

AGRICULTURAL ECONOMIC REPORT 1993

Summary

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Agricultural Economics Research Institute LEI-DLO
The Hague
The Netherlands

ABSTRACT/REFERAAT

AGRICULTURAL ECONOMIC REPORT 1993; SUMMARY

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This Periodical Report offers a summarized overview of the contents of the Agricultural Economic Report 1993 (261 pp.), which is published in Dutch.

A general survey is given of the economic situation of Dutch agriculture and horticulture, mainly for the years 1991, 1992 and 1992/93. Among other subjects, attention is paid to the Common Agricultural Policy, developments in the agricultural production in the world, in the EC and especially in the Netherlands, to some aspects of the structure of Dutch agriculture and to the relation between agriculture and the natural environment. Furthermore, the report deals with the development of rentability, incomes, investments and the financial situation of agricultural and horticultural holdings in the Netherlands.

Agriculture/Agricultural incomes/Agricultural Policy/Agricultural Production/Farm Structure/Netherlands

LANDBOUW-ECONOMISCH BERICHT 1993; SAMENVATTING

Deze Engelstalige Periodieke Rapportage vormt een samenvatting van het Landbouw-Economisch Bericht 1993, dat een overzicht geeft van de economische situatie van de Nederlandse land- en tuinbouw, vooral voor de jaren 1991, 1992 en 1992/93. Daarbij wordt onder andere aandacht besteed aan het EG-landbouwbeleid, de ontwikkeling van de landbouwproductie in de wereld, in de EG en meer in het bijzonder in Nederland en aan enkele aspecten van de landbouwstructuur en de agrarische milieuproblematiek. Voorts wordt ingegaan op de ontwikkeling van rentabiliteit, inkomens, investeringen en vermogenssituatie van de land- en tuinbouwbedrijven.

Landbouw/Landbouwbeleid/Prijspolitiek/Bedrijfsstructuur/Productie/Bedrijfsuitkomsten/Inkomens/Financiële positie/Nederland

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PREFACE

The Agricultural Economic Report is an annual publication, offering a global survey of the economic situation of Dutch agriculture and horticulture. This is a summary in English, which is published separately as part of the series 'Periodieke Rapportages' (Periodical Reports). The complete report is available only in Dutch.

The report is based on data and contributions from nearly all divisions of the Institute. The coordination and editorship of the report is in the hands of the General Economics and Statistics Division. The final draft of this issue of the report was concluded in the course of October 1992.

The director,

A handwritten signature in black ink, appearing to be 'L.C. Zachariasse', written over a set of horizontal lines.

L.C. Zachariasse

The Hague, January 1994

1. THE ECONOMIC AND POLITICAL FRAMEWORK

1.1 General economic developments

Economic growth in the OECD countries in 1992 was approximately 1.5%, which meant a limited cyclical recovery after the very slight growth of 0.7% in the preceding year. Because of the slow economic growth unemployment in the OECD area rose from over 6% of the working population in 1990 to nearly 8% in 1992. The inflation rate displayed a drop from 4.5% in 1991 to 3.3% in 1992.

The growth in the Dutch economy, which in 1991 worked out at about 2%, fell back in 1992 to 1.4% and, according to the expectations of the Central Planning Bureau, will be nil in 1993. In connection with this smaller growth, the expansion of the number of jobs in 1992 was confined to some 44,000, which is only half of the average annual rise between 1985 and 1991. The number of job-seekers therefore fell slightly in 1992. Inflation, which was caused above all by a rise in wage costs and by government measures, was 3.3% in 1992, and thus the same as the year before.

1.2 European integration

According to the EC Commission, 1992 was a 'pivotal year' for European integration. In February the Treaty on the European Union was signed in Maastricht and was ratified in the course of the year by ten member states. Not until a number of exceptions to the Treaty had been made for Denmark did ratification by that country and the United Kingdom follow. Agreement was also reached on the financial side of integration. A major element in this is raising the ceiling of the total EC budget from 1.20% of the Gross Domestic Product of the Community in 1992 to 1.27% in 1997. Disappointments for European integration were the monetary unrest, the resultant collapse of the European Monetary System and the sharp depreciation of some currency values that followed.

Besides the further integration, important steps were also taken towards enlargement of the Community. In May 1992 an agreement on the European Economic Area was concluded between the EC and the EFTA countries. The cooperation between the EC and the East European countries was confirmed by a number of trade and cooperation agreements. Meanwhile accession negotiations are underway with Austria, Sweden, Finland and Norway. For the agricultural sector in these countries accession will lead to a far-reaching process of adjustment, because their agricultural policy must be aligned with that of the Community on various points.

2. AGRICULTURE IN THE WORLD

2.1 Agricultural production and food supply

After the stagnation in 1991 the volume of world food production rose again in 1992 by 1%. The growth was accounted for entirely by the developing countries (+2%), since the developed countries stabilized their food production. Above all the world production of cereals, sugar, root crops, fruit, pigmeat and poultrymeat rose, while that of milk, beef and fibre crops fell. Since the beginning of the sixties total world food production has been more or less doubled. As a result of the strong growth of the world population the rise in food production per head was confined to approximately 15%. The strongest increase in food production per head occurred in South and South-east Asia; conversely, food production in Africa barely changed. In the eighties the quantity of calories available per head in the developing countries incidentally increased less quickly than in the sixties and seventies. The principal bottlenecks in and threats to food production in the coming decades are the limited availability of new farmland, erosion, desertification and shortage of irrigation water.

