



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Agrekon

VOL. 8 No. 4

OCTOBER, 1969

Editorial Committee: A.J. du Plessis (chairman),
Dr. A.P. Scholtz, H.J. van Rensburg and
O.E. Burger
Editor: Dr. A.J. Beyleveld
Technical editing: Q. Momberg

REQUIREMENTS FOR CONTRIBUTIONS

Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.), typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c/o Department of Agricultural Economics and Marketing, Pretoria, and should reach him at least one month prior to date of publication.

The Journal is obtainable from the distributors: "AGREKON", Private Bag 144, Pretoria.

The price is 25 cents per copy or R1 per annum, post free.

The dates of publication are January, April, July and October.

"AGREKON" is also published in Afrikaans.

Contents

	<u>Page</u>
I. EDITORIAL	1
II. ECONOMIC TENDENCIES IN THE SOUTH AFRICAN AGRICULTURE	3
III. ARTICLES	
1. Observations on farm accounting services in Europe H.I. Behrmann, University of Natal	5
2. Efficiency comparisons between milking parlours and sheds J.D. Graham, University of Natal J.A. Groenewald, University of Pretoria	11
3. Certain facts regarding the wine industry in South Africa G.J. Wissing, Department of Agricultural Economics and Marketing	18
4. The demand for apples in South Africa - A statistical analysis J.J. Vosloo, National Productivity Institute J.A. Groenewald, University of Pretoria	21
IV. STATISTICS	26
V. GENERAL, COMMENTS AND ANNOUNCEMENTS	33

2 F- Observations on farm accounting services in Europe*

by

H.I. BEHRMANN,
University of Natal

During 1966 the writer undertook a study tour of the United Kingdom, Holland, Germany and Denmark. The major purpose of the tour was to study the organization of farm accounting services and accounting methods in the various countries with a view to improving farm accounting particularly in the Natal Region of South Africa. Particular attention was paid to the translation of research findings into advisory services amongst the farming community.

The tour was made possible from a grant made to the Department of Agricultural Economics of the University of Natal by the Land and Agricultural Bank of South Africa, the purpose of which is the fostering of more businesslike methods by farmers in South Africa. The writer is grateful to the University of Natal and to the Department of Agricultural Technical Services for the granting of the necessary leave during the period of the tour.

Descriptions of accounting services are as they existed in 1966, and changes that have been made in these services since then are not likely to alter the picture to any considerable extent.

THE PURPOSES OF FARM ACCOUNTING

A better appreciation of the general problem of farm accounting is obtained if the various purposes of farm accounts are considered:

1. Income tax

With many farmers this has been the primary and initiating reason why sets of books have been kept. With the improvement of farmers' incomes more farmers have been required to keep better records for the Receiver of Revenue.

2. Farm management

Sound business management requires a good set of farm records and accounts and as a general rule the more efficient farmers with the larger farms are conscious of the value of a good set of farm accounts in the farm business. The sound use of farm credit also requires adequate accounting.

3. Research

Agricultural economists would not be able to do research on farm management without being

* A summary of the writer's earlier mimeographed report: "Farm accounting services in certain European countries," 1968.

able to draw upon accounting data as supplied by farmers. Farm management surveys and single farm analyses are greatly facilitated with good farm accounting data. Sophisticated research techniques such as linear programming and production function analyses are dependent upon sound data supplied by farmers.

4. Advisory

Extension officers are increasingly becoming conscious in advisory work of the importance of farm economics and the usefulness of farm accounting data. Farmers in collaboration with extension officers have profited greatly from a joint study of standards of efficiency as shown up from group bookkeeping ventures.

5. Agricultural policy

Many decisions on agricultural policy and on price determinations are made on the basis of data collected by economists from farmers who keep sets of accounts. Without such reliable information the authorities would frequently not be in a position to make important decisions that have a bearing on the welfare of both the farming community and the country as a whole.

A sound organisation of farm accounting services will integrate the five functions as listed above into a common plan.

ENGLAND AND WALES

The keeping of farm accounts in England and Wales is integrated into a pattern through the universities and the Ministry of Agriculture in London. The Ministry annually receives 2,500 sets of accounts for the Farm Management Survey, which is a survey of farm incomes in England and Wales. These data are used in the annual Price Review in February each year, and a report is later compiled giving the detailed results of the survey, classified by regions and by sizes and types of farms.¹⁾ The measures of farm resources, incomes and expenditures are standardized for all regions, and defined in the report.

