

Agricultural Economic Report 2010 of the Netherlands

Summary



LEI

WAGENINGEN UR

Agricultural Economic Report 2010 of the Netherlands

Summary



LEI

WAGENINGEN UR

Agricultural Economic Report 2010
Report 2010-054
Agricultural Economics Research Institute
P.O.Box 29703, 2502 LS The Hague
The Netherlands
Telephone: +31 70 3358330
Fax: +31 70 3615624
E-mail: informatie.lei@wur.nl

www.lei.wur.nl

ISSN 0924-0764
Price € 9,-

July 2010

ABSTRACT

AGRICULTURAL ECONOMIC REPORT 2010 OF THE NETHERLANDS: SUMMARY

P. Berkhout & C. van Bruchem (eds.)

The Hague, Agricultural Economics Research Institute (LEI), 2010

ISSN 0924-0764

32 p., 1 fig., 6 tab.

This report offers an English summary of the Landbouw-Economisch Bericht 2010. It presents a survey of the economic state of Dutch agribusiness. First, attention is paid to general economic and political developments and to the development of the agricultural complex. Next, the report deals with the rural area and with environmental issues. Following a description of the production structure and production factors in agriculture, profitability and income formation in the various sub sectors are analysed.

Design and production: The KEY Agency, Amsterdam

Preface

This summary of the Landbouw-Economisch Bericht 2010 offers a global survey of the economic and financial state of Dutch agriculture and horticulture. In it, the changing economic and political circumstances affecting the sector are explicitly taken into account. The outline of the publication is similar to previous years, special attention is paid to the consequences of the outbreak of Q fever for the sector involved.

The complete report, which is available only in Dutch, is based on data and contributions from the various research fields of the institute. The report has been coordinated and edited by the International Policy research field. The final draft of the 2010 Dutch edition of the report was completed in May 2010.

The Hague, July 2010

The Director,

A handwritten signature in blue ink, consisting of the letters 'R', 'B', and 'M' in a stylized, cursive font, followed by a horizontal line.

Prof. dr. ir. R.B.M. Huirne

Contents

1. THE INTERNATIONAL CONTEXT OF THE DUTCH AGRICULTURAL SECTOR	1
1.1 Global economic developments	1
1.2 General policy in the Netherlands	2
2. DEVELOPMENTS IN THE DUTCH AGRICULTURAL CHAINS	4
2.1 The agricultural complex and food industry	4
2.2 Mergers and takeovers	5
2.3 Export and import	7
2.4 Retail and consumption	7
3. COUNTRYSIDE, LANDSCAPE, NATURE AND THE ENVIRONMENT	11
3.1 Population development in the countryside	11
3.2 Landscape and nature policy	11
3.3 Agriculture and the environment	13
3.4 Agriculture as energy producer	16
4. STRUCTURE OF THE PRIMARY AGRICULTURE AND HORTICULTURE SECTOR	18
4.1 Number of holdings and employees	18
4.2 Land and capital	20
4.3 Animal health and animal welfare	20
Q fever and and milk goat farms	22
5. PRODUCTION AND INCOME DEVELOPMENT	23
5.1 Production and income development in the agricultural and horticultural sector	23
5.2 The results of the average agricultural and horticultural holding	23
DEFINITIONS	28

The international context of the Dutch agricultural sector



1.1 GLOBAL ECONOMIC DEVELOPMENTS

The development of the global economy in 2009 was influenced by the credit crunch and the subsequent recession, the most serious since the 1930s. In order to tackle the recession, the G20 countries, led by the US, quickly announced major incentive plans. In 2008, the financial crisis led to an injection amounting to 0.5% of the global GDP. This money was mainly intended to stabilise the financial system (save the banks), but did not lead to an immediate increase in demand. The IMF estimated that an incentive of around 1.5% of the GDP was given in 2009. These incentive measures seem to have helped the global economy recover relatively swiftly. In the second half of 2009, there was an unexpectedly fast upturn. The lowest point of the global economic crisis seems to be behind us; growth was forecast again for 2010. Another package of measures is planned for 2010 amounting to 1.5% of the GDP. In view of the continuing fragility of the recovery in western countries, this support, mainly aimed at stimulating demand, is still welcome.

Although the incentive programme managed to prevent a Keynesian recession in the short term, it creates a problem for the medium term. Less government revenue (taxation) resulting from the lower GDP and the extra expenditure has resulted in quickly mounting deficits in the budget. For the highly developed economies, the deficits will rise to around 9% of the GDP; if policy remains unchanged, the national debt will average more than 100% of the GDP in 2014. The mounting government deficits constitute a mortgage which will have to be paid off in the coming years and which may have an impact on economic growth. In the medium term, the recovery of the government finances is therefore the main macro-economic and political challenge.

Europe

The growth of the euro zone fell in 2009 to -4.1% compared with 0.6% in the previous year. For 2010, a modest growth of 1.0% is predicted. In 2011, the economy is expected to continue its recovery. Within the EU, economic recovery is taking place at different rates. In Germany and France, the recovery is going relatively well. In other countries like Greece, Spain and also Ireland, however, there is little evidence of growth. Inflation forecasts remain low. Unemployment is expected to rise again this year. This time-lag in unemployment is not unusual. Similarly high unemployment is also predicted in 2011. Before the effect of economic recovery is clearly reflected in the labour market, we will be into 2012.

Recently, major budgetary problems came to light in Greece. Long concealed budget deficits and a lack of willingness to reduce these deficits meant that the country was no longer creditworthy. Bankruptcy loomed, with the risk that the rest of the EU would sink with it. A rescue plan was therefore prepared allowing Greece to borrow money at a relatively low interest rate. This is possible because reliable countries like Germany and France can attract the money at a low interest rate on the capital market. Countries like Spain and Portugal are also on the danger list; a broadly based rescue plan has therefore been set up whereby the EU and the IMF have declared themselves prepared to stand surety for a total of 720 billion euros. On the other hand, there is a hard obligation to drastically restructure the government finances, to which Spain and Portugal have also agreed. The necessity to put the government finances in order may lead to a decline in demand. Particularly in Greece, Spain and Portugal, there is little scope to subtly keep the balance between decline in demand and a long-term healthy government budget. Thus the budgetary problems of the southern European countries in particular constitute a great danger to Europe's fragile economic recovery.

The Netherlands

For the Dutch economy, with a 4% shrink in the economy, 2009 was a dramatic year. There has not been such a substantial contraction since the great depression of the 1930s. The economy failed to grow since the second quarter of 2008 and the Dutch economy landed in a recession which also determined the situation in 2009. For 2010, however, growth is expected again (1.5%).

The Dutch economy has suffered a considerable downturn as a result of the international credit crunch, partly on account of the relatively large financial sector in the Netherlands. The continued effect on the real economy, however, is mainly via the global trade channel. For a small open economy like that in the Netherlands, the decline in the relevant global trade in 2009 of around 13% was a great negative shock. Roughly a third of the Dutch GDP is directly or indirectly affected by international developments. For this year, an increase in the relevant global trade of 7.5% is expected. Thus the development of global trade contributes to the economic recovery. Dutch exports will therefore increase by an estimated 8% as a result of the upturn in global trade.

1.2 GENERAL POLICY IN THE NETHERLANDS

General political situation

In early spring 2010, when the government was in the middle of implementing the incentive measures aimed at averting the economic crisis, the Balkenende IV cabinet collapsed. On 20 February, after nearly three years in office, there were irreconcilable differences of opinion regarding Dutch military involvement in the Afghan province of Uruzgan after 2010. On 23 February, the government announced its intention to hold elections.

These duly took place on 9 June 2010, the results of which will lead to major shifts in the political arena. It will not be easy to form a majority coalition because that would require around four parties from both the left and right of the political spectrum.

