum of the 25 Member States of the European Union, the European Economic Area countries Iceland and Norway, and the Candidate Countries Bulgaria, Romania and Turkey, with time-series reaching back to 1985 (for some new Member States and Candidate Countries only back to 1990).</p> <p>The same geographical coverage applies to monthly quantities data (with some exceptions), with time series back to 1985 (for the ten new Member States and Candidate Countries they are in general available from January 2003 onwards).</p> • Energy prices <p>Half-yearly data on electricity and natural gas prices both for industrial end-users as well for households; also, pump prices of premium unleaded gasoline 95 RON and diesel oil, as well as prices of heating oil and residual fuel oil.</p> <p>Prices are provided without taxes, with VAT and with all taxes</p>

	<p>included in monetary units (Euro, national currencies and purchasing power parities). Prices time series back to 1985 are available only for the 15 “old” Member States. The ten new Member States formally started reporting in 2004 (although information is in many cases provided also for previous years).</p> <ul style="list-style-type: none"> • Energy indicators Seven selected energy indicators belonging to the major collection “Structural Indicators” and four indicators belonging to major “Euro indicators” are included. They are provided in indicator specific units, physical and/or monetary (Euro per kWh, Euro per GJ, percentage, etc.). • Nuclear power stations This historical collection comprises monthly and annual data on selected indicators, like load factors, maximum output capacity, net thermal efficiency, etc. by nuclear power operator. It covers Belgium, Germany, Spain, France, Netherlands, Finland, Sweden, and the United Kingdom.
Metadata source	<p>http://epp.eurostat.cec.eu.int/portal/page?_pageid=1553,2491224,1553_2491229&_dad=portal&_schema=PORTAL Or via http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/sirene/energy_base.htm</p>
Documentation	
History dataset	
History	Original data reported to Eurostat by national statistical offices
Dataset Identification	
Keywords	<p>Domain “Energy” (sirene), which comprises four collections:</p> <ul style="list-style-type: none"> • energy quantities, • energy prices, • energy indicators, • nuclear power stations (historical collection)
Maintenance	Continuously
Scale	Not relevant
Restrictions	Data gaps exist in this data set and depend on domain, table, item (variable and unit), territory and time.
Spatial Information	
Coordinate system	Not relevant
Extent	<p>European Union (EU25, but also EU15 available), Eurozone, European Economic Area (EU25 plus Iceland and Norway), Candidate Countries (Bulgaria, Romania, Turkey). Only information at country level.</p>
Temporal coverage	<p>Time coverage</p> <ul style="list-style-type: none"> • Energy quantities: From 1985 onwards • Energy prices: From 1985 onwards • Energy indicators: In general structural indicators from 1991 onwards and Euro-indicators from 1985 onwards (with a couple of exceptions) • Nuclear power stations: From January 1995 to December 2001 <p>Periodicity</p> <ul style="list-style-type: none"> • Energy quantities: Annual and monthly • Energy prices: Half-yearly • Energy indicators: Annual (structural indicators) and monthly (Euro-indicators) • Nuclear power stations: Annual and monthly (historical) <p>Timeliness</p> <ul style="list-style-type: none"> • Energy quantities: Monthly data provided three months after the

	<p>reference month (M+3) and annual data available approximately 18 months after the reference year.</p> <ul style="list-style-type: none"> • Energy prices: Half-yearly data available approximately 6 months after the reference date • Energy indicators: structural indicators (annual) available approximately 18 months after the reference year and Euro-indicators (monthly) available one to three months after the reference month • Nuclear power stations: historical annual and monthly data (last update: December 2001)
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg
Availability	<p>Available via download.</p> <p>Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat).</p> <p>You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.</p>
Format	<p>Download facilities:</p> <ul style="list-style-type: none"> • For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> ○ EVALight (with and without password access): HTML or CSV. • Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access: <ul style="list-style-type: none"> ○ EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format; e.g. dBase), XML (le format xml) ○ TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.
On-line delivery	<p>Via</p> <p>http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/envir/sirene&language=en&product=EU_MAIN_TREE&root=EU_MAIN_TREE&scrollto=0</p>

EUROSTAT: COMEXT (Trade statistics)

General Information	
Year / Edition	Present (continuously updated)
Title of content	Eurostat External Trade Statistics COMEXT
Abstract	<p>Summary description: External trade statistics cover both extra- and intra-EU trade: Extra-EU trade statistics cover the trading of goods between a Member State and a non-member country. Intra-EU trade</p>