The collection of 2,500 sets of accounts is delegated to the Departments of Agricultural

1) Ministry of Agriculture, Fisheries and Food, 1966. Farm incomes in England and Wales, 1964, London, H.M.S.O.

Economics of 10 different universities, each in a different region. The head of each Department is appointed the Provincial Agricultural Economist by the Ministry. Each of these regions, moreover, has a regional headquarters of the N.A.A.S. (National Agricultural Advisory Services).

The universities thus each collect about 250 sets of accounts for the Ministry. More records may of course be collected for research purposes, and in fact each Department of Agricultural Economics has a number of research projects which involve the use of farm accounts. Each university is left considerable freedom in the manner in which it collects accounts for as long as it meets with the Ministry's requirements it may collect and classify and do research on the basic data in any way it wishes.

Farm accounting data are processed into research results and the translation of the findings into suitable form for extension work is entrusted to the Farm Management Liaison Officer of the Department of Agricultural Economics. The Officer works in collaboration with the Regional Farm Management Adviser of the N.A.A.S. regional head office.

From the offices of the Regional Farm Management Adviser a farm economics advisory service is conducted in conjunction with the advisory officers in the field. Farmers wishing to have economic or farm management advice are expected to have in the first instance kept a set of farm accounts. The results of their farm accounting are transcribed in the form of a trading account to a prescribed form, the M.A.1, form, which also makes provision for the noting of supplementary data, such as land use, crop yields, livestock numbers and rates of feeding.

The completed form is submitted by the Advisory Officer to the Regional Farm Management Adviser. Each form is then processed and the results prepared in a farm management report, the M.A.2 form, where the individual farm results are compared with the standards as determined by research in the local University Department of Agricultural Economics and as supplied by the Farm Management Liaison Officer. A form submitted by a farmer is normally dealt with, and a report is dispatched by the following day to the District Agricultural Adviser who then returns it to the farmer.

This farm management advisory service has been considerably assisted by the design of a suitable farm account book which was the combined work of the N.A.A.S., the National Farmers' Union and the Institute of Accountants. The National Farmers' Union distributes and sells the farm record book.

It may be mentioned that the National Farmers' Union in England and Wales also receives accounts from farmers. Averages obtained from their figures are then used in their deliberations with the Ministry in London at the annual price review, partly as a check against the figures used by the Ministry.

With effect from 1966 farmers who have kept proper accounts and have their books closed off by a chartered accountant, a certified bookkeeper or any other approved recording agency such as the Milk Marketing Board, receive a subsidy of £70 from the Government. In addition, those farmers who have been able to determine gross margins in their farm accounting receive an additional subsidy of £30, making a total subsidy of £100. Known as the Farm Business Recording Scheme it has been planned to run for a period of 5 years, in order to promote more business-like methods amongst farmers. The Ministry also issues leaflets on the administration of the farm office, and on accounting and budgeting.

Annually the heads of the University Departments of Agricultural Economics meet officials of the Economics Division of the Ministry in London in order to consider matters of common interest in farm economics research and farm accounting. Agreement is then reached, for example, on the categories of costs to be chosen as fixed and variable respectively. Differences of opinion exist in this classification between individual universities and the Ministry. The Ministry is in fact conservative in wanting only completely reliable data. Casual labour, for example, is not considered as a variable cost because not all farmers employ casual labour. Some farmers employ part of the regular labour force for certain tasks, where other farmers would use casual labour. In order to bring all farmers to a uniform basis all farm labour is considered as a fixed or common cost.

The Director of the Agricultural Economics Research Institute at Oxford attends these annual discussions, although the Institute itself does not collaborate in farm account data collection for the Ministry.

Farm accounting and farm management advisory services are also rendered by private agencies, some of which work with their own advisory officers in the field. The Agricultural Division of Imperial Chemical Industries at the Jealott's Hill Research Station, for example, administers a farm recording scheme for the firm's own clients and through its own extension officers. While this is of value to their farmer co-operators it also promotes the business interests of the company. The records of several hundred farmers, including gross margin analyses, are processed on a computer.

SCOTLAND

Scotland has a separate Department of Agriculture from England and Wales and the Department in Edinburgh receives 800 sets of farm accounts which are collected by the three Colleges of Agriculture at Aberdeen, Edinburgh and Glasgow.²⁾ The Colleges of Agriculture also do

2) The writer is indebted to Mr O.J. Beilby of the Department of Agriculture and Fisheries for Scotland, for new detail not included in his original report.

advisory work in their regions, while the administration of regulatory work and payment of subsidies is left to the Department of Agriculture. The Colleges are themselves closely associated with the Schools of Agriculture of the Universities in the three centres.

