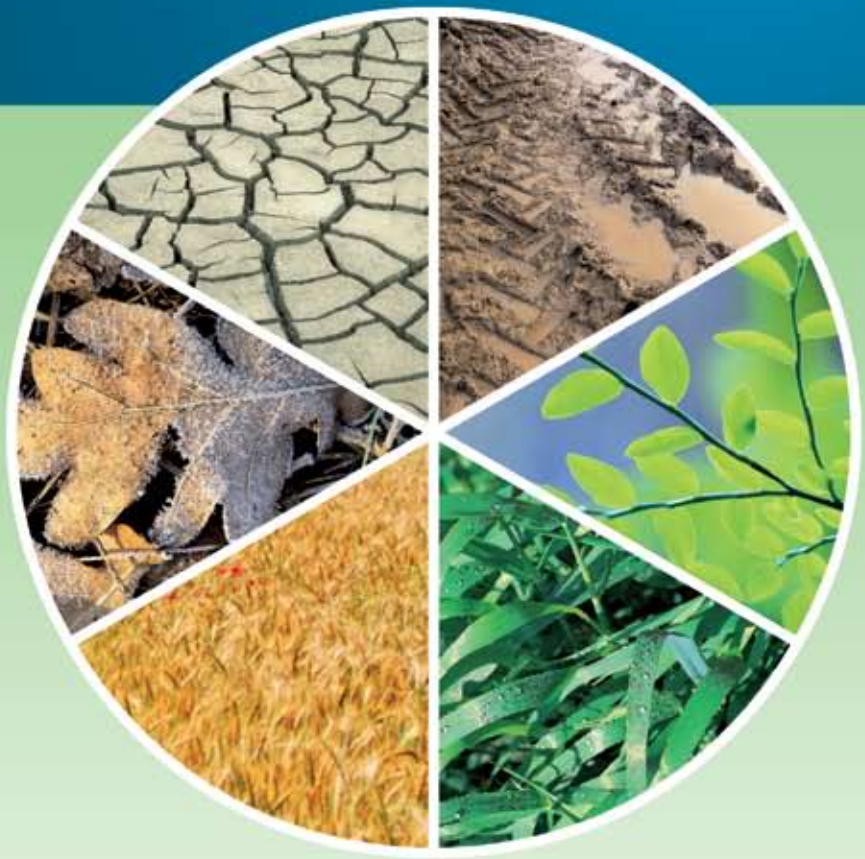
Agricultural Economic Report 2009 of the Netherlands

Summary



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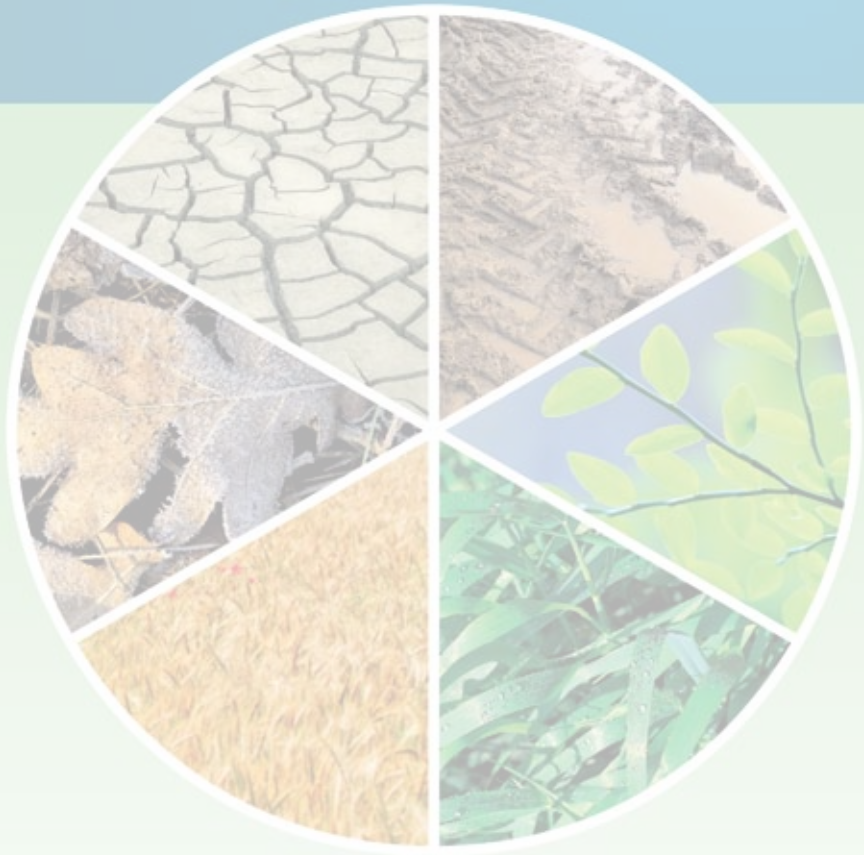

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Report 2009-066
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ISSN 0924-0764
Price € 9,-

August 2009

ABSTRACT

AGRICULTURAL ECONOMIC REPORT 2009 OF THE NETHERLANDS: SUMMARY
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The Hague, Agricultural Economics Research Institute (LEI), 2009
ISSN 0924-0764
32 p., 3 fig., 7 tab.

This report offers an English summary of the *Landbouw-Economisch Bericht 2009*. 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 agricultural sector and sub sectors are analysed.

Design and production: The Key Agency, Amsterdam

Preface

This summary of the *Landbouw-Economisch Bericht 2009* 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.

The complete report, which is available only in Dutch, is based on data and contributions from the three research departments of the Institute. The report has been coordinated and edited by the Public Issues Department. The final draft of the 2009 edition of the report was completed in May 2009.

The Hague, August 2009

The Director,
Prof. dr. ir. R.B.M. Huirne

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The international context of the Dutch agricultural sector

1.1 ECONOMIC DEVELOPMENTS

Last year, the development of the global economy was marked by the credit crisis. The unrest in the financial markets in the second half of 2007 was followed by a serious economic recession during the course of 2008 that spread fairly rapidly. At the end of last year, this resulted in a rapid decline in global expenditure, production and international trade. The 3.1% average rate of economic growth was significantly below the 5% growth recorded in 2006 and 2007. The decline in global trade was not only due to the decrease in the world's economic growth, but also to the reduced availability of export credit as a result of the credit crisis. The exporters of oil and raw materials (such as countries in the Middle East, Russia and Brazil), which had until recently benefited from the large price increases in the international markets, were confronted with the effects of the recession in the form of both declining prices and volumes. The further course of the financial crisis and the economic recession is still unknown. The situation in the financial markets is still difficult and uncertain, whilst the foreign exchange markets are characterised by their great volatility. The incentive measures that have been implemented or are planned have yet to reverse the recession.