	<p>statistics cover the trading of goods between Member States. "Goods" means all movable property including electric current. Detailed and aggregated data are published for the Euro-zone, the European Union (EU-25 and EU-15) and for each Member State separately.</p> <p>Main components: Data record the monthly trade between Member States in terms of arrivals and dispatches of goods as well as the monthly trade in terms of imports and exports between Member States and non member countries. However, in publications only the term "exports" for all outward flows and "imports" for all inward flows is applied for both intra-EU trade and extra-EU trade. Extra-EU trade imports are recorded at the frontier country where the goods are placed under the customs procedures. Extra-EU trade statistics do not record exchanges involving goods in transit, placed in a customs warehouse or given temporary admission.</p>
Metadata source	http://europa.eu.int/comm/eurostat/newcronos/reference/sdds/en/extrade/extrade_base.htm http://epp.eurostat.cec.eu.int/portal/page?_pageid=1553,2030699,1553_2030704&_dad=portal&_schema=PORTAL
Documentation	http://epp.eurostat.cec.eu.int/portal/page?_pageid=1854,29522800,1854_29522807&_dad=portal&_schema=PORTAL http://fd.comext.eurostat.cec.eu.int/xtweb/assets/guide.pdf http://fd.comext.eurostat.cec.eu.int/xtweb/downloadobject.do
History dataset	
History	<p>The statistical information is mainly provided by the traders on the basis of Customs (extra-EU) and Intrastat (intra-EU) declarations. Data are collected by the competent national authorities of the Member States and compiled according to a harmonised methodology established by EU regulations before transmission to Eurostat.</p>
Dataset Identification	
Keywords	Trade value, trade quantity
Maintenance	External trade data are updated once a month, the same day as the News release is published (Euro indicator for Foreign trade). Data revisions are updated the same day.
Scale	Not relevant
Restrictions	
Spatial Information	
Coordinate system	Not relevant
Extent	Country classification: The Geonomenclature is used for classifying reporting countries and trading partners.
Temporal coverage	<ul style="list-style-type: none"> · For EU-15 (aggregate and for each Member State) and Euro-zone since January 1995 · For EU-25 (aggregate and for each Member State) since January 1999 <p>For long term indicators, EU-15 aggregated data are available from 1990 onwards.</p>
Objects/attributes	<p>Product classification: For detailed data, products are disseminated according to the Harmonized Commodity Description and Coding System (HS2, HS4 and HS6) and the most detailed level of the Combined Nomenclature (CN8). For aggregated data, products are disseminated according to high levels of the Standard International Trade Classification (SITC Rev. 3) and the Broad Economic Categories (BEC).</p>
Distribution information	
Source	Eurostat, Luxembourg
Copyright	Eurostat, Luxembourg
Distributor	Eurostat, Luxembourg
Availability	Available via download.

	<p>Since 1 October 2004, Eurostat, the Statistical Office of the European Communities, has made all its data and publications available free of charge on the Internet (http://europa.eu.int/comm/eurostat).</p> <p>You can download up to a maximum of 5000 cells (at once) without password access and up to 100000 cells (at once) with password access.</p>
Format	<p>Download facilities:</p> <ul style="list-style-type: none"> • For selecting and downloading in various formats a subset of the table: <ul style="list-style-type: none"> ○ EVAlight (with and without password access): HTML or CSV. • Enhanced functionalities (EVA Java, HTML, file in tsv format), by using password access: <ul style="list-style-type: none"> ○ EVA (Advanced browser and download tool for multidimensional tables): HTML, XML, CSV (table), CSV (file), dBase ○ HTML (For selecting and downloading in various formats a subset of the table): HTML (table displayed by current browser), TAB (for EXCEL, ...), TXT (Flat file format), DFT (Dft file format; e.g. CUB.X), CSV (CSV file format; e.g. dBase), XML (le format xml) <p>TSV (For downloading the whole table in TSV format; the "tsv" (= tab separated values) files are flat files that instead of containing one value per line/record contains a "tab delimited" sequence of values in each line.</p>
On-line delivery	<p>http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/&product=EU_external_trade&depth=2&language=en</p>

COCO data base

General Information	
Year / Edition	Present (continuously updated)
Title of content	Complete and Consistent Data set for CAPRI and CAPSIM model at national level
Abstract	Based on NewCronos and FAOSTAT, the data set comprise complete and mutually consistent time series for Hectares/Herd size, Output coefficients, Production, Market balances, Economic Accounts and Unit value prices (incl. consumer prices)
Metadata source	
Documentation	Via CAPRI working paper (http://www.agp.uni-bonn.de/agpo/rsrch/capstr/pap02-04.doc) and CAPRI and CAPSIM model documentation
History dataset	
History	Available since 2001; replacement of the former "SPEL-EU data base"
Dataset Identification	
Keywords	Hectares/Herd size, Output coefficients, Production, Market balances, Economic Accounts and Unit value prices (incl. consumer prices)
Maintenance	Continuously (yearly releases)
Scale	Not relevant
Restrictions	No official data; access so far restricted to the users of the CAPRI and CAPSIM modeling systems
Spatial Information	
Coordinate system	Not relevant
Extent	The data cover currently: <ul style="list-style-type: none"> • EU 25, • Bulgaria and Romania

	<ul style="list-style-type: none"> Norway
Temporal coverage	1985 – 2004 (currently); no gaps
Objects/attributes	Table columns (agricultural activities, farm and market balances, EAA positions, prices), Table rows (outputs, inputs, activity levels, income indicators, animal requirements) About 50 agricultural production activities and about 50 primary/secondary products.
Distribution information	
Source	CAPRI network
Copyright	CAPRI network
Distributor	University Bonn, Institute for Agricultural Policy
Availability	Available on CD in relation to following the CAPRI training session and via ftp
Format	Specific binary format. Export via Pivot-Viewer DAOUT into several formats (TXT, CSV, HTML, GMS).
On-line delivery	

CAPREG data base

General Information	
Year / Edition	Present (continuously updated)
Title of content	Complete and Consistent Data set for CAPRI model at regional level
Abstract	Based on COCO (taken as fixed and given) and REGIO, the data set comprise complete and mutually consistent time series for Hectares/Herd size, Output and input coefficients, Production, Market balances, Economic Accounts and Unit value prices (incl. consumer prices), income indicators, animal requirements and environmental indicators (N,P,K balances, GHG emission, NH3 emissions) at NUTS II level
Metadata source	
Documentation	Via CAPRI model documentation
History dataset	
History	Available since 1997
Dataset Identification	
Keywords	Hectares/Herd size, Output and input coefficients, Production, Market balances, Economic Accounts and Unit value prices (incl. consumer prices), income indicators, animal requirements and environmental indicators (N,P,K balances, GHG emission, NH3 emissions)
Maintenance	Continuously (yearly releases)
Scale	Not relevant
Restrictions	No official data; access so far restricted to the users of the CAPRI modelling systems
Spatial Information	
Coordinate system	Not relevant
Extent	The data cover currently: <ul style="list-style-type: none"> EU 25, Bulgaria and Romania Norway At NUTS II level
Temporal coverage	1985 – 2004 (currently); no gaps
Objects/attributes	Table columns (agr. activities, farm and market balances, EAA positions, prices), Table rows (outputs, inputs, activity levels, income indicators, animal

