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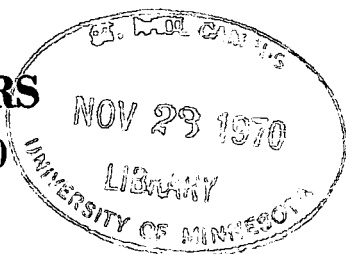
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SWEDISH GRADUATE PROGRAMMES IN
AGRICULTURAL ECONOMICS²

I. *Some notes on the Swedish education system*³

THE compulsory primary schooling begins in Sweden at the age of seven and lasts for nine years. Then follows secondary schooling for two to four years. Ordinary secondary education lasts for three years and concludes with an examination, called in Swedish *studentexamen*,⁴ which entitles a boy or girl to matriculate at a university or university college. However, the competition for places at universities is severe and the students are admitted according to their marks in the *studentexamen*.

It takes about four years to take the lowest academic degree, which entitles the holder to call himself (or herself) *filosofie, medicine, juris, teologie kandidat* (at universities, title differing according to faculty), *civilingenjör, lantmätare, arkitekt* (at colleges of technology), *civilekonom* (at colleges of business economics), *jägmästare* (at the College of Forestry), *veterinär* (at the Veterinary Institute), *agronom, hortonom* (at the Agricultural College), and so on. The first degree corresponds in most cases roughly to the English B.A. or B.Sc. degree. However, there exists some exceptions and one of these concerns the studies for the agronomist degree or *agronomexamen*.

In this case a portion of the undergraduate studies (during the last two terms of the study) may be regarded as already being of graduate study character and the Swedish *agronom* degree may thus be presumably more correctly compared with the M.Sc. degree in the English-speaking countries than with the B.Sc. degree.

After another three years, approximately, the licentiate degree may be taken, giving the title *filosofie, medicine, juris, teologie, teknologie, ekonomie, agronomie licentiat* respectively, while the studies for the

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² Received 25 September 1969.

³ The description of Swedish education system follows here with minor deviations, the description in Lars-Erik Sanner (ed.): *Agricultural College of Sweden. A Descriptive Guide* (1966), pp. 92 f.

⁴ This was valid until 1968. After 1968 no concluding or final examination (*studentexamen*) has been required. Higher school education in Sweden now concludes with a certificate issued on the basis of the students work during his period at these schools.

lowest degree are intended to give a rather broad education in several subjects, the studies for the licentiate's degree are specialized in one subject. In addition to an extensive course of reading, this degree also requires the presentation of a scientific paper. The Swedish licentiate's degree corresponds to an American doctoral degree.

The doctoral degree, giving the Swedish title *filosofie, medicine, juris, teologie, teknologie, ekonomie, agronomie doktor* respectively, is passed by presenting a printed doctoral dissertation or thesis, which is publically examined by two 'opponents', one chosen by the university or the college and the other by the author of the dissertation. The Swedish doctoral degree is somewhat more advanced than the average American Ph.D.

This year, however, a general reform of postgraduate studies has been decided upon in Sweden. From 1 July 1969 a new doctor's degree (*doktorsexamen*) has been introduced and after a short transitory period of two years for 'the old' licentiate's degree (stop limit 1 July 1971) and of five years for 'the old' doctor's degree (stop limit 1 July 1974), the studies for this new doctor's degree (*doktorsexamen*) will have wholly replaced the 'old' Swedish system for advanced studies with two postgraduate degrees. The attainment of 'the new' Swedish doctor's degree is expected to require normally four years of postgraduate studies. As an order of precedency concerning 'the old' degrees and 'the new' degree the following may be roughly correct: licentiate's degree—'new' doctor's degree—'old' doctor's degree.