Economic growth in the euro area declined in 2008, to 0.7% as compared to 2.7% in the previous year. The volume of Gross Domestic Product (GDP) decreased by 1.5% in the fourth quarter of 2008 as compared to the previous quarter, a development which not only illustrates the rapid deterioration of the economy in 2008, but also its severity: the contraction was the greatest in fifty years. Both production and expenditure declined, and trade and investments decreased.

The year 2008 would appear to be a relatively reasonable year for the Dutch economy, since the national economic growth of 2.0% was well above the average of 0.8% in the euro area. However, the favourable rate of growth was in part due to the 'statistical overflow' of the growth achieved at the end of 2007. Economic activity had actually been contracting since the second quarter of 2008, and in so doing the Dutch economy slipped into recession. Economic prospects deteriorated at record pace during the course of 2008. The Dutch economy has a relatively large financial sector and, consequently, was hit hard by the international credit crisis. However, the knock-on effects on the real economy were primarily felt in the international trade channel: this is a hard blow to a small open economy such as that of the Netherlands. Approximately

one-third of Dutch GDP is directly or indirectly determined by developments outside the country. Forecasts indicate that international trade of relevance to the Netherlands will contract by 9.75% in 2009 and, consequently, the global recession is expected to result in a more than 11% decline in Dutch exports during the year. The poorer sales forecasts and reduced availability of credit will be detrimental to investments.

1.2 PRICES AND PRODUCTION

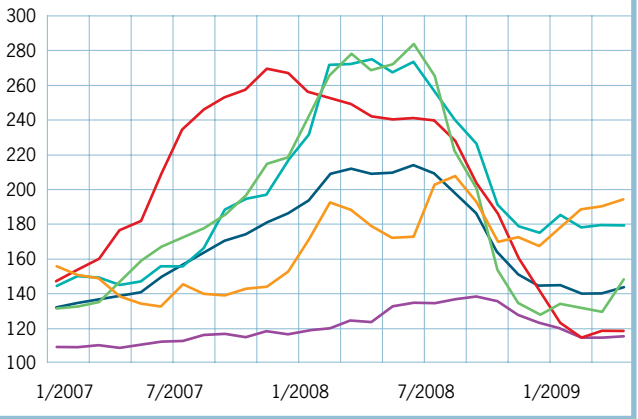
The wild increases in the price of oil and raw materials in 2007 and the beginning of 2008 are history (Figure 1). Substantial decreases in the prices are forecast in 2009, inclusive of the price of food and beverages. During the period from June 2006 to June 2008, the prices of food products (in US dollars) had doubled, but during the following six months they fell by approximately 35% due to factors including the recession and the higher than forecast cereal harvests.

The price of oil reached a record level of almost 110 US dollar per barrel of Brent crude oil in March 2008, with an average of almost 97 US dollar per barrel for the whole of 2008. The price is now about 40 US dollar per barrel, and will probably fluctuate around this level during 2009.

Prices are determined by supply and demand: variations in both result in fluctuations in prices. However, the degree to which world market prices increased in 2007 and 2008 was relatively unique. The high increases were due to the combination of unparalleled low global stocks of cereals, serious disruptions of supplies, extremely high oil prices and a relatively great change in the demand for cereals for the production of biofuels. The

Figure 1

Development monthly food prices [a]



a Index, average 2002-2004 = 100.

Source: FAO.

movement in the prices of agricultural products kept pace with the oil price in the period from 2007 to 2008, although it is certainly a moot point whether this will continue in the long term. The higher energy prices result in increased food production costs and, consequently, in higher food prices.

Production

During the year 2008, the movements in the world cereal market differed greatly from the forecasts for that year. Following the exceptional situation in 2007, with low stocks and extremely high prices, the prices fell sharply in 2008. The supply of cereals increased by more than 5% (Table 1). The increased wheat harvest – a growth of 11% – was particularly striking, although the harvests of feed cereals also reached record levels. The increased harvests were due to an expansion of the area under cultivation, a move which was in response to the high prices in 2007. In the year under review, oil-seed harvests recovered from the low levels in 2007. The harvests of virtually all oil seeds were greater than forecast. The majority of the increase (18 million tonnes) was due to the increased harvest of soya beans, although in relative terms the increase in the harvests of rapeseed and sunflower seed were greater: not only were the areas under cultivation expanded, but the harvests were also increased by the improved weather. Sugar production in 2008 will be lower than in 2007, when production reached record levels. This decrease is primarily due to the sharp decline in supplies in the European Union (EU), India and Pakistan.

Total meat production decreased slightly in 2008 (Table 2). A growth in global meat production is forecast for 2009. Global milk production increased by more than 2% in 2008, and growth of the same magnitude is forecast for 2009, a lower rate of growth than in past years.

Table 1 **World production (mio. ton) selected arable products, 2006-2009**

	2006	2007	2008	2009
Cereals	2,011	2,132	2,289	2,217
wheat	597	610	689	655
coarse grains	985	1,081	1,142	1,100
rice	429	441	459	462
Sugar (raw)	166	170	161	166
Oilseeds	418	404	431	

Source: FAO.

Table 2 World production (mio. ton) selected meat, 2005-2008

	2005	2006	2007	2008
Bovine meat	64.5	65.7	66.4	65.1
Pigmeat	104.1	108.0	103.6	100.8
Ovine meat	13.1	13.5	14.0	14.1
Poultry	82.2	83.1	89.0	92.3

Source: FAO.

Production of biofuels

Global production of biofuels has increased greatly in recent years. The most important biofuels are bio-ethanol, produced primarily from cereals and sugar beet, and biodiesel, produced from vegetable oil such as palm oil and rapeseed oil. Vegetable oil is also used as a fuel as such, usually in mixtures with mineral oil.

The quantity of bio-ethanol, first produced in small quantities in the 1970s, increased slowly until 1985 and then remained static until 2000. Global production of bio-ethanol was estimated to amount to about 30 million m^3 in 2000, and increased to more than 77 million m^3 in 2008. More than three-quarters of this amount was produced in the USA (34 million m^3) and Brazil (26 million m^3). Bio-ethanol production in the USA has almost tripled since 2003, due to the high oil prices and government incentives. These government incentives were primarily introduced with the intention of reducing US dependency on expensive oil imports, in part from politically less stable countries.
In 2003, more than 23% of the US feed cereal harvests (more than 8% of global production) was used to produce biofuels, an amount which will increase to between 35 and 40% (12 to 13% of global production) by around 2015. Political and strategic considerations also play a role in Brazil, a country that began to produce bio-ethanol from sugarcane in an endeavour to limit oil imports following the first oil crisis in 1973. In the EU 4.5 million m^3 of bio-ethanol were produced in 2008, slightly more than in China.