This new government will immediately face a huge challenge. The Netherlands will need to make cuts in the long term of around 29 billion euros to curb the national debt and ensure that the country can fulfil the requirements of the European Stability and Growth Pact. For the coming government term until 2015, this means savings of between 15 and 18 billion euros.

Agriculture, nature and food quality in 2010

In its policy presentation for 2010, the Ministry of Agriculture, Nature and Food Quality divides its policy into four areas: Sustainable production; Knowledge and innovation; Food, animal and consumer; Nature, landscape and the rural environment. Within the Sustainable production domain, in 2010 extra attention will be devoted to improving sustainability in the fishery sector, whereby the Ministry plays a stimulating role with financial contributions for technological innovation and promoting innovation, entrepreneurship and partnership. In greenhouse horticulture, too, the Ministry stimulates sustainability and notably energy efficiency. In a global and EU context, the Ministry wants to play a leading role in tackling global deforestation. Within the Knowledge and innovation domain, the biggest item in the Ministry's budget, the Ministry wishes to ensure that green education is better aligned to the labour market. As part of cabinet measures to avert the economic crisis, as in 2009 the Ministry will earmark money in 2010 for the accelerated development of sustainable stalls and air washers in livestock farming. In the Food, animal and consumer domain, sustainability also plays a major role, as seen in the *Policy Document Sustainable Food and the Policy Agenda Sustainable Food Systems*. In 2010, biodiversity is an important theme in the Nature, landscape and rural environment domain. This year, in the framework of the Convention of Organic Diversity, the situation regarding the reduction of the decline in biodiversity will be assessed. This coincides with a *mid-term review* of the implementation of the goals of the Rural Area Investment Budget (ILG), which also includes the National Ecological Network (NEN).

Developments in the Dutch agricultural chains



2

2.1 THE AGRICULTURAL COMPLEX AND FOOD INDUSTRY

In 2008, the entirety of economic activities associated with agriculture and food - the agricultural complex - corresponded to a little less than 10% of the total national added value and national employment (Table 1). Just over half of these activities are, to a greater or lesser extent, directly related to agriculture and horticulture in the Netherlands. The remainder relates to horticulturists, forestry and the supply and distribution of international raw materials. Employment offered by the agricultural complex, as based on national raw materials, decreased to 386,000 working years between 2001 and 2008. Pasture-based livestock farming is the largest sub-complex within the agricultural complex based on national raw materials; this complex' contribution to added value of the agricultural complex based on national raw materials is about 30%, whilst its contribution to employment is more than 35%.

A substantial part of the operations in the agricultural production column is related to export. The significance of this export to the added value of and employment in the total agricultural complex was about 65% in the period from 2001 to 2008.

The production of agriculture and horticulture and the food and beverages industry is closely linked to other sectors in the economy. In 2008, for example, 40% of the total agricultural production value based on national raw materials was used as input for the food and beverages industry. In addition, the production from agribusiness is scarcely possible without the supply of raw materials to the sector. This concerns products such as cattle feed, the building of greenhouses and stalls, packaging materials, gas and electricity, financial and business services. In 2008, the suppliers contributed 10.6 billion euros to the added value of the agricultural complex based on national raw materials, a growth of 30% compared to the value in 2001 (8.1 billion euros). This far exceeds the growth of the total agricultural complex based on national raw materials in this period (25%).

The food and beverages industry had 4,105 businesses in 2007, all involved in some way in the production and sale of food and beverages. The industry has over 132,000 employees and a turnover of almost 62.1 billion euros. Only 180 businesses in the food and beverages industry have 100 or more employees. In 2007, these businesses achieved a turnover of over 47 billion euros. This means that over 4% of the number of businesses accounted for three quarters of the turnover in the food and beverages industry. The first big takeovers have already taken place at the start of 2010. For example, the

Table 1 Gross value added and employment of the Dutch agricultural complex, 2001 and 2008				
	Gross value added ^a (EUR billion)		Employment (1,000 labour units)	
	2001	2008 (p)	2001	2008 (p)
Agricultural complex ^b	40.5	50.4	717	685
<i>Share in national total</i>	10.2%	9.5%	10.8%	10.0%
Gardening, agricultural services and forestry	3.7	4.7	75	69
<i>Share in national total</i>	0.9%	0.9%	1.1%	1.0%
Foreign agricultural raw materials	15.3	20.4	226	230
<i>Share in national total</i>	3.8%	3.9%	3.4%	3.4%
Processing industry	6.6	8.9	73	67
Supply	4.0	5.2	69	71
Distribution	4.7	6.3	84	92
Agricultural complex (based on domestic agricultural raw materials)	21.5	25.4	416	386
<i>Share in national total</i>	5.4%	4.8%	6.2%	5.7%
Agriculture and horticulture	7.6	6.9	184	165
Processing industry	3.2	4.6	50	39
Input manufacturing	8.1	10.6	137	131
Distribution	2.6	3.3	45	51

p.: preliminary.

a In current prices;
b based on domestic and foreign agricultural raw materials (including gardening, agricultural services, forestry, cocoa, alcohol and tobacco).

N.B. Due to the revision of the National Accounting Convention and methodological changes, the figures cannot be compared against previously published data.

Source: LEI.

2.2 MERGERS AND TAKEOVERS

The direct investments which foreign concerns made in the Dutch food and beverages industry amounted to 44.4 billion euros in 2008, a 2.5% decline compared to 2007. US companies accounted for 57% of the investments, followed by France (30%) and the UK (7%). Dutch companies invested nearly 51 billion euros in foreign companies in 2008, a rise of 23% as compared to 2007. Close to two thirds (65%) of the investments were within the European Union. The US is the largest market outside the EU.

The total number of mergers and takeovers declined even more strongly in 2009 than in 2008, the year in which the financial crisis unfolded. Due to the favourable economic circumstances, the number of mergers rose steadily until 2007. It is possible that 2010 will break the downwards spiral.

American company Kraft bought the English chocolate Cadbury and the Dutch company Heineken was successful in Mexico, taking over the beer division of the Fomento Económico Mexicano, S.A.B. de C.V (FEMSA) beverages conglomerate.

The Dutch agricultural cooperatives Cehave Landbouwbelaang and Agrifirm have indicated their desire to merge. The merger partners date back to the early twentieth century and the end of the 19th century respectively. Both cooperatives are particularly strong in animal feed. Cehave Landbouwbelaang has around 6,000 Dutch members and produces animal feed in the Netherlands, Belgium, Germany, Hungary, Poland and China. With 2,100 employees, Cehave Landbouwbelaang achieves an annual turnover of 1.2 billion euros. Agrifirm has 15,000 Dutch farmers as members. The business operates in the Netherlands and Germany and its annual turnover amounts to 900 million euros, achieved by 1,050 employees. The Netherlands Competition Authority (NMa) has yet to make an official statement. No consent is required from the European Commission because the joint turnover does not exceed 5 billion euros. If the merger does take place, it will result in a concern with a market share in the Netherlands of around 25%. In Europe, it will be the fourth biggest manufacturer of animal feed.

The biggest player on the European market for animal feed, and the number three in the world, is the Dutch company Nutreco. Last year, this concern made the headlines by acquiring the animal feed activities of the American concern Cargill in Spain and Portugal. This concerned 12 compound feed production companies with a joint production volume of 700,000 tonnes and an annual turnover of 240 million euros. Thus Nutreco was able to further reinforce its already good position on the Iberian Peninsula. With a total production of around 9 million tonnes of animal feed, Nutreco has a share of 1.3% of the strongly fragmented global market, which is over 700 million tonnes. The 10 biggest manufacturers of animal feed in the world 'only' have a joint market share of around 15%.

