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THE DUTCH SYSTEM OF FARM CLASSIFICATION

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Summary

After a discussion of the basic principles of the Dutch type of farming classification, a brief description of the system at each of the various stages is given. The method is applied to a random sample of Dutch farms, and the results are compared with those of the EEC and German systems applied to the same sample. The basic principles and the detailed application of the three systems are compared and discussed.

1. Introduction

The present system of farm classification originated in 1961 in an article dealing with the problem of defining a specialized horticultural holding and distinguishing it from a farm growing only some horticultural products (Wely, 1961). In this article the basic principles of the present system were developed, and since then only minor alterations have been introduced.

Before 1961 farm classification was based solely on the use of land as grassland, arable land or land for horticulture. In general, four types of farming were distinguished in a very rough way, namely, three types of agricultural holdings – grassland or dairy farms, arable and mixed farms – and, as a fourth category, horticultural holdings. Mixed farms in this classification were farms with both grass and arable land, in many cases combined with pig and egg production. A further distinction was sometimes made between mixed farming on sandy soils, where arable products are mainly used as feed on the farm, and mixed farms on clay and peat soils where as a rule the arable products are sold and livestock production is based on grass only.

The present article first describes the basic principles of the Dutch system of farm classification, then the steps which have subsequently been taken to refine the system and, finally, some comparisons of the results of different systems of classification when applied to farming in the Netherlands.

2. Basic principles

2.1 *General remarks*

The first principle of the Dutch scheme is that it is fundamentally an economic classification. Each farm is seen as an economic entity, as a business. The basis of the classification is essentially the economic value of a farm's production, and, for this purpose, a common measure for both crops and livestock has to be found.

Secondly, the system of classification is not based on the actual production of the farm, but on its standardized potential productive capacity, given the actual use of the available factors of production. For any particular year the standard production of a farm is therefore defined as the production which under specified average conditions could be achieved with the given stocking and cropping patterns of that farm. The production per unit of land and of livestock is standardized, and the actual numbers of livestock and the areas of each crop are multiplied by this standard production per unit to estimate the total 'standard production' of the farm.

Thirdly, the standard production is measured in units, and the total number of units indicates the size of the farm business.

Fourthly, the relative importance of the enterprises within a farm determines the type of farming category to which that farm is assigned.

2.2 *The basis of the classification*

According to the first principle mentioned in section 2.1, the classification should be based on the economic importance of the farm as a whole and of the various enterprises within it. The common unit for measuring both crops and livestock may be physical or monetary.

At the beginning of the fifties the physical unit widely used in farm management and socioeconomic research in the Netherlands was the number of hours of manual labour required annually for each crop and for each class of livestock, expressed in terms of standard-man-hours (s.u.).

In 1958 a new yardstick was developed. This time it was a monetary one -- the total cost of work (labour, equipment, power, contract work) expressed in terms of work-units (b.e.). This change arose because of the declining importance of labour in relation to total cost of work as a result of increasing mechanization and other forms of substitution of capital for labour and with the increasing variation in the composition of these costs.

Moreover, experience had shown that the use of the word 'hour' in the term 'standard-man-hour' implied a connection with actual labour requirements, whereas the number of s.u. was related to labour requirements in the base period. This caused much misunderstanding in later years because, in the meantime, actual labour requirements had declined considerably. To avoid such misunderstanding a name unrelated to any physical

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measure was chosen. In fact, a work-unit (b.e.) corresponded to an amount of Dfl. 8. — of cost of work in the base period. Although, due to wage increases and rising costs of other items and despite improvements in productivity, actual costs were increasing, the b.e. was not changed.

A second change in the unit of measurement was made in 1968. The new yardstick was based on factor costs[1] at 1968 prices, associated with efficient farm management, and was expressed as 'standard business units' (s.b.e.). A standard business unit was valued at Dfl. 200.— factor costs in 1968. The setting of this standard was related to the fact that in 1968 a farm with 100 s.b.e. per labour unit was considered to have a sufficient size of business to be viable. Here, too, the unit was chosen to avoid misunderstanding arising from the use of yardsticks with names reminiscent of physical units.

The system of classification has also been modified according to changing concepts in research. The Dutch publications on types of farming in 1962, 1965 and 1968 were based on labour units (man years of 2,500 s.u.). In 1968 data were also given on the basis of s.b.e., which were then accepted as the only basis for future classification (Wely, 1964, 1968; Centraal Bureau voor de Statistiek, 1971).