		requirements, env. indicators) About 50 agricultural production activities and about 50 primary/secondary products.
Distribution information		
	Source	CAPRI network
	Copyright	CAPRI network
	Distributor	University Bonn, Institute for Agricultural Policy
	Availability	Available on CD in relation to following the CAPRI training session and via ftp
	Format	Specific binary format. Export via Pivot-Viewer DAOUT into several formats (TXT, CSV, HTML, GMS).
	On-line delivery	

OECD: Agriculture and Food statistics

General Information		
	Year / Edition	PSE\CSE: Producer Support Estimate by commodity <i>Vol 2002 release 01</i>
	Title of content	OECD Agriculture and food statistics
	Abstract	This table provides an up-to-date statistical series on agricultural producer support estimates (PSE). It monitors changes in the level and composition of support for the following commodities: wheat, maize, other grains, oilseeds, refined sugar, milk, beef and veal, pig meat, sheep meat, poultry meat, and eggs.
	Metadata source	
	Documentation	
History dataset		
	History	
Dataset Identification		
	Keywords	Producer Support Estimates (PSE)
	Maintenance	Continuously
	Scale	Not relevant
	Restrictions	
Spatial Information		
	Coordinate system	Not relevant
	Extent	COUNTRIES COVERED: Australia, Canada, the Czech Republic, the European Community, Hungary, Iceland, Japan, Korea, Mexico, New Zealand, Norway, Poland, Slovakia, Switzerland, Turkey and the United States.
	Temporal coverage	1986 onward
	Objects/attributes	
Distribution information		
	Source	OECD
	Copyright	OECD
	Distributor	OECD
	Availability	Data only available by subscription
	Format	
	On-line delivery	http://juno.sourceoecd.org/vl=5542219/cl=62/nw=1/rpsv/statistic/s1_about.htm?jnl_issn=16081056

UN: COMTRADE (Trade statistics)

General Information		
	Year / Edition	Present (continuously updated)
	Title of content	Commodity Trade Statistics Database (COMTRADE)

Abstract	Comtrade provides commodity trade data for all available countries and areas since 1962. Currently, it contains almost 700 millions records. Availability of data depends on in what classification and when comtrade data are reported by countries. Comtrade have all reported data in their original classification and converted data (from original one) to all possible classifications. For example: Country X reported 1997 data in HS88, thus comtrade will stored X's 1997 data in HS88, SITC.3, SITC.2 and SITC.1.
Metadata source	
Documentation	
History dataset	
History	Comtrade compiles commodity trade statistics from national custom areas reporting to the United Nations. It contains the longest and most complete bilateral time-series trade data in terms of country and commodity coverage available from any other source.
Dataset Identification	
Keywords	
Maintenance	Continuously
Scale	Not relevant
Restrictions	
Spatial Information	
Coordinate system	Not relevant
Extent	http://unstats.un.org/unsd/comtrade/mr/daReportersResults.aspx?bw=A
Temporal coverage	http://unstats.un.org/unsd/comtrade/mr/daYearsResults.aspx?y=all
Objects/attributes	http://unstats.un.org/unsd/comtrade/mr/rfCommoditiesList.aspx
Distribution information	
Source	United Nations Statistics Division
Copyright	United Nations Statistics Division
Distributor	United Nations Statistics Division
Availability	Available via download. Comtrade guest couldn't download. However, registered user could download data in text file (using CSV format). User could also be assigned the maximum number of records that can be downloaded. The site licenses users will have unlimited number of records for downloading.
Format	
On-line delivery	http://unstats.un.org/unsd/comtrade/

TSA-Express (Time Series Analysis-Express (Trade statistics))

General Information	
Year / Edition	Present (continuously updated)
Title of content	TSA (Time Series Analysis - Trade statistics)
Abstract	<p>Time Series Analysis-Express: Perfect tool to increase the accessibility of trade data like COMEXT (EUROSTAT) and PCTAS (ITC/WTO).</p> <p>The TSA-express system meets the demand for easily accessible trade data from various sources. Besides this uniform access TSA-express allows the user to extend the database with custom-made selections of products and countries. TSA-express combines speed with versatility, and offers the user choices in languages for the output and user-interface. At the moment three data sources are available:</p> <ul style="list-style-type: none"> • COMEXT (EU import/export data per year and supplied by EUROSTAT),