Further concentration in veal sector

In the veal sector too, the concentration goes further. The VanDrie Group, the world's biggest supplier of veal, is buying its rival Alpuro Group from Uddel. The VanDrie Group is a conglomerate of companies with branches in the Netherlands, France, Italy, Belgium and Germany. The company has an annual turnover of 1.6 billion euros and processes around 550,000 tonnes from 1.4 million calves every year. At European level, VanDrie has a market share of 20%. It offers employment to 1,700 people. Around 1,000 veal farmers look after the calves which are owned by the VanDrie Group. The Alpuro Group has branches in the Netherlands and Italy and works on a contract basis with around 200 affiliated veal farms. With 280 employees, Alpuro generates a turnover of around 240 million euros. The activities of both companies cover virtually the entire chain and relate to the production and wholesale of whey powder, whey concentrate and skimmed milk powder and milk for calves, the purchase of newborn calves and young beef cattle for slaughter and the sale of veal and young beef at home and abroad. The NMa still has to

formally approve the proposed takeover. The takeover of Alpuro by VanDrie will result in a concern with a market share in the Netherlands of around 70%.

2.3 EXPORT AND IMPORT

Total Dutch exports amounted to almost 308 billion euros in 2009, equivalent to a decrease of 17% in comparison with 2008. Total imports decreased by even more, with 18% to 274 billion euros in 2009, as a result of which the trade surplus was almost stable at 34.1 billion euros. The value of agricultural exports and imports decreased much less, the agricultural exports fell with 5% to 60.9 billion euros. Agricultural imports diminished by 9% to 37.7 billion euros. The agricultural trade surplus remained almost unchanged at 23.2 billion euros. The lower import and export values for agricultural products are mainly caused by lower prices for important products.

More than four-fifths of Dutch agricultural exports were destined for the internal EU market in 2009, whilst 61% of the imports originated from one of the other 26 EU member states. Ornamental plants and meat are the major export products (Figure 1).

2.4 RETAIL AND CONSUMPTION

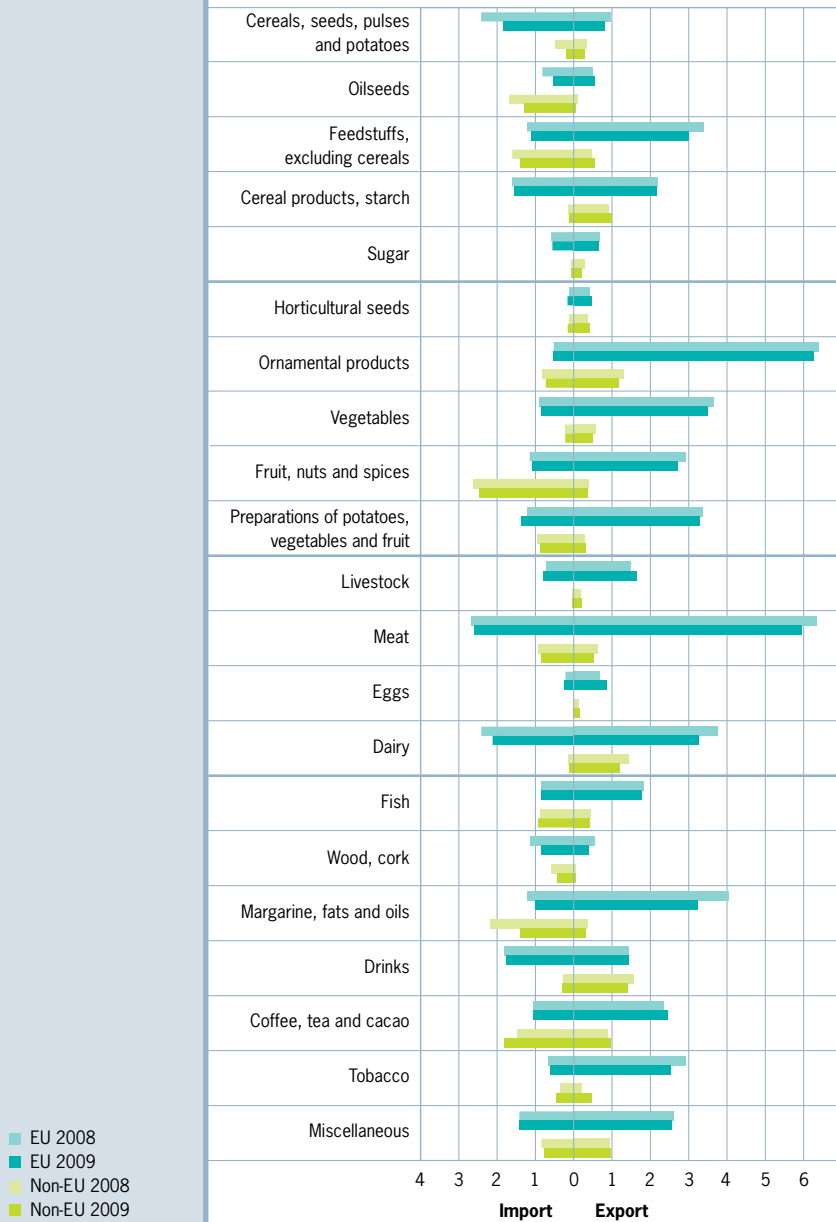
The retail of food and beverages recorded a 0.6% increase in turnover in 2009 as compared to the previous year: prices increased by 2.2%, whilst consumer purchases fell by 1.6%. The supermarkets exhibited a better performance than the total retail sector, with a 1.4% increase in turnover. Prices increased by 2.1% but the volume decreased by 0.7%. Specialist food and beverage outlets had, as in previous years, to settle for less in 2009: they had to be satisfied with a 5% decline in turnover. In so doing, the supermarkets' lead over the specialist stores has increased further. This is also reflected in the still growing number of supermarkets (to 5.730 in 2008). The number of specialist stores is declining, with the exception of stores for organic food.

Further consolidation of supermarket chains

The Netherlands has seven relatively large supermarket chains. Jumbo Supermarkets' takeover of the Super de Boer supermarkets in 2009 seems to be leading the way to a further concentration of the number of supermarket chains in the Netherlands. A further scale increase with regard to supermarkets should strengthen the negotiating power during discussions with producers of food and beverages about conditions and prices at which products can be bought. Strengthening the negotiating power can also be achieved by joining a purchasing organisation. There are currently three strong purchasing parties. With a market share of around 33%, Albert Heijn from the AHOLD group, which buys on behalf of its own stores, is the biggest, followed by purchasing organisation Superunie with a market share of 30%.

Figure 1

Dutch agricultural imports and exports by product with the EU and with third countries, 2007 and 2008 (billion euros)



Source: Statistics Netherlands, calculations by LEI.

The latter buys on behalf of and for its members: fifteen independent supermarket chains which mostly operate regionally. Meanwhile, a new major party has been formed called “Bijeen”, which buys on behalf of the new purchasing organisation of Jumbo Supermarkets and its supermarket chain Super de Boer. This new purchasing organisation accounts for a quarter of the food and beverages market purchasing and was launched at the beginning of January 2010. The three purchasing organisations together account for nearly 90% of the purchase market. The concentration on the purchase side has led to further cooperation between primary producers of greenhouse-grown vegetables, which set up growers’ associations to balance the market power of supermarket chains.

Consumption

Total household spending increased by 3% to almost 272 billion euros in 2008. Expenditure on food and beverages (excluding the hospitality sector) amounted to almost 39 billion euro, a share of 14%. On average, prices for food and beverages rose by 6.5% in 2008. Household spending in the hospitality sector amounted to almost 14 billion euros in 2007.

