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ABSTRACT

Agricultural Education in the Netherlands is categorized as Scientific, Higher Secondary, Middle Secondary, and Lower Secondary. Scientific education is given at the agricultural university which has a 6- or 7-year curriculum. Higher secondary education is given at agricultural and horticultural colleges with a 3- to 4-year curriculum. Middle secondary education is given at agricultural schools with a curriculum from 1 1/2 to 3 years, according to the nature of the school. Lower secondary education is given at lower agricultural and horticultural schools in many different courses of short duration depending upon the nature of the curriculum. The main admission requirements, duration of study, and degree or diploma awarded are discussed for each type of education available. The appendixes contain: (1) a list of curriculums in which students may major, (2) typical curriculums of a higher secondary agricultural school, a higher secondary horticulture school, a middle secondary agricultural school, a middle secondary horticulture school, a lower secondary agricultural school, a lower secondary horticulture school, and a general agricultural winter course, and (3) a block diagram showing progression through agricultural and horticultural training and the required preparatory training. (DM)

DUTCH AGRICULTURAL EDUCATION

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PREFACE

THE ORGANIZATION OF AGRICULTURAL EDUCATION

Agricultural education in the Netherlands falls into four groups:

a. scientific agricultural education,
b. higher secondary agricultural education,
c. middle secondary agricultural education,
d. lower secondary agricultural education.

Through these groups runs a fifth more or less independent form, namely vocational training.
Scientific education is given at the agricultural university of Wageningen, which has a 6 or 7 years' curriculum.
Higher secondary education is given at agricultural and horticultural colleges, with a 3 - 4 years' curriculum.
Middle secondary education is given at agricultural and horticultural schools with courses from 1½ to 3 years, according to the nature of the school.
Lower secondary education is given at lower agricultural and horticultural schools and at many different courses. Tuition at these schools lasts 4 years. The courses are of shorter duration depending on the nature of the curriculum.
In the following chapters the internal organization of these types of education is dealt with in more detail. The schools and courses are established by the Government or by private organizations, the latter being mainly societies of farmers and horticulturers or school associations.
The agricultural university is a government institution and is financed entirely by the Government.
The secondary agricultural schools are to a small extent government schools, mainly run by school boards and for the rest, private schools. In the first case education is fully financed by the Government, and in the latter the private schools receive government subsidy at nearly 100%. This subsidy practically covers the costs of staff, buildings and educational materials. A very small part of the funds required by private schools is provided by the school associations. Pupils of all schools pay a small tuition fee, which varies slightly according to the level of education.
Scientific education is regulated by a special Act. All other agricultural education is regulated by a new Act for all types of secondary education.

An important part of the organization of agricultural education is inspection. The highest authority is the Minister of Agriculture and Fisheries. The regulation of agricultural education is in the hands of a director of agricultural education at the ministry. For secondary agricultural education this director is assisted by 7 inspectors. Each inspector has the direct supervision of the district assigned to him.

The agricultural university is managed by its own Board, though the director of agricultural education is closely concerned with staff appointment, equipment and financing.

On these lines a comprehensive educational machinery has been built up. The network of schools and courses is now so dense that anyone who wishes to take any form of agricultural education does not have to go far or pay large tuition fees to do so. Good use is being made of the agricultural schools.

Of the younger generation, nearly everyone who is engaged in agriculture or horticulture, or intends to make a living in one or the other receives this type of education in some form.

The appendix gives 2 maps showing the agricultural and horticultural schools and a block diagram of the various courses.

Director of Agricultural Education.
P. van der Schans (M. Agr. Sc.).

The Hague 1966.

DUTCH AGRICULTURAL EDUCATION

Dutch agricultural education consists of the following groups viz:

I University Education,
II Higher Secondary Education,
III Middle Secondary Education,
IV Lower Secondary Education,
V Vocational Training Schools,
VI Agricultural and Horticultural Courses,
VII Training in Agricultural/Horticultural Teaching,
VIII Education in Rural Home Economics.

I. UNIVERSITY EDUCATION

This is the highest form of agricultural education in the Netherlands and is given at the *State Agricultural University* at *Wageningen*. It is both a training centre and an institution for fundamental research.

Wheat crossbreeding in the field

Aim

The object of the Agricultural University is the training of graduates both for the independent pursuit of agricultural science and for the occupation of professional posts in the field of agriculture for which a university training is required.

Admission requirements

In order to be admitted students must be in possession of one of the following certificates: a valid final certificate of a secondary school (gymnasium = grammar school or H.B.S.-B = secondary school-mathematics division), a final certificate of a higher secondary agricultural school, the higher secondary school for tropical agriculture, the higher secondary schools for technology, the higher secondary horticultural schools or the higher secondary school for forestry and rural engineering. Admittance will also be granted to those students possessing equivalent foreign certificates.

Duration of the study

The course of studies at the Agricultural University consists of three distinct parts:

a. the preparatory studies – Propaedeutic – approximately one year;
b. the intermediate studies – "Kandidaats" – two years and 4 months;
c. the final course – Degree course – two years or longer, including 6 months practical training or research.

Each part ends with an examination.

The entire study should take at least 5½ years but usually takes 7.

At the commencement of the intermediate studies (b) the student may make a choice from 22 different branches of study. *(see appendix A).*

Degree

Students who pass the final examination at the end of the course receive the degree of "Landbouwkundig Ingenieur" i.e. Graduate of the Agricultural University (Master of Agricultural Science = M. Agr. Sc. = Agronomist).

On the basis of a thesis, setting forth the results of research work carried out by himself, the agricultural graduate can obtain the degree of Doctor of Agricultural Science. Admission to this higher degree is limited to holders of the diploma "Landbouwkundig Ingenieur" (M. Agr. Sc.).