2. *Swedish agronomist's degree—economic specialization*

2.1. *Introductory remarks*

Through the reform of higher agricultural education in the year 1931 the examination for the agronomist's degree (Swedish: *agronom-examen*) on an academic level was introduced in Sweden. The training of agronomists in Sweden had already at that time a history of a hundred years behind it. However, this training had been in terms of non-academic art. The new academic system of training for agronomists began to function from the 1st of November 1932. The undergraduate studies were, at the beginning, organized according to three specialized lines: plant production (*jordbrukslinje*), animal production (*husdjurslinje*) and economy (*ekonomisk linje*). Somewhat

later (1943/4) a non-specialized line, general agriculture (*all-män linje*), was included. A fourth specialized line concerned with agricultural technology (*maskinteknisk linje*) was organized 1949/50. This system lasted till 1962. Then a fundamental reorganization of the training of students in the field of agriculture was carried out in Sweden. The total period of study was reduced from six to five years by shortening the preliminary practical training. This practical training now takes place after admission to the Agricultural College, but is given at four vocational agricultural schools, at which the students also take part in practical agricultural work on farms in the district. Three months' special practical work is put in during the period of study at the College. The previous division into lines (1932-62) was replaced by a system with a freer choice of subjects, although there is still a specialization in a number of spheres. Nevertheless, the students have quite a large choice, when deciding which subjects they will include in their degrees.

In consequence of the fact that in the undergraduate studies for the agronomist's degree in Sweden a portion of graduate study elements have been, and are, included and that the undergraduate studies for the agronomist's degree have been, and are, specialized, a brief description of the Swedish examination for the agronomist's degree (= *agronomexamen*) in respect of the economic line or specialization will be given.

2.2. *Swedish agronomist's degree—economic line (1932-62)*

For the agronomist's degree in all study lines at least $14\frac{1}{2}$ points¹ were required. Regarding the economic line, which alone is discussed here, the student had to take at least 10 points (of the $14\frac{1}{2}$ minimum points) in the eight higher-point subjects: accountancy, agricultural economics (farm business economics), agricultural marketing and policy, agricultural technology, animal husbandry, national economics, plant husbandry and statistics (in four subjects at least 2 points in each and in a further three subjects at least 1 point in each). Of the half-point subjects, altogether eleven (chemistry, farm buildings, law, mathematics, pedagogy, soil fertility and management,

¹ In the point-scale applied 1 point corresponds roughly to half a term's studies. Subjects studied are divided into two groups: half-point subjects (Swedish: *förläsningsämne*) and higher-point subjects (Swedish: *tentamensämne*). In so-called course-subjects (Swedish: *kursämne*) no points are given.

animal anatomy and physiology, forestry, physics, plant anatomy and physiology and systematic botany) only the first-mentioned six subjects were obligatory. Of the three so-called course-subjects (Swedish: *kursämne*), agricultural hydrotechnics, land economics and dairy husbandry, only one—agricultural hydrotechnics was obligatory. In addition to the requirements mentioned there was a special requirement regarding examination work in the form of an independent treatment of a proposed problem in some of the higher-point subjects for the economic line (e.g. farm business economics, agricultural marketing, accountancy) in which the student had received at least 2 points. The undergraduate studies for the agronomist's degree under the study plan for the economic line allowed the student some liberty regarding the combination of subjects. However, this freedom was not so comprehensive as it seems from the description given above. There was a series of couplings between several subjects: in studying for higher points in one subject often the examination for $\frac{1}{2}$ point or 1 point in an adjacent subject had to be taken, too.

2.3. *Swedish agronomist's degree from 1962—free choice of subject combination: specialization in agricultural economics*

After reorganization in 1962 the students in agriculture have quite a large choice in deciding which subjects they will include in their degrees. The general rule is that the degree (*agronomexamen*) must include at least 14 points ($\frac{1}{2}$ point less than minimum points for agronomist's degree in the economic line for the old statute). Of these 14 points, a maximum of 4 may be gained as half-points and in each of at least two subjects at least 2 points must be gained. However, most students pass a more comprehensive examination, with more subjects (variation between 10 and 15 subjects is usual) or higher credits than appears in their study plans. The students, of course, have also the possibility of changing their study plans in the course of the studies. In addition there is special practical work and an examination work. The examination plan must include at least seven subjects. Normal plans have been worked out for students interested in economic specialization. One of these 'normal' plans has in view the training of agricultural economists more rigorously, the other one in a somewhat broader sense. These 'normal' plans for training agricultural economists under the new system are presented in Schedules 1 and 2.