Global production of biodiesel amounted to just 0.7 million tonnes in 2000, and increased to about 2 million tonnes in 2004. In subsequent years production increased rapidly to more than 11 million tonnes in 2008. The EU, which produced 6 million tonnes, accounts for slightly more than half of the global production of biodiesel: about half this amount was produced in Germany. The USA was the second largest producer of biodiesel in 2008, with an output of 2 million tonnes.

The area allocated to the cultivation of crops for the production of biofuels is not known precisely. The area in the USA, EU and Brazil amounts to a total of some 17 million hectares. An estimate based on these countries' share of the global output indicates that between 20 and 25 million hectares are allocated to the cultivation of biofuel crops all over the world, equivalent to about 1.5% of the world's land under cultivation.

1.3 AGRICULTURAL POLICY IN THE EU AND THE NETHERLANDS

The EU Council of Ministers for Agriculture and Fisheries reached agreement on the legislative proposal submitted by the European Commission (EC) for the *Health Check* relating to the Common Agricultural Policy (CAP) in November 2008. The Health Check agreement, a new step in the series of reforms of the CAP, is intended to help farmers be more responsive to market signals and meet new challenges. The Health Check includes agreements for the abolition of milk quotas on 1 April 2015 and, prior to their abolition, for an annual 1% increase in the milk quotas during the period from 2009 to 2013. Income support (by farm payments) provided in the 1st pillar is to be decoupled in 2012. The support provided for nursing cows and ewes is an exception permitted to prevent the disappearance of production and the termination of the use of agricultural land in marginal regions. Member states that now assign farm payments pursuant to the historic model, whereby the payment rights are related to the 2000-2002 reference period, can change over - either in whole or in part - to a regional model in 2010 or thereafter in which the farm payment is based on regional averages.

Since 2005, farm payments in the 1st pillar (market and income policy) have been reduced to make more funds available for the 2nd pillar (rural development policy). This is called modulation. The modulation percentage - amounting to 5% in 2008 - will be increased by 2% in 2009, and by 1% in the period from 2010-2012, to a total of 10% in 2012. The extra budget released for the second pillar is to be allocated to measures to meet new challenges: climate change, water management, green energy and the protection of biodiversity. A milk fund has also been formed that is intended to help dairy farmers in vulnerable regions to adapt to the new market situation following the expansion of the milk quotas.

Finally, it has been decided that as from 2010 the member states will be offered an opportunity to allocate a maximum of 10% of the budget for direct income payments to the provision of support for environmentally-friendly farms, cattle farms in economically or environmentally vulnerable regions, farms in land consolidation projects or other development projects, quality improvements in and the marketing of agricultural products, improving animal welfare, agricultural environmental measures and risk insurance. These so-called 'Article 68 measures' closely resemble the second pillar measures. Article 68 is appealing since the member states are not required to arrange for co-financing: the EU pays the full costs of the measures. In 2010 and 2011, the Netherlands intends to allocate some 22 million euros per annum from what are referred to as the 'unutilised funds' (funds for which payment rights have been issued but not been cashed) to animal and environmentally-friendly stalls, extensive weather insurance, a central database for the registration of sheep and goats, and a sailing allowance for dairy farmers in regions with a great deal of water.

The Dutch Outlook on the CAP

The Dutch Minister of Agriculture, Nature and Food Quality published the *European Agricultural Policy 2020: the Dutch Outlook* in September 2008 in which she explained the Government's vision of the lines of development of the CAP until 2020. The Government is endeavouring to arrive at a market-oriented European agricultural sector which is engaged in competitive, sustainable and safe production. According to the Government, generic income support in the form of the current payments pursuant to the 1st pillar can be phased out, whilst a system of specific payments is required for the social values provided by the agricultural sector. These social values relate both to the maintenance of the landscape, nature and environment in regions of high social value - such as Natura 2000 regions, National Landscapes - and less favoured areas of the EU Directive on mountain and hill farming, as well as to the supply of green and blue services. The Government intends to decouple income support from production in the period until 2013, and then gradually phase out the support in the years from 2014 to 2020. The Government is of the opinion that it can make use of the new Article 68 for the remuneration of social values in as early as 2010.

Agriculture, nature and food quality in 2009

The policy of the Dutch Ministry of Agriculture, Nature and Food Quality for 2009 is focused largely on sustainability. The Ministry has defined three core areas: the green economy; food and consumer; nature, landscape, vegetation and a vital countryside. The attention devoted to sustainability is manifested in forms such as the measures for sustainability in greenhouse horticulture, for animal-friendly stall systems, and for low-energy and selective fishing methods. The Ministry of Agriculture, Nature and Food Quality is coordinating the bio-based economy theme of the Government's *Clean and Efficient* Programme. The bio-based economy theme includes a review of bio-refinery technology suitable for the optimum utilisation of all parts of plants, in particular the non-edible parts. The Ministry of Agriculture, Nature and Food Quality's *Food and Consumer* policy memorandum will contain a detailed specification of the objective of the food policy in which a 'conscious choice' will be assigned a prominent place. The Ministry intends to ensure that consumers are offered an opportunity to make conscious and sustainable choices when buying food. The nature and landscape policy devotes a great deal of attention to the *Landscape Agenda* and to the designation of the 162 Natura 2000 regions in the Netherlands.

The Ministry of Agriculture, Nature and Food Quality introduced an additional package of incentive measures in April 2009 as part of the *Working on the Future* policy agreement of the Dutch Cabinet. This agreement includes an envelope of 50 million euros for a sustainable agricultural sector. The Minister of Agriculture, Nature and Food Quality intends to use these investments to provide incentives for the economy and to make a contribution to the Government's sustainability targets. In 2009 and 2010, twenty million euros will be allocated to the acceleration of the development of and investments in sustainable stalls: an equal amount will be allocated to the development of combined air-scrubbers for the poultry sector. In addition to these two major measures, the Ministry of Agriculture, Nature and Food Quality is also investing in measures such as the plans for an international algae research centre. The Ministry has also allocated 5 million euros to the clearance of horticulture greenhouses distributed throughout the Netherlands.