The M. Agr. Sc.-degree enables the holder to apply for teaching in agriculture and horticulture or for a position in the Government Agricultural- and Horticultural Extension Service, the Government Service for Land and Water Use or private agricultural or horticultural enterprises and societies both in the Netherlands and abroad.

II. HIGHER SECONDARY EDUCATION

Higher Secondary Agricultural, Forestry and Horticultural Schools:

a. Higher Secondary Agricultural Schools

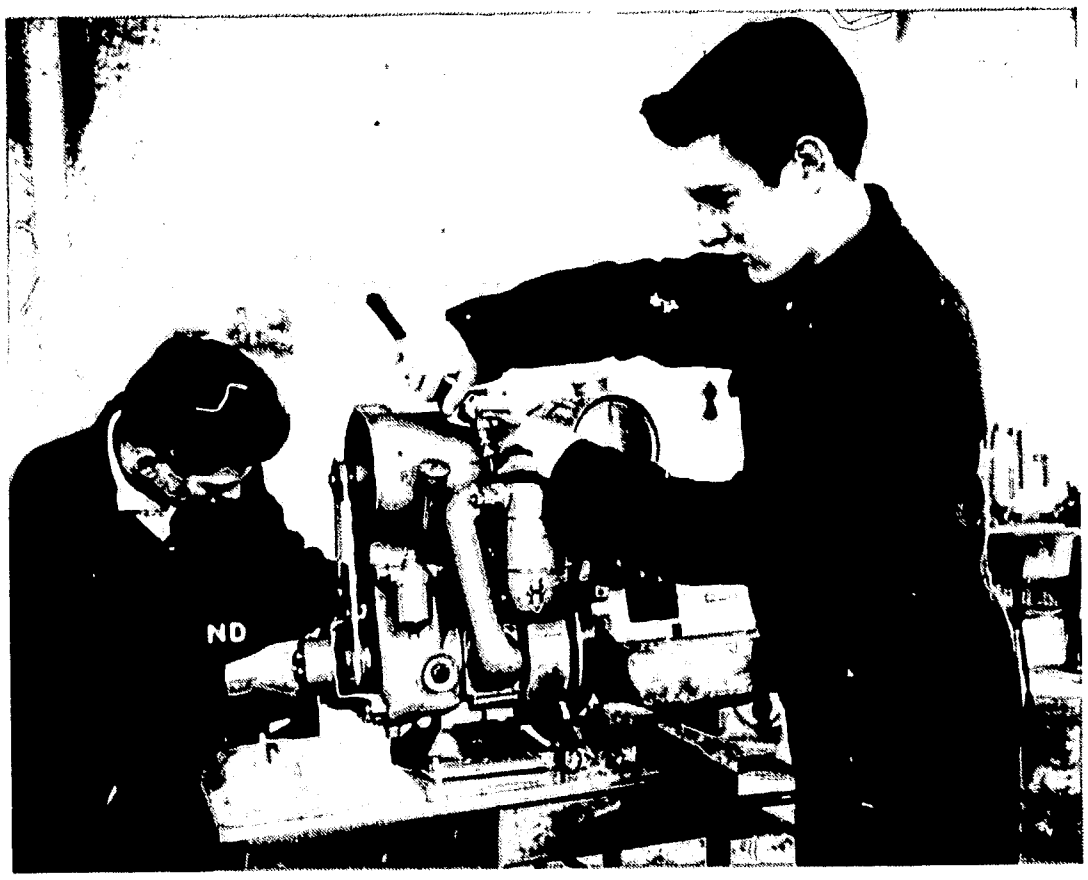
Aim

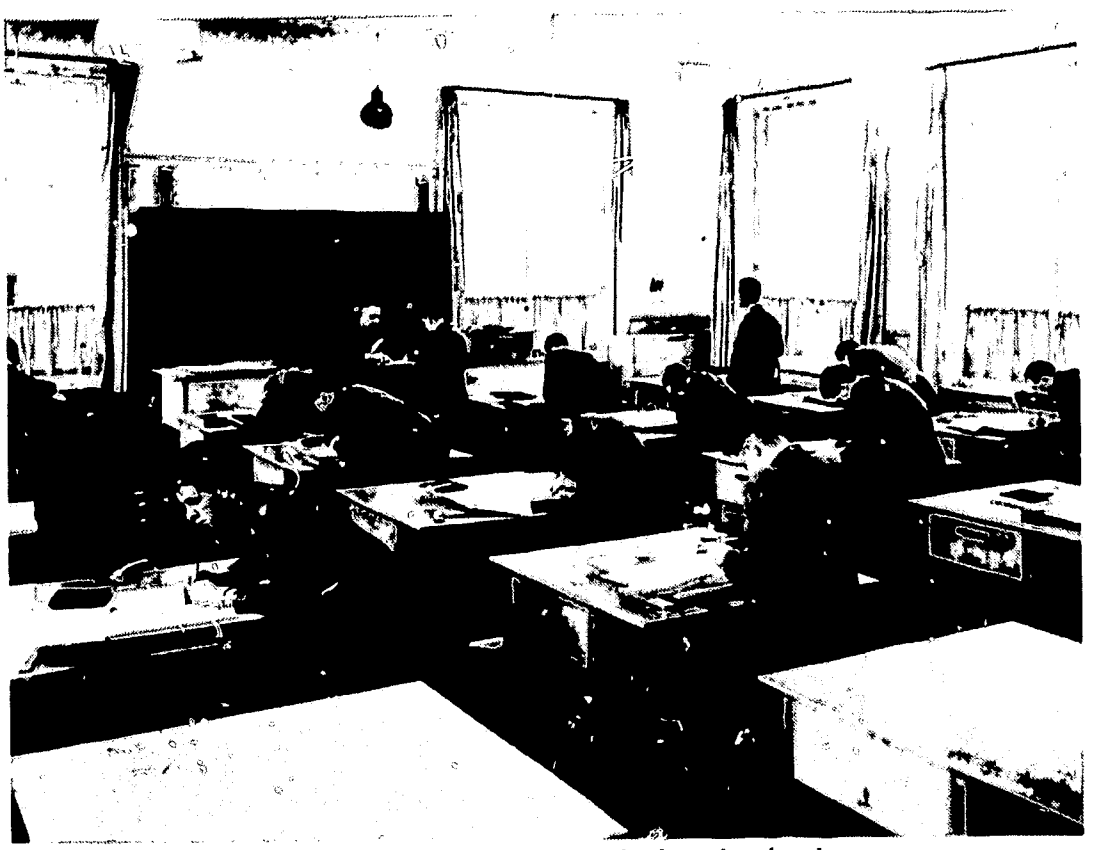
These schools prepare the students for practical farming as well as for agricultural employment on a secondary level. This form of education provides a general education which equals that of the last two forms of the H.B.S. (see I. Admission requirements). For curriculum *see appendix B.*