2.2 Agricultural trade

The volume of world trade in agricultural products grew in 1992 by some 6.5%, which is somewhat more strongly than the 5% in the year before. Larger cereal imports by China and the former Soviet Union made a major contribution to this growth. World market prices fell by 5% in 1992, thus continuing the declining trend of the three previous years. With regard to the world trade in agricultural products four important developments have been going on in recent years. In the first place trade blocs have been formed in Europe and in North America, where the USA, Canada and Mexico have decided on a free-trade association (NAFTA). In the second place, the upheaval in the former Eastern Bloc may lead in the somewhat longer term to a larger supply of agricultural products from these countries. In the third place there is growing attention to the relation

between trade and environment. The need to arrive at a more sustainable development may be accompanied by a slackening in the growth of agricultural world trade. The discussions on agricultural trade and environment concern above all the energy-devouring transport of products, the moving of minerals in raw materials for feed and in fertilizers, and trade policy. With respect to the environment a liberalization of trade may imply among other things a more efficient use of raw materials and extensification, but on the other hand it may lead to the disappearance of agriculture from some areas.

2.3 The GATT negotiations

In the fourth place the GATT negotiations will affect agricultural world trade. At the end of November 1992 the EC and the USA concluded the Blair House agreement, in which arrangements were made for reduction of internal support and export subsidies, widening access to the market, tariffication, rules and standards in the veterinary and phytosanitary fields and restriction of the area of oilseeds in the EC. According to the EC Commission, the obligations of the Blair House agreement require no efforts that go any further than the 'Mac Sharry reform'. The most important consequence of the agreement may be that the EC can no longer pass the growing disequilibrium on the internal market on to the world market by supplying ever more export subsidies. The expectations with regard to the volume effects of reducing export subsidies on EC agriculture differ somewhat. It is asserted that through the agreement the fluctuations in prices on the world market will weaken, whereas they will increase in the EC and EFTA countries. The agreement will yield different results for the various parts of the Dutch agricultural sector: for example horticulture (under glass) seems to get new chances to expand exports, but on the other hand exports of dairy products - and above all of cheese - to non-EC countries must be considerably cut back.

3. AGRICULTURE IN THE EUROPEAN COMMUNITY

3.1 Production and income

The volume of agricultural production in the EC grew in 1992 by 3%, which was the greatest increase since 1984. The growth was largely accounted for by crop production (+5%); the rise of animal production was confined to 0.5%. The volume of the purchased means of production was at practically the same level in 1992 as in 1991, although above all fertilizers (-5%) and pesticides (-4.5%) displayed sharp falls. The prices of agricultural products, which in 1991 had still risen by 2%, fell in 1992 by some 4.5%. In real terms the drop in price was approximately 9%, which was the strongest decline since the start of EC agricultural policy. Family farm income per family worker fell in 1992 in nominal terms by nearly 2% and in real terms by over 7%. The strongest real decline occurred in Denmark (-53%), followed by the Netherlands (-21%) and Spain (-18%).

3.2 Developments in EC market and price policy

The expenditure on EC market and price policy fell somewhat in 1992, after it had risen sharply (+10%) in 1991. This piece of good fortune was the result of a somewhat higher dollar rate and a considerable drop of nearly 30% in dairy expenditure. Conversely, the expenditure on among others cereals, oilseeds and fibre crops increased. The decisions on the institutional agricultural prices for 1992/93 practically amounted to a nominal freezing of the support-price level. In ecu the increase amounted to 0.1% and in national currencies on average to 0.3%. For 1993/94 it was again decided to freeze the support prices. Through the agromonetary developments the support prices in national currencies have on average, however, been raised by more than 8%.

In May 1992 the agricultural ministers adopted the 'Mac Sharry reform' of EC market and price policy. With the aid of the European Community Agricultural Model (ECAM) the possible effects of this reform have been estimated. According to this study the policy adjustments will not lead to

a complete disappearance of the existing surplus of beef. A further adjustment of beef policy, such as a reduction in the number of animals qualifying for a premium, further restrictions on intervention, and/or price reductions, is therefore to be expected. For the dairy sector the ECAM study concludes that the EC export surplus of butter will disappear and that the export balance of other dairy products will be considerably reduced. No account has been taken here on the increase in the milk quota by two million tons, on which the agricultural ministers have meanwhile decided. The export surplus on the cereal market will have completely disappeared by 1996, according to the ECAM study, and in the years thereafter the EC is even expected to become a net cereal importer. This switch is the result of a reduction in area, a lower production per hectare and a rise in the consumption of cereals in feeding stuff. According to other studies, in which it is assumed that the yields per hectare will barely fall, the export surplus on the EC cereal market continues to exist however. The ECAM study expects that the incomes for the European agricultural sector as a whole will hardly change on balance and that the expenditure on the EC market and price policy in 1996 will be about six billion ecu higher than in 1992.