Developments in the Dutch agricultural chains

2

2.1 THE AGRICULTURAL COMPLEX AND FOOD INDUSTRY

In 2007, 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 3). 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 390,000 working years between 2001 and 2007. 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 2007.

The food and beverages industry was comprised of 4,500 businesses in 2006, all involved in some way in the production and sale of food and beverages. The industry has over 152,000 employees and a turnover of almost 57 billion euros. The number of companies in the sector is decreasing slowly but steadily. Mergers and concentrations have resulted in an 11% decline in the number since 2000. This process is in part due to the aggregation of procurement power at national and European level that has in turn resulted in the supermarket chains taking over power in the chain: they can dictate their conditions to the suppliers. The retail sector is the food and beverage industry's major customer.

Table 3 Gross value added and employment of the Dutch agricultural complex, 2001 and 2007

	Gross value added [a] (EUR billion)		Employment (1,000 labour units)	
	2001	2007 (p)	2001	2007 (p)
Agricultural complex [b]	**40.5**	**47.9**	**717**	**672**
Share in national total	*10.2%*	*9.6%*	*10.8%*	*9.9%*
Gardening, agricultural services and forestry	3.7	4.0	75	64
Share in national total	*0.9%*	*0.8%*	*1.1%*	*0.9%*
Foreign agricultural raw materials	15.3	18.3	226	218
Share in national total	*3.8%*	*3.7%*	*3.4%*	*3.2%*
Processing industry	6.6	7.7	73	65
Supply	4.0	4.9	69	69
Distribution	4.7	5.6	84	84
Agricultural complex (based on domestic agricultural raw materials)	21.5	25.6	416	390
Share in national total	*5.4%*	*5.1%*	*6.2%*	*5.8%*
Agriculture and horticulture	7.6	8.0	184	169
Processing industry	3.2	4.4	50	42
Input manufacturing	8.1	9.9	137	130
Distribution	2.6	3.2	45	50

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 - with the objective of gaining control of the companies - amounted to 45.5 billion euros in 2007, more than 34% above the level in 2006. US companies accounted for half of the investments, namely 22.8 billion euros. France, which invested 13.8 billion euros, was also an important investor. This amount was almost entirely due to the Groupe Danone dairy concern's more than 12 billion euro takeover of Koninklijke Numico in 2007. Dutch companies invested 31.6 billion euros in foreign companies in 2007, as compared to almost 26 billion euros in 2006. More than half the investments (54%) were within the European Union: the most important countries were Belgium and the United Kingdom.

VION seized its opportunity in the United Kingdom in 2008, when it took over the Scottish Grampian company, a food company with production plants in the United Kingdom and Thailand. Grampian is a major supplier of poultry, pork, beef and lamb to the retail trade. On the takeover of Grampian VION, with 22 million slaughtered pigs a year, has become the largest pork concern in Europe, followed by Danish Crown, in Denmark, which slaughters just under 22 million pigs a year. Last year VION slaughtered 8.2 million pigs, 57% of the total, making the concern by far the largest party in the Dutch pork market: Compaxo, the second largest Dutch pig slaughtering company, has a share of 'just' 9%.

Barilla Holding, from Italy, the global market leader in the pasta industry and European market leader in the baking industry, sold Quality Bakers to Bakkersland. Bakkersland, with 1,600 employers and a turnover of 350 million euros, is the major player in the Dutch market for fresh bakery products.

Plukon Royale, the largest poultry slaughterer in the Netherlands and one of the largest in Europe, took over the Dutch-Belgian Flandrex company in 2008. The Plukon Royale Groep slaughters 4 million broilers a week and generated turnover of approximately 600 million euros in 2008. The Storteboom Groep poultry processing concern took over Veenhuizen Pluimvee-verwerking at the beginning of 2009. The Storteboom Groep, with an annual turnover of 450 million euros, is the second largest poultry processer in the Netherlands after Plukon Royale.

The merger between Campina and Friesland Foods proposed in December 2007 has since been completed: the merged dairy concern - Koninklijke FrieslandCampina N.V. - had approximately 21,000 employees generating a turnover of 9.5 billion euros in 2008. The concern, the result of a long series of mergers between cooperatives and takeovers of private companies, is the third largest European dairy concern after Nestlé (Switzerland) and Danone (France). FrieslandCampina processed 11,446 million kg milk in 2008, of which 8,589 million kg was from the 15,837 member dairy farms. The concern has about 100 production plants and sales branches in 25 countries. FrieslandCampina is the third largest food company in the Netherlands in rankings traditionally headed by Unilever and Heineken.

Suiker Unie, a member of Royal Cosun, has considerably expanded its production capacity on the takeover of the Danisco Sugar company of Nordzucker, in Germany. Last year Nordzucker, the second largest sugar producer in Germany and Europe, became interested in a takeover of the sugar division of the Danish Danisco food company. However, the Bundeskartellamt decided that the takeover could be completed only after the sale of the German Danisco company to a third party. The Danisco Sugar company in Anklam generates turnover of 120 million euros and has 135 permanent employees. The sugar quota is 112,000 tonnes. In addition, the company produces approximately 550,000 hectolitres of bio-ethanol from sugar beet. Suiker Unie has a sugar quota of 805,000 tonnes and generates turnover of 650 million euros. When the sugar quota of the newly-acquired German company is taken into account Suiker Unie ranks fifth in the list of the EU's top ten sugar producers. Suiker Unie's market share is 6.8%, as compared to the 23.9% share of the largest European sugar producer, Südzucker in Germany.

2.3 EXPORT, IMPORT, RETAIL AND CONSUMPTION

Total Dutch exports amounted to almost 368 billion euros in 2008, equivalent to a relatively modest 6% increase in comparison with 2007. Total imports increased by 8% to 332 billion euros in 2008, as a result of which the trade surplus decreased by 4.5 billion euros to 35.7 billion euros. Two-thirds of this trade surplus (23.6 billion euros) is attributable to agricultural trade. Since the value of agricultural exports and imports increased by roughly equal amounts in absolute terms in 2008, the agricultural trade surplus remained unchanged for the first time in many years. However, the value of imports increased more rapidly than the value of exports (16% and 10% respectively). In so doing, Dutch agricultural imports amounted to 41 billion euros and exports to more than 64 billion euros in 2008. In contrast to 2007, when the increase in the value of Dutch agricultural exports and imports was primarily due to the growth in the volume of trade, in 2008 the increase in value was due to the greatly increased prices of cereals, oil seeds and the resultant oils, fats and feed raw materials. These products account for a much larger proportion of imports than exports, as a result of which the total value of agricultural imports increased much more than the value of exports.