The "Scottish Farm Business Record Book" has been developed by the Colleges of Agriculture in collaboration with the Department of Agriculture for Scotland, the National Farmers' Union of Scotland and Associations of Accountants. The keeping of the book enables the farmer to qualify for the grant of £70, which is also paid in England and Wales, and where there is no livestock enterprise or only one. Where different classes of livestock are kept a feed record must be kept in addition, and a higher rate of grant of £100 is then paid.

Close liaison is maintained between the Department and the Colleges of Agriculture through the half-yearly meeting of the Scottish Conference of Agricultural Economists. "The general objective of the Conference is to secure the maximum degree of uniformity in the treatment of technical problems and to standardise as far as possible the form of account, while leaving the economists a free hand in the handling of accounts for their own purposes".

Private management consultants also operate in Scotland using their own systems of recording, analysis and advisory methods. Large-scale feed and fertilizer firms provide services in ways similar to Messrs. I.C.I. in England.

An interesting development has been the formation of a co-operative for farm management accounting at Inverness in Northern Scotland. The initiative came in 1963 from the Regional Officer of the Scottish Agricultural Organization Society, who was concerned about the low profit margins on farms which are far from the market. In June 1964, 45 farmers were offered three services: management accounting at a fee of £40 per annum, cheque-writing for a further £10 and for another £10, management of payrolls and P.A.Y.E. Economists at the Aberdeen College of Agriculture have acted in an advisory capacity, while technical advice has also been supplied by the staff of the College.

HOLLAND

The Agricultural Economics Research Institute (Landbouw-Economisch Instituut) in the Netherlands was established in 1940. It arose from farmer organizations which during the depression had started farm bookkeeping associations and advisory work amongst farmers. The Institute is financed by the industry (agriculture, horticulture, fishery) and the Government, these parties also appointing the members to its Board. The Chairman is nominated by the Minister of Agriculture after consultation with the non-governmental parties. The aim of the L.E.I. is to further knowledge and understanding of economics and allied problems relating to agriculture, horticulture, and the fishing industry of the Netherlands.

The Institute is divided into six departments:

1. General Economic Research
2. Socio-Economic Research
3. Farm Economics Research
4. Horticultural Research
5. Fishing Research
6. Statistics.

The Institute is primarily a research institute and the Farm Economics' Branch, which is one of the six departments, collects records from approximately 2,100 co-operating farmers, which are used for policy-making, for farm management research and for advisory purposes. The farmers who supply the data are randomly chosen in a stratified sample. Provision is made to change the sample from time to time, because it is considered that the selected farmers would benefit from the special advice given to them and that in time they may no longer be representative of typical farmers.

The bookkeeping of the selected farmers is done by the L.E.I. bookkeepers, located at 26 of the Agricultural Advisory Offices in various parts of the country. In 1967 the bookkeeping section employed eight persons in the head office, excluding the persons employed by the computer centre in the Institute, and 56 in the field. The bookkeepers normally submit the returns they receive from the farmers at 14 day intervals to the L.E.I. in The Hague, where the data are processed on a computer. Data assembled and compiled by the bookkeepers are also used for extension purposes by the National Advisory Officers. Each farmer is finally given a confidential report.

Nearly 150,000 farmers are estimated to keep accounts for tax purposes in the Netherlands and many of these are kept by various bookkeeping bureaux. Some of these bureaux offer their clients the possibility to join, in addition, a costing scheme similar to that of the L.E.I. The L.E.I. forms and instructions in some instances are used and the compilation of the data is then done by the L.E.I.

The Central Bureau of Statistics issues a report every year on farm incomes.³⁾ From the sets of accounts of the farms in the sample, 1,250 sets are provided by the L.E.I. and 4,900 by the bookkeeping bureaux. Of the 4,900 sets about 2,300 are submitted through the L.E.I. The Institute provides the C.B.S. with classified and averaged data of groups of farms totalling 3,550 sets of accounts (2,300 + 1,250). The accounting bureaux qualify for a state subsidy in submitting the selected number of their accounts for this purpose.

3) Central Bureau voor de Statistiek. 1965. Statistiek van de bedrijfsuitkomsten in de Landbouw. Uitgeversmaatschappij; W. de Haan, N.V. Zeist.

The Farm Management Department of the Agricultural University of Wageningen does not collect and process farm accounts, although it may do research on records compiled by the L.E.I.

The method of analysis of data from farmers' accounts is known as the factor analysis or comparative method, efficiency factors are compared with standards or norms obtained from groups of farmers. In 1950 the full costing of farms was abandoned in favour of simplified data collection, the particulars obtained being in effect the same figures as required for gross margin analysis in England.