SCHEDULE I. 'Normal' plan of study for agricultural economists

<i>Subjects</i>	<i>Points</i>
Farm business economics	2
Agricultural marketing	2
Accountancy	2
National economics	2
Statistics	2
Law	1
Farm technology	1
Land economics	$\frac{1}{2}$ or 1
Mathematics	$\frac{1}{2}$
Forest economics	$\frac{1}{2}$
Sociology	$\frac{1}{2}$

SCHEDULE 2. 'Normal' plan of study for agricultural economic advisers and for teachers of economic subjects at agricultural schools

<i>Subjects</i>	<i>Points</i>
Farm business economics	2
Agricultural marketing	2
Land economics	1
National economics	1
Accountancy	1
Statistics	1
Plant husbandry	1
Farm technology	1
Soil fertility and management	1
Animal husbandry	1
Law	$\frac{1}{2}$
Agricultural botany	$\frac{1}{2}$
Sociology	0 to $\frac{1}{2}$
Mathematics	$\frac{1}{2}$
Forestry	0 to $\frac{1}{2}$

The 'normal' period of study for the agronomist's degree in agricultural economics may be regarded as $3\frac{1}{2}$ years. However, if the propeutic (practical) year and three to four months' effective work on examination thesis (Swedish: *examensarbete*) are added, it is roughly five years. In the 'normal' plan of studies, studying for higher points than 2 has not been included. However, in the last year of studies many students are studying for 3 and 4 points in one or more of the main agricultural economic subjects: farm business economics, agricultural marketing and land economics. Especially in these subjects studies then also have the character of advanced studies.

3. *Swedish graduate programmes in agricultural economics before the reform of graduate studies in 1969*

3.1. *Introductory remark*

In accordance with the general Swedish system of graduate studies, as that system was shaped before the reform of 1969 (see p. 325), the graduate training for two postgraduate degrees—Agr.Lic. (*agronomie licentiat*) and Agr.D. (*agronomie doktor*)—has been organized in agricultural economics at the Agricultural College of Sweden. This training in the manner of ‘the old system’ will partly continue through a short transitional period. However, it will come to an end in 1971 (Agr.Lic. degree) and in 1974 (Agr.D. degree). A description of ‘the old system’ for graduate studies, of the academic training for Agr.Lic. and Agr.D. degrees in agricultural economics, will be given in the following sections (3.2 and 3.3).

3.2. *Swedish Agr. Lic. degree from the beginning of 1940s to the beginning of 1970s*

The graduate studies for Agr.Lic. degree (*agronomie licentiatexamen*) have been organized at the Agricultural College in Uppsala (Ultuna) since 1936. However, in agricultural economics the first Agr.Lic. degrees were taken a decade later (1946). Up till 1969 altogether twenty-six Agr.Lic. degrees have been taken in agricultural economics. Of these degrees six concern agricultural economics in a broad sense (including farm business economics, farm appraisal, farm accountancy and agricultural marketing), twelve concern farm business economics (agricultural economics in narrower sense), and eight concern agricultural marketing. Detailed information concerning the choice and combination of examination subjects will be clear from the Schedule 3. According to the first statute (3 April 1936) for *agronomie licentiatexamen* a comprehensive examination in two subjects and a preparation of the thesis (Swedish: *licentiatavhandling*) was necessary for obtaining the Agr.Lic. degree. In the first subject (the main examination subject) at least 2-points study was required, in the other one (the secondary examination subject) at least 1 point. The required minimum number of points for Agr.Lic. degree was thus 3. For the scientific paper (thesis) the approbation of the examiner in main subject for Agr.Lic. degree was required.

See Schedule 3 on p. 331.