Admission requirements

Practical farming for at least one consecutive year is desirable; the student

Workshop activities on agricultural machinery





Technical drawing in a higher secondary agricultural school

must be at least 15 years old and must have moved up to the fourth form of the H.B.S.-B or the fifth form of a grammar school, or be in possession of the final certificate of the MULO-B (this is a higher grade elementary school on a lower educational level than a grammar- or an H.B.S.-B school).

Duration of the study

The tuition takes 3 years. The training is divided into a winter- and a summer term. The winter term starts in September and ends in April. Summer terms are from April to mid July. In between the pupils engage in practical farmwork.

Diploma

With a diploma of one of these schools the graduates may enter the Agricultural University at Wageningen or the veterinary faculty of the *State University* at *Utrecht*. Holders of this diploma usually become managers

of large agricultural enterprises or may find positions with various Government or private institutions or societies. With this certificate they may also be admitted to the training courses for agricultural teachers in lower secondary agricultural schools.

b. Government Higher Secondary School for Tropical Agriculture at Deventer

Aim

To provide the students with a thorough training in tropical and sub-tropical agriculture, as well as a good general and practical vocational training.

Admission requirements

These are practically the same as for II-a. (Higher Secondary Agricultural Schools).

Duration of the study

The course takes 3 years.
In the second and third form the students must carry out practical work on farms, nurseries, experimental stations, etc. At the end of the courses the students take the final examinations.

Diploma

Most of the graduates apply for jobs in tropical and sub-tropical agriculture.
With this diploma students are admitted to the Agricultural University and to the veterinary faculty of the State University at Utrecht.

Special courses

In addition to the general curriculum there are special courses in:
* Cultivation and processing of sugar (cane and beets).
* Annual and perennial tropical and sub-tropical crops.
* Training in teaching and extension (advising).

c. Higher Secondary School for Forestry and Rural Engineering of the Netherlands Society for Land Development and Reclamation at Arnhem.

Aim

To prepare students for higher and secondary positions in forestry and rural engineering in Holland as well as abroad.

Admission requirements

Students in possession of the final certificate of the MULO-B (see II-a: Admission requirements) or pupils who have moved up to the fourth form of the H.B.S.-B (see I: Admission requirements) may take the entrance examination.
Students possessing the final certificate of the H.B.S.-B (see I: Admission requirements) or an equivalent certificate need not take the entrance examination but must submit themselves to a psychological-technical test.
The maximum age for admission is 25 years.
Graduates from higher secondary agricultural schools can be admitted to the second form.

Duration of the study

The training takes four years.
The first year covers general education. The second year teaches basic education in relation to *forestry* and *rural engineering*. At the end of this year the students must decide which branch of study they wish to follow.
The third year is for practical training.
In the fourth year a specialized theoretical training programme is given in relation to the selected branch of study.

Diploma

Graduates of this school can apply for positions with the State Forestry Service, Forestry institutions, the Public Lands Administration, Municipal Public Park Departments, Rural engineering firms and private landowners in the Netherlands and abroad.

d. Higher Secondary Schools for Dairying and Food Technology

Aim

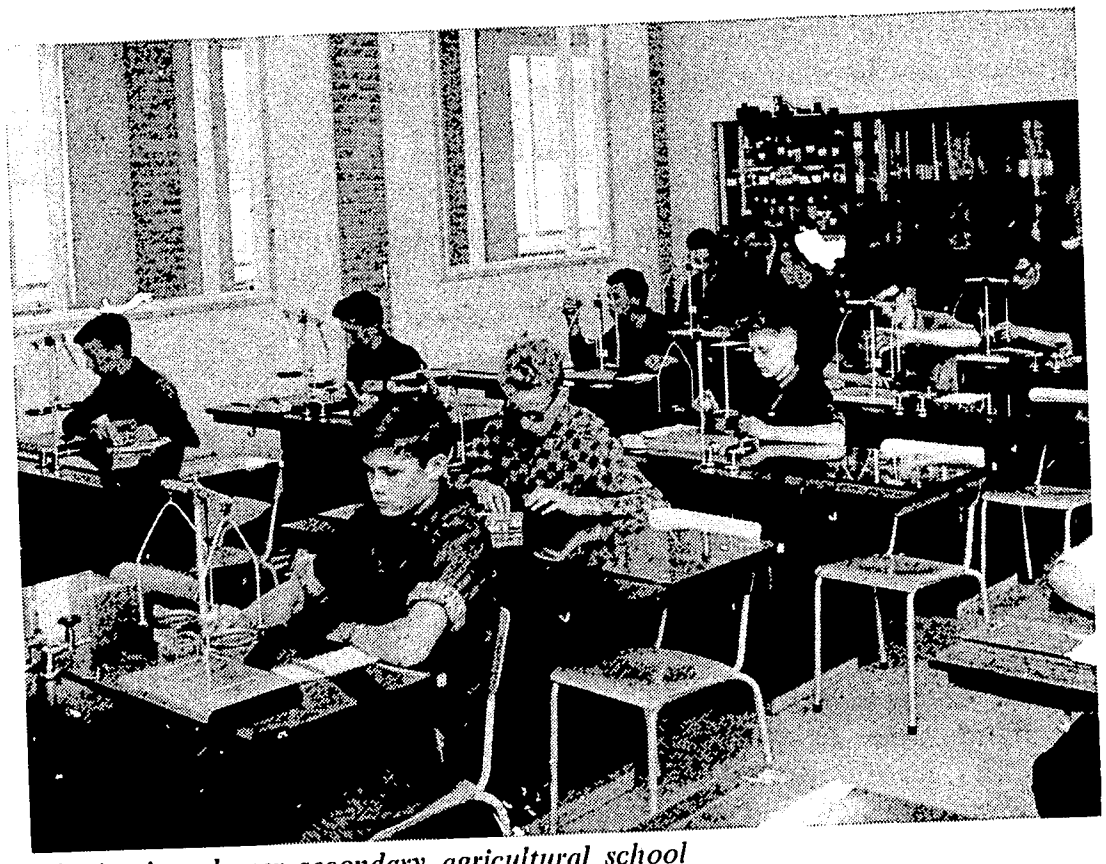
To give students a thorough training in food-processing.