More than four-fifths of Dutch agricultural exports were destined for the internal EU market in 2008, 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 2). The rapid increase in the export value of feeds and margarine, fats and oils for the EU market is particularly striking, an increase largely due to the higher prices. The value of exports of tobacco and beverages decreased as compared to 2007. Fruit, meat (EU market) and dairy products are important import categories. However, the value of dairy imports declined in comparison with 2007.

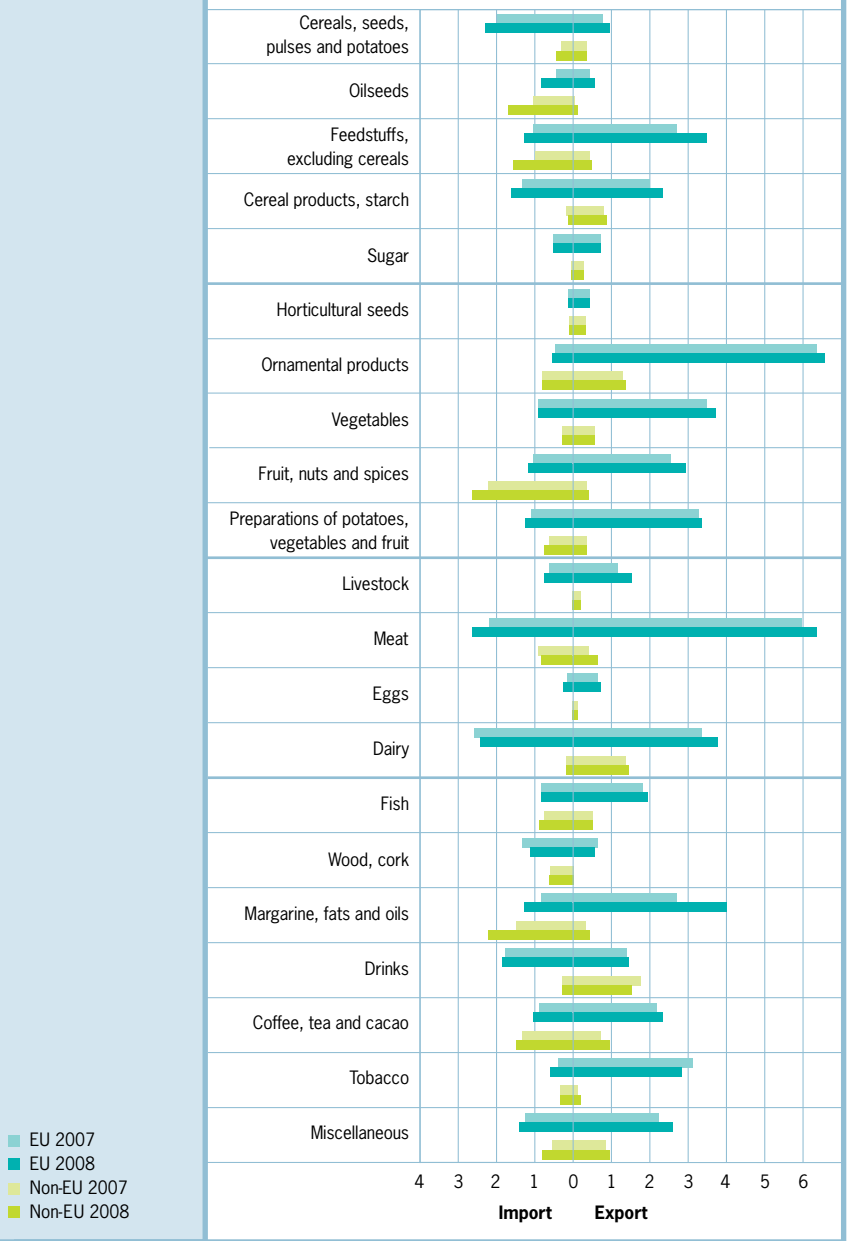
Retail and consumption

The supermarkets recorded a 7.5% increase in turnover in 2008 as compared to the previous year: prices increased by 5.1%, whilst consumer purchases increased by 2.3%. As a result, the supermarkets exhibited a better performance than the total retail sector, which achieved a 2.5% increase in turnover. Prices increased by 2.1% and the volume by 0.4%. Specialist food and beverage outlets had to settle for less in 2008: in contrast to the modest 0.3% increase in turnover they achieved in 2007, in 2008 they had to be satisfied with a 2.3% decline in turnover (CBS, 2009a). In so doing, the supermarkets' lead over the specialist stores has increased further. In the period from 2000 to 2007, Dutch supermarkets achieved a 26% increase in turnover, whilst turnover generated by specialist stores declined by 4%. This development is also apparent in other European countries.

Household spending increased by 3.6% to almost 264 billion euros in 2007. Expenditure on food and beverages amounted to almost 36.5 billion euro, a 4% increase

Figure 2

Dutch agricultural imports and exports by product with the EU and with third countries, 2007 and 2008



Source: Statistics Netherlands, calculations by LEI.

as compared to 2006. Household spending in the hospitality sector amounted to almost 14 billion euros in 2007, more than 27% of the total expenditure on food and beverages.

Dutch consumers spent more than 583 million euros on organic products in 2008, an increase of more than 12% as compared to 2007. As a result, the market share of organic products amounted to 2.1% of the total expenditure on food and beverages. The market share of fresh produce alone increased from 2.5% in 2007 to 2.8% in 2008. The supermarkets recorded a more than 11% increase in turnover generated by organic food, an increase which was largely due to the expansion of the product range. Specialist stores recorded an average 9% growth in turnover generated by organic products in 2008.

The supermarkets are the major sales channel for organic products, followed closely by specialist stores. Turnover generated by organic products in the contract catering sector almost doubled, in part due to the many contracts and new contracts - in particular concluded with the authorities - that stipulate an expansion of the organic product range.

Regional products are products characteristic of the region in which they are produced. To guarantee the authenticity of regional products the *Stichting Streekeigen Producten Nederland* ('Foundation Regional Products of the Netherlands', SPN) has developed a national seal of approval for regional products. This seal of approval provides consumers a guarantee that the raw materials originate from the relevant region and were processed in that region. No unequivocal figures are available for the market for regional products. Estimates indicate an annual turnover ranging from 120 to 180 million euros, less than 1% of the total expenditure on food and beverages.