GERMANY

Approximately 60,000 of 800,000 farmers keeping books in Western Germany are known to be keeping accounts in a formal way. Most of this work is done by private firms, 250 firms keeping an average of a few more than 200 sets of farm accounts. These firms are normally staffed by specialist farm accountants with agricultural diplomas (degrees) who also serve as income tax advisers to farmers. Admission of members is by examination and in the hands of the Central Union for Agricultural Bookkeeping and Advisory work in Bonn (Hauptverband für Landwirtschaftliche Buchführung und Beratung).

On behalf of the Union a set of definitions of farm management terms and concepts which are used in bookkeeping for farm management and income tax has been drafted by the Scientific Committee of the Agricultural and Forestry Research Council (Wirtschaftswissenschaftlichen Ausschuss des Land und Forstwirtschaftlichen Forschungsrates) on which certain Professors of Agricultural Economics serve.⁴ These definitions ensure that all reports whether for advisory or policy-making make use of uniform terminology, and they eliminate a lot of confusion in that all persons concerned with farm accounting use the same language.

In one farm accounting firm visited in Hannover, Lower Saxony, two sets of accounts are prepared for each farmer, one for tax purposes and one for farm management purposes. Upon receipt of his farm management returns the farmer may consult the firm for further advice, at a fee. Farmers normally, however, then turn to their extension officer for advice, which is given free.

Advisory work is largely the responsibility of the Landwirtschaftskammer (Chamber of Agriculture) in each Province of Germany. Landwirtschaftskammern are normally autonomous, independent bodies, although they receive most of their

financial support from the Government. The Landwirtschaftskammer in Münster, Westphalia, receives 80% of its income from the Government and 20% from farmers.

The Federal Ministry of Agriculture in Bonn draws upon 8,000 sets of accounts for policy-making purposes and for preparation of the annual Grüner Bericht and Grüner Plan, or policy report and plan of the Ministry.⁵ Records are obtained through the Landwirtschaftskammern, which draw random samples of accounts kept by accounting firms, the samples being grouped by the type of farming and size. Fees are paid for accounts chosen.

Although the universities in Germany do not collect farm accounting records, much research, some of a very high order, is done in the Departments of Agricultural Economics. Staffs of universities are consulted by private firms with a view to improving the system of farm accounting. One of the Professors at Göttingen stated it would be desirable for his department to collect a few hundred farm accounts which could then be used for research purposes.

The German system of farm accounting does not embrace the costing of individual enterprises, but it follows the "whole farm" approach. In taking this approach reliance is placed on a tradition set by Aereboe, a famous German agricultural economist, who condemned farm cost accounting in these terms: "It dissects the body of the farm in an anatomical manner and, in so doing, kills it for the purpose of real study of economic efficiency."

DENMARK

Detailed recording on farms did not make much headway in Denmark until farmers began to co-operate in groups, in the local farm recording societies, the first of these having been established in 1910. By 1957 there were 120 such societies which then comprised about 13,000 farmers.

Most recording societies here have been established as special branches of the local farmers' organizations and are governed by special committees set up by these organizations. The local recording societies are grouped into regional associations. Each society has its own adviser in farm recording and farm management and also one or more assistants, according to the number of records kept. One or two temporary assistants are employed by each regional association.

The expenses of the local and regional societies are paid partly by the participating farmers, partly by the farmers' organization and partly from a Government subsidy. As a rule the subsidy

4) Hauptverband der Landwirtschaftlichen Buchstellen und Sachverständigen e. v. 1959, Betriebswirtschaftliche Begriffe für die Landwirtschaftliche Buchführung und Beratung, Heft. 14. 4 Auflage. Verlag: "Pflug und Feder", Bonn.

5) Bundesrepublik Deutschland, 1966. Grüner Bericht und Grüner Plan.

covers more than 50% of the salary and transport expenses of the adviser and the cost of the reports.

At the end of the financial year the adviser prepares a report, which enables the farmer to compare his own records with those of other farms. In order to qualify for the Government subsidy, records must be submitted by the recording societies to the Institute of Farm Management and Agricultural Economics in Copenhagen. Apparently only a sample of the records is sent to the Institute.

The Institute of Farm Management and Agricultural Economics was established in 1916. Its main objects are to obtain information about the economic conditions of farming through the analysis of farm records, supplemented by special investigations, and to promote uniform methods of recording within the local recording societies.