According to the second (modified) statute for *agronomie licentiat-*

examen (20 April 1951) the obligatory examination in only one subject (the earlier 'main subject') was required for Agr.Lic. degree. However, the examination in a second subject might be allowed and, as it seems from Schedule 3, that possibility has also been used in eight cases. According to the third statute (28 June 1962) also the examination in one subject only was obligatory and at least 2-points study was necessary in that subject. However, according to this statute even the thesis must pass the assessment according to the scale of points. Through this requirement the thesis work was given an indicated position. It has been the tradition in the economic departments of the Agricultural College of Sweden that the Agr.Lic.

SCHEDULE 3. *Choice and combination of examination subjects for Agr.Lic. degree in agricultural economics, 1946-68*

<i>Main subject for Agr.Lic. examination</i>				
<i>Second subject for Agr.Lic. examination</i>	<i>Agricultural economics (broad subject) 2-3 points</i>	<i>Farm business economics (incl. production economics) 2-3 points</i>	<i>Agricultural marketing 2-3 points</i>	<i>Sum total</i>
National economics 1-1½ points	S. Holmström (1946) L. Hjelm (1946) J. Davidsson (1949) H. Lönnemark (1950)	J. Nöu (1954)	P. Grabö (1953) G. Ölund (1957)	7
Statistics 1-1½ points	L. Gustafsson (1946)	G. Oscarsson (1959) E. Sandqvist (1959) B. Johnsson (1964)	O. Gulbrandsen (1953)	5
Agricultural economics (in narrow sense) 1-1½ points	C-E. Odhner (1953)	1
Agricultural marketing 1-1½ points	G. Brunnfält (1949)	..		1
No second subject	..	F. Strömblad (1952) U. Renborg (1956) B. Nekby (1961) N-I. Isaksson (1963) A. Birowo (1964) I. Ledje (1964) V. Säfvestad (1965) L. Folkesson (1967)	F. Petrini (1955) P. Eliasson (1962) G. André (1966) G. Larsson (1968)	12
Sum total	6	12	8	26

thesis has been twice discussed in a seminary form: the first time with concentration on the planning and the methodological problems of the research work and the second time with concentration mainly on critical examination. For this critical examination the adviser for Agr.Lic. study selected one of the 'opponent' experts. The titles of all twenty-six of the scientific papers in agricultural economics, farm business economics and agricultural marketing, prepared at the Agricultural College of Sweden for Agr.Lic. degrees, are presented in Schedule 4.

In agricultural economics (in a broad sense) six agronomists have taken Agr.Lic. degrees (under the guidance of Professor Ludvig Nannesson (3) and Nils Westermarck (3). In farm business economics, agricultural economics in limited sense, the corresponding number is twelve, nine of them under the guidance of Professor Lennart Hjelm and under the guidance of Professor Nils Westermarck, Docent Gunnar Ringborg, and Professor Ulf Renborg, one for each), and in agricultural marketing under the guidance of Professor Karl-Fredrik Svärdröm, eight.

The present requirement for an Agr.Lic. degree (valid since 1963), mainly relating to the study of the scientific literature, will be briefly presented for the subject farm business economics (examiner Professor Ulf Renborg). The 1-point study (Swedish: *godkänd*) for Agr.Lic. degree in farm business economics¹ corresponds roughly with the requirements for 4-points study for agronomist's degree (*agronomexamen*). As the 2-points study in farm business economics is included in the minimum requirements for *agronomexamen* in agricultural economics, thus a further study of c. 2,600 pages of specified scientific literature may be regarded as the requirement for 1-point Agr.Lic. study together with the preparation of a scientific paper and participation in the seminar discussions. However, a somewhat greater demand will be made on the extent and the quality of the independent research work and on the thoroughness of the literature study than in the case of 3- and 4-points studies for *agronomexamen*. There exist some further requirements relating to the level of the economic subjects studied on the undergraduate level. However, more generally, it may be said that it is possible, and has been the practice, to build the 1-point Agr.Lic. study within the framework of

¹ The one-point study for Agr.Lic. degree in farm business economics as well as in every other subject is only possible as the free-choice second-subject study. For the obligatory subject in Agr.Lic. examination always at least two-points study is required.