3.3 Rural, environmental and structural policy

Under the decision of the European Council at the end of 1992 the financial resources of the structural funds are to be expanded from 18.1 billion ecu in 1992 to 27.4 billion ecu in 1999. The main emphasis of EC structural policy falls on the regions with a lag in development. The agricultural structure and the physical planning of rural regions will be affected by the package of measures accompanying the Mac Sharry reform, which consists of regulations for early retirement, environmental management and afforestation. In 1987-1989 some 1.1 million of European farmers received compensatory allowances under the Less Favoured Areas Directive, which means that only a quarter of all farms in these areas uses the scheme. Especially in the southern member states participation is low. As part of the voluntary set-aside scheme about 1.7 million of hectares were taken out of production in the period 1988-1992, which corresponds to 5% of the area under cereals in the EC. According to the ECAM study this percentage will rise to some 10% as a result of the Mac Sharry reform.

4. STRUCTURAL DEVELOPMENTS IN DUTCH AGRICULTURE

4.1 Structural developments since 1950

The structure of the Dutch agricultural sector has undergone far-reaching changes in the past four decades. The total volume of labour input fell between 1950 and 1990 by nearly 60% and the number of holdings by over 60% (Table 4.1). In the fifties the average number of work units per holding fell, but from the mid sixties onwards it increased again. This was above all affected by the strong increase in scale in horticulture under glass.

On estimate the amount of capital more or less doubled in the years 1950-1990 and the volume of purchased goods and services increased nearly fivefold, whereas the area of land was reduced by 15%. The volume of all inputs together increased by about a quarter. Per holding there is nowadays over twice as much land and five times as much capital present as forty years ago.

Table 4.1 Structural developments in Dutch agriculture and horticulture, 1950-1990

	Unit	1950	1960	1970	1980	1990
Number of holdings	x 1,000	315	284	185	145	125
Volume of labour input	1,000 AWU*)	550	437	297	260	226
Utilized agricultural area	x 1,000 ha.	2,328	2,317	2,143	2,020	2,006
Volume of capital	index	97	100	125	173	190
Volume of non-factor input	index	53	100	160	240	255
Volume of gross production	index	71	100	145	219	295
Labour force	AWU/holding	1.75	1.54	1.61	1.79	1.81
Farm size	ha./holding	7.4	8.2	11.6	13.9	16.0
Volume of production per holding	index	64	100	222	426	660
Volume of capital per holding	index	84	100	190	339	430
Volume of production per ha.	index	71	100	153	251	340
Volume of non-factor input per ha.	index	53	100	170	275	295

*) AWU = Annual work unit.

The total volume of production around 1990 was about four times that in 1950. The volume of production per holding and per worker grew ten-fold in that period and the production per hectare five times. The latter is largely bound up with the expansion of intensive livestock farming and horticulture (under glass).

In the eighties the volume of production increased on average by 2.5% per year, as against nearly 4% per year in the three decades before. This slackening is partly connected with the milk quota system. Because the amount of non-factor input per unit of output clearly fell in the eighties, the development of net productivity was still rather favourable.

4.2 Development of the number of holdings and workers in past years

In May 1992 nearly 93,400 full-time holdings were registered in Dutch agriculture and horticulture besides more than 26,700 part-time farms. The number of full-time holdings was 3% smaller than the year before and the number of part-time farms 1.5% larger. The number of specialized dairy farms, which had fallen rather strongly in the period 1984-1991, displayed an increase from 1991 to 1992, above all as the result of changes in farming type. The arable farms and the pig and poultry farms fell more quickly in number in 1991-92 than in earlier years.

The total number of workers in the agricultural sector in May 1992 was nearly 291,000 and proves to have hardly fallen any further in recent years. The latter is the result of a clear reduction - on average 1.5% per year in the period 1983-1992 - in the number of workers on arable and livestock farms on the one hand and an increase of 2% per year on horticultural holdings on the other. An obvious shift from family labour to non-family labour is also becoming apparent: the number of family workers fell in the period indicated by 1.5% per year, whereas the number of non-family workers increased by 4.7% per year. The latter related particularly to horticulture, where in ten years' time nearly 19,000 full-time or part-time jobs were added and meanwhile about half the labour deployment consists of non-family workers. Of the total number of nearly 43,700 non-family workers in horticulture, two third works in horticulture under glass. On average 2.8 regular non-family workers were employed on each glasshouse holding.

4.3 Land prices and cropping plan

In 1992 land prices were in general somewhat higher than in 1991 and have been in recent years somewhat above the average level of the

eighties. From one region to another there are big differences in land prices. Thus the prices for unlet arable land varied in 1992 from 22,000 to 23,000 guilders per hectare in the arable regions in the north of the country to over 60,000 guilders per hectare in Twente and in certain parts of North Brabant.

The big regional differences in land prices are largely attributable to differences in the family farm income measured per hectare. This relates not only to the family income in the past year, but also to that of the years before. In addition the manure legislation tends to increase the price of land, especially in the regions with a large manure surplus. In 1992 about 30,000 hectares of agricultural land changed hands, which amounts to 1.5% of the total agricultural area. In 1991 this 'land mobility' was approximately 2%.

The total registered area of agricultural land in May 1992 was hardly less than in the year before. The area of grassland again decreased by 16,000 hectares, resulting in a total reduction since the introduction of the milk quota system of about 116,000 hectares. However, over half of this decline was compensated for by growth of the area under fodder crops (almost entirely green maize). The area under cereals was again smaller in 1992 than in the year before and the area under sugarbeet and pulse crops has likewise shrunk. The above was accompanied by an increase in the area under potatoes, which meanwhile covers more than 30% of the total area of arable farming, as against less than 25% in 1970.