	<ul style="list-style-type: none"> • MONTH COMEXT (monthly EU data), and • PCTAS (World data, supplied by ITC/WTO). (PC-TAS is updated yearly and is derived from COMTRADE) <p>Although all these databases have their own user interface, TSA-express accelerates in answering research questions and data exploration. With a graphical interface it is easy to formulate your question. After retrieving the data you can view (multidimensional), print, export to MS-Word/Excel/HTML etc. TSA-express is the only trade database that will tell the user which definitions (products and country groups) have changed over time, and hence, limit the probability of interpreting the data incorrectly. To really benefit from international trade data, Nacquit offers you a course on International trade and the usage of TSA-express.</p> <p>Constraints of TSA TSA is at the moment only available for the databases COMEXT (Years & Months) and PCTAS. These databases are huge (PCTAS: 1.5 Gigabyte and COMEXT: 2.5 Gigabyte)</p> <p>Main target groups</p> <ul style="list-style-type: none"> • Policymakers • Researchers • Anyone who needs international trade data in a flexible and dynamic way <p>Documentation You can download the software and documentation (see downloads) but you can also browse the manual online.</p>
Metadata source	http://www.lei.dlo.nl/nacquit/index.php?page=products%2Ftsa%2Ftsa.php
Documentation	http://www.lei.dlo.nl/nacquit/index.php?page=products%2Fgeneral%2Fdownloads.php%3Fproduct%3Dtsa%26type%3DDocumentation&product=tsa&type=Documentation
History dataset	
History	(see Metadata source)
Dataset Identification	
Keywords	(see Metadata source)
Maintenance	Continuously
Scale	Not relevant
Restrictions	(see Metadata source)
Spatial Information	
Coordinate system	Not relevant
Extent	(see Metadata source)
Temporal coverage	(see Metadata source)
Objects/attributes	(see Metadata source)
Distribution information	
Source	(see Metadata source)
Copyright	(see Metadata source)
Distributor	LEI
Availability	(see Metadata source)
Format	(see Metadata source)
On-line delivery	(see Metadata source)

General Information	
Year / Edition	Present (continuously updated)
Title of content	FAOSTAT
Abstract	FAOSTAT is an on-line and multilingual database currently containing over 3 million time-series records covering international statistics in the following areas: Production, Trade, Food Balance Sheets, Producer Prices, Forestry Trade Flow, Land Use and Irrigation, Forest Products, Fishery Products, Population, Codex Alimentarius Food Quality Control, Fertilizer and Pesticides, Agricultural Machinery, Food Aid Shipments, Exports by Destination.
Metadata source	http://faostat.fao.org/?language=EN
Documentation	http://faostat.fao.org/abcdq/about.htm
History dataset	
History	<p>Country-level data are collected through (a) tailored questionnaires sent annually to member countries, (b) magnetic tapes, diskettes, FTP transfers and accessing websites of the countries, (c) national/international publications, (d) country visits made by the FAO statisticians and, (e) reports of FAO Representatives in member countries. However, many developing countries still do not have an adequate system of statistics pertaining to the agricultural sector. Some of the available agricultural data are incomplete in terms of: (a) range of commodities covered (for example, only cash crops for large farms are covered), (b) range of variables or data sets covered (for example, in many countries data on agricultural inputs are practically not available), and (c) coverage of the nation (sometimes certain regions of the country are not covered by the national statistical reporting system). Furthermore, even when data are available, their reliability may be questionable.</p> <p>When official data from member countries are missing, FAO statisticians estimate the minimum data required for calculating world, continental and regional aggregates and to compile secondary derived statistics such as food supply. These estimates are made when no other information is available at the national level. This part of the exercise is undertaken within the framework of the "Supply and Utilization Accounts," for which established guidelines for preparation are available. These accounts also help in checking the consistency of various data sets.</p>
Dataset Identification	
Keywords	<p>The FAO-Statistical database FAOSTAT contains more than 38 tables, divided into 19 statistical domains:</p> <ul style="list-style-type: none"> • Agricultural production • Agricultural production indices • Agriculture and Food Trade • Trade indices • Commodity Balances • Food Supply • Food Balance Sheets • Producer Prices • Land • Means of production • Food Aid (WFP) • Exports of Cereals by Source and Destination • Population • Fishery data • Fish production • Forestry data • Forestry Trade

	<ul style="list-style-type: none"> • CODEX ALIMENTARIUS: Pesticide Residues in Food • CODEX ALIMENTARIUS: Veterinary Drug Residues in Food
Maintenance	Continuously
Scale	Not relevant
Restrictions	Data gaps exist in this data set and depend on domain, table, item (variable and unit), territory and time.
Spatial Information	
Coordinate system	Not relevant
Extent	All countries in the world
Temporal coverage	1961 – 2004 (depends on domain, table, item (variable and unit) and territory) Because of changes in definitions of variables and regions time-series can only be produced for specific variables for the whole collection period.
Objects/attributes	Domain, table, item (variable and unit)
Distribution information	
Source	FAO
Copyright	FAO
Distributor	FAO
Availability	Available via download. FAOSTAT offers free on-line access to all of its data. In addition, FAOSTAT offers an annual subscription service that provides extended on-line query and download limits (10,000 records per query) and unlimited access to FTP bulk download files.
Format	
On-line delivery	Via http://faostat.fao.org/faostat/collections?version=ext&hasbulk=0

GTAP: Model database

General Information	
Year / Edition	GTAP 6 Beta Release Data Package, 2004
Title of content	GTAP database
Abstract	GTAP database. The centerpiece of the GTAP project is a global database describing bilateral trade patterns, production, consumption and intermediate use of commodities and services . The number of users of this database exceeds 400 individuals in 40 countries.
Metadata source	http://www.gtap.agecon.purdue.edu/databases/v6beta/default.asp
Documentation	http://www.gtap.agecon.purdue.edu/databases/v6beta/v6b_doco.asp
History dataset	
History	http://www.gtap.agecon.purdue.edu/databases/archives/default.asp
Dataset Identification	
Keywords	Input – output tables for individual countries, bilateral trade, GDP, Population, private and government consumption, investment, tariffs, quota, subsidies, etc. http://www.gtap.agecon.purdue.edu/databases/v5/v5_sectors.asp
Maintenance	Continuously
Scale	Not relevant
Restrictions	The database may be purchased by anyone interested in using it. Proceeds help to offset the cost of producing the next release. This permits users to share in development costs and it prevents needless duplication of effort in creating this public good.
Spatial Information	
Coordinate system	Not relevant

Extent	The GTAP regions consist of 87 countries or groups of countries worldwide. A detailed listing of the GTAP regions and their country composition is available: http://www.gtap.agecon.purdue.edu/databases/v6/v6_regions.asp
Temporal coverage	2001
Objects/attributes	http://www.gtap.agecon.purdue.edu/databases/v5/v5_doco.asp
Distribution information	
Source	The Center for Global Trade Analysis
Copyright	The Center for Global Trade Analysis
Distributor	The Center for Global Trade Analysis
Availability	Can only be bought unless there is a contribution to the consortium work
Format	Har file (can be extracted by ViewHar and exported into xls format). ViewHar is a specific GTAP tool.
On-line delivery	Via http://www.gtap.agecon.purdue.edu/login/login.asp?ReturnPage=/databases/v6/v6_order_form.asp?