One other point must be mentioned here. Although, according to the first principle, the economic value of a farm's production should be the basis of classification, in fact costs of production are used. The expression 'economic value' is used to indicate that the relevant measure of production of a farm or part of a farm is not gross output but rather net product. The latter corresponds to net added value in the macro-economic sense and includes the remuneration to the primary factors of production (land, labour and capital). Net profit, therefore, is a part of this added value.

For classification purposes, however, a stable set of coefficients based on long-term ratios between net products of the various crops and classes of livestock is needed. Because of sharp fluctuations in revenue due to variations in yields and prices, it is difficult to derive such a set from the actual levels of net output from the different farm enterprises. The total cost of production of the different crops and classes of livestock are much more stable over time. The factor costs incorporated in the total cost of production as measured on groups of farms with comparable levels of efficiency and mechanization have, therefore, been taken as the basis for classification. There was also the theoretical argument that in the long run the ratios between the levels of net product of the various farm enterprises will tend to equal the ratios between the levels of factor costs on efficient farms as a consequence of adjustments in supply and demand. In the long-run equilibrium there is no net profit as costs and revenues balance.

1. Factor costs comprise labour, interest and net rent (rent less land taxes and other owner's costs excluding interest).

2.3 *Use of uniform standardized coefficients*

In general farms can be classified using the simple data relating to acreages of crops and numbers of livestock on each farm at a certain date, since this is the kind of information that can be collected in an agricultural census or survey. However, since no data are available on the actual levels of factor cost or net product of each farm, the use of standardized coefficients is inevitable. These standards can only be rough approximations, but, if there are wide differences between regions or farms of different size, the coefficients can be adjusted accordingly.

In the Netherlands different regional coefficients are not used partly because of the relatively small regional variation and partly for convenience. Uniform coefficients facilitate the analysis of regional differences in farm type and in such ratios as s.b.e. per man and s.b.e. per hectare which can be used for comparative analysis of labour efficiency and intensity of land-use.

The same argument applies to farm size. Differences between farms of varying size can more easily be analysed by means of uniform coefficients than by coefficients which are adjusted *a priori* on the basis of size.

Furthermore, under the Dutch system the coefficients are not adjusted each year but kept constant over time. This is of real practical value in analysing developments in farm structure and size.

If farm account data are available, the total number of s.b.e. on a farm, taken as a standard measure of its potential net production, can be set against the actual levels of net production and factor costs and be used for further comparative analysis.

Classification is not an end in itself but has to serve the purposes of providing a more accurate description of the farm sector and of offering a wider scope for research. In this respect it is an advantage to have a connection between the basis of classification and the ratios used for determining farm size, labour efficiency and intensity of land-use and to apply uniform coefficients for different regions and years.

If there are large differences in the relative levels of net product or factor costs for the various farming activities between regions or groups of farms (by size or type), there might well be a need for separate coefficients. Similarly, adjustment might be needed to take account of changes in the relative levels of net product or factor income over time. If, however, there are only proportionate changes in these levels the need is not so great, since they can be accounted for by applying the appropriate factors for different years, regions or farming groups to the existing coefficients. The relative shares of the various farming activities in total production are not affected, and a uniform basis for the classification can be maintained.

Since each region or each farm will, according to the principle of comparative advantage, tend to specialize in the most profitable activities and, moreover, since it is desirable that the coefficients themselves be based on long-term trends, there will probably be no great need for regional differentiation. If they should be necessary, a

satisfactory solution could be found in applying regional factors or by making further sub-divisions into farm activities according to the production technique employed. For example, a distinction might be made between extensive and intensive fruit and vine production.

There is a real practical advantage to be gained by using a uniform set of coefficients which should only be given up if there is a strong need to do so.

2.4 *Size of business*

According to the third principle, as stated in 2.1, size of business in the Dutch system is measured in the same units as are used for the type-of-farming classification. The main table in all statistical publications based on this classification contains the number of farms in each type and in each size class, both based on the same units of measurement.

In the earlier system, based on standard-man-hours, size of business was expressed in standard-man-years of 2,500 hours, but now the total number of standard work units (s.b.e.) is used.

For some purposes, such as the presentation of farm revenues, the class limits are shifted upwards annually to take account of increases in the scale of farming and labour productivity. This is shown in Table 1.[2]

Table 1.   *Lower limits of size classes (in s.b.e.)*

	Small farms		Large farms				
1968	30	70	90	130	170	210	250
1969	33	73	93	133	173	213	253
1970	38	78	98	138	178	218	258
1971	43	83	103	143	183	223	263
1972	48	88	108	148	188	228	268
1973	53	93	113	153	193	233	273

3. Application of the type-of-farming classification

3.1 *Definition of a farm and its activities*

The starting point in applying a complete type-of-farming schedule is the specification of the various farming activities to be used in the classification. As any national classification has to apply to national circumstances, neither forestry nor the growing of olives or viticulture are considered as farming activities in the Netherlands.