Dutch consumers spent more than 646.7 million euros on organic products in 2009, an increase of more than 11% as compared to 2008. As a result, the market share of organic products amounted to 2.6% of the total expenditure on food and beverages. This fulfilled the aim to increase turnover in organic food products each year by 10%, as expressed in the Third Covenant Market Development Organic Agriculture, which came into force on 1 January 2008 and which runs for 4 years. The market for organic products has enormous potential if, for example, the 60 to 70% occasional buyers buy more. Many consumers who choose organic food do so for health reasons. They feel that organic food products are healthier than conventional products because they contain fewer additives and chemicals and because of the natural production methods involved.

The market for fair trade products is also growing steadily. Fair trade as a movement originated in the Netherlands. In 1988, the brand Max Havelaar was introduced. It has since developed into a quality mark for products which have been purchased under fair trade principles from sustainably producing cooperatives of small farmers in developing countries. The price paid to these farmers’ organisations for their products is based on the global market price with a minimum price guarantee; on top of that there is a fixed development premium. This enables the organisations to invest in further environmental improvements and social projects like education and healthcare. The certification method applied by Stichting Max Havelaar has been copied in over 20 countries. In the Netherlands, the turnover in 2008 was around 61 million euros, a modest market share (0.25%) but nearly a third more than in 2007. Now around 80 Dutch companies sell fair trade products and most supermarket chains in the Netherlands offer and sell fair trade products.

More people eat less meat

Meat is one of the most environmentally harmful components of our food package. In the Netherlands, too, the environmental impact resulting from rising meat production is regarded as a serious problem. In just half a century, the Dutch consumer has doubled the amount of meat he/she eats. For over a decade, consumption has remained at a stable high level of around 43 kilos of meat. Nearly half of the total consumption of meat (pork, beef and veal, poultry and others) is pork, at around 21 kilos per head of the population. Chicken comes a good second with over 11.5 kilos per head of the population. Beef and veal accounted for around 10 kilos in 2009.

In contrast to the sizeable demand for meat is the modest demand for meat replacements. In 2009, meat replacements were sold to the value of 62 million euros. This is over double compared with the turnover of 27 million euros in 2001, but the market for meat replacements is negligible compared with the billion euro market for meat.

At the same time, there is a considerable group of consumers who don't eat meat on one or more days a week. These are not the 750,000 vegetarians, but 'part-time vegetarians'. Their number is estimated at between 3 and 4 million Dutch people (around one fifth to a quarter of the population). In February 2010, the Dutch House of Representatives adopted a motion which requests the government to draw up a plan aimed at discouraging the Dutch population from eating too much animal protein. Prior to this, at the start of 2010, fourteen social organisations appealed for a trend break in animal consumption by reducing it by at least a third in the next ten years.

The developments and initiatives mentioned above seem to indicate a shift in eating habits, but some caution is required about the extent and speed of the trend break; not only because eating meat is deeply rooted in the eating culture, but also because producers and retailers are even less inclined to sell less. Moreover, demand for meat in the Netherlands has not declined, an ambivalence which cannot yet be explained.

Countryside, landscape, nature and the environment



3.1 POPULATION DEVELOPMENT IN THE COUNTRYSIDE

In all probability, the Dutch population will start to decline over the next few decades. The future population growth (births minus deaths) is fairly easy to calculate and will become negative soon after 2030. The future development of immigration and emigration is much less certain. Assuming a net immigration of around 15,000 people in a year, the population will start to decline around 2040. That decline will progress very slowly, so that the population in 2050 - over 17 million people - will still be bigger than it is now. The pressure on space will therefore not disappear, the more so because this is only partially caused by population growth.

Agricultural working population

Between 2000 and 2009, the number of farms in the Netherlands declined by a quarter and the number of farm labourers declined by 22%. The continued decline in employment in agriculture has meant that the agricultural working population in most country areas has become a very small group: of the 391 municipalities for which data are available, the agricultural sector only provided more than 10% of the working population in 32 municipalities in 2008. This decline in the farming population has also resulted in farmers having less influence on local decisions regarding spatial development, despite the fact that they still own the majority of the land in the countryside. Increasingly, the countryside is regarded more as a living and recreational area and as a nature reserve rather than a production area. This diminished influence is also expressed in the ever increasing restrictions facing farmers.

3.2 LANDSCAPE AND NATURE POLICY

Forest and nature cover over 12% of the surface of the Netherlands. The two main forms of nature conservation are the National Ecological Network (NEN) and Natura 2000. The NEN is particularly aimed at buying nature areas and/or managing them, while Natura 2000 is a statutory protection framework based on the European Birds and Habitat directives. The NEN must ultimately lead to a national network of linked nature areas, while the Natura 2000 areas are part of a European system of nature conservation areas.

The areas involved overlap: nearly all the Natura 2000 areas are also part of the NEN, while around 40% of the NEN land falls under Natura 2000.

The Netherlands has designated 162 areas to be part of Natura 2000. These areas together cover over 1.1 million hectares, 380,000 hectares of which is land and smaller inland waterways. In order to implement the required measures, management plans must be drawn up for each of these areas under the auspices of the provinces. This is done in consultation with the social parties involved. For 150 of the 162 areas, this process has already started. Last year, the provinces had draft management plans for 71 areas, indicating how the Natura 2000 goals can be achieved or problems noted.

The implementation of new nature for the NEN partially occurs through buying land, which is then given to site management organisations like the Forestry Commission, Nature Monuments or the Provincial Landscapes, and partially by subsidising nature conservation by private landowners. The majority of this new nature also needs to be 'rearranged' to make it suitable for nature. Over half of the required land has now been bought, but the acquisition of new land is taking time (Table 2). In order to achieve the target, 4,000 to 5,000 hectares will have to be purchased every year. Moreover, only 40% of the land is acquired in the appropriate place; the rest is exchanged land. According to the Ministry of Agriculture, Nature and Food Quality, at the end of 2008 there was nearly 13,500 hectares exchanged land. The rearrangement of already purchased land goes faster, although still too slowly to achieve the target. There is therefore not a great chance that the new ecological network will be achieved in 2018.

	Target	Progress up to 1-1-2008	Progress in 2008	Remaining (1-1-2009)	Target year
Existing nature	453,500	-	-		
Nature to acquire	275,000	144,355	824	129,821	
through purchase	130,444	98,355	2,824	29,265	2015
management by farmers	97,700	39,000	-2,000	60,700	2018
management by others	42,800	7,000	-	35,800	2018
<i>To be rearranged</i>	176,715	53,593	3,883	119,239	2018
Total	728,500				2018

Source: LNV.

Area under agricultural nature conservation shrinks

Participation in private nature conservation is progressing with difficulty: there is no increase in the number of landowners, while the participation of farmers has in fact declined. In 2010, there will probably be even less agricultural land under agricultural nature conservation because the majority of the management agreements via the agricultural nature associations ended on 31 December 2009.

In the face of waning interest, a number of factors play a role. Firstly, the process for establishing payments only takes into account the current loss of revenue, whilst agricultural productivity is constantly increasing. Agricultural production may be cheaper than nature conservation, for example. Secondly, supporting policy sometimes changes during the contract period, making the existing package less favourable. An example is the shift from voluntary and subsidised nature conservation to obligatory cross-compliance. Thirdly, there are fewer 'light' packages for agricultural nature conservation because they are found to be less effective, while the heavier packages are less interesting for farmers.

Grant system for nature and landscape management

The new grant system for nature and landscape management by farmers (SNL) started on 1 January 2010. The new system involves more intensive meadow bird management, creating a mosaic of meadow bird management by means of a collective plan. This kind of collective plan is a condition for subsidising agricultural nature conservation for meadow birds based on grassland packages. Due to the new management grant regulation, agricultural nature associations expect that in future farmers will be less inclined to participate in agricultural nature conservation and that the amount of nature area covered by agricultural nature conservation will decline further. The more stringent demands from 2010 for meadow bird management are regarded as the main cause for this expected decline.