The Institute has a staff (1966) of 20 economists and it receives from 1,300 to 1,400 accounts, of which 200 are fully costed. It is financed by the Government which contributes 70% of the expenditure and by farmers who contribute 30%. The administering body is a Board of 6 members, one of whom is the Professor of Agricultural Economics of the Royal Veterinary and Agricultural College in Copenhagen.

The Department of Agricultural Economics of the Royal Veterinary and Agricultural College does not itself keep accounts for farmers, although its post-graduate students may do research on farm accounts.

The Institute of Farm Management and Agricultural Economics has a continuous record from its farm accounts dating from 1917, from which studies of trends of Danish farming are made.⁶⁾ The staff is engaged on research on data from accounts, including linear programming models for particular regions of Danish agriculture.

CONCLUSIONS

Certain features of farm accounting schemes in the countries visited are common to the majority or all of the countries, and they are listed hereunder.

1. Decentralization

The foundation of organized farm accounting has in each case been a strong local organization. In Holland and Denmark account-keeping was started by the local recording and advisory

6) Institute of Farm Management and Agricultural Economics, 1959. Technical and economic changes in Danish farming, 40 years of farm records, 1917-1957. Copenhagen.

societies. In Germany accounting is centred around the accounting firms and the Chambers of Agriculture, in England around the provincially or regionally based universities and regional N.A.A.S. offices, in Scotland around the Colleges of Agriculture. Farm accounting which tends to be more centralized in Denmark and Holland is still based on local organizations, but these countries are extremely small, less than half the area of Natal or of the Orange Free State.

2. Autonomy of institutions

A significant feature of all organized farm accounting has been relative freedom from direct Government control. In all cases the State makes a contribution towards the costs of maintaining the various institutions, but they are managed by their own governing bodies. In each country the State is enabled to obtain all the records it needs for policy-making, in an efficient and a relatively uniform manner.

3. Role of universities and colleges of agriculture

Universities are traditionally the homes of critical and original thought and most innovations in farm accounting have emanated in some way from academic institutions. The rejection of full costing by Aereboe of Berlin University had a profound influence in Germany in that the Germans never adopted a cost of production approach in farm accounting. The gross margin method of farm planning has largely been developed by universities in the United Kingdom. In each country in some way the universities have made a valuable contribution.

4. Uniformity

Agricultural economists, farm accountants and extension specialists have reached a considerable degree of agreement about various measures of size, capital investment, income, expenditure and net return in farm management. Records submitted to central governments are in standardized form. Provision exists for the review of measures of income and efficiency from time to time, and it would indeed be fatal to the progress of such work if this was not the case. Local institutions such as universities are still left with a good deal of freedom to handle farm accounts as they wish and for their own purposes.

5. Sampling

The records used for policy-making represent a sample of the accounts actually kept. Samples tend to be biased in that they may represent the larger and more efficient farms, but is not considered a disadvantage because it is wiser to base policy on the relatively more efficient farms, which are in any case likely to be more

responsive to price and policy decisions. The more efficient farms are also more suitable for the setting of standards and in giving leadership in extension.

6. Subsidies

Subsidies are paid for farm accounting in Britain, Holland and Denmark. In the latter two countries, indirectly to the recording societies, and in Denmark for the part-payment of the services of the advisory officers. The fees paid to accounting firms by the German Landwirtschaftskammern amount to Government subsidies, for some of the benefits that the firms gain would be passed on to farmer clients.

In that the Government may require data for policy-making purposes, a subsidy is justified if the accounts kept by private organizations enable the authorities to obtain reliable data without the employment of economists at relatively high salaries. The savings effected may partly be used for subsidies.

7. Close co-operation with extension personnel and accounting profession

In all countries visited accounts are used extensively for farm management advisory work.

Extension workers are, moreover, well versed in the use and interpretation of accounting data. A close liaison exists in England between the university Departments of Agricultural Economics and the N.A.A.S., through the Farm Management Liaison Officers and the Regional Farm Management Advisers. Extension officers in Germany may make use of management accounts prepared for farmers by the accounting firms.

8. Separation of management accounts from income tax accounts

Most accountants preparing books for farmers in South Africa do so for the purpose of farmers' income tax returns. Agricultural economists find such sets of accounts quite inadequate for farm management purposes. Generally a complete inventory and valuation of the farm are not readily available, while records of crops grown, feeds fed and quantities sold are not kept. Accounts kept for management purposes, while requiring more work than in the case of tax recording, could more easily be modified for the income tax return than an income tax account could be modified for management purposes. The tendency in England, Scotland and Germany to keep accounts both for management and for income tax is thus commendable.