Products with a health logo are a success

Food manufacturers devote a great deal of attention to the production of healthy or healthier foods. This has resulted in the development of two health logos: Ik Kies Bewust ('I choose smart'), developed by the Friesland Foods, Campina and Unilever food manufacturers, and the *Gezonde Keuze Klavertje* ('Healthy choice cloverleaf') developed by the Albert Heijn supermarket chain. The criteria for both logos are largely identical and specify the levels of calories, saturated fats, trans fatty acids, sodium, added sugar, dietary fibre or vegetables/fruit.

In contrast to the *Gezonde Keuze Klavertje*, which is used solely for Albert Heijn's private label, participation in Ik Kies Bewust is, in principle, open to all companies. Every type of product comes into consideration for the logo, including biscuits, cakes and pastry, confectionery and snacks. The *Ik Kies Bewust* programme has since been expanded to include product groups such as vegetables, fruit, bread and meat. 350 articles were authorised to use the health logo on its launch in May 2006: the number has now increased to 2,700. The number of participants in the *Ik Kies Bewust* scheme has also increased substantially, from 40 at the beginning of 2007 to 105 in 2009.

Countryside, landscape, nature and the environment

3.1 AGRICULTURE AND THE RURAL AREAS

The new Spatial Planning Act came into force on 1 July 2008. The Act is based on the principle 'decentralise what can be decentralised, centralise what has to be centralised'. The new Act offers the provinces increased opportunities for the management of their spatial planning: they can play the role of visionary planners via provincial structural concepts. In addition, they are provided instruments to safeguard their interests and even determine developments. However, the national government has specified a number of national spatial interests, such as the National Ecological Network.

The enactment of the Rural Areas Development Act (WILG) and the introduction of the Rural Region Investment Budget (ILG), measures taken to implement the Agenda for a Living Countryside, have resulted in a new situation for rural policy as from 1 January 2007. The ILG process can most aptly be described as a blend of delegation and decentralisation. The national government grants the provinces decision-making powers to act on its behalf and has reached agreement with the provinces (administrative agreements) on the targets to be achieved in seven years' time. In collaboration with the municipalities, water boards and social organisations, the provinces are responsible for the programming and implementation of regional policy. Regional policies encompass nature, recreation, the landscape, agriculture, socio-economic vitality, the environment, water and the policy for what are referred to as 'reconstruction areas'. The nature theme is allocated the largest proportion of the budget (67%), followed by recreation (18%) and agriculture (7%). Virtually no ILG funds are available for the landscape (4%), soil (3%) or water (1%).

The initial draft of the National Water Plan (NWP), published in December 2008, outlines the national water policy. Issues addressed by the NWP include water quality and water safety. The achievement of all targets laid down in the NWP could have major consequences for the feasibility of agricultural production.

3.2 AGROPARKS

Space in the Netherlands is limited. Although the built area (exclusive of the infrastructure) is still no more than 10% of the country's total area, there is great concern about the disappearance and fragmentation of valuable landscapes, nature areas and green space for recreation. This concern is not restricted solely to agricultural land and nature areas that are sacrificed for the construction of new housing estates, motorways and industrial estates. It also extends to the changes in the agricultural landscape due to the increasing built area on farms resulting from the construction of greenhouses, stalls and other farm buildings. This is reducing the openness - and attractiveness - of the landscape. The authorities at a variety of levels are endeavouring to clamp down on these developments by means of zoning plans. Conversely, the agricultural sector regards the construction of new farm buildings as an economic necessity: increases in scale result in the need for larger building plots, whilst the intensification process gives cause to the need for an increased density of buildings on the land. The developments in the greenhouse horticulture and intensive livestock farming sectors, in particular, exert a major influence on the landscape.

These developments have resulted in lively debates during the past years, not only on the retention of landscape values, but also on issues such as animal welfare and the environment. The discussions about 'pig flats' (multi-storey sheds) and mega stalls are examples of these debates. One of the proposed solutions is the agropark, a park which concentrates similar intensive agricultural operations (horizontal integration) or various links in a chain (vertical integration) at one location. A possible form of vertical integration is a form in which a number of companies use each other's residues. Although this will not result in a closed cycle, it does offer a number of interesting opportunities for the reduction of the environmental load imposed by agricultural operations and could also be of interest from a commercial perspective. The resultant logistics benefits are a major driving force behind the development of agropark projects. However, the benefits for spatial quality are equally important: a concentration of, for example, stalls and/or greenhouses on industrial estates creates opportunities for a substantial improvement of the quality of the landscape in the outlying areas. Self-evidently, the promotion of agroparks would need to be accompanied by the introduction of policy designed to discourage these operations in the outlying areas. However, this policy is not yet in place.

In recent years, a number of initiatives have been taken for the materialisation of agropark ideas. However, the social acceptability of these innovations is a major problem: their large scale and industrial nature create resistance. Environmental legislation (such as particulate matter legislation) can also impede these developments. Endeavours are being made to adjust the concept to increase support, for example by making agroparks more accessible and appealing to recreational visitors. In view of the

pressure being imposed on space, the landscape and nature, it is not inconceivable that social resistance can be overcome and that spatial developments in the intensive sectors can ultimately adopt this course.

To date, spatial planning has been based on what are referred to as 'agricultural development regions', zones of a limited area in which non-pasture-based farms must be granted space and priority in the use of the land over other uses. Agroparks could also be located in these agricultural development regions. To date, two types of agricultural development regions have been designated, one for greenhouse horticulture and one for intensive livestock farming.

3.3 NATURE AND LANDSCAPE

The National Ecological Network (NEN) was expanded in size by a net area of almost 4,500 hectares in 2007. The majority of this growth was due to the purchase of land (Table 4). However, it should be noted that purchased land is far from always in the appropriate location. One-third of the land purchased is, as such, in the appropriate location: two-thirds is exchanged land.

Participation in private nature management with change of function grew by almost 800 hectares in 2007, whilst participation in agricultural nature management (without change in function) decreased by 1,200 hectares in 2007. On the introduction of the ILG, the agricultural nature management subsidy system was transferred to the provinces. The provinces are developing a new set of instruments that will be introduced on 1 January 2010. The provinces are expected to draw up uniform regulations to ensure that identical regulations for nature management govern the entire country.