Admission requirements

Students normally start in the first form but some may on certain conditions be admitted directly to the *second form*. In this case the requirements for both schools are:
the final certificate of a secondary school (grammar school or H.B.S.-B or Higher Secondary Agricultural School).

Duration of the study

The training takes 4 years.



Physics in a lower secondary agricultural school

Diploma

Graduates are qualified to fill in secondary functions in food-processing industries. They also may enter the State Agricultural University at Wageningen or the veterinary faculty of the State University at Utrecht.

e. Higher Secondary Horticultural School

For curriculum *see appendix C.*

Aim

This school prepares students for executive functions on a secondary level in horticulture.

Admission requirements

Students must be 15 years old; have the final certificate of the MULO-B (see II-a: admission requirements) or have moved up to the fourth form of the H.B.S.-B (see I: admission requirements).

Duration of the study

4 years. In the third year students must complete a practical training period of 8 months.

Diploma

Graduates are allowed to study at the State Agricultural University. They can become directors of an auction or a co-operative institution or executives in horticultural processing industries.

III. MIDDLE SECONDARY EDUCATION

Middle Secondary Agricultural, Forestry and Horticultural Schools

a. Middle Secondary Agricultural Schools:

Aim

For curriculum *see appendix D.*
The tuition aims at giving prospective farmers the necessary general and theoretical agricultural knowledge.
This form of training takes into account the special nature of farming in the region where the school is established.

Admission requirements

Students wishing to follow this type of vocational education must:

1) be 16 years old;
2) have practical agricultural experience;
3) take an entrance examination. Exempt from this examination are those who have moved up to the third form of an **H.B.S.** (see I: admission requirements) or who have studied 3 years at a MULO-A school (see II-a: admission requirements); practical farm work for 12 consecutive months is desirable.

Duration of the study

2 years. During the summer practical lessons are given. Under the supervision of the school the students engage in practical farm work during that period.

Diploma

The students usually return to their own farms. Some take jobs in agricultural industries.

b. Middle Secondary School for Forestry and Rural Engineering of the Netherlands Land Development and Reclamation Society.

Aim

To prepare students for a position on a secondary level in forestry and land development.

Admission requirements

Students must take an entrance examination. They must have completed the fourth form of the MULO-B (see II-a: admission requirements) and possess a certificate of a middle secondary agricultural school (see III-a) or have followed an equivalent form of vocational education.
The minimum and maximum ages are respectively 18 and 25 years.

Duration of the study

26 months.
Students begin with a four months' practical training course in land development with the Netherlands Land Development and Reclamation

Judgement of pedigree cattle

Society. This is followed by 6 months of lessons in forestry and land development, after which period the students must choose between these two. 10 months practical training follow, and the study is completed with 6 months theoretical education.

Diploma

Graduates can apply for a position as supervisor with the Netherlands Land Development and Reclamation Society, the various Municipal Public Park Services, Polder Boards or state and provincial institutions.

c. Middle Secondary Horticultural Schools:

Aim

For curriculum *see appendix E.*
To provide students with secondary education in one or more branches of horticulture.

Woodworking in a lower secondary agricultural school

Admission requirements

The admission requirements for these schools are not identical.
Students must at least have had advanced elementary education. Several years of secondary education (H.B.S. or grammar school) is strongly recommended. The schools insist on the students originating from a horticultural environment and their having had at least one year of practical horticultural experience.

Duration of the study

Varies from 2 to 3 years.

What pot plant is this?

Diploma

Graduates can find employment with the various state, provincial or municipal services (Plant Protection Service, Public Parks, horticultural institutions and/or organizations etc.).

IV. LOWER SECONDARY EDUCATION

a. Lower Secondary Agricultural Schools:

Aim

For curriculum *see appendix F.*
To provide future farmers and farm-hands with a general education and professional training.

Admission requirements

Pupils must have completed the 6th grade of general elementary education. They must be able to prove that upon leaving school they intend earning their living in agriculture.

Duration of the study

4 years.
In the first and second year tuition is given 5 days a week. These two years are compulsory as they are about similar to the 7th and 8th grade of elementary schools. In the third and fourth form the lessons are given during respectively 4 and 3 days a week.

Diploma

A final certificate is given. The students come mainly from small agricultural holdings and return to their own farms after finishing school. The best students may enter middle secondary agricultural schools.

b. Lower Secondary Horticultural Schools:

Aim

For curriculum *see appendix G.*
To provide an elementary education on the subject of one or more important crops inherent to the regions in which the schools are located.