SCHEDULE 4. *Titles for scientific papers in agricultural economics, farm business economics and agricultural marketing, prepared as Agr.Lic. thesis at the Agricultural College of Sweden, 1946-68. (Inverted commas indicate that the thesis is written in Swedish)*

Date	Adviser's name	Licentiate's name	Thesis
29/1/1946	L. Nanneson	Sven Holmström	'Farming profitability in a changing price situation'
23/9/1946	L. Nanneson	Lennart Gustafsson	'Direction and profitability of farm production as business economic and agrarian political problem'
4/12/1946	L. Nanneson	Lennart Hjelm	'Cost index for farm buildings. Studies in the development of building costs in Swedish agriculture'
31/3/1949	N. Westermarck	Edvardsson	'Variations in employment in agriculture in North Sweden'
14/12/1949	N. Westermarck	Gustaf Brunnfält	'Seasonal variation in milk production with special reference to feed costs at production'
25/12/1950	N. Westermarck	Henning Lönnemark	'Studies concerning the machine work in Swedish agriculture'
22/9/1952	G. Ringborg	Folke Strömblad	'On the level of agriculture in the hilly soil districts of Kronoberg's country'
20/2/1953	K-F. Svärdström	Paul Grabö	'Study concerning the consumption in kind at farmers' households'
21/5/1953	K-F. Svärdström	Clas-Erik Odhner	'Agriculture at full employment'
21/5/1953	K-F. Svärdström	Odd Gulbrandsen	'Farm produce market in Säfte district'
11/6/1954	N. Westermarck	Joosep Nõu	'Seasonal variation of farm incomes and expenses'
21/4/1955	K-F. Svärdström	Frank Petrini	'Studies of the supply relationships concerning farm products'
10/12/1956	L. Hjelm	Ulf Renborg	'Studies in the use of linear programming at production planning in farm business'
23/1/1957	K-F. Svärdström	Gunnar Ölund	'English agricultural policy — development and perspectives'
27/1/1959	L. Hjelm	Gösta Oscarsson	'Factors influencing the extent of milk production'
10/6/1960	L. Hjelm	Eje Sandqvist	'Production function analysis of Swedish agriculture'
23/8/1961	L. Hjelm	Bengt Nekby	Structural development of American agriculture

SCHEDULE 4 (*cont.*)

Date	Adviser's name	Licentiate's name	Thesis
15/1/1962	K-F. Svårdström	Erik Eliasson	'Studies of the supply elasticity in Swedish plant production'
27/3/1963	L. Hjelm	Nils-Ivar Isaksson	Nature of supply response in dairying—a disaggregative approach
21/1/1964	L. Hjelm	Achmad Birowo	Programming models for regional planning: An approach to the problem of regional specialization in Swedish agriculture
21/1/1964	L. Hjelm	Inge Ledje	'Planning of farm and forestry business'
8/12/1964	L. Hjelm	Bertil Johnsson	'Data basis and calculation models for business economic judgement of the use of fertilizers'
28/4/1965	L. Hjelm	Vikar Säfvestad	'The development planning of farms in Stenungsund's great commune'
29/4/1966	K-F. Svårdström	Gunnar André	'Regional division into districts of dairy industries'
28/4/1967	U. Renborg	Lars-Göran Folkesson	An interregional linear programming analysis of the agricultural sector in Sweden
29/3/1968	K-F. Svårdström	Gunnar Larsson	'Statistics concerning the consumption of the articles of food in Sweden'

agronomexamen. The 2-points study for the Agr.Lic. degree requires further literature studies (*c.* 1,300 pages) especially on quantitative methods, new-classical microeconomic theory and the newer criticism of it, methodological questions and doctrinal history. Special study courses on Agr.Lic. level have been organized sporadically by the economic departments at the Agricultural College of Sweden. Such courses have even been organized by the Economic Section of the Scandinavian Agricultural Research Workers' Association (NJF).