The area under field vegetables has steadily increased in recent years, above all on arable farms. Meanwhile only a quarter of the area under these crops is located on specialized field vegetable holdings. The area under flower bulbs and that for horticulture under glass has increased by about 15% since 1984 and the area covered by tree nurseries by no less than 45%. The fruit-growing area fell somewhat from 1984 to 1988, but since then has displayed a modest recovery.

4.4 Developments in livestock farming

The volume of cattle farming became gradually less in the first years after the introduction of milk quotas in 1984, but has stayed more or less stable in recent years. The number of dairy cows fell in that period by 30%, but the number of beef cattle has more than doubled. From 1984 to 1989 the average number of dairy cows per farm gradually fell from 42.4 to 39.2, but since then it has increased again to 41.3 in 1992. The average number of fattening calves per holding rose in 1984-1992 from 230 to 285.

The number of animals in pig farming has continued to increase in recent years, despite the steadily tightening environmental regulations, al-

though the growth was much weaker than the 25% in the period 1984-1988. The number of pig farms has fallen by a quarter since 1984 and the average number of pigs per farm rose from 306 in 1984 to 525 in 1992. The scaling-up process in this sector is expected to continue in the years to come, particularly in the breeding sector.

In past years poultry fattening showed fairly strong growth under the influence of the until recently favourable results. The number of farms with table chickens has risen by 10% since 1984 and the number of table chickens by nearly 35%. The number of farms in the laying sector fell in 1984-1992 from over 4,500 to over 3,200. This was accompanied by a growth in the number of laying hens from 31 million to 34 million, whereby incidentally stabilization has been occurring in recent years.

The developments in livestock farming in past years led on balance to a greater livestock density on the farms with a small area of land. The share of the concentration areas in the total livestock population has not decreased as a result.

5. AGRICULTURE AND THE ENVIRONMENT

5.1 Environmental effects of agricultural production

The share of the Dutch agricultural sector in the various forms of environmental pollution differs greatly. Concerning the damage to the ozone layer and the mountain of waste, for example, its share is only slight, but in acidification, overfertilization and in the use of pesticides it is relatively large. In recent years the agricultural sector has been making clear progress in driving back certain aspects of environmental pollution. This applies for instance to ammonia emission, which was reduced by over 30% between 1985 and 1992. The national surplus of nitrogen has since then fallen by 20-25% and that of phosphate by nearly 15%. The use of pesticides has decreased by about one quarter. Conversely, emissions of CO₂ - 80% of which are caused by horticulture under glass - are still on the increase.

The question is if the reduction in the environmental burden by the agricultural sector is proceeding quickly enough to meet the objectives set by the government for the year 2000. As regards the permissible phosphate loss per hectare - which has not yet been definitively fixed, but in any case will be less than half of the present loss - a much more rapid drop is required than in past years.

Actualization of the - as yet very provisional - objective regarding the acceptable nitrogen losses does not seem impossible, but still requires a considerable effort. For ammonia emission there is a reduction objective of 50% in 2000 in relation to 1980, which in view of the developments in past years will in fact be achieved. For the further-reaching objectives for after 2000, which will result in much higher costs, this is considerably more difficult. The objective for CO₂ emission - a 5% drop in relation to 1990 - will certainly not be attained if the trends of past years continue. If the reduction of the use of pesticides continues up to 2000 at the rate of the past years the relevant objective - a 50% reduction of use in relation to 1985 - will more or less be achieved.

5.2 Shifts in agricultural environmental policy

In Dutch agricultural environmental policy a number of important shifts become visible. In the first place more regulations are implemented in which mainly the objectives at the farm level are laid down and which give more freedom in the way and the means wherewith these objectives have to be achieved. In the second place the responsibility is being vested more in farmers and farmers' organizations, whereas government policy is becoming less directly regulatory. In the third place more use is being made of agreements between government and farmers' organizations. In the past year five such covenants were concluded. Finally, more financial instruments are being added to or replacing direct regulations, with particular emphasis on regulatory levies. This approach, which may entail relatively high costs for the agricultural sector, is incidentally still mainly under discussion. It seems that the first concrete application will take place in minerals policy, where 'mineral accounting' is to become the central policy instrument in the future. It is intended to impose high levies on the mineral surplus at farm level which will be established by means of this mineral accounting. From various studies can be derived, that a levy on the mineral surplus is not a panacea, but is more effective than other forms of levies. It is fairly generally expected that above all ammonia policy will lead to a contraction of the number of animals, notably in the concentration areas. Opinions differ sharply about the extent to which this number will (have to) contract. For that reason the estimates regarding the size of the manure processing capacity necessary in the future are also very diverse. Manure processing, which is regarded as the finishing touch to manure policy, seems to become rather expensive for the livestock farmers, above all on account of the disappointing returns on the manure granules.

6. PRODUCTION AND TRADE

6.1 Production and price formation

The total production volume of Dutch agriculture and horticulture increased in 1992 by over 5% (Table 6.1). That was considerably more than in the preceding years. The strong growth of production was accompanied by an almost equally great fall in the average selling price. As a result the production value barely increased. Within arable farming there was an increase in production and a fall in prices for all important crops. The prices of food potatoes in particular fell sharply, viz. by 50%. This drop in prices is related to the expansion of the area under potatoes in the EC in recent years, after a trend fall had occurred in the years before. Since 1989 the prices of arable products in the Netherlands have fallen by a quarter.