3.3 AGRICULTURE AND THE ENVIRONMENT

The environmental load imposed by the Dutch agricultural sector has decreased substantially since the mid 1980s, despite the growth of production. This applies to the surplus of minerals, ammoniac emissions, the use of pesticides and greenhouse gases. In recent years, improvement seems to have slowed down. The reduction of the environmental load was accompanied by increasing environmental costs for the sector that reached a peak in 2002. The costs have declined in the years since then, but have reached a new high in 2007 with 740 million euro. For the larger part the rise is related to the costs for manure, which have doubled to around 300 million euro.

Crop protection agents

The use of chemical agents has increased slightly in recent years, but seems to be on a downward trend again (see Table 3). It should be noted that changes in actual use are partly caused by weather conditions, a relatively 'wet' year like 2007 leads to a higher use. Although the use of chemical agents increased in the 2001-2006 period, the environmental impact on the soil and the ground water diminished as old agents with a high environmental impact were replaced by newer, more environmentally-friendly agents.

It is not yet certain whether all the targets specified in the *Sustainable Crop Protection Covenant* - concluded between the authorities and the business community in 2003 - will be achieved in 2010. One of the targets, a reduction of the environmental impact of the surface water by 95% in 2010 compared to 1998, seems unattainable. The current reduction is around 85%. It is not yet clear what the consequences will be if the goals of the Covenant are not met.

Table 3 Development of the environmental impact of agriculture and horticulture, 1995-2008

	1995	2000	2004	2005	2007	2008 (p)
Use of crop protection agents (in million kg of active substance)	12.61	11.38	10.66	10.7	12.09	10.77
Greenhouse gas emissions (in billion kg CO ₂ equivalents)	33.2	29.1	27.1	27.0	27.0	29.6
Supply of nitrogen (N, kg per hectare)	472	394	351	344	332	336
Supply of phosphates (P ₂ O ₅ , kg per hectare)	140	125	102	108	96	97
Ammonia emissions (in million kg)	179	139	120	121	120	115

p: preliminary.

Sources: Plant Protection Service; RIVM/CBS (Statistics Netherlands), Milieucompendium, various years.

Greenhouse gas emissions and energy

During the period from 1995 to 2005, the agricultural sector's emissions of greenhouse gases were reduced by over 20%, although the reduction was small in the past couple of years. This decline related to each of the three 'agricultural' greenhouse gases, although the reduction of nitrous oxide - primarily originating from manure and fertiliser - made the greatest contribution. This was primarily due to the manure policy. The reduction of methane emissions, primarily released by ruminants, is largely due to the reduction of the number of livestock. The decrease in CO₂ emissions, primarily originating from the greenhouse horticulture sector, is largely due to energy-conservation measures.

With the significant decline in greenhouse gas emissions in the rest of the economy, partly due to the economic stagnation, the share of agriculture and horticulture rose slightly in recent years, contrary to the situation before 2003. The national emissions are measured here according to the Kyoto definitions, whereby international aviation and shipping are not taken into account. If the increasing emissions of these sectors were to be included, the total national emissions would be more or less stable.

The targets relating to greenhouse gas emissions for the agricultural sector have been adopted in the *Clean and Efficient Agricultural Sector Covenant* concluded in 2008. The covenant describes the work of the agricultural sector up to 2020. This concerns energy savings, emission reductions, energy efficiency and energy production (see §3.4). In 2020, the emissions caused by direct energy consumption by arable farming, open field horticulture and livestock farming must be 60% lower than in 1990 according to the covenant.

A large part of this target may well have been achieved already. In 1990, the direct energy consumption of the sectors mentioned was estimated at around 48 PJ, while an estimate for 2007 comes out at 22 to 23 PJ. That means a reduction by just 45%, most of which was achieved after 2000. The agreed target on this point is thus feasible.

The *Clean and Efficient Agricultural Sector Covenant* stipulates that in 2020 the agricultural sector will have reduced its greenhouse emissions by 30% from the level in 1990. In addition, the share of renewable energy in the total energy consumption must rise from around 3% now to 20%. It would appear that major efforts will be required to achieve the 30% reduction target. Greenhouse gas emissions in agriculture and horticulture have not declined any more in recent years. Furthermore, according to current plans, by 2015 both the milk quota and the animal production rights (which restrict the numbers of pigs and poultry) will end. This may result in an expansion in livestock farming and thus in principle to an increase in greenhouse gases.

In the *Greenhouse Horticulture and Environment Covenant* concluded in 1997, it was also agreed that the energy efficiency in this sector has improved in 2010 by 65% compared with 1980. In 2008, the improvement was already 70%, so that this target has already been reached. The target adopted in the *Agricultural Covenant* of 72% in 2020 is within reach.

Manure and mineral production

Dutch manure production reached a peak of about 95 million tonnes in the mid 1980s. Thereafter, the amount declined gradually to just under 70 million tonnes due to the milk quotas and the manure policy. Manure production has fluctuated around this level in the past five years, but seems to increase slightly again due to the growth of livestock. The mineral surpluses show the same trend. Although the mineral surpluses have decreased substantially since the 1980s, the decrease has slowed down in recent years. At the same time, the concentration of nitrate in groundwater exhibited a decreasing trend, and is approaching the relevant target of the EU Nitrate Directive. The phosphate targets are much more difficult to achieve, since a large amount of phosphate has accumulated in the soil during the past decades. It is expected that there is around 4,700 kg phosphate in an average hectare of agricultural land in the Netherlands. This can cause an excessively high level of phosphate in surface water. Particularly in the sandy areas, a considerable amount of land is saturated by phosphate.

Ammonia emissions have approximately halved since the mid 1980s, largely due to the compulsory low-emission application of manure, contraction of the number of livestock and dairy cows, changes in the composition of animal feed and, in recent years, the introduction of low-emission stalls. Ammonia emissions have not declined further in recent years: the emissions fluctuate around a level of 120 million kg, of which some 50 million kg originate from dairy cows. Preliminary figures for 2008 point at an emission of 115 million kg.

Although the achievement of the target for 2010 would appear to be feasible (emissions of a maximum of 114 million kg) the achievement of further reduction targets will probably be more difficult.

Fine particles

The total national emissions of fine particles declined from around 75 million kg in 1990 to 37 million kg in 2008, but it has subsequently not decreased much more. In contrast, with 9.5 million kg in 2008, emissions from the agricultural sector were slightly higher than in 1990 (9.0 million kg). At the start of this century, emissions from agriculture were lower (8.5 million kg in 2005), but this was partially related to the outbreak of avian flu in 2003. This caused a significant decline in the numbers of poultry and they account for nearly 60% of fine particle emissions from the agricultural sector. Pig farming has a share of nearly 30%. These percentages indicate that the fine particle problem in the agricultural sector is concentrated in regions where there are many farmed chickens and pigs. The switch from battery to free-range housing in poultry farming, which must be completed 2011, has exacerbated the fine particle problem.

3.4 **AGRICULTURE AS ENERGY PRODUCER**

Agriculture can contribute to the production of sustainable energy in various ways. Some of these are closely linked to the primary production process, such as the cultivation of crops for bio-energy, manure fermentation or waste combustion. Other possibilities are separate from agricultural production as such, for example wind turbines or solar cells on stall roofs.

In 2008, wind energy was the main form of sustainable energy with a share of 30%, followed by burning of biomass in power plants (20%), bio fuels in traffic (14%) and biomass in waste treatment plants (13%). In total, around 63% of the sustainable energy was produced from biomass. Incidentally, question marks are increasingly being placed against the degree of sustainability resulting from the use of bio fuels for energy production. These doubts have since led to the decision to reduce the target for 2010 to incorporate bio fuels in petrol and diesel in the Netherlands from 5.75% to 4%.