Admission requirements

6 years elementary education. See a.

Duration of the study
4 years. See a.

Diploma
See a.

c. Combined Lower Secondary Agricultural and Horticultural Schools:

Aim, admission and duration of the study are the same as for a and b.

d. Lower Secondary School for Dairying and Food Technology:

Aim, admission and duration of the study are the same as for a and b.

V. VOCATIONAL TRAINING SCHOOLS

Aim

The training in the performance of operations in agriculture, horticulture and animal husbandry by labour-saving methods with tools, machinery and other technical appliances.

The training comprises:

- supplementary vocational training and the completion of acquired vocational training at all levels of agricultural education (schools, apprenticeship-schemes and courses);
- assisting in the education and additional training of teachers for lower secondary agricultural and horticultural schools;
- providing practical training for farmers and farm-hands, employers and employees in horticulture;
- assisting in the training of personnel engaged in secondary agricultural and horticultural occupations;
- developing teaching subject-matter and teaching aids and means in the field of vocational training.

From the description of the task follows that admission requirements, admission ages and duration of training differ widely. Training is given at the following schools:

1) Vocational School for Farm Mechanisation at Slootdorp:

Repairs and maintenance of farm engines, tractors and all other farm machinery.

2) *Agricultural Vocational Training School at Emmeloord:*
and

3) *Agricultural Vocational Training School at Schoondijke:*
Operation of tractors and farm machinery, organisational skill in agricultural operations.

4) *Vocational Training School for Forestry.*

5) *Vocational Training School for Animal Husbandry.*

6) *Vocational Training Schools for Poultry Husbandry.*

7) *Vocational Training School for Horticultural Engineering.*

Horticultural Vocational Training Courses:

Aim
To provide practical training concerning special subjects.

Lesson in plant multiplying

Admission requirements

Pupils wishing to be admitted to these courses must be in possession of the final certificate of a middle secondary horticultural school, or a lower secondary agricultural or horticultural school or a general agricultural or horticultural course.
Practical experience is required.

Duration of the study

This takes about 18 months and lessons are given one whole day per week. Some of the subjects covered by this form of training are:
vegetable growing, fruit growing, glasshouse growing, bulb growing, arboriculture, floriculture, florist's decorative arts, gardening, market-gardening, horticultural engineering, horticultural management, mushroom growing, plant protection, water management.

VI. AGRICULTURAL AND HORTICULTURAL COURSES

A. Agricultural Courses:

These can be divided into:

a. General Courses:

Aim

For curriculum *see appendix H.*
These courses teach basic agricultural principles.
This tuition takes into consideration the character of farming in the region where it is taught.

Admission requirements

Minimum age: 17 years.

Duration of the courses

Courses take two winter-terms. Per winter-term 144 theoretical and 12 practical lessons are given. In some cases a third winter-term is added. Theoretical lessons are given in the evening.

Diploma

Useful for obtaining employment in agriculture. Required in order to be admitted to the special courses.

b. Special Courses:

Aim

To instruct pupils in special branches of agriculture.

Studying potato diseases

Admission requirements

The final certificate of a 2-year agricultural course or a lower secondary agricultural school is required.

Duration of the study

The courses last one winter-term. Lessons, varying from 24 to 150 hours, are given in the evenings.
The main subjects are: farm management, book keeping, fertilizing, plant growing, forestry, soil science, electricity on the farm, plant diseases, potato selection, etc.
Special courses are also designed for farm managers, farmers' wives, grassland inspectors. Other subjects are: animal husbandry, poultry-keeping, processing of flax, knowledge of engines, machinery and farm implements, hand milking and mechanized milking, etc.

B. Horticultural Courses:

As with the agricultural courses here too a division into two classes is found viz:

a. General Courses:

This is the simplest form of basic horticultural education. Local conditions are taken into account.

Admission requirements

Minimum age: 17 years. A certificate of a general elementary school is required.

Duration of the study

Two winter-terms. Per winter-term 108 lessons, 2 or 3 evenings a week and 36 practical lessons by day.

Future landscape gardeners lay out their own design

Practical lessons in tying up pinks

Sometimes a third year comprising 125 lessons is added.

b. Special Courses:

Aim

To instruct pupils in special branches of horticulture.

Admission requirements

The final certificate of a general horticultural course or a lower secondary horticultural school is required.

Duration of the study

Usually one year. Evening lessons. Some of the subjects taught are: agricultural engineering, garden design, gardening, agriculture, vegetable-, plant-, fruit- and flowerbulbgrowing, horticultural bookkeeping and administration, plant diseases, engineering, horticultural machinery, implements and tools, grading, sorting, packing, cooling, storing of fruit etc. There are special courses for practically every kind of job in horticulture and associated activities.

VII. TRAINING IN AGRICULTURAL/HORTICULTURAL TEACHING

At all levels of agricultural and horticultural education, as well as of vocational training, sufficient teachers are professionally trained for their special fields of teaching.

Their positions and training are mentioned below:

1) Principal of, or teacher at, higher and middle secondary schools or principal of vocational training courses and schools:
"landbouwkundig ingenieur" (= Master of Agricultural Science = M. Agr. Sc.): graduates from the Agricultural University. Additional training in pedagogy, psychology and didactics during the last term.

2) Teachers in higher and middle secondary agricultural or horticultural schools or teachers in vocational training courses and schools:
agricultural teacher "M.O.": graduates from teacher-training colleges or graduates from higher secondary agricultural schools. Additional training in specialised agriculture or horticulture at university level, including pedagogy, psychology and didactics.

3) Principal of, or teacher at, lower secondary agricultural schools and courses: agricultural teacher "L.O.": graduates from teacher-training colleges or teachers of general elementary schools with additional training in agriculture or horticulture on higher secondary level.