Appendix 3c: Metadata profile with ISO code references

Issue	Required	Iso code
Title	*	15.24.360
Metadata on metadata		
<i>Point of contact:</i>		
Name of contact organisation	*	8.376
Name of contact person	*	8.375
Position of contact person		8.377
Role of organisation		8.379
Address: Delivery point	*	8.378.389.381
Address: City	*	8.378.389.382
Address: Province, state	*	8.378.389.383
Address: Postal code	*	8.378.389.384
Address: Country	*	8.378.389.385
Address: E-mail	*	8.378.389.386
Weblink	*	
Last modified	*	9
Name of standard		10
Version of standard		11
Data set identification:		
Title of the data set	*	15.24.360
Alternative title	*	15.24.361
Abstract	*	15.25

Keywords	*	15.33.53
Topic category	*	15.41
Temporal coverage	*	
Version of data set	*	15.24.363
Date of version	*	15.24.362.394
 Reference system:		
Name of reference system	(*)	13.196.207
Datum name	(*)	13.192.207
<i>Ellipsoid:</i>		
Name of ellipsoid	(*)	13.191.207
Semi-major axis	(*)	13.193.202
Axis units	(*)	13.193.203
Flattering ratio	(*)	13.193.204
<i>Projection:</i>		
Name of projection	(*)	13.190.207
Standard parallel	(*)	13.194.217
Longitude of central meridian	(*)	13.194.218
Latitude of projection origin	(*)	13.194.219
False easting	(*)	13.194.220
False northing	(*)	13.194.221
False easting northing units	(*)	13.194.222
Scale factor at equator	(*)	13.194.223
Longitude of projection centre	(*)	13.194.224
Latitude of projection centre	(*)	13.194.225
 Distribution information:		
<i>Owner:</i>		
Name of owner organisation	*	15.29.376
Name of contact person		15.29.375
Position of contact person		15.29.377
Role of owner organisation		15.29.379
Address: Delivery point		15.29.378.389.381
Address: City		15.29.378.389.382
Address: Province, state		15.29.378.389.383
Address: Postal code		15.29.378.389.384
Address: Country		15.29.378.389.385
Address: E-mail		15.29.378.389.386
<i>Originator:</i>		
Name of originator organisation		15.29.376

Name of contact person

Position of contact person

Role of originator organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Processor:

Name of processor organisation

Name of contact person

Position of contact person

Role of processor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

Distributor:

Name of distributor organisation

Name of contact person

Position of contact person

Role in distributor organisation

Address: Delivery point

Address: City

Address: Province, state

Address: Postal code

Address: Country

Address: E-mail

On-line delivery

Access rights:

Type of constraint 20.70

Description of restriction 20.72

Other information:

Language within the data set * 15.39

Exchange format:

Name of exchange format * 15.32.285

Version of exchange format	*	15.32.286
Methodology description:		18.81.83
Link to methodological report		
Changes since last version		
<i>Process steps:</i>		
Description of process steps		18.81.84.87
Resource name		18.81.84.91.360
Resource date		18.81.84.91.362
Scale	*	15.38.60.57
Geographic accuracy		15.38.60.57
<i>Geographic box:</i>		
West bound longitude	(*)	15.45.336.344
East bound longitude	(*)	15.45.336.345
South bound latitude	(*)	15.45.336.346
North bound latitude	(*)	15.45.336.347
Geographic coverage by name	*	
List of attributes		
Data type (vector / raster)		

Appendix 4: SEAMLESS Association database licence

Annex IV: SEAMLESS association database licence (Version 31st of March 2009)

Preamble

The license is based on the Open Database Licence Agreement (ODbL) – Database Licence(draft) (Version 0.9)

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Sometimes the contents of a database, or the database itself, can be covered by other rights not addressed here, and so you are advised that you may have to consult other documents or clear other rights before doing activities not covered by this Licence.

The Licensor (as defined below)

and

You (as defined below)

agree as follows:

1.0 Definitions of Capitalised Words

"Collective Databases" – Means this Database in unmodified form as part of a collection of independent works in themselves that together are assembled into a collective whole. A work that constitutes a Collective Database will not be considered a Derivative Database.

"Convey" – As a verb, means Using the Database, a Derivative Database, or the Database as part of a Collective Database in any way that enables a Person to make or receive copies of the Database or a Derivative Database. Conveying does not include interaction with a user through a computer network, or creating and Using a Produced Work, where no transfer of a copy of the Database or a Derivative Database occurs.

"Data" – The contents of this Database, which includes the information, independent works, or other material collected into the Database. For example, the contents of the Database could be factual data or works such as images, audiovisual material, text, or sounds.

"Database" – A collection of Data arranged in a systematic or methodical way and individually accessible by electronic or other means offered under the terms of this Licence.

"Database Directive" – Means Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases.