With the exception of tomatoes, lettuce and a few field vegetables, the production of all kinds of vegetables increased in 1992. Especially vegetables under glass became considerably cheaper, on average nearly 20%.

Table 6.1 Development of volume and prices of agricultural and horticultural production

Product	Value (mln.DFL)	Changes in % in relation to previous year					
		volume			price		
		1991 (prov.)	1990 (prov.)	1991 (prov.)	1992 (est.)	1990 (prov.)	1991 (prov.)
Arable products	3,110	4.6	-4.7	9.0	-9.4	4.0	-14.0
Milk	8,550	-1.8	-2.1	-1.0	-10.0	1.1	1.5
Meat and eggs	13,880	3.4	2.9	1.5	-7.6	-1.6	-1.0
Vegetables and fruit	5,170	6.8	1.7	26.0	6.7	7.9	-17.5
Cut flowers	3,880	3.7	1.9	5.0	3.5	6.8	-6.0
Pot plants	2,190	4.0	7.3	4.4	4.8	1.5	-4.0
Other horticultural products	1,630	11.8	7.5	0.0	-4.0	2.4	3.0
Total/Average	38,410	3.2	1.4	5.5	-4.4	1.3	-4.0

The fruit harvest more than doubled in respect of the very small frost-damaged harvest in 1991. The average price of fruit fell by nearly 70%. The production of practically all ornamental products increased further. Only flower bulb production was a few percent lower than in 1991. Flowers and plants became on average about 5% cheaper, but the prices of tree nursery products and flower bulbs rose somewhat. Milk production was again somewhat lower, but the price of milk worked out one percent higher. The production of beef, sheepmeat and eggs was less, whereas that of veal, pigmeat and poultrymeat increased. Beef and veal became more expensive, but the other kinds of meat showed price drops of 2 to 5%. The average price of eggs even fell by more than 10%.

6.2 Imports and exports of agricultural products and food

In 1992 the Netherlands exported 63.5 billion guilders' worth of agricultural products and food, whereas imports amounted to 37.3 billion guilders (Table 6.2). The agricultural trade balance thus worked out at 26.2 billion guilders, which was somewhat lower than in 1991. In a period of over 10 years the agricultural trade balance has more than doubled. The surplus in the trade with other EC countries increased in that period from nearly 16 billion guilders to over 26 billion guilders. Agricultural trade with non-EC countries displayed a deficit of more than 4 billion guilders at the beginning of the eighties, but that has meanwhile practically disappeared. The principal contribution to the increase in the agricultural trade balance in the past ten years was made by horticultural products, of which the trade surplus grew from 5 billion guilders to 11 billion guilders. In addition the food, drink and tobacco industry made a major contribution; among others the balance of bakery products, potato products, tobacco products and tropical products such as coffee and cocoa has considerably increased. The trade balance of animal products has grown to only a limited extent.

The slight decrease in the agricultural trade balance in 1992 was entirely the result of volume effects: the volume of agricultural imports increased by 8.5% and that of the exports by less than 4% (Table 6.2). The average price of the imports fell by over 1.5% and that of the exports by over 0.5%. A striking feature of the imports was the strong growth in volume of among others vegetables (+10%), cut flowers (+18%), live cattle and pigs (+13%), beef and veal (+14%) and margarine, fats and oils (+14%). On the export side a strong increase in volume could be noted for feeding stuff (+10%), fresh vegetables (+6%), live cattle and pigs (+43%) and poultrymeat (+8%). The growth in dairy exports was confined to 3% and that of potatoes and eggs fell by 7% and 4% respectively. Remarkably

Table 6.2 Imports and exports of agricultural products in 1992

	Value (1,000 mln.DFL)		Changes in % in relation to previous year			
	world	from EC	world		EG	
			volume	price	volume	price
<i>Imports</i>						
Arable products	9.4	6.7	5.4	-1.8	3.9	-2.3
Horticultural products	4.2	2.4	4.3	-1.1	5.6	-5.0
Animal products	7.8	7.2	12.1	3.4	12.8	3.1
Other agricultural products	15.9	7.5	9.8	-4.1	14.9	-4.4
Total/Average	37.3	23.8	8.5	-1.7	10.1	-1.7
<i>Exports</i>						
Arable products	10.3	7.3	4.6	-0.4	5.4	-0.9
Horticultural products	15.2	12.6	6.3	-12.0	3.8	-10.2
Animal products	20.6	17.4	4.9	1.1	4.6	1.0
Other agricultural products	17.4	13.3	1.7	0.9	-1.4	2.3
Total/Average	63.5	50.5	3.8	-0.7	2.8	-0.5

enough, the export value of horticultural products displayed a decline for the first time since 1953.

Nearly 80% of Dutch agricultural exports in 1992 went to EC countries: at the beginning of the eighties that was approximately 75%. Particularly agricultural exports to the southern member states have increased relatively strongly. But yet Germany, with a share of around 30% which has remained about stable in the course of the years, remains by far the most important customer. Of the groups of countries outside the EC, the EFTA countries and the last few years also the East European countries have shown a growing share in Dutch agricultural exports, although the shares of these groups remain small at 4.5% and 2.5% respectively. The relative importance of the USA and the Arab countries as customers for Dutch agricultural products has been declining in recent years.