4) Principal of, or teacher at, lower secondary agricultural (L I) or horticultural (L II) schools and courses: agricultural teacher "L I" or "L II": graduates of higher secondary agricultural or horticultural schools with additional teacher-training courses in pedagogy, psychology and didactics.

5) Teachers at specialised courses or at lower secondary and middle secondary schools: vocational teachers "L III", "L IV" or "L V": graduates from higher secondary agricultural schools with an additional teacher-training course in pedagogy, psychology and didactics, as well as practical training in plant husbandry and farm mechanics (L III), animal husbandry and dairy-mechanics (L IV) or horticulture (L V).

6) Specialised teachers for various subjects such as poultry husbandry,

Cooking class in rural home economics school

farm management, horticultural engineering and technique, bee keeping and music, trained in specialised courses related to these subjects.
See also "Appendix I" on page 34.
Moreover, additional short refresher courses are organised every year in which current agricultural and horticultural problems or new developments are studied. These subjects are taught by research-officers and other specialists.

VIII. EDUCATION IN RURAL HOME ECONOMICS

With the exception of the faculty for Rural Home Economics at the Wageningen Agricultural University, all education and training in rural home economics resorts under the authority of the Ministry of Education and Sciences.

a. Lower Secondary Home Economic Schools:

Duration of the study:

2 years general instruction and training.
The students can take a third year for specialising as follows:
1. assistant-course with emphasis on general education.
2. „ „ „ „ on domestic education.
3. „ „ „ „ on table waiting.
4. course for future saleswomen.

The girls come from all walks of rural life.

b. Middle Secondary Home Economic Schools:

Duration of the study:

Theoretical instruction and practical training in home-economics as basic education. Later the students train for:
1. home-economics teacher;
2. head-housekeeper in institutions;
3. dressmaker;
4. child-care worker.

c. Teacher-training institutes for home-economics' teachers in the schools under a and b.

There are now more than 200 home-economics' schools established in rural areas, as well as 8 teacher-training institutes.

APPENDIX A

1. Field crop and grassland husbandry.
2. Tropical field crop husbandry.
3. Animal husbandry.
4. Tropical animal husbandry.
5. Dairying.
6. Horticulture.
7. Forestry (Sylviculture).
8. Forestry (forest utilization and economics).
9. Agricultural economics.
10. Agricultural economics in the tropics.
11. Land development.
12. Land development in the tropics.
13. Landscape architecture.
14. Plant breeding.
15. Phytopathology.
16. Pedology and agricultural chemistry.
17. Agricultural engineering.
18. Agricultural technology.
19. Rural sociology.
20. Rural sociology of non-western regions.
21. Rural home economics (technical branch).
22. Rural home economics (social-economic branch).

APPENDIX B

Curriculum of a higher secondary agricultural school

Subjects:	Hours per week 1st grade winter	1st grade summer	2nd grade winter	2nd grade summer	3rd grade winter	3rd grade summer
General Subjects;						
		p.m.		p.m.		p.m.
Religion	2	2	1	1	1	–
Dutch	2	2	1	1	2	–
English	2	2	1	1	1	–
German	2	2	1	1	1	–
French	2	1	–	–	–	–
History	2	1	–	–	–	–
Geography	1	1	–	–	–	–
Political Science and Law	..	–	1	1	1	1
Sociology	1	1	1	1	–	–
Drawing and Arts	2	2	1	1	1	1
Physical culture	16	14	7	7	7	2
total:						
Basic Subjects;						
Mathematics	3	2	3	3	–	–
Chemistry and Technology	4	3	2+1 pr	2	2+1 pr	2
Physics and Meteorology	4	3	2+1 pr	2	2+1 pr	2
Botany and Genetics	2	2+1 pr	2	1+1 pr	–	–
Zoology	2	2	2	2	–	–
total:	15	13	13	11	6	4
Pedologic Subjects;						
Geology	1	1	–	–	–	–
Pedology	–	2	1	1	1	1
Land development	–	–	–	–	2	2
Geodetics	..	2	–	2	–	–
total:	1	5	1	3	3	3
Plant husbandry Subjects;						
General Plant husbandry	2	2	1	–	–	–
Special Plant husbandry	–	–	–	2	2	3
Fertilizing	–	.	2	1	2	2
total:	2	2	3	3	4	5

pr = practice

APPENDIX B (continued)

Subjects:	Hours per week 1st grade winter	1st grade summer	2nd grade winter	2nd grade summer	3rd grade winter	3rd grade summer
Agricultural Engineering Subjects;						
Agricultural engineering and labour conditions	–	–	3	3	3	3
Technical drawing	–	–	1	1	2	2
total:	–	–	4	4	5	5
Animal Husbandry Subjects;						
Animal husbandry	1	1	2	2	2	3
Hygiene	–	–	–	–	2	2
Livestock feeding	–	–	1	1	2	2
Lactology and dairying	–	–	1	1	1	–
total:	1	1	4	4	7	7
Economic Subjects;						
General economics	1	1	1	1	–	–
Farm economics/ Farm management	–	–	1	2	3	4
Bookkeeping	–	–	2	1	1	–
total:	1	1	4	4	4	4
Grand total:	36	36	36	36	36	30