Regarding the quality of the Swedish Agr.Lic. degree the following may be said. Of the 7 Agr.Lic. examinations passed on the basis of the first statute (20 April 1936), 6 have attained the maximum possible number of points for the main subject (3) and for the second subject (1½). On the 12 Agr.Lic. examinations passed on the basis of the second statute (20 April 1951), in 5 cases the maximum number of points (3) was attained in the obligatory examination subject and in

the other 7 cases $2\frac{1}{2}$ points. However, in 5 cases (of these 7) a further $1\frac{1}{2}$ points were taken in a second subject. Of the 7 Agr.Lic. degrees taken in accordance with the third statute (28 June 1962) in 1 case maximal points were attained both for the obligatory subject (3) and thesis (3), in 1 case maximum points in the case of obligatory subject (3) and for the thesis the second best ($2\frac{1}{2}$), in 1 case the study result was 2 points for the obligatory subject and 2 points for thesis. The examination result in the 4 other cases lies between the mentioned distinctive and moderate results. In total, the result of Agr.Lic. studies in agricultural economics must be regarded as highly satisfactory. Of 26 licentiates in agricultural economics 8 or 30 per cent have completed their postgraduate studies later with the doctorate degree (Agr.D.).

3.3. *Swedish degree of doctor of agriculture in agricultural economics, 1948-69 (1974) (the old Agr.D. degree)*

The achievement of the degree of a doctor of agriculture (Swedish: *agronomie doktorsgrad*), corresponding with the title of *agronomie doktor* (here abbreviated Agr.D.) has been possible at the Agricultural College of Sweden since 1942 (statute of 30 June 1942). However, the first disputation act for the achievement of an Agr.D. degree in agricultural economics (in farm business economics) was organized in 1948 (candidate: Agr.Lic. Lennart Hjelm). There had not been any licentiates (Agr.Lic.) in agricultural economics in Sweden before 1946, and it was thus from that time that the doctorands could start their research work for an Agr.D. degree in that subject. The Agr.Lic. degree (as the first postgraduate degree), or other degree accepted by the College, has been—and will remain until 1974—the preliminary condition for disputation and for Agr.D. degree, the second postgraduate degree in Sweden. The second condition for a disputation has been and is the printed scientific dissertation or doctoral thesis. The third condition is that the thesis must be publically examined by two 'opponents', one chosen by the College of Agriculture and the other by the author of the dissertation. The dissertation may be written in Swedish, Danish, Norwegian, German, English, or French, but it must be defended in Swedish. Until 1963 the content of the written dissertation and the defence of it were separately judged according to the scale of points. The degree of Agr.D. was achieved if the author had received at least 1 point for the thesis and 1 point

for the defence. If the points given for the thesis and for the defence were at least two for each, the author had the right to apply for *venia legendi*.

Information concerning the achievement of the Agr.D. degrees at the Agricultural College of Sweden is given in Schedule 5. In all eight licentiates have taken the degree of Agr.D. in farm business economics and agricultural marketing. Of these eight Agr.D. degrees, the average points have been: for the thesis two and for the defence (only six degrees) $1\frac{1}{2}$.

See Schedule 5 below.

Disputations for the degree of Agr.D. in agricultural economics according to 'the old' statute may take place only up to 1 July 1974.

SCHEDULE 5. *Disputation acts for achievement of Agr.D. degree in farm business economics and agricultural marketing at the Agricultural College of Sweden, 1948-69 (Inverted commas indicate that the thesis has been written in Swedish)*

Date	Candidate	Thesis
9/10/1948	Lennart Hjelm, Agr.Lic.	'The purports and essentials of farm cost investigations'
11/2/1949	Lennart Gustafsson, Agr.Lic.	'Labour force as a production factor in agriculture'
26/11/1952	Gustaf Brunnfält, Agr.Lic.	'Seasonal variation in milk production with special reference to its influence on feed costs of production'
28/3/1953	Folke Strömblad, Agr.Lic.	'On hindrance and remedies of farming in forestry regions'
16/5/1957	Odd Gulbrandsen, Agr.Lic.	'Structural change in Swedish agriculture'
2/11/1962	Ulf Renborg, Agr.Lic.	Studies on the planning environment of the agricultural firm
4/4/1964	Frank Petrini, Agr.Lic.	Competition between agriculture and forestry under Swedish conditions
17/5/1967	Joosep Nõu, Agr.Lic.	Studies in the development of agricultural economics in Europe