Biogas

Of the total production of sustainable energy from biomass which was over 71,600 TJ in 2008, nearly 4% came from biogas plants on farms. Of the rest, including bio fuels and biomass used in power plants or in waste treatment plants, a considerable amount naturally also came directly or indirectly from the agricultural sector. There were nearly 80 farms with a biogas plant in 2008, double the number two years previously. The strong growth was partly associated with the grant granted to the electricity produced.

Wind energy

The number of wind turbines soared in recent years, with nearly 2000 at the end of 2008. Around 35% of these were in 'agricultural hands'. In 2007, there were over 460 farms with one or more wind turbines. For 80%, these were in total or partial ownership, while the rest were on leased land. In addition, farmers participate in larger collective wind energy projects.

Because the wind turbines on farms are smaller than average, the share of agriculture in the production of wind energy is estimated at 30%. The estimated annual yield from the wind turbines is between 20,000 and 30,000 euros. Social opposition to the turbines seems to be increasing on account of their impact on the landscape. This could lead to further restrictions in the number of locations where wind turbines may be erected.

Structure of the primary agriculture and horticulture sector

4.1 NUMBER OF HOLDINGS AND EMPLOYEES

The number of registered agricultural and horticultural holdings with a size of at least 3 dsu (Dutch size units) decreased by approximately 2,100 in the past year, a decrease of 2.9% (Table 4). This is slightly beneath the average annual decline since the turn of the century (3.2%).

The decline in the number of greenhouse horticulture holdings continued at unabated pace (-7.7%). This is in part due to the fierce competition in horticulture markets, the restructuring of the sector and the bad results these past years.

Table 4 Development of number of holdings, number of workers and area of farmland, 1990-2008

	1990	2000	2005	2008	2009(p)	Change (%) 2008-2009
Number of agricultural and horticultural farms (x 1,000)	124,903	97,483	81,330	75,152	73,008	-2.9
Number of workers ^a (x 1,000)	288.3	280.9	235.7	227.0	218.0	-3.8
Area of farmland (x 1,000 ha)	2,005.6	1,955.5	1,922.5	1,929.3	1,917.5	-0.3

a Excluding the workers who do not work on a regular basis.

Source: CBS (Statistics Netherland) agricultural census, processed by LEI.

Consequences of the economic crisis for agriculture and horticulture

Partly as a result of the economic crisis, many holdings saw their revenue fall to a very low level or even go into the red. Particularly in the horticultural sector, many holdings faced liquidity or payment problems. During the course of 2009, the Ministry of Agriculture, Nature and Food Quality joined forces with the banks to introduce a guarantee scheme for operating capital to enable entrepreneurs to continue doing business. Subject to a number of conditions, this scheme provides for a loan amounting to a maximum of 850,000 euros. The scheme is not intended for refinancing existing debts, so cannot be regarded as a resource for all businesses which have landed in financial problems.

Forced winding up of businesses in the form of bankruptcy is still a marginal phenomenon in agriculture and horticulture. For example, since the turn of the century there have been a total of 500 bankruptcies, just over 2% of the decline in the total number of holdings. In the second half of 2009, the number of bankruptcies rose quite sharply to

nearly 100, double the number in 2008. Also for the sector which came under most pressure, horticulture, there were only a fairly limited number of business terminations (in total nearly 400 in a year) in the form of a bankruptcy.

Future business organisation

For the coming years, ongoing scale increases are expected. Until 2020, the total number of agricultural and horticultural holdings in the Netherlands is expected to reduce to below 50,000, more than 30% fewer than in 2009. Because the margins are also under pressure, some of the entrepreneurs will choose a strategy other than scale increase. Examples are diversification in multifunctional agriculture (broadening the scope), specialisation in niches (thus the creation of added value per unit product) and additional revenue (from the entrepreneur himself or from his partner). This also leads to heterogeneity in the business structure, which is associated with differences in financing, required skills, type of labour and legal business structure. New forms of partnerships will also appear to implement these strategies.

Also in 2020, apart from in horticulture, production will nevertheless tend to take place on family-run businesses. However, the family business will probably have a different character in 2020. Alignment with other links in the agricultural chain will lead to more cooperation in the chain and franchising. The leasing of land and hiring of self-employed people without personnel will occur more frequently. Franchising of land stores and quality marks, which enables the product to distinguish itself with regard to aspects like animal welfare, the environment and quality, meets market needs and facilitates specialisation. The temporary renting of land makes rapid growth possible and offers more flexibility, as was traditionally the case in for instance bulb cultivation.

Scale increase and specialisation also offer potential for more cooperation between farms. For larger farms, covering liability and other risks will become more important and traditional succession more difficult. For larger farms with a complex private limited company structure and partnership, succession becomes even more complicated. For these farms, customised solutions will have to be developed.

Labour

The primary Dutch agriculture and horticulture sector offered jobs to about 218,000 heads of the holdings, other members of the families and permanent employees in 2008, a decrease of 3.8% in comparison with the previous year (Table 4). The total number of jobs (excluding temporary employees) has decreased by more than 25% since 1992. The decline in the number of jobs is at the expense of the jobs available to members of the family: the size of this group has contracted by one-third (78,000 persons) in the period from 1992 to 2008, whilst the number of permanent employees has increased by nearly 10% (5,000 persons). As a result of this development, the family members' share of the total number of jobs fell from 79% in 1992 to 70% in 2009. In addition to family

members and permanent employees, the horticultural sector, in particular, calls in temporary employees such as students, housewives and workers from Central and Eastern Europe. These temporary employees can be employed by the holding or contracted from third parties, usually temporary employment agencies.

Organic farming

Following a number of years of a slight decline in the area allocated to organic farming in the Netherlands, the area increased again in 2009, as in 2008, and is now nearly 52,000 ha. The number of farms has risen to 1,413. Organic farming now has a 2.7% share of the total area of agricultural land in the Netherlands; this share is lower than the EU average of more than 4%.

4.2 **LAND AND CAPITAL**

The area of cultivated land has decreased by approximately 6,600 hectares a year since the turn of the century, an annual decrease of 0.3% (Table 4). 53% of the total more than 1.9 million hectares of cultivated land is now in use as grassland (permanent, temporary and natural grassland), 13% for green maize, 30% for other arable land, 5% for open-field horticulture and 0.5% for greenhouse horticulture, a distribution that differs little from that in 1990.

Following a decline during the period from 2001 to 2004, the agricultural land price increased again considerably in 2009. Since 2006, the price per hectare has risen from 29,500 euros per hectare to 47,000 euros per hectare in 2009. The period when prices rose between 2005 and 2009 was initially associated with excellent operating results in land-based agriculture. However, the unprecedented decline in operating results in dairy farming - the sector which uses two thirds of the agricultural area - in 2009, was not accompanied by a decline in land price. The link between operating results in land-based agriculture and land prices is also difficult to see in the long term. The net added value (revenue minus non-factor costs, i.e. payment for labour and capital) per hectare in arable farming and dairy farming has remained at the same level over the past 30 to 35 years, while land prices soared in the same period. These different developments are related to scale increase in agriculture and in particular the expansion of farm acreage. Although revenue per hectare will probably remain the same, with more land income can still rise.

4.3 **ANIMAL HEALTH AND ANIMAL WELFARE**

Development in numbers of animals

The total number of beef cattle rose again last year, by 2.0% to 3.96 million. The increase in the number of dairy cows was made possible by the expansion of the milk quota in recent years.

After the substantial contraction in the number of pigs and chickens between 2001 and 2003 as a result of two buy-up schemes and the outbreak of avian flu, recovery set in. There are now over 12 million pigs and more than 96 million chickens. Incidentally, the number of pigs and chickens is limited by pig and poultry production rights. Among other grazing animals, the considerable rise in the number of goats is the most striking, from 61 thousand in 1990 to 374 thousand in 2009. In 2009, the number was measured in the spring, so before the culling related to Q fever at the end of 2009/beginning of 2010 (see box).