2. It would have been better if the relative increase had been the same for all limits. From 1968 to 1973, the relative increases varied from 9% for farms in the largest size group to 77% for farms in the smallest size group.

In the Dutch system there are three stages of farm-type: sectors, sections and enterprises. There are also three farming *sectors,* namely, livestock production (*Veehouderij*), arable production (*Akkerbouw*) and horticulture (*Tuinbouw*). Using the initial letters of the Dutch words, the system is called the *VAT* system.

The livestock sector includes not only cattle, sheep, horses, pigs and poultry but also the use of grassland. The arable sector includes all crops except horticultural crops, cultivated under glass or in the open air. Some crops like onions and peas for industrial processing are considered as horticultural even if they are grown extensively. It is expected, however, that at the next revision the definition of arable crops will be amended to include all crops grown extensively. For the purposes of continuity the division between arable production and horticulture was maintained in the revisions of 1968 and 1971.

Two of these three farming sectors are subdivided into *sections.* Livestock has three sections, namely, cattle production including veal, pig and poultry production. Horticulture also has three sections, which are cultivation under glass, outdoor rotational and perennial crops.

Within these sections and within the arable sector a further sub-division is made into *enterprises,* in which a particular farm may specialize.

3.2 *Definition of type of farming*

The definition of type of farming closely follows the division of the farming activities into sectors, sections and enterprises. Consequently three stages are used:
1. sector farm type
2. section farm type
3. enterprise farm type

A subsequent stage provides for a further subdivision so that a sector type can be subdivided into section types and a section type into enterprise types. A survey of the Dutch schedule is given in Table 2.

At the three stages three categories of farm type are distinguished:[3]
a) *Specialized farms* (S) in which one sector (or section or enterprise) is predominant and the others are of relatively small importance.
b) *Mixed farms* (M) in which two or all three sectors or sections are of more or less equal importance. These mixed farms are subdivided at the enterprise stage according to the combination of sectors or sections and their order of importance.
c) *Other farms* (O) which (i) have a combination of sections (or enterprises) and therefore cannot be considered as specialized farms at the section (or enterprise) stage

3. The letters (O), (M) and (S) indicating the categories of farm types refer to the schedule of Table 2, and the figures in the right hand column of Table 2 refer to the enterprise farm types.

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Table 2.   *Review of the Dutch type-of-farming classification, 1971 (S = specialized types,*
         M = mixed types, O = other types)

Sector farm type	Section farm type	Enterprise farm type	
Livestock (S)	Cattle (S)	Dairy (S)	1. Specialist dairy (80–100%)
			2. Other dairy (60–80%)
		Beef production (S)	3. Calf fattening (S)
			4. Other beef production (O)
		5. Other cattle (O)	
	Pig (S)	6. Pork production (S)	
		7. Pig breeding (S)	
		8. Other pig (O)	
	Poultry (S)	9. Broilers (S)	
		10. Layers (S)	
		11. Ducks (S)	
		12. Turkeys (S)	
		13. Other poultry (O)	
	Other livestock (O)	14. Sheep (S)	
		15. Grassland (S)	
		16. Cattle/pigs (M)	
		17. Other livestock (O)	
Arable (S)	Arable (S)	18. Cereals (S)	
		19. Potatoes and sugarbeet (S)	
		20. Cereal/potatoes and sugarbeet (M)	
		21. Other arable (O)	
Horticultural (S)	Cropping under glass (S)	22. Vegetables under glass (S)	
		23. Flowers under glass (S)	
		24. Other crops under glass (O)	
	Crops in the open (S)	25. Vegetables in the open (S)	
		26. Bulbs (S)	
		27. Other crops in the open (O)	
	Permanent crops (S)	28. Fruit (S)	
		29. Arboriculture (S)	
		30. Other permanent crops (O)	
	Other horticultural (O)	31. Vegetables under glass/in the open (M)	
		32. Mushrooms (S)	
		33. Other horticultural crops (O)	
Mixed (M)	Mixed (M)	34. Livestock/arable (M)	
		35. Livestock/horticultural (M)	
		36. Arable/horticultural (M)	
		37. Livestock/arable/horticultural (M)	

or which (ii) specialize in a farming activity falling outside one of the sections (or enterprises) distinguished in the schedule.