7. RESULTS OF SECTORS AND HOLDINGS

7.1 Returns and costs of the arable and livestock sector

The production value of agriculture (arable and livestock farming) in 1991/92 was barely higher than in the year before (Table 7.1). The volume dropped slightly, while the prices on average remained practically unchanged. As regards the volume, a reduction occurred with respect to milk, pigs, eggs and arable products, and an increase of beef, veal and poultrymeat. The prices in calf fattening and pig farming shot up, whereas in arable farming and poultry fattening they fell and in cattle farming remained about the same. The value of the non-factor costs increased, at a somewhat smaller consumption, by 1-2%, among other things through the higher prices of feed and services. The result of these developments was a slight drop in the net value added by 1%. The value of the factor costs rose by 1.5%, above all through the higher price of labour. The volume of the factor costs decreased and interest rates fell. This resulted in a 68% coverage of the factor costs by the value added, which was barely less than in 1990/91.

Table 7.1 Returns and costs of the agricultural sector (exclusive of horticulture)

	Value (mln.DFL)			Changes in % relation to previous year			
	1990/91	1991/92 (prov.)	1992/93 (est.)	volume		price	
				91/92 (prov.)	92/93 (est.)	91/92 (prov.)	92/93 (est.)
Returns	25,420	25,600	24,285	-1.5	1.0	2.0	-6.0
Non-factor costs	17,465	17,730	17,655	-1.5	-0.5	3.0	0.5
Net value added	7,955	7,870	6,630	-1.0	4.5	0.0	-19.5
Factor costs	11,455	11,630	11,840	-1.5	-0.5	3.0	2.0
Total costs	28,920	29,360	29,495	-1.5	-0.5	3.0	1.0

In 1992/93 the volume of arable and livestock production increased somewhat (Table 7.1), despite the smaller production of beef and eggs. The average yield price fell by 6%, however, which may be ascribed above all to the sharp price drops in arable and pig farming. In poultry farming too prices fell. Through this state of affairs the total value of production declined by some 5%. The value of the non-factor costs remained practically the same; the fall in feed costs was cancelled out, among other things by higher expenditure on services. The result of these developments was a sharp decline in value added, viz. by about 15%. At somewhat higher factor costs this led to a coverage by the value added to the extent of only 55%. In arable farming and intensive livestock farming in particular the percentage of cover fell sharply.

It would seem that the year 1993/94, which is meanwhile more than half over, will display a recovery for arable farming and a further decline for pig farming, while the results of dairy farming will stay about the same.

7.2 Returns and costs of horticulture under glass

The total production value of horticulture under glass increased in 1991 by over 10% in respect of 1990 and as a result passed the eight billion guilders mark for the first time (Table 7.2). This increase in value was the result of a fairly strong growth in volume and an even somewhat stronger improvement of the average price, above all thanks to the approximately 10% higher price of vegetables under glass. The non-factor costs rose by nearly 10%. In particular the more than 13% higher energy consumption

Table 7.2 Returns and costs of horticulture under glass

	Value (mln.DFL)			Changes in % in relation to previous year					
				volume			price		
	1990	1991	1992 (est.)	1990	1991	1992 (est.)	1990	1991	1992 (est.)
Returns	7,800	8,625	8,140	6.0	4.0	5.0	3.5	6.5	-10.0
Non-factor costs	5,050	5,535	5,775	5.5	7.0	4.5	4.5	2.5	0.0
Net value added	2,750	3,090	2,365	7.5	-1.0	6.0	1.0	13.5	-28.0
Factor costs	3,210	3,365	3,510	1.5	4.5	-1.0	9.5	0.5	5.5
Total costs	8,260	8,900	9,285	4.0	6.0	2.0	6.5	2.0	2.0

contributed to this, but also the use of capital goods increased fairly strongly. The net value added rose as a result of these developments by over 12%, after it had already risen in 1990 by 8-9%. The value of the factor costs displayed an increase of 5%. Higher costs of labour and an expansion of the deployed capital were the major contributors to this development, whereas the considerably lower interest rates had a subduing effect. As a result of all this the factor costs were covered for 92% by the value added. That was six points higher than in 1990.

In 1992 the picture for horticulture under glass was much less favourable. The volume growth more or less continued at the usual rate, but the prices fell on average by 10%. That was accounted for above all by the nearly 20% cheaper vegetables under glass; the price drop of cut flowers and pot plants was confined to about 5%. The production value fell by 5%. The value of the non-factor costs increased by 4.5%, entirely as a result of a greater volume. The net value added fell by nearly a quarter. The factor costs rose again by 4.5%, mainly because of the more expensive labour, and were covered for only two thirds by the value added.

For 1993 a further deterioration of the situation in the glasshouse vegetables sector is dawning, while for cut flower growing there is a stabilization and for pot plant growing a limited recovery.