APPENDIX C

Curriculum of a higher secondary horticultural school

Subjects:	Hours per week			
	1st grade p.m.	2nd grade p.m.	3rd grade p.m.	4th grade p.m.
Religion	3	2	2	–
Physics and Meteorology	3	3	1	–
Chemistry	3	3	3	–
Biology	3	2	2	–
Mathematics	–	2	1	–
General Phytopathology	1	1	1	4
Pedology	–	1	2	3
Fertilizing	–	–	2	–
Technical drawing	–	–	1	4
Technology	–	–	1	4
Storing/processing of horticultural produce	1	2	1	–
General economics	–	1	1	3
Farm economics	1	2	1	–
Bookkeeping	2	–	–	–
Commercial practice	1	1	2	–
Knowledge of law	–	1	–	–
Statistics	1	1	–	–
Economical geography & history	1	–	–	–
Political science	–	–	1	3
Auctions, organization and set up	–	1	–	–
General agronomy	2	2	2	4
Fructiculture	2	2	2	4
Horticulture	2	2	1	4
Floriculture, Bulbiculture and Arboriculture	–	1	1	3
Seed growing and plant improvement	1	2	1	–
Dutch	3	1	1	–
German	3	1	1	–
English	3	1	1	–
French	2	2	2	–
Physical culture	–	–	2	–
General education				
total:	38	37	36	36

APPENDIX D

Curriculum of a middle secondary agricultural school

Subjects:	Hours per week 1st grade p.m.	2nd grade p.m.
Religion	2	2
Dutch	2	1
Mathematics	1	–
Agricultural history and economical geography	1	1
Physical culture	3	–
Botany	1	1
Zoology	2	2
Physics	3	2
Chemistry	1	1
Pedology	1	1
Tillage	–	3
Fertilizing	–	1
Land development	2	1
Agricultural engineering	–	1
Engine principles and operation	2	1
Plant husbandry	1	1
Grassland management	1	1
Phytopathology	4	3
Animal husbandry	2	2
Animal hygiene	–	3
Livestock feeding	1	1
Lactology and dairying	3	–
Farm economics	1	1
Bookkeeping	–	2
Farm management		
total:	34	32

APPENDIX E

Curriculum of a middle secondary horticultural school

	Hours per week				
	Type A			Type B	
Subjects:	1st grade	2nd grade	3rd grade	1st grade	2nd grade
	p.m.	p.m.	p.m.	p.m.	p.m.
Religion	2	2	–	2	1
Chemistry	2	2	–	2	1
Physics	2	2	–	1	–
Mathematics	–	–	–	1	–
Commercial arithmetic	2	2	1	2	2
Biology	1	–	–	–	–
General phytopathology	2	2	2	2	2
Pedology and fertilizing	1	2	3	2	2
Horticultural technics	2	1	–	1	–
General economy	–	–	2	–	2
Rural economy	1	1	1	1	1
Bookkeeping	–	1	2	–	2
Legislation and commerce	–	–	1	–	–
Politics	1	1	2	2	2
Dutch	2	2	2	2	2
English	2	2	2	2	2
German	2	2	2	–	–
French	1	1	1	1	1
Sciences	1	1	1	1	1
General education	2	2	2	2	2
Physical education	1	–	–	1	–
Drawing and arts	1	1	1	1	1
General plant husbandry	4	4	4	4	4
Horticultural plant husbandry	32	31	29	30	28
total:					
Workshop and horticultural practice	7	7	7	7	7

APPENDIX F

Curriculum of a lower secondary agricultural school

	Hours per week			
	I	II	III	IV
	5 days p/week 40 weeks p/year	5 days p/week 40 weeks p/year	4 days p/week 30 weeks p/year	3 days p/week 30 weeks p/year
Subjects:				
Dutch	4	3	3	2
English	2	2	2	2
History	1	1	–	–
Geography	1	1	–	1
Biology	3	2	–	–
Arithmetic and Algebra	4	3	2	1
Geometry	1	1	1	1
Physics	3	2	1	–
Chemistry	–	2	1	1
Vocational knowledge (practice and theory)	-	4	6	6
Manual skill	5	3	3	–
Practical training	–	–	3	3
Bookkeeping	–	1	1	1
Drawing	2	1	–	–
Music	2	2	1	1
Miscellaneous	1	1	1	1
Sociology and religion	1	1	1	–
Physical culture	2	2	2	1
total:	32	32	28	21

APPENDIX G

Curriculum of a lower secondary horticultural school

Subjects:	Hours per week			
	1st grade	2nd grade	3rd grade	4th grade
Religion and sociology	1	1	1	1
Dutch	4	3	3	2
English	1	2	2	2
Arithmetic, Algebra & Geometry	5	4	3	2
Geography	2	1	½	–
History and Political science	1	1	½	–
Botany, Zoology & disease control	3	3	1	½
Drawing	2	1	½	½
Music and Singing	2	1	½	½
Physical culture	2	2	1	1
Physics	2	2	1	½
Chemistry	–	2	1	½
Pedology and Fertilizing	–	–	2	2
Bookkeeping and Farm economics	–	1	1	1½
Manual skill	3	3	3	–
Practical training	–	–	3	4½
Plant husbandry	–	2	3	3
total:	28	29	27	21½