The implementation of the NEN will need to be accelerated if the target of 275,000 hectares in 2018 is to be achieved. However, during the period from 2005 to 2007 growth actually slowed as compared to the period from 1990 to 2004. Growth in private nature management, in particular, is lagging: just 17% of the target had been

Table 4 National ecological network (land)

	Target (ha)	Progress (ha)	Remaining per 1-1-2008 (ha)	Target year
Existing nature	453,500			
Nature to acquire	275,000	165,213	109,787	2018
through purchase	134,500	98,589	35,911	2015
management by farmers	97,700	59,415	38,285	2018
management by others	42,800	7,209	35,691	2018
Total	728,500			

Sources: Algemene Rekenkamer; LNV.

achieved at the end of 2007. Consequently, to date the efforts to promote this form of nature management have not been very successful.

Landscape

The Ministry of Agriculture, Nature and Food Quality and the Ministry of Housing, Spatial Planning and the Environment published the *Landscape Agenda* in 2008. This document is focused on a prudent approach to the country's space, encouraging the public and entrepreneurs to take part in and give consideration to the protection of the landscape and on provisions for the sustainable financing of the landscape. The Task Force on Financing the Dutch Landscape has issued recommendations on this subject. It has transpired that there is still insufficient insight into the desirable and necessary measures to be implemented in the various valuable agricultural landscapes. For this reason, it is difficult to make estimates of the financing needs and the funds public and private parties could raise at local level. However, more scope could be created for the retention and development of the landscape within existing policy. Measures need to be implemented under the motto 'The landscape deserves better' to offer entrepreneurs and farmers an opportunity to make their contribution to the social value of the landscape in the form of funds. Within this context, the reforms of the Common Agricultural Policy also offer opportunities, since the reformed policy is intended to focus more on the achievement of social targets - including the landscape. In addition, the existing nature management agreements are to be expanded and made applicable to landscape management agreements. In addition to farmers, private landowners can also make a contribution.

3.4 AGRICULTURE AND THE ENVIRONMENT

According to the OECD, the environmental load imposed by the Dutch agriculture decreased more rapidly than in other OECD countries during the period from 1990 to 2004. For example, Dutch use of chemical agents has been reduced by more than 50% as compared to 5% for all OECD countries. 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. The agricultural sector makes a more than proportional contribution – about 315 million euros in 2007 – to green taxes, in particular due to the levies on energy.

After many years' decline in the use of chemical crop protection agents, their use has increased in recent years by 15% to 12 million kg active substance in 2007 (Table 5). This is almost 30% above the lowest level reached in 2001. The use of fungicides and other agents, in particular, increased sharply in 2007 due to unfavourable weather conditions. Although the use of chemical agents increased, the environmental impact of arable farming decreased. This was due to limiting measures when spraying the agents and the replacement of old agents with a high environmental impact by newer, more

Table 5 **Development of environmental impact of agriculture and horticulture, 1995-2007**

	1995	2000	2004	2005	2006	2007(p)
Use of crop protection agents (in million kg of active substance)	12.61	11.38	10.66	10.7	10.46	12.09
Greenhouse gas emissions (in billion kg CO_2 equivalents)	33.2	29.1	26.9	27.0	27.4	26.9
Supply of nitrogen (N, kg per hectare)	472	394	351	344	347	343
Supply of phosphates (P_2O_5, kg per hectare)	140	125	102	108	104	103
Ammonia emissions (in million kg)	179	139	120	121	120	120

p: preliminary.

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

environmentally-friendly agents. At arable farms, the environmental impact per kg active ingredient has been reduced by more than 40% since 2002, and the environmental impact per hectare by about 20%. 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.

During the period from 1995 to 2003, the agricultural sector's emissions of greenhouse gases were reduced by almost 20%, although the level has stabilised in recent 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 CO_2 emissions, primarily originating from the greenhouse horticulture sector, is largely due to energy-saving measures. The *Clean and Efficient Agricultural Sector Covenant*, concluded in 2008 after difficult negotiations, stipulates that in 2020 the agricultural sector shall have reduced its greenhouse emissions by 30% from the level in 1990. It would appear that major efforts will be required to achieve this target. The Covenant assigns the agricultural sector an important role in the production of sustainable energy by means such as the co-fermentation of manure. The CO_2 emissions from greenhouse horticulture have declined sharply in the last couple of years. This sector's use of co-generation plants has resulted in the greenhouse horticulture sector becoming a net supplier of electricity.

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. The mineral surpluses show the same trend. Although the mineral surpluses have decreased substantially since the 1980s, they have not decreased 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.

The manure market has been in reasonable equilibrium in recent years, although the equilibrium is fairly unstable. If disposal in or outside the agricultural sector were to fall short of expectations or manure production were to increase, then the amount of manure that cannot be placed would increase rapidly and would in turn result in increasing disposal costs. Conversely, the disposal costs will decrease when more disposal opportunities become available.

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. 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.

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 1,600 in the past year, a decrease of 2.1% (Table 6), lower than the average annual decline since the turn of the century (3.2%). The reasonably favourable operating results recorded in 2006 and 2007 achieved by virtue of the relatively high selling prices of milk and arable produce may have retarded the decline. The same is also applicable to the decreased price of milk quotas after 2006: in earlier years, the much higher quota prices made it easier for dairy farmers to terminate their operations.

The decline in the number of greenhouse horticulture holdings continued at unabated pace, and now amounts to a 40% contraction since the turn of the century. This is in part due to the fierce competition in horticulture markets, the sharp increase in energy prices until mid 2008, the need to invest in modernisation and the restructuring of a number of regions.

The decline in the number of holdings is a process that has been continuing for many decades. In the 1950s, 1960s and 1970s, the annual decline was approximately 2.5%. The decline was lower (1.6% per annum) in the following years until the mid 1990s, but increased significantly to 3.1% per annum in the period from 1995 to 2008. Although the number of holdings has decreased, production has increased in the longer term. Other indications for an increasing size of the holdings include the number of dsu, the amount of capital goods and the average area. The intensification of agricultural production

Table 6 **Development of number of holdings, number of workers and area of farmland, 1990-2008**

	1990	1995	2000	2005	2008(p)	Change (%) 2007-2008
Number of agricultural and horticultural farms (x 1,000)	124,903	113,327	97,483	81,330	75,160	-2.1
Number of workers [a] (x 1,000)	288.3	276.2	280.9	235.7	227.0	1.2
Area of farmland (x 1,000 ha)	2,005.6	1,965.3	1,955.5	1,922.5	1,929.3	0.3

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

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

resulted in increases in the dsu and capital goods per holding that are more rapid than the increase in the average area. The average area has more than quadrupled from approximately 6 to 26 hectares since 1950.