7.3 Results of arable and livestock farms

On the average farm (arable and livestock farming) an entrepreneurial income was attained of nearly 52,000 guilders per entrepreneur in 1991/92. This was about 8% lower than in 1990/1991. On the larger dairy

Table 7.3 Average entrepreneurial income on farms (x 1,000 DFL per farmer)

	Number of farms in 1991/92	Average entrepreneurial income				
		1988/89	1989/90	1990/91	1991/92	1992/93 (est.)
Dairy farms						
- larger farms	23,200	86.3	90.5	61.5	47.1	56.0
- smaller farms	9,270	47.6	37.9	18.9	19.2	21.0
Pig and poultry farms						
- larger farms	7,150	16.3	123.4	103.8	122.7	37.0
- smaller farms	2,400	10.0	42.3	30.5	54.1	10.0
Arable farms						
- larger farms	8,920	44.5	83.0	69.7	48.8	6.0
- smaller farms	1,500	13.3	24.9	11.7	4.7	-7.0

and arable farms the average entrepreneurial income fell by 25-30% (Table 7.3). On smaller dairy farms stabilization occurred, but on smaller arable farms a strong decline took place and income ended up at a low level. On the average pig and poultry farm the already rather high income rose further in 1991/92. This rise was accounted for entirely by pig farming, where the results achieved an historic height. In poultry farming the results declined in relation to the exceptionally high level of 1990/91.

The estimates for 1992/93 come down to a strong further drop in entrepreneurial income on farms, viz. by about a third to an average of some 35,000 guilders per entrepreneur. Above all the arable farms showed particularly poor results; on the smaller arable farms the average entrepreneurial income was even negative (Table 7.3). The entrepreneurial incomes on pig and poultry farms likewise displayed a sharp fall, but due to the favourable starting level they remained clearly higher than on the arable farms. The decrease related above all to pig breeding and the layer sector, but in pig and poultry fattening there was also a rather strong decline in the results. The entrepreneurial incomes on the dairy farms showed a recovery of 10-20%.

7.4 Results of horticultural holdings

The year 1991 yielded a varied picture as regards the results of the different types of horticultural holdings: a strong rise for the glasshouse vegetable holdings and the flower bulb holdings, a limited improvement

Table 7.4 Average entrepreneurial income on horticultural holdings (x 1,000 DFL per entrepreneur)

	Number of holdings in 1991	Average entrepreneurial income				
		1988	1989	1990	1991	1992 (est.)
Glasshouse holdings with mainly:						
- vegetables	3,130	73.9	81.2	92.6	111.6	-23.0
- cut flowers	3,440	91.8	56.6	62.6	68.6	42.0
- pot plants	920	115.0	112.8	116.8	89.9	60.0
Field vegetable growers	1,010	23.3	53.3	80.9	34.7	29.7
Tree nurseries *)	1,050	85.7	84.6	90.0	94.0	-
Fruit growers	1,250	32.9	41.3	71.1	79.2	16.5
Flower bulb growers	1,340	69.2	46.7	64.5	89.0	76.9
Mushroom growers	580	68.2	92.8	63.2	31.1	0.9

*) 1988 = 1988/89 etc.

for the cut flower growers, the tree nurseries and the fruit growers, and a more or less strong decline for the pot plant holdings, the mushroom growers and the field vegetable holdings (Table 7.4). For the average glasshouse holding an entrepreneurial income of nearly 89,000 guilders per entrepreneur was registered. This was 9% higher than in 1990.

For 1992 the picture is less varied, in the sense that all the individual types of horticultural holdings showed a deterioration in the results, though in differing degrees. The sharpest decline occurred on the glasshouse vegetable holdings, where the average entrepreneurial income was even negative (Table 7.4). This had never happened before. For the cut flower growers a drop in the average entrepreneurial income of 40% has been estimated and for the pot plant growers a decline of over 30%. For the average glasshouse holding an entrepreneurial income of nearly 20,000 guilders may be calculated, which is extremely low for these holdings. The results of the field vegetable holdings showed a limited decline and thus remained low. The fruit growers suffered a very strong drop, as did the mushroom growers. In the latter group the average entrepreneurial income was about nil. The best results were achieved in 1992 by the flower bulb growers.

8. INCOME, FINANCING AND INVESTMENTS

8.1 Arable and livestock farms

In connection with the declining farm profits the family farm income of the average farm in 1991/92 fell by about 5% to over 67,000 guilders per farmer (Table 8.1). On arable farms this income averaged about 52,000 guilders, on dairy farms approximately 56,000 guilders and on pig and poultry farms over 120,000 guilders. After adding the income from outside the farm and after deducting the paid taxes and social security payments a disposable income of 66,000 guilders resulted for the average farm. This was over 10% lower than in 1990/91. Barely 17,000 guilders could be saved out of this income, as against over 24,000 guilders in the previous year. Because of the lower savings, which were accompanied by higher depreciation, the total amount of private financial resources of the joint farmers decreased from 4.6 billion guilders in 1990/91 to 4.4 billion guilders in 1991/92. In addition, on balance the farmers borrowed over a billion guilders more. Per farm this was on average about 15,500 guilders (Table 8.1). Some two thirds of the total available funds were used for investments in the farm, which averaged over 83,000 guilders. This was clearly more than in previous years. Farmers invested above all higher

Table 8.1 *Income, savings and investments on farms (x 1,000 DFL per farmer)*

	1988/89	1989/90	1990/91	1991/92	1992/93 (est.)
Family farm income	71.0	96.2	71.3	67.4	52.0
Total family income	85.1	111.5	89.8	86.0	70.0
Disposable income	74.4	101.6	73.7	66.0	52.0
Savings	28.4	53.2	24.3	16.8	3.0
Total private financial resources	62.0	90.6	62.3	58.6	.
Increase in outside capital	7.4	-0.3	12.6	15.6	.
Gross investments in holdings *)	75.8	76.8	73.1	83.5	.