With regard to (i) a specialized pig farm (section type) which combines breeding and fattening will be considered as an 'other pig farm' (8) at the enterprise stage. It is neither a pork production farm (6) nor a pig breeding farm (7).[4]

As an example of (ii), a sheep farm (14) at the enterprise stage will be assigned to the type 'other livestock farms' at the section stage for it is not a cattle, pig or poultry farm. A stud farm, which is not a common phenomenon in the Netherlands and can hardly be considered an agricultural business, will be assigned to the type 'other livestock farms' at both the section and the enterprise stage. It would, of course, have been possible to develop a more detailed schedule including horses as a separate enterprise and stud farms as a farm type at the enterprise stage.

There is one further point which deserves comment. Veal production is included in cattle production although, being based on purchased feed (milk products) and not on forage crops or grassland, it has more in common with pig or poultry production. This is done to maintain continuity since 1962 in the composition of the sector groups. However, it would probably be better to consider veal production as a separate section of the livestock category like poultry or pigs instead of including it in cattle production.

3.3 *Class divisions*

A general principle in classification is that each farm should be allotted to one, and only one, type-of-farming group. A point of practical importance is that the name given to the group should describe the actual situation on the farms belonging to it. It is difficult to introduce a system in which the farmer does not recognize his own farm. Experience will show to what degree the latter objective has been achieved under the Dutch system.

In 2.1 it was stated that the relative importance of the various farm activities within a farm must determine the type of farming group to which it is assigned. In practice this means that it is necessary to calculate:
a) the number of s.b.e. for each enterprise by multiplying actual crop acreages and numbers of livestock by the appropriate coefficients;
b) the total number of s.b.e. per farm (i.e., the size of business); and
c) the percentage share of each enterprise, section and sector in the total number of s.b.e.
On the basis of these percentages the type of farming at the three different stages is determined. In the Dutch system a farm is termed specialized if at least 60% of its total s.b.e. come from one sector, section or enterprise. A mixed farm is one in which two or three sectors or sections each contribute from 20% to 60% of total s.b.e. From the very beginning the limits of 60% and 20% have been used. It is clear that they are somewhat

4. At the sector and section stages such a farm would be considered as a mixed farm. 'Other farms' therefore contain mixed farms (at the enterprise stage) and farms with a specialization not accounted for in the classification.

arbitrary. Obviously, to be called a specialized farm, at least 50% of the s.b.e. must be accounted for by one activity but the lower limit has been set at 60% to avoid too ready a use of the term 'specialized farm'.

Although some authors defend the point of view that boundaries should be drawn through areas in the classification where only a few observations are to be found, in practice arguments of continuity and comparability over time and across regions have prevailed in maintaining these arbitrarily standardized limits. (In 4.1 the results of an experiment with alternative limits are discussed.)

On the basis of the calculated percentages and these limits of 60% and 20%, each farm is assigned to one of the types of farming at each stage in the classification. A complication arises due to the fact that s.b.e. are calculated both for grazing animals and for grassland. If a farm has at least 60% of its s.b.e. in grassland then the farm is assigned to a specialized farm group, namely, grassland farms – enterprise farm type 15. If not, the s.b.e. for grassland are divided between cattle, horses and sheep, and a further classification is based on the total amount of s.b.e. for each of these livestock classes including their share in the grassland s.b.e.

4. Comparison of different classification systems

4.1. *Variation of limits within the Dutch system*

At each revision in 1965, 1968 and 1971, a decision has been taken on the lower limit for specialized farms at each classification stage. Until now, the limit has been kept at 60%, but experiments with other limits have been made to see what effects such changes would have.

Appendix 1 shows the outcome of such an experiment on a random sample of about 13,000 out of the population of 169,122 farms in the 1973 Agricultural Census. The first column gives the number of farms in each enterprise-farm-type with the present limits – at least 60% for the specialized farms and 20–60% for the mixed farms. Three alternatives are also calculated – limits of 16.7 and 66.7% (column 2), 12,5 and 75% (column 3), and 5 and 90% (column 4). It is obvious that by raising the lower limit for specialized farms, the number of mixed farms will be increased. In the last alternative a mixed farm is a farm with two or more activities having each 5–90% of its s.b.e. and such a type will contain very heterogeneous farms.

The data in Appendix 1 are summarized in Table 3 for the sector farm-types.

In interpreting the data shown in Table 3 and Appendix 1, it should be borne in mind that the same limits have different meanings for different types of farming. The crop rotation requirements in arable farming impose technical limits on specialization which are not present in other types of farming. This could be an argument for differentiation of limits within a system. Until now, however, simplicity has been an overriding consideration.