Several years ago, the Dutch government chose a new welfare and health policy for animals, adopted in the *Policy Document on Animal Welfare* and the *Animal Health National Agenda*; these policy documents are the national implementation of the long-term EU strategies related to animal welfare and animal health. The Netherlands aims to operate in the European vanguard. In December 2009, the Dutch House of Representatives adopted the *Animals Bill*, a framework act with general rules. Pillars of the bill are the intrinsic value of the animal and a general service obligation for people keeping animals. The bill combines various pieces of legislation with respect to animal health and welfare and has been submitted to the Upper House.

The 'State of the Animal

In 2009, the Minister of Agriculture, Nature and Food Quality announced plans to publish an annual *State of the Animal*. This monitoring report, with which the Netherlands is a leader in the EU, will give insight into developments related to animal health and welfare and will be used to assess the impact of the policy in these areas. Based on 25 measuring points, a picture will be sketched of the welfare and health of farmed animals in the Netherlands. Monitoring now mainly focuses on aspects related to the animal's environment. A better environment may improve the chance of better welfare or health, but it is no guarantee for real improvement. However, it is not yet possible to measure the actual improvement of animal welfare and health per animal.

In all ambitions related to animal welfare and animal health, economic feasibility remains important for the government too. For example, research has shown that only 34% of pig farms have the resources to invest in all the government's measures related to the environment and animal welfare which come into force in 2013. The subsequent decline in the number of farms also means a substantial contraction in the number of pigs (possibly by several dozen per cent). In a response to the research, the Minister of Agriculture, Nature and Food Quality concluded that she does not want to get too far ahead in an international context. According to the Minister, Dutch living area norms for piglets and fattening pigs, i.e. 0.3 m² per piglet and 0.8 m² per fattening pig, already make the Netherlands the leader in Europe. The Ministry of Agriculture, Nature and Food Quality has therefore changed its mind about raising norms in the Netherlands to respectively 0.4 m² and 1.0 m² per animal; however the norm of 0.8 m² per animal will also apply to fattening pigs kept in stalls built before 1998.

Q fever

and milk goat farms

In the period from 1998 to 2004, between 11 and 41 cases of Q fever in humans were reported in the Netherlands. In 2009, the number of incidences rose to 2,300. Experts agree that outbreaks of Q fever among humans are linked to large-scale milk goat and milk sheep farming. It has also been shown that more people become ill in the vicinity of the infected farms than further away.

In order to reduce the number of incidences of the illness, a voluntary vaccination programme was introduced for animals in 2008. In 2009 compulsory vaccination against Q fever was introduced in a number of areas for farmers with 50 or more milk sheep and/or milk goats and for farmers with sheep and goats on children's farms, care farms and in zoos. Appeals by patients and the health services for further action nevertheless kept increasing. Because the Q fever bacteria is mainly released during lambing of the infected goats and sheep, in December 2009 a committee of experts advised culling animals presenting the greatest source of risk - pregnant sheep - on the infected farms. This advice was accepted by the government. In addition, all goats and sheep which are kept for milk production in the Netherlands must be vaccinated in 2010. Furthermore, a general breeding and expansion ban, transport restrictions and manure and hygiene measures have been announced.

At the beginning of May 2010, the number of infected farms had risen to 88; the number of culled animals was nearing 50,000. On average, there are 1,200 animals on an infected farm.

At the beginning of March 2010, the costs of indemnification and compensation for culled animals amounted to around 23 million euros. This compensation is to meet loss of revenue resulting from difficulties in restocking the farm. The costs of the programme are estimated to be around 11 million euros for 2010.

Consequences of Q fever for milk goat farming

Goat farming is a relatively small sector in the Netherlands. In 2008, the production value was estimated at 85 million euros, approximately 1% of the total production value of Dutch livestock farming.

The planned package of measures has huge consequences for the milk goat farmers concerned. Although the market value of the culled animals will be compensated and a fixed supplement on top of that, the amount of milk produced on these farms will be much lower in 2010. A large part of the operating costs, such as maintenance and depreciation of buildings, milking stall and milk tank and interest costs will continue, resulting in substantially reduced revenues for this year.

Production and income development



5.1 PRODUCTION AND INCOME DEVELOPMENT IN THE AGRICULTURAL AND HORTICULTURAL SECTOR

The primary Dutch agriculture and horticulture sector's gross production value of 22.8 billion euros in 2009 was almost 5% lower than in 2008. This decrease is primarily due to on average 7.5% lower prices, the production volume increased by 3%. The greatest price decline was for the dairy sector, on average the milk price was 28 euros per 100 kg of milk, the lowest price recorded since the end of the seventies and 25% lower than in 2008. Prices for arable crops were slightly lower than in 2008, with the exception of the onion price that rocketed. The horticultural sector's value decreased slightly due to a higher volume accompanied by much lower prices in comparison to the previous year. In the livestock sector, prices decreased sharply with a greater volume. The production of milk increased due to the expansion of the quota. In the intensive livestock farming sector, the price of pigs was about 10% lower than in 2008. The laying-hen holdings had a particularly good year due to high egg prices. Demand from Germany for eggs was high, as production in Germany diminished following the ban on battery cages.

The production costs diminished by over 4%, especially the costs for feed were lower, on average 15% thanks to lower cereal prices. For other cost items - like energy and fertilizer - the price decreases were less pronounced.

5.2 THE RESULTS OF THE AVERAGE AGRICULTURAL AND HORTICULTURAL HOLDING

The operating income of the average agricultural and horticultural holding was relatively low during the period from 2001 to 2004. A significant improvement was evident in subsequent years, and the average income increased to more than 57,000 euros per holding in 2007. The year 2008 is a turning point, with a sharp decrease of income, a trend which has continued in 2009. The forecasts indicate a sharp decrease in 2009, to about 5,500 euros per farm (Table 5). A rapid decrease of this nature between 2 years has not been seen these past twenty years. The forecasted income level is considerably lower than the income in other periods with lagging results, like the years 1992-1993 and 1999-2000.

Around 90% of the gross returns is comprised of agricultural production. Both subsidies and secondary activities - such as income from diversification operations,

the production of energy, recreation and contract work - account for roughly 5% of total gross returns, although there are major differences between holdings.

Table 5		Results (x 1,000 euros per holding) on the average agricultural and horticultural holding, 2001-2009			
		2001-2005	2007	2008	2009 (r)
Gross returns	(+)	275.5	375.9	395.6	367.6
of which agricultural production		95.2	91.9	90.9	89.9
subsidies (%)		2.8	4.4	4.4	4.8
secondary activities (%) ^a		1.8	3.5	4.6	5.3
Paid costs and depreciations	(-)	239.3	324.6	360.7	363.2
Special benefits and charges	(+)	1.5	-0.9	1.1	1.1
Operating income ^b	(=)	37.7	50.4	36.0	5.5
Idem per unpaid labour force unit		26.3	35.0	24.8	3.8
Income from outside the farm	(+)	11.8	19.7	14.0	18.5
of which labour		5.7	8.8	9.0	9.0
other income		6.1	10.9	6.0	9.5
Total income	(=)	49.5	70.1	50.0	24.0
Taxes	(-)	3.5	8.9	7.2	7.0
Family spending	(-)	37.2	48.0	48.2	47.0
Savings	(=)	8.7	13.1	-5.5	-30.0

a This includes returns from nature management, energy production, contract work, day care and recreation at the farm.

Source: Farm Accountancy Data Network.