"Database Right" – Means rights over Data resulting from the Chapter III ("sui generis") rights in the Database Directive (as applied in national law), which includes the Extraction and Re-utilisation of the whole or a Substantial part of the Data, as well as any similar rights available in the relevant jurisdiction under Section 10.4.

"Derivative Database" – Means a database based upon the Database, and includes any translation, adaptation, arrangement, modification, or any other alteration of the Database or of a Substantial part of the Data. This includes, but is not limited to, Extracting or Re-utilising the whole or a Substantial part of the Data in a new Database.

"Extraction" – Means the permanent or temporary transfer of all or a Substantial part of the Data to another medium by any means or in any form.

"Licence" – Means this licence agreement and is both a licence of rights such as copyright and Database Rights and an agreement in contract.

"Licensor" – Means the Person that offers the Database under the terms of this Licence.

"Person" – Means a natural or legal person or a body of persons corporate or incorporate.

"Produced Work" – Means using this Database, a Derivative Database, or this Database as part of a Collective Database to produce the whole or a Substantial part of the Data (via a search or other query) that is then either used to create a work (such as producing images, audiovisual material, text, or sounds) or combined with information from one or more sources to create an integrated work (such as producing images, audiovisual material, text, or sounds).

"Re-utilisation" – means any form of making available to the public all or a Substantial part of the Data by the distribution of copies, by renting, by online or other forms of transmission.

"Substantial" – Means substantial in terms of quantity or quality or a combination of both. The repeated and systematic Extraction or Re-utilisation of insubstantial parts of the Data may amount to the Extraction or Re-utilisation of a Substantial part of the Data.

"Use" – As a verb, means doing any act that is restricted by copyright or Database Rights whether in the original medium or any other; and includes without limitation distributing, copying, publicly performing, publicly displaying, and preparing derivative works of the Database, as well as modifying the Database as may be technically necessary to use it in a different mode or format.

"You" – Means a Person exercising rights under this Licence who has not previously violated the terms of this Licence with respect to the Database, or who has received express permission from the Licensor to exercise rights under this Licence despite a previous violation.

Words in the singular include the plural and vice versa.

2.0 What this Licence covers

2.1. Legal effect of this document. This Licence is:

- a. A licence of applicable copyright and neighbouring rights;
- b. A licence of the Database Right; and
- c. An agreement in contract between You and the Licensor.

2.2 Legal rights covered.

This Licence covers the legal rights in the Database, including:

- a. Copyright. Any copyright or neighbouring rights in the Database. The copyright licensed includes any individual elements of the Database, but does not cover the copyright over the Data independent of this Database. See Section 2.4 for details. Copyright law varies between jurisdictions, but is likely to cover: the Database model or schema, which is the structure, arrangement, and organisation of the Database, and can also include the Database tables and table indexes; the data entry and output sheets; and the Field names of Data stored in the Database;
- b. Database Rights. Database Rights only extend to the Extraction and Re-utilisation of the whole or a Substantial part of the Data. Database Rights can apply even when there is no copyright over the Database. Database Rights can also apply when the Data is removed from the Database and is selected and arranged in a way that would not infringe any applicable copyright; and
- c. Contract. This is an agreement between You and the Licensor for access to the Database. In return you agree to certain conditions of use on this access as outlined in this Licence.

2.3 Rights not covered.

- a. This Licence does not apply to computer programs used in the making or operation of the Database;
- b. This Licence does not cover any patents over the Data or the Database; and
- c. This Licence does not cover any trademarks associated with the Database.

Users of this Database are cautioned that they may have to clear other rights or consult other licences when attempting to make use of this Data or Database.

2.4 Relationship to Data in the Database.

The individual items of the Data contained in this Database may be covered by other rights, including copyright, patent, data protection, privacy, or personality rights, and this Licence does not cover any rights (other than Database Rights or in contract) in individual items of Data contained in the Database. For example, if used on a Database of images (the Data), this Licence would not apply to copyright over individual images, which could have their own separate licences, or one single licence covering all of the rights over the images.

Users of this Database are cautioned that they may have to clear other rights or consult other licences when attempting to make use of this Data or Database.

3.0 Rights granted

3.1 Subject to the terms and conditions of this Licence, the Licensor grants to You a worldwide, royalty-free, non-exclusive, terminable licence to Use the Database for the duration of any applicable copyright and Database Rights.

These rights explicitly include use provided no financial profit will be made, but do not exclude any field of endeavour. To the extent possible in the relevant jurisdiction, these rights may be exercised in all media and formats whether now known or created in the future.

The rights granted cover, for example:

- a. Extraction and Re-utilisation of the whole or a Substantial part of the Data;
- b. Creation of Derivative Databases;
- c. Creation of Collective Databases;
- d. Creation of temporary or permanent reproductions by any means and in any form, in whole or in part, including of any Derivative Databases or as a part of Collective Databases;
- e. Distribution, communication, display, lending, making available, or performance to the public by any means and in any form, in whole or in part, including of any Derivative Database or as a part of Collective Databases.

3.2 Compulsory licence schemes.

For the avoidance of doubt:

- a. Non-waivable compulsory licence schemes. In those jurisdictions in which the right to collect royalties through any statutory or compulsory licensing scheme cannot be waived, the Licensor reserves the exclusive right to collect such royalties for any exercise by You of the rights granted under this Licence;
- b. Waivable compulsory licence schemes. In those jurisdictions in which the right to collect royalties through any statutory or compulsory licensing scheme can be waived, the Licensor waives the exclusive right to collect such royalties for any exercise by You of the rights granted under this Licence; and,
- c. Voluntary licence schemes. The Licensor waives the right to collect royalties, whether individually or, in the event that the Licensor is a member of a collecting society that administers voluntary licensing schemes, via that society, from any exercise by You of the rights granted under this Licence.