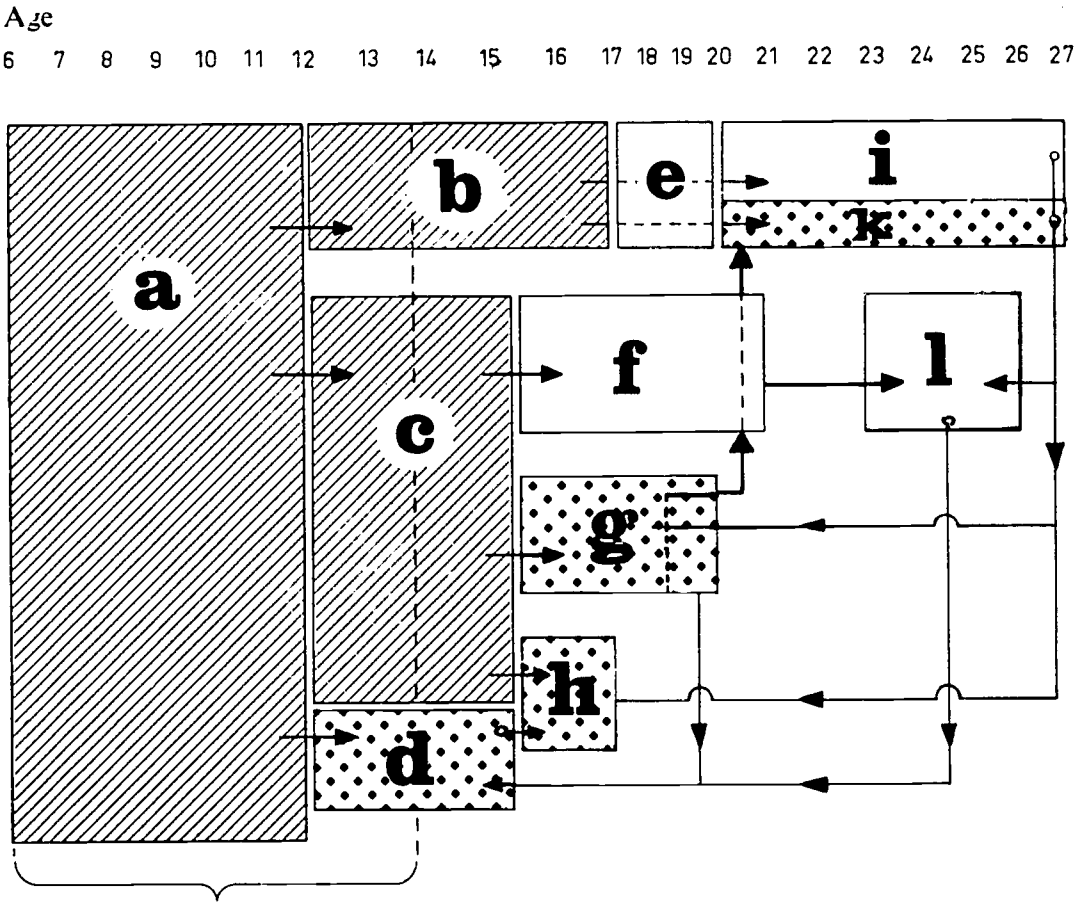
APPENDIX H

Curriculum of a general agricultural winter course consisting of two winter terms of 144 lessons each

Subjects:	Hours	
	1st winter term	2nd winter term
Physics and Chemistry	48	24
Pedology, tillage and soil improvement	12	24
Botany, plant husbandry	48	24
Zoology, animal husbandry and dairying	36	48
Fertilizing	—	24
total:	144	144

APPENDIX I

AGRICULTURAL AND HORTICULTURAL EDUCATION AND THE REQUIRED PREPARATORY TRAINING



schools for general education

agricultural and horticultural schools

change from one school to another

training of teachers and the schools where they teach

a elementary education
b secondary education
c higher grade elementary schools
d lower secondary agricultural and horticultural schools
e military service
f teachers' training college
g higher secondary agricultural and horticultural schools
h middle secondary agricultural and horticultural schools (age: 16-18)
i university
k agricultural university
l training for various agricultural and horticultural teacher's certificates

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INSTITUTES FOR AGRICULTURAL EDUCATION IN THE NETHERLANDS

EXPLANATION

- ■ 1 AGRICULTURAL UNIVERSITY
- □ 5 HIGHER SECONDARY AGRICULTURAL SCHOOLS
- ◈ 1 HIGHER SECONDARY AGRICULTURAL SCHOOL FOR TEMPERATE AND TROPICAL CLIMATES
- □ 2 HIGHER SECONDARY SCHOOLS FOR FOOD TECHNOLOGY
- ◈ 1 HIGHER SECONDARY SCHOOL FOR FORESTRY AND RURAL ENGINEERING
- ◆ 45 MIDDLE SECONDARY AGRICULTURAL SCHOOLS
- ⊠ 5 COMBINED MIDDLE SECONDARY AGRICULTURAL AND HORTICULTURAL SCHOOLS
- ◆ 1 MIDDLE SECONDARY SCHOOL FOR FORESTRY AND RURAL ENGINEERING
- ▼ 1 LOWER SECONDARY SCHOOL FOR FOOD TECHNOLOGY
- ◆ 1 LOWER SECONDARY SCHOOL FOR FORESTRY
- ○ 135 LOWER SECONDARY AGRICULTURAL SCHOOLS
- ⊕ 46 COMBINED LOWER SECONDARY AGRICULTURAL AND HORTICULTURAL SCHOOLS
- ▲ 8 VOCATIONAL TRAINING SCHOOLS
- ◎ 1 VOCATIONAL TRAINING SCHOOL FOR FOOD TECHNOLOGY
- I-XII DISTRICTS OF INSPECTORATE
- ⬚ TWO OR MORE SCHOOLS IN ONE TOWN OR VILLAGE

Bijgewerkt tot januari 1986

INSTITUTES FOR HORTICULTURAL EDUCATION IN THE NETHERLANDS

EXPLANATION

- ■ 1 AGRICULTURAL UNIVERSITY
- ◔ 2 HIGHER SECONDARY HORTICULTURAL SCHOOLS
- ◐ 9 MIDDLE SECONDARY HORTICULTURAL SCHOOLS
- ⊠ 5 COMBINED MIDDLE SECONDARY AGRICULTURAL AND HORTICULTURAL SCHOOLS
- ◪ 1 MIDDLE SECONDARY HORTICULTURAL SCHOOL FOR GIRLS
- ○ 61 LOWER SECONDARY HORTICULTURAL SCHOOLS
- ◑ 46 COMBINED LOWER SECONDARY AGRICULTURAL AND HORTICULTURAL SCHOOLS
- ★ 1 VOCATIONAL TRAINING SCHOOL FOR HORTICULTURAL ENGINEERING
- I-VII DISTRICTS OF INSPECTORATE
- [ ] TWO OR MORE SCHOOLS IN ONE TOWN OR VILLAGE

Bijgewerkt tot januari 1966