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Table 3.   *Alternative limits in the Dutch type-of-farming classification (1973)*

Specialized farms	⩾ 60%	⩾ 66.7%	⩾ 75%	⩾ 90%
Mixed farms	20–60%	16.7–66.7%	12.5–75%	5–90%
	(1)	(2)	(3)	(4)
Livestock	109 889	106 453	101 354	84 519
Arable	14 189	12 386	10 553	7 294
Horticultural	34 088	32 886	31 525	28 516
Mixed	10 956	17 397	25 688	48 793
Total farms	169 122	169 122	169 122	169 122

Inspection of the number of specialized farms at sector stage (Table 3) reveals that when the lower limit is moved from 60% to 90%, no fewer than 77% of the livestock farms, 51% of the arable and 83% of the horticultural holdings remain specialized.

These percentages illustrate the high degree of specialization in Dutch agriculture. Figure 1 gives a more detailed view of this phenomenon. The distribution of all farms according to the contribution of livestock and arable to the total s.b.e. of the farm is indicated on the basis of the 1973 sample. Every dot represents at least 100 farms in a square and if there are more than 500 farms in any square the number itself is given. Blank squares indicate that both in 1971 and in 1973 there were fewer than 100 farms in a square. A cross in a square indicates that there were at least 100 farms in a square in 1971 but none in 1973.

It follows from Figure 1 that nearly all Dutch farms are in the periphery of the diagram, which means that within any farm only one or two sectors are important. The number of farms in the range 60% to 75% of one sector is very small. In particular the crosses show that between 1971 and 1973 the number of farms with 50% to 70% livestock farming declined.

Since under Dutch conditions it makes little difference whether the limit is put at 60% or at 75%, it was decided to maintain the 60% limit. This conclusion, of course, would not necessarily apply to other countries.

4.2 *Comparison of the Dutch and German classification systems*

Three of the four general principles of the Dutch model, as described in 1.1, have been adopted in the recent German classification system (Deselaers, 1971, 1974). They are an economic basis, standardized coefficients and the relative importance of activities determines the type of farming. But a different method is adopted for the size of business classification. There are some differences of detail in the type of farming classification:

a. the German grouping is based on potential gross margin (*Standarddeckungsbeitrag*);

b. the three sectors are agriculture, horticulture and forestry;

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Figure 1. *Dutch farms 1973*

% s.b.e. in arable farming

Legend:
- • = 100 farms in 1971 *and* in 1973
- ✶ = >100 farms in 1971, but *not* in 1973

Values appearing on the chart: 5700, 1200, 800, 600, 600, 800, 600, 800, 1000, 1200, 900, 1100, 1700, 1900, 2200, 2700, 4300, 7200, 12200, 73000, 600, 700, 1300, 26600, 600

% s.b.e. in livestock farming
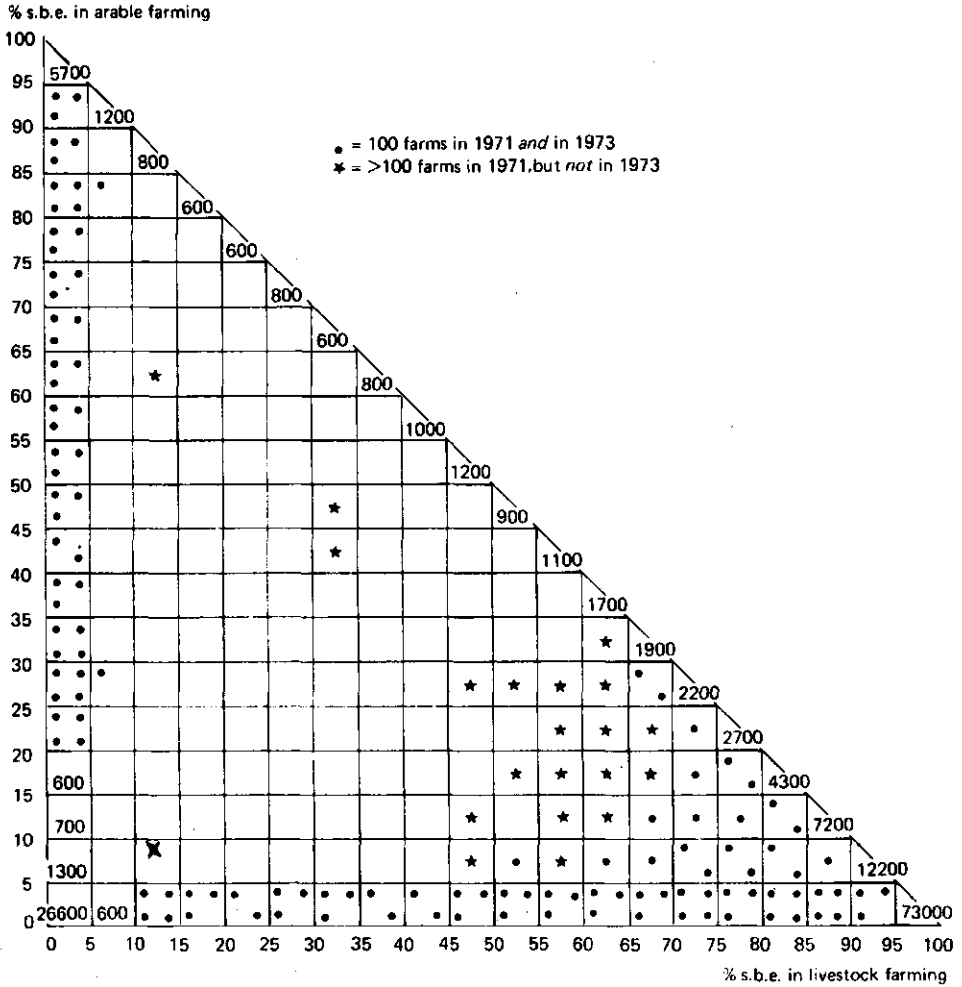
c. a farm is specialized at farm sector stage if one sector provides at least 75% of its potential gross margin;