5

In addition to operating income, many holdings also have income from outside the farm (such as income from employment, savings, investments and benefits). This income has increased over the years. After the deduction of taxes, the average holding has negative savings in 2009. Savings are necessary to increase the holding's equity and are, in principle, available for investments in expansion. In the years since 1990, 2002 and 2008 were the sole years in which, on average, all holdings drew down on their assets. The year 2009 can be added to this list, on average holdings diminished their assets by 30,000 euros.

Differences in income

The organisation of the holdings - and, consequently, the results and income - varies greatly between holdings. On average, each holding has about 1.4 unpaid annual working units (ALUs). The operating income is usually expressed in terms of euros per unpaid ALU. This approach relates the income to the most important factor, the family input. The (calculated) costs that are taken into account for this input amount to an average of more than 50,000 euros per unpaid ALU. The actual income that is generated varies by year, but on average the income was 32,000 euro per unpaid ALU for the 2006-2008 period.

For the year 2009 the income will be even lower. The agricultural and horticultural sector lags behind with regard to payment level compared with the rest of the economy.

Eighty percent of the holdings receive farm payments

In 2008 80% of farms and horticultural holdings received farm payments, the one in five holdings that do not receive farm payments are mostly horticultural holdings and intensive livestock farms.

Around 5% of the holdings receive farm payments of more than 50,000 euros; on these holdings the payments account for an average of 12% of the gross returns and 62% of the operating income. The majority is a dairy farm. A large number of holdings (32%) received farm payments of a maximum of 10,000 euros. The average income of these holdings is low - about 5,000 euros - and, consequently, is greatly influenced by the income from farm payments.

Fewer farm payments compared with other EU countries

Comparisons between arable farms and dairy farms in a number of EU countries show that the share of farm payments in income per holding is lower in the Netherlands (Table 6). For arable farms, the difference in the share of payments (and also in the payments per hectare) is associated with the more intensive crop plan. The Dutch holdings grow less cereals relatively speaking; in other countries cereals are generally the most important 'payment crop'. The Dutch holdings obtain a greater majority of their income from other crops like seed potatoes and ware potatoes, onions and vegetables. Consequently, the financial revenue per hectare in Dutch arable farming is considerably higher. In the years 2005-2007, the operating income of Dutch arable farmers was clearly higher than that of Danish, German and French colleagues who had more land. Only arable farmers in the UK, with over three times as much land in use, had a higher operating income. For arable farmers in Belgium, who use the same amount of land as their Dutch colleagues, the bigger payments received together with lower paid costs were decisive for achieving a higher operating income than arable farmers in the Netherlands.

For dairy farmers, the lower share of payments in the Netherlands follows from the fact that in other countries, besides the payments based on the original milk premium, higher payments for animals and crops are received. As with arable farming, the difference is related to the structure of the farms. Dutch dairy farms are more specialised in milk production than the dairy farmers in most other EU countries. The higher revenue per 100 kg milk is largely the result of higher revenue from turnover and growth of cattle and sales of marketable crops. The differences between the member states in the share of payments in the revenue are smaller than among the arable farmers, however. The income of Dutch dairy farmers was high between 2005 and 2007 compared with colleagues in surrounding countries, while farms in Denmark and the UK have

considerably higher numbers of dairy cows. In that sense, the Belgian dairy farmers performed particularly well in the years 2005-2007 in relative terms, despite a on average clearly smaller number of dairy cattle than the Netherlands for example.

Table 6		Some indicators of arable farms and dairy farms in a number of EU member states, average per holding, 2005-2007				
	Belgium	Denmark	Germany	France	Netherlands	United Kingdom
Arable farms						
Number of farms	5,240	20,370	41,770	104,350	8,820	28,880
Number of unpaid ALU	1.3	0.7	1.3	1.3	1.3	1.1
Area of farmland	56	65	144	101	55	178
Gross returns (euro per ha)	2,800	2,360	1,800	1,570	4,420	1,620
of which direct payments (%)	14	13	18	22	6	19
Operating income per unpaid ALU	40	18	29	27	37	47
Dairy farms						
Number of farms	6,470	4,750	64,640	54,190	19,800	17,370
Number of unpaid ALU	1.6	1.3	1.5	1.6	1.5	1.6
Number of milkcows	49	111	46	44	71	110
Milkproduction per cow	6,260	8,240	6,970	6,230	7,710	7,060
Gross returns (euro per 100 kg milk)	50.40	45.20	53.60	51.40	44.30	38.70
of which milk (%)	62	69	61	60	73	73
of which direct payments (%)	14	12	17	17	9	12
Operating income per unpaid ALU	37	32	29	19	39	39
Source: EU-FADN Agri L-3.						

5

Farm size affects operating result

The bigger the holdings in the agricultural and horticultural sector, the greater the share of the total costs which are redeemed with revenue. The revenue-cost ratio (or profitability) appears to be higher per type of holding for the bigger holdings than for the smaller holdings. This is therefore an important incentive for scale increase in agriculture and horticulture. Through scale increase, the fixed costs per unit of product tend to be lower; this particularly applies to the farmer's calculated costs of labour. Due to the lower cost price, the farmer on bigger holdings usually receives more compensation for the labour and capital supplied for the farm.

In the years 2006-2008, due to the relatively high prices of cereals, big arable farmers were more than able to cover their costs. On the big dairy farms and horticultural holdings, the revenue covered approximately 100% of the costs. Among pig farmers and horticultural holdings, the differences in profitability between small and large holdings are clearly smaller than among arable and dairy farms. With a smaller turnover and higher solvability, the latter farms can operate with a lower profitability than pig farmers and horticultural holdings.

Moreover, the costs of arable and dairy farming largely consist of calculated (not paid) costs.

The profitability of a farm indicates whether a farm is ultimately profitable or not. For farmers whose business depends on the use of own labour and capital, it may be important to have additional insight into other key figures of the farm. For example, the degree to which the unpaid (or calculated) costs from own labour, land and capital is compensated may be interesting. In the period 2006-2008, such compensation varied considerably among types of farm, even more so than the profitability. In arable farming, on average 80% of the unpaid costs were compensated, in dairy farming over 60%, in horticulture around 45% and in pig farming less than 20%. For all agriculture and horticulture, in 2006-2008 around 50% of the unpaid costs were paid. Such a situation of underpayment cannot be sustained and implies that in the coming years many farms, particularly the smaller ones, will not be taken over.

Definitions

Dutch Size Units (DSU)

A unit describing 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 euro (current prices). On the EU level, the size of farms is not measured in SGM, but in the more workable European Size Units (ESU). DSU is the Dutch variant of the ESU. The DSU is recalculated frequently in such a way that the average farm size in DSU corresponds to the development of the volume of the added value of the average farm. The 2004 DSU has been used in the calendar years 2007 – 2009 and equals a SGM of 1,420 euro. Some examples (on the basis of the DSU 2004): 1 ha winter wheat = 0.81 DSU; 1 ha sugar beet = 1.85 DSU; 1 dairy cow = 1.20 DSU; 1 sow = 0.261 DSU, 1 ha cherry tomatoes under glass = 231 DSU and 1 ha roses = 258 DSU.

Family farm income

Income for the farm family arising from the farm business; this is a remuneration for the labour of all family members as well as the private capital and land.

Gross value added

Gross returns minus purchased goods and services (excluding depreciation).

Net value added

Gross returns minus costs of goods and services purchased from other sectors (including depreciation).

Savings

The part of total income which has not been used for consumption or personal taxes, but is added to net worth.

Total income

Family farm income plus income from non farm activities and social security benefits paid to the farmer and his spouse.

LEI develops economic expertise for government bodies and industry in the field of food, agriculture and the natural environment. By means of independent research, LEI offers its customers a solid basis for socially and strategically justifiable policy choices.

LEI is part of Wageningen UR (University & Research centre), forming the Social Sciences Group with the department of Social Sciences and Wageningen UR Centre for Development Innovation.

More information: www.lei.wur.nl