*) x 1,000 DFL per farm.

amounts in land and in milk quota, but the investments in buildings and machinery were also well up to level.

For 1992/93 the family farm income of the average farm has been estimated at 52,000 guilders, that is to say nearly a quarter lower than in 1991/92 (Table 8.1). On the average arable farm this income was nearly 80% lower than in 1991/92 and came down to 12,000 guilders. Pig and poultry farms saw their average family farm income fall from over 120,000 guilders to on estimate 43,000 guilders per farmer. Only on the dairy farms a rise of income occurred, namely by about 10% to on average over 60,000 guilders. The savings of the arable farms and the pig and poultry farms were on average highly negative, but those of the dairy farms showed a strong recovery.

8.2 Glasshouse holdings

The family farm income of the average glasshouse holding rose in 1991 by 7% in relation to 1990 and came down to 101,600 guilders per entrepreneur (Table 8.2). On the glasshouse vegetable holdings this income increased from over 103,000 guilders to nearly 120,000 guilders and on the cut flower holdings from nearly 81,000 guilders to 84,000 guilders, whereas on the pot plant holdings it fell from over 115,000 guilders to over 106,000 guilders. Because non-farm income remained more or less the same and because paid taxes increased sharply, the disposable income of all glasshouse holdings rose in 1991 by only a few percent. Of the average disposable income of over 93,000 guilders an amount of 32,500 guilders was saved, which was the same as in 1990. Through the higher depreciation the available amount of private financial resources of the joint glasshouse holdings increased by over 100 million guilders to a total

Table 8.2 *Income, savings and investments on glasshouse holdings (x 1,000 DFL per entrepreneur)*

	1988	1989	1990	1991	1992 (est.)
Family income from holding	100.9	87.9	95.0	101.6	32.0
Total family income	113.7	101.3	110.8	117.8	47.0
Disposable income	86.6	71.7	91.7	93.2	24.0
Savings	31.0	15.1	32.7	32.5	-39.0
Total private financial resources	97.8	89.5	112.7	120.5	.
Increase in outside capital	38.2	65.5	36.2	10.9	.
Gross investment in holdings *)	167.0	179.4	172.9	151.5	.

*) x 1,000 DFL per holding.

of nearly 1.5 billion guilders. In addition some 130 million guilders were borrowed. Per entrepreneur this was nearly 11,000 guilders, which was considerably less than in previous years (Table 8.2). The greater part of the available resources was used for investments, which with an average of more than 150,000 guilders per holding were incidentally over 10% lower than in 1990. Especially in installations and glasshouses the entrepreneurs invested smaller amounts.

According to provisional data the average family farm income of the glasshouse holdings in 1992 came down to 32,000 guilders per entrepreneur. That is therefore a decline of nearly 70% (Table 8.2). Disposable income displayed a similar drop. On average an amount of nearly 40,000 guilders was dissaved. In the past savings in horticulture under glass have occasionally been negative, but never to that extent. The results in 1993 do not seem to be better. Glasshouse vegetable holdings reached rock bottom in 1992, the average family farm income per entrepreneur was 9,000 guilders negative, disposable income was more than 20,000 guilders negative and on average more than 80,000 guilders per entrepreneur was dissaved. On the cut flower holdings disposable income fell by 40% to somewhat less than 50,000 guilders per entrepreneur on average. Here as well savings were negative, namely some 12,000 guilders. On the pot plant holdings savings were still positive, though the average saved amount of 4,000 guilders per entrepreneur was very small. The family farm income of these holdings has fallen by 30% to an average of 75,000 guilders per entrepreneur.

ANNEX

Definitions

Dutch Size Units (dsu): A unit for the economic size of agricultural holdings. The dsu is based on the standard gross margins (sgm), which are calculated by deducting related specific costs from the gross returns per hectare or per animal. The sgm is expressed in ecu (current prices). On the EC level the size of farms is not measured in sgm, but in the more workable European Size Units (ESU) (1 ESU = ca. 1,200 ecu sgm). Dsu is the Dutch variant of the ESU. The dsu is recalculated frequently in such a manner that the average farm size in dsu corresponds with the development of the real value added of the average farm. Some examples: 1 ha. wheat = 0.85 dsu; 1 ha. sugarbeet = 1.83 dsu; 1 dairy cow = 1.24 dsu; 1 sow = 0.26 dsu and 1 ha. tomatoes under glass = 151.37 dsu

Factor costs: (imputed) costs of labour, capital and land

Non-factor costs (intermediate consumption): costs of goods and services purchased from other sectors (including depreciations)

Net value added: gross returns minus non-factor costs

Family farm income: income of the farm family out of the farm business; is a remuneration for the labour of all family members and the private capital and land

Entrepreneurial income: the remuneration for the farmer's own labour and for his own capital and land; this income results after deduction of a remuneration for the labour of the other family workers from the family farm income

Total family income: family farm income plus income from non-farm activities and social security of the farmer and his spouse

Disposable income: total family income minus current social security premiums and taxes on income and wealth