d. a farm is specialized at farm section stage if one section produces at least 50% of its potential gross margin;

e. at the farm enterprise stage a farm is assigned to a specialized enterprise type if the enterprise has the largest share in the farm's potential gross margin.

To compare the results of the two systems, the German method is applied to the sample of Dutch farms mentioned above. Appendix 2 indicates the distribution of Dutch farms according to the Dutch and German type-of-farming classifications.

Some arbitrary decisions were inevitable in incorporating each activity in an enterprise, and forestry could not be included.

From Appendix 2 it must be concluded that despite the differences mentioned above and the use of different coefficients in each, the outcomes of applying both systems are very similar.

The size of business in the German classification system is not based on potential gross margin, as in farm-type, but on potential farm income. To obtain this potential farm income a standardized amount of allocated fixed costs of production and of farm overhead are deducted from the potential gross margin. This standardized amount varies according to type of farming and size of business.

The deduction is made because the German system aims at an estimate of the average level of potential income in DM for larger groups of farms and for regions taking into account scale effects. The Dutch system avoids such complications by using a measure of farm size, which is a linear combination of the numbers of technical units (acres or animals) of the various activities which is not expressed in monetary terms or does not bear any relationship to monetary values. In the Dutch system the opposite method is followed. The ratio of actual income per s.b.e. as derived from farm account data can be used to analyse variations in income connected with farm size, farm type or region and income trends over time.

A major difficulty with the German system is that, due to price movements, the actual levels of income in future years are bound to outrun the estimates so that revision will be necessary to avoid misunderstanding by inexperienced users. As mentioned above, in our experience it is a great advantage to be able to use the same coefficients in subsequent years as long as there is no great need for adjustment to changes in the pattern of potential income capacity of the various crop and livestock products.

4.3 Comparison of the Dutch and EEC classification systems

The EEC system which is being revised in 1975 has until now adopted the same three general principles as the German classification system (European Commission, 1966).

The important differences in the type-of-farming classification are:
a. its base is the gross output of the farm and its activities;
b. four sectors are distinguished: arable farming, permanent crop production, 'livestock farming dependent on land' and 'livestock farming independent of land';
c. a farm is specialized at the sector stage if at least two-thirds of the farm's output comes from the corresponding sector;
d. a farm is specialized at the section or enterprise stage if at least 50% of total farm output comes from the corresponding section or enterprise.

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The results of the Dutch and the EEC classifications are compared in Appendix 3, which gives the number of farms in each Dutch farm-type classified according to the EEC system.

Appendix 3, too, leads to the conclusion that in many cases there is a close similarity between the two methods. There is, however, one major exception. Pig breeding farms under the EEC definition (farm type 448) are spread over a wide range of farm types in the Dutch system. This is caused by the difference in the basis of classification – gross output (EEC) or factor costs (Netherlands) – which leads in the author's view to an overestimation in the EEC system of the economic importance of pig and other livestock farming based on purchased feedingstuffs.