It is probable that Sweden will receive 3 or 4 more doctors of agriculture (Agr.D.) in agricultural economics of 'the old' distinction before the stop limit is reached. In comparison with the graduate studies for an Agr.Lic. degree or *agronomie licentiatexamen* the graduate research work for a doctoral thesis has been relatively freer. Professors in the subjects of doctoral theses are the thesis advisers for doctorate

students. However, their guidance is somewhat less direct in the case of a doctoral thesis than in the case of an Agr.Lic. thesis. If the candidates have been working at the economic department of the College, the contacts between the thesis adviser and the doctorands had been very intimate.

4. *Swedish degree of doctor of agriculture in agricultural economics after 1969 resp. 1974 ('the new' Agr.D. degree)*

In accordance with the general reform of graduate studies in Sweden (see p. 326) a new system for such training, called *doktorsexamen* in Swedish, will be introduced even in the sphere of agricultural economics (farm business economics, agricultural marketing with agricultural policy, and land economics). At this moment (September 1969) there does not exist any confirmed statute for the new *agronomie doktorsexamen*, i.e. for the graduate studies leading to the new Agr.D. degree. However, for the subject agricultural marketing (examiner Professor Karl-Fredrik Svårdström) the proposal for a provisional plan of studies for the new doctor's degree (Agr.D.) has been presented. An analogous plan will be presented for other economic subjects. The study plan for *agronomie doktorsexamen* in agricultural marketing will be presented below. It illustrates roughly the organization of graduate studies in agricultural economics according to the new system. The preliminary condition for admission to the graduate study for attainment of Agr.D. degree in agricultural marketing is the agronomist's degree with economic specialization and with 4-point study in agricultural marketing or other similar basic training. The main requirements for Agr.D. degree in agricultural marketing have been proposed as follows:

1. Participation in the research work at the Department of Economics and Statistics of the College or at some other establishment, for at least two years under conditions such that the work is in accordance with what has been agreed with the examiner.
2. Participation in the research training that has been organized at the time in question at the Department in the subject agricultural marketing and, in agreement with the examiner, even in other subjects in the sphere of the Department's work. This training at the Department of Economics and Statistics may, in agreement with the examiner, be substituted by training at some other Swedish or foreign institution or establishment.

3. Teaching of at least ten lecture hours to prove the ability of oral exposition and discussion of some central problems of undergraduate teaching of the subject of agricultural marketing.
4. Literature studies in accordance with more detailed instructions partly within the subject region of the scientific dissertation and partly *c.* 5,000 pages generally orientated literature within following subject regions:
 - (a) Fundamental theory of marketing economics. Cost analysis, price analysis, limitation of competition and market models.
 - (b) Business structure. Different types of business units and systems of business integration, among them co-operation. Problems of accountancy and principles of optimisation.
 - (c) Business management. Administrative processes, information, responsibility distribution and decision-making processes.
 - (d) Agricultural policy. Economic and social principles for agricultural policy, policy means and their effects, decision-making process and development of agricultural policy in Sweden and in other countries.
 - (e) International economics. Development of international trade and the economic-geographical background. Theory of international trade, international integration and price determination, together with international trade problems for developing countries.
5. Scientific thesis concerning the subject, which has been approved by the prefect of the Department, after consultation with the Department's collegium, as belonging within the subject sphere of agricultural marketing.

The main idea of the 1969 reform of graduate studies in Sweden has been to replace the existing system with two postgraduate degrees (Agr.Lic. and Agr.D.) with only one degree (Agr.D.), and eventually to shorten somewhat the time required for achievement of a qualified researcher training. Permanent study courses have been strongly stressed in the new doctor's degree. Such permanent courses will be organized at the Department of Economics and Statistics at the Agricultural College of Sweden. However, intensified internordic co-operation and intensified co-operation between several economic departments and establishments in Sweden to facilitate the graduate training in agricultural economics is also expected.