3.3 The right to release the Database under different terms, or to stop distributing or making available the Database, is reserved. Note that this Database may be multiple-licensed, and so You may have the choice of using alternative licences for this Database. Subject to Section 10.4, all other rights not expressly granted by Licensor are reserved.

4.0 Conditions of Use

4.1 The rights granted in Section 3 above are expressly made subject to Your complying with the following conditions of use. These are important conditions of this Licence, and if You fail to follow them, You will be in material breach of its terms.

4.2 Notices.

If You publicly Convey this Database, any Derivative Database, or the Database as part of a Collective Database, then You must:

- a. Do so only under the terms of this Licence or another licence permitted under Section 4.4;
- b. Include a copy of this Licence (or, as applicable, a license permitted under Section 4.4) or its Uniform Resource Identifier (URI) with the Database or Derivative Database, including both in the Database or Derivative Database and in any relevant documentation; and
- c. Keep intact any copyright or Database Right notices and notices that refer to this Licence.

d. If it is not possible to put the required notices in a particular file due to its structure, then You must include the notices in a location (such as a relevant directory) where a user would be likely to look for it.

4.3 Notice for using output (Data).

Creating and Using a Produced Work does not require the notice in Section 4.2. However, if you publicly Use a Produced Work, You must include a notice within, on, or as part of the Produced Work reasonably calculated to make any Person that uses, views, accesses, interacts with, or is otherwise exposed to the Produced Work aware that content was obtained from the Database, Derivative Database, or the Database as part of a Collective Database and that the Database is available under this Licence provided by the SEAMLESS Association.

Use of the following text will satisfy notice under Section 4.3:

This DOCUMENT TYPE contains information from the SEAMLESS Association integrated database that includes aggregated data from EU-FADN - DG AGRI L-3 and JRC/MARS Data Base - EC – JRC, which is made available here under the Open Database Licence provided by the SEAMLESS association.

DOCUMENT TYPE should be substituted with the type of resource, such as "page" for a webpage. The notice should also contain a hyperlink to the URI of the SEAMLESS Database. "Open Database Licence" should contain a hyperlink to the URI of the text of this Licence. If hyperlinks are not possible, You should include the plain text of the required URI's with the above notice.

In all publications based on the Database, Derivative Database, or the Database as part of a Collective Database you must include a notice stating that data (partly) origin from the SEAMLESS Association integrated database and include aggregated data from EU-FADN - DG AGRI L-3 and JRC/MARS Data Base - EC – JRC:

4.4 Share alike.

a. Any Derivative Database that You publicly Convey must be only under the terms of:

- i. This Licence;
- ii. A later version of this Licence;
- iii. A compatible licence.

If You license the Derivative Database under one of the licences mentioned in (iii), You must comply with the terms of that licence.

b. For the avoidance of doubt, Extraction or Re-utilisation of the whole or a Substantial part of the Data into a new database is a Derivative Database and must comply with Section 4.4.

c. Share Alike and additional Data. For the avoidance of doubt, You must not add Data to Derivative Databases under Section 4.4a that is incompatible with the rights granted under this Licence.

4.5 Share Alike does not apply.

The requirements of Section 4.4 do not apply in the following:

a. For the avoidance of doubt, You are not required to license Collective Databases under this Licence if You incorporate this Database in the collection, but this License applies to this Database or a Derivative Database as a part of the Collective Database;

b. Using this Database, a Derivative Database, or this Database as part of a Collective Database to create a Produced Work does not create a Derivative Database for purposes of Section 4.4; and

c. Use of a Derivative Database internally within an organisation is not to the public and therefore does not fall under the requirements of Section 4.4.

4.6 Access to Derivative Databases. If You publicly Convey a Derivative Database You must also offer to recipients of the Derivative Database a copy in a machine readable form of:

a. The entire Derivative Database; or

b. A file containing all of the alterations made to the Database offered under this Licence, including any additional Data, that make up all the differences between the Database and the Derivative Database. The Derivative Database (under a.) or alteration file (under b.) must be available at no more than a reasonable production cost for physical distributions and free of charge if distributed over the internet.

c. You must inform the SEAMLESS Association about any derivative databases by sending over the internet in a machine readable form the association the information mentioned within article 4.6 a and b.

4.7 "Reverse Engineering".

For the avoidance of doubt, creating a Produced Work, and then recreating the whole or a Substantial part of the Data found in this Database, a Derivative Database, or a Database that is part of a Collective Database from the Produced Work, is still subject to this Licence. Any product of this type of reverse engineering activity (whether done by You or on Your behalf by a third party) is governed by this License.

4.8 Technological measures and additional terms

a. This Licence does not allow You to (except subject to Section 4.8 b.) impose any terms or any technological measures on the Database, a Derivative Database, or the whole or a Substantial part of the Data that alter or restrict the terms of this Licence, or any rights granted under it, or have the effect or intent of restricting the ability of any person to exercise those rights.

b. Parallel distribution. You may impose terms or technological measures on the Database, a Derivative Database, or the whole or a Substantial part of the Data (a "Restricted Database") in contravention of Section 4.8 a. only if You also make a copy of the Database or a Derivative Database available to the recipient of the Restricted Database:

i. That is available without additional fee;

ii. That is available in a medium that does not alter or restrict the terms of this Licence, or any rights granted under it, or have the effect or intent of restricting the ability of any person to exercise those rights (an "Unrestricted Database"); and

iii. The Unrestricted Database is at least as accessible to the recipient as a practical matter as the Restricted Database.

c. For the avoidance of doubt, You may place this Database or a Derivative Database in an authenticated environment, behind a password, or within a similar access control scheme provided that You do not alter or restrict the terms of this Licence or any rights granted under it or have the effect or intent of restricting the ability of any person to exercise those rights.