4.4 Possibilities of extending the Dutch system

The Dutch system, as described and compared in the preceding paragraphs, is used for all general statistical purposes. It is used for comparisons at several stages: sector farm type (more or less comparable since 1962), section farm type and enterprise farm type. Further research may lead to other developments. It is also likely that the adoption of a new EEC classification in the future will have implications for the Dutch system. For special purposes a specific classification may be necessary, based on simple physical relationships without financial evaluation.

An example of a recent case study may illustrate these possibilities. In preparing an investigation into arable farming within the general Dutch type-of-farming classification, it seemed desirable to have some idea of the main differences between the larger farms of this type in various regions. After a number of experiments it appeared that a very simple type classification on the basis of the acreage distribution of crops gave a good picture of these differences.

The type-of-farming groups are as follows:
a. the acreage is divided into four kinds of crop: cereals, potatoes, sugarbeets and other rotation crops;
b. farms with at least 60% in other rotation crops are excluded;
c. farms with at least 15% of potatoes are divided into three types, where the kind of potatoes with the largest acreage defines the type:
  I   : Industrial potatoes
  II : Seed potatoes
  III : Other potatoes (in general, potatoes for human consumption).
d. farms with less than 15% of potatoes form type IV, which could be indicated as cereal farms.

Some data about these four types of arable farms are presented in Table 4.

From this simple classification it will be seen that the potato crops for different uses can be apportioned almost exclusively to different farm types. It is a matter for further research to examine whether or not these types, then based on s.b.e., would give a better classification of arable farms than the present enterprise farm types 18–21.

Table 4.   *Types of Dutch arable farms (Agricultural Census 1973)*

Type		Number of farms	Percentages of total acreage in:					
			Cereals	Industrial potatoes	Seed potatoes	Potatoes for human consumption	Sugar-beets	Other crops
I:	Industrial potatoes	3024	37	46	–	–	10	7
II:	Seed potatoes	1278	31	-	26	3	24	16
III:	Potatoes for human consumption	4027	36	–	1	24	24	16
IV:	Cereals	2707	47	–	1	4	21	27
Total		11036						

4.5 *Conclusions*

The three systems of type-of-farming classification – the EEC, the German and the Dutch – all succeed in identifying the highly specialized farms in the Netherlands. Because of the relatively high weight attached to livestock production, based on purchased feeding-stuffs, the EEC system is least successful in identifying farms with a high degree of specialization in this respect.

To achieve an effective classification of less-specialized farms, further research will be needed, particularly if the system has to cover a wider area with more divergent production patterns and farming structures.

The Dutch system differs from the German in that it applies the coefficients for calculating the economic importance of each branch of production without any adjust-ment in both type-of-farm and size-of-farm classifications. Furthermore, it uses as a measure of size a criterion which is not directly related to farm income.

These principles, it is claimed, are of considerable practical advantage for interpreta-tion by inexperienced users and for use in further analysis. The EEC system which is based on gross revenue does not provide an adequate measure of farm size linked to type-of-farm classification.

APPENDIX 1. *Alternative limits in the Dutch type-of-farming classification*

	Specialization	Character	60% limit	66.7% limit	75% limit	90% limit
1.	Specialist dairy	S	49564	49564	49564	36015
2.	Other dairy	S	24518	17348	6837	—
3.	Calf fattening	S	1930	1665	1543	1043
4.	Other beef production	O	2199	1904	1604	1114
5.	Other dairy production	O	2839	3411	3604	2125
	Cattle farms	S	81050	73892	63152	40297
6.	Pork production	S	3051	2506	2057	1247
7.	Pig breeding	S	3830	2793	2079	881
8.	Other pig production	O	1212	1038	1007	981
	Pig farms	S	8093	6337	5143	3109
9.	Table poultry	S	1025	908	857	564
10.	Egg production	S	2124	1877	1566	1184
11.	Ducks	S	28	22	22	22
12.	Turkeys	S	131	131	104	83
13.	Other poultry farms	O	78	95	130	104
	Poultry farms	S	3386	3033	2679	1957
14.	Sheep	S	1004	760	650	411
15.	Grassland	S	689	622	467	356
16.	Cattle/pigs	M	10341	15582	21570	26123
17.	Other livestock farms	O	5326	6227	7693	12267
	Other livestock farms	O	17360	23191	30380	39157
	Livestock farms	S	109889	106453	101354	84519
18.	Cereals	S	672	345	255	188
19.	Potatoes and sugarbeets	S	5413	3514	1748	491
20.	Cereals/potatoes and sugarbeets	M	3562	4867	5451	4130
21.	Other arable farms	O	4542	3660	3099	2485
	Arable farms	S	14189	12386	10553	7294
22.	Vegetables under glass	S	6764	6357	5657	3934
23.	Flowers under glass	S	5605	5352	4833	3902
24.	Other crops under glass	O	808	938	1140	1372
	Crops under glass	S	13177	12647	11630	9208
25.	Vegetables in the open	S	4020	3356	2579	1547
26.	Bulbs	S	4774	4458	4073	3131
27.	Other crops in the open	O	1327	1436	1446	1208
	Horticulture in the open	S	10121	9250	8098	5886
28.	Fruit	S	4117	3863	3511	2799
29.	Arboriculture	S	2180	2031	1902	1471
30.	Other permanent crops	O	541	461	479	403
	Permanent crop farms	S	6838	6355	5892	4673
31.	Vegetables under glass/in the open	M	964	1363	1860	2740
32.	Mushrooms	S	897	874	862	778
33.	Other horticulture	O	2091	2397	3183	5231
	Other horticulture	O	3952	4634	5905	8749
	Horticultural holdings		34088	32886	31525	28516
34.	Livestock/arable	M	5727	9175	13758	29625
35.	Livestock/horticulture	M	1979	3111	4270	5070
36.	Arable/horticulture	M	1891	2861	3879	5909
37.	Other mixed	O	1359	2250	3781	8189
	Mixed farms	O	10956	17397	25688	48793
	GRAND TOTAL		169122	169122	169122	169122

APPENDIX 2.   Comparison of the German and Dutch type-of-farming classifications (numbers of Dutch farms)

German system	Cattle farms 1–5	Pig farms 6–8	Poultry farms 9–13	Other livestock farms 14–17	Arable farms 18–21	Crops under glass 22–24	Hortic. open air 25–27	Perman. crops 28–30	Other hortic. holdings 31–33	Mixed farms 34–37	Total
Not classified				289	89				508		886
1111 Intensive arable crops					8706				22	228	8956
1112 Extensive arable crops					1399					67	1465
1120 Arable crops in combination				66	2016			115	1	2251	4449
1210 Fodder crops: specialized	63910			2080	22				141	100	66253
1220 Fodder crops: in combination	15898			6606	22			100	22	2017	24665
1311 Pigs: specialized		5574		389						100	6063
1312 Poultry: specialized		712	2967	686					6	51	4422
1320 Pigs, poultry: in combination	698	1623	347	4928	11			56		463	8126
1400 Fruit								3719	62	44	3825
1590 Mixed agriculture	177			2049	1			145	11	1185	3568
2611 Vegetables open air							3366	22	493	44	3925
2612 Vegetables under glass						6747			812		7559
2620 Vegetables: in combination						422	460	11	94		987
2710 Ornamental plants: spec.						5361	4613	104	744	44	10866
2720 Ornamental plants: in comb.						598	793	34	130		1555
2800 Arboriculture						11		1906	32		1949
2990 Mixed horticulture						22	190	305	289	2070	2876
9000 Agriculture+horticulture	367	184	72	267	1923	16	698	321	585	2292	6725
	81050	8093	3386	17360	14189	13177	10121	6838	3952	10956	169122

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APPENDIX 3. Comparison of the EEC and Dutch type-of-farming classification (numbers of Dutch farms)

Dutch system	Cattle farms	Pig farms	Poultry farms	Other livestock farms	Arable farms	Crops under glass	Hortic. open air	Perman. crops	Other hortic. holdings	Mixed farms	Total
EEC-system	1–5	6–8	9 13	14–17	18–21	22–24	25–27	28–30	31–33	34–37	
Not classified	6							6	1002	11	1025
110 Arable+horticulture					25		50	22	47	345	489
111 Arable farms					11823				6	737	12566
112 Horticultural holdings				22	76	12719	9608	188	1956	845	25414
1.. Combinations (120, 130, 140)	11			33	1780	147	235	146	329	1964	4645
223 Fruit						122	22	4050	111	44	4349
224 Arboriculture						11		1898	9		1918
2.. Combinations (210, 230, 240)				22	22	83		406	171	357	1061
330 Cattle and sheep	22			588							610
336 Cattle	63551		22	995	6				33	817	65424
337 Sheep			67	871							938
3.. Combinations (310, 320, 340)	9057	22		3638	73		33		45	3899	16767
440 Pigs and poultry	116			438		22					576
448 Pigs	2434	7860		4654	135	12	57	90	142	846	16230
449 Poultry	28	34	3108	1300	11	22				249	4752
4.. Combinations (410, 420, 430)	5825	177	67	4510	126	39	94	32	100	842	11812
550 Mixed farms			122	289	112		22		1		546
	81050	8093	3386	17360	14189	13177	10121	6838	3952	10956	169122

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