4.9 Licensing of others.

You may not sublicense the Database. Each time You communicate the Database, the whole or Substantial part of the Data, or any Derivative Database to anyone else in any way, the Licensor offers to the recipient a licence to the Database on the same terms and conditions as this Licence. You are not responsible for enforcing compliance by third parties with this Licence, but You may enforce any rights that You have over a Derivative Database. You are solely responsible for any modifications of a Derivative Database made by You or another Person at Your direction. You may not impose any further restrictions on the exercise of the rights granted or affirmed under this Licence.

5.0 Moral rights

5.1 Moral rights.

Except for Moral rights specifically mentioned in this Licence (e.g. Article 4) this section covers moral rights, including any rights to be identified as the author of the Database or to object to treatment that would otherwise prejudice the author's honour and reputation, or any other derogatory treatment:

- a. For jurisdictions allowing waiver of moral rights, Licensor waives all moral rights that Licensor may have in the Database to the fullest extent possible by the law of the relevant jurisdiction under Section 10.4;
- b. If waiver of moral rights under Section 5.1 a in the relevant jurisdiction is not possible, Licensor agrees not to assert any moral rights over the Database and waives all claims in moral rights to the fullest extent possible by the law of the relevant jurisdiction under Section 10.4; and
- c. For jurisdictions not allowing waiver or an agreement not to assert moral rights under Section 5.1 a and b, the author may retain their moral rights over certain aspects of the Database. Please note that some jurisdictions do not allow for the waiver of moral rights, and so moral rights may still subsist over the Database in some jurisdictions.

6.0 Fair dealing, Database exceptions, and other rights not affected

6.1 This Licence does not affect any rights that You or anyone else may independently have under any applicable law to make any use of this Database, including without limitation:

- a. Exceptions to the Database Right including: Extraction of Data from non-electronic Databases for private purposes, Extraction for purposes of illustration for teaching or scientific research, and Extraction or Re-utilisation for public security or an administrative or judicial procedure.
- b. Fair dealing, fair use, or any other legally recognised limitation or exception to infringement of copyright or other applicable laws.

6.2 This Licence does not affect any rights of lawful users to Extract and Re-utilise insubstantial parts of the Data, evaluated quantitatively or qualitatively, for any purposes whatsoever, including creating a Derivative Database (subject to other rights over the Data, see Section 2.4). The repeated and systematic Extraction or Re-utilisation of insubstantial parts of the Data may however amount to the Extraction or Re-utilisation of a Substantial part of the Data.

7.0 Warranties and Disclaimer

7.1 The Database is licensed by the Licensor "as is" and without any warranty of any kind, either express, implied, or arising by statute, custom, course of dealing, or trade usage. Licensor specifically disclaims any and all implied warranties or conditions of title, non-infringement, accuracy or completeness, the presence or absence of errors, fitness for a particular purpose, merchantability, or otherwise. Some jurisdictions do not allow the exclusion of implied warranties, so this exclusion may not apply to You.

8.0 Limitation of liability

8.1 Subject to any liability that may not be excluded or limited by law, the Licensor is not liable for, and expressly excludes, all liability for loss or damage however and whenever caused to anyone by any use under this Licence, whether by You or by anyone else, and whether caused by any fault on the part of the Licensor or not. This exclusion of liability includes, but is not limited to, any special, incidental, consequential, punitive, or exemplary damages such as loss of revenue, data, anticipated profits, and lost business. This exclusion applies even if the Licensor has been advised of the possibility of such damages.

8.2 If liability may not be excluded by law, it is limited to actual and direct financial loss to the extent it is caused by proved negligence on the part of the Licensor.

9.0 Termination of Your rights under this Licence

9.1 Any breach by You of the terms and conditions of this Licence entitles the Licensor to terminate this Licence with immediate effect and without notice to You. For the avoidance of doubt, Persons who have received the Database, the whole or a Substantial part of the Data, Derivative Databases, or the Database as part of a Collective Database from You under this Licence will not have their licences terminated provided their use is in full compliance with this Licence or a licence granted under Section 4.9 of this Licence. Sections 1, 2, 7, 8, 9 and 10 will survive any termination of this Licence.

9.2 If You are not in breach of the terms of this Licence, the Licensor may not terminate Your rights under it.

9.3 Unless terminated under Section 9.1, this Licence is granted to You for the duration of applicable rights in the Database.

9.4 Notwithstanding the above, Licensor reserves the right to release the Database under different licence terms or to stop distributing or making available the Database. Releasing the Database under different licence terms or stopping the distribution of the Database will not withdraw this Licence (or any other licence that has been, or is required to be, granted under the terms of this Licence), and this Licence will continue in full force and effect unless terminated as stated above.

10.0 General

10.1 If any provision of this Licence is held to be invalid or unenforceable, that must not affect the validity or enforceability of the remainder of the terms and conditions of this Licence and each remaining provision of this Licence shall be valid and enforced to the fullest extent permitted by law.

10.2 This Licence is the entire agreement between the parties with respect to the Database. It replaces any earlier understandings, agreements or representations with respect to the Database.

10.3 If You are in breach of the terms of this Licence, You will not be entitled to rely on the terms of this Licence or to complain of any breach by the Licensor.

10.4 Choice of law. This Licence takes effect in and will be governed by the laws of the relevant jurisdiction in which the Licence terms are sought to be enforced. If the standard suite of rights granted under applicable copyright law and Database Rights in the relevant jurisdiction includes additional rights not granted under this Licence, these additional rights are included in this Licence in order to meet the terms of this Licence.

End of terms and conditions