Increasing diversity

Although increases in scale are the dominant trend in the development of the agricultural and horticultural sector, a form of dichotomy would appear to be emerging: the share of the smaller holdings (to 40 dsu) has remained unchanged since 1995 (43%) whilst the share of the larger holdings (more than 100 dsu) increased from 22% to 29% and the share of the intermediate group decreased from 35% to 27%. The relatively less sharp decline in the number of smaller holdings is in part due to the influx of holdings that are being gradually run down, for example on the termination of milk production. In addition, the majority of the income of the smaller holdings originates from outside the company, such as a job elsewhere and state old-age and other pensions: at the holdings with a size of about 16-40 dsu this amounts to an average of two-thirds of the total income. These holdings are more of a hobby than a source of income. There can also be other reasons for maintaining a holding, such as tradition and a feeling of attachment to the holding, as well as the retention of the operating capital.

Labour

The primary Dutch agriculture and horticulture sector offered jobs to about 227,000 heads of the holdings, other members of the families and permanent employees in 2008, a slight increase (1.2%) in comparison with the previous year (Table 6). However, when viewed over a longer period, the number of jobs is decreasing due to increases in scale and rising labour productivity. The total number of jobs (excluding temporary employees) has decreased by more than one-fifth since 1992. In addition, the rate of decline has increased since the turn of the century, a period in which the pace of increases in scale has accelerated. 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 in the period from 1992 to 2008, whilst the number of permanent employees has increased by nearly one-fifth. As a result of this development, the family members' share of the total number of jobs fell from 79% in 1992 to 68% in 2008. 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 in 2008, and has now passed the 50,000 hectare level for the first time. However, organic farming's 2.6% share of the total area of agricultural land in the Netherlands is lower than the EU average of more than 4%, and of the share in various EU

member states closer to the Netherlands including Denmark, Germany, Italy and the United Kingdom. Alongside the increase in area, for the first time in some years the number of Dutch organic holdings also increased slightly to 1,395 holdings in 2008.

4.2 LAND AND CAPITAL

The area of cultivated land has decreased by approximately 6,000 hectares a year since the turn of the century, an annual decrease of 0.3% (Table 6). 53% of the total more than 1.9 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.

Agricultural land will continue to be allocated to new functions in the future, such as housing, work, recreation and nature. A recent study of the prospects for the Dutch agricultural sector assumed a 3% decrease in the area of agricultural land during the period from 2005 to 2020, which is approximately equal to the current trend. This decrease shall, in particular, be to the detriment of the area of arable land.

Following a decline during the period from 2001 to 2004, the agricultural land price increased from 29,500 euros per hectare in 2006 to 36,500 euros in 2007. This increase would appear to have come to a halt in the 2nd half of 2008. The average land price is estimated to amount to 39,000 euros per hectare for the whole of 2008.

Production and payment rights

In some agricultural sectors, production rights or quota determine the volume of the production of each farm. However, payment entitlements (that follow from the reform of the CAP) do *not* determine the volume, since they grant the right to an annual farm payment (decoupled income support). Both production and payment entitlements are transferrable in the Netherlands. In contrast to the motives for the purchase of production rights or quota - the need to develop the holding by increasing its scale - the motives for the purchase of payment entitlements lie more in the acquisition of a supplementary income in the coming years. The prices for these payment entitlements are influenced by the policy conducted by the European Union and the Dutch authorities, and by the market conditions in and prospects for the relevant sector.

The milk quota purchase price amounted to about 24 euros per kg fat in 2008/2009, significantly lower than the customary price of about 50 euros until 2006 but above the lowest level to date, in 2007, of about 15 euros. However, the price was below 20 euros at the beginning of the 2009/2010 quota year (at the end of March). This decline is in part due to the abolition of the quota regulations in 2015. However, the major reason for the current decline in price is the sharp fall in the price of milk during the course of 2008 and the first months of 2009. This makes investing in milk quotas less interesting.

Moreover, with the decline in the price of milk, dairy farms have reduced scope for investments.

In 2008/2009, the average price of payment entitlements was more than twice the annual farm payment. The value of the entitlements remains low, at least when viewed from the perspective of the long-term continuation of the farm payments. This is in part due to the apparent lack of priority that agricultural entrepreneurs assign to investments in payment entitlements: they prefer to invest in the development of their holding by making investments in milk quotas, animal rights, land and buildings, etc. A second reason for the low value - or short return time - of payment entitlements is the uncertainty about the continuation, amount and form of the farm payments. The Health Check agreement has now provided certainty about the increase in the modulation discount on farm payments in the coming years. However, there is still uncertainty about the possible changeover from the 'historic system' now used in the Netherlands to a system of equal amounts per hectare. The Minister of Agriculture, Nature and Food Quality's *Outlook on the CAP* also mentions the possibility of the remuneration of social values (or services provided to society) funded by the farm payments, a suggestion which may cause doubts amongst potential purchasers of payment entitlements. The abolition of the separate set-aside payment entitlements on
1 January 2009 probably had virtually no effect on the price of 'ordinary' purchase entitlements: the number of these fallow payment entitlements was modest in comparison with the approximately 1.5 million 'ordinary' entitlements. This is also applicable to the simultaneous revocation of the rule stipulating that the seller had to have used at least 80% of the rights prior to the sale. The rule revoked earlier (in 2008) - stipulating that ordinary payment entitlements could not be assigned to land used for the cultivation of potatoes (other than starch potatoes), vegetables or fruit - also had no noticeable effect on the market price of the entitlements.

4.3 ANIMAL HEALTH AND ANIMAL WELFARE

Recent outbreaks of animal diseases in Europe, the increased transport flows of animals and the expansion of the EU have resulted in animal health being assigned a high place on the European agenda. The ambition of the 2007 *Dutch Animal Health National Agenda* is to elevate the health of animals to a higher level. The Agenda endeavours to ensure that animal holders shall adopt a prudent and expert approach to their animals by 2015, and that they shall be able to call in adequate veterinary care.

One of the major changes in the approach to the control of infectious animal diseases is the use of vaccination rather than the slaughter of infected or potentially infected animals. Vaccination is an excellent means of controlling animal diseases. Nevertheless this was not an option, since the meat and milk from vaccinated animals was not admitted to most countries receiving Dutch exports. However, society no longer accepts the large-scale

slaughter of animals, and the Netherlands has developed into the advocate of vaccination within the EU. At the moment, the Netherlands is relatively isolated in its role as an advocate of vaccination, although the policy is in flux in Germany and, following the recent outbreak of foot-and-mouth disease, in the United Kingdom. Nevertheless, for the time being the marketing of products from vaccinated animals remains a problem.

Another major element of the *Animal Health National Agenda* relates to the approach to major animal diseases that can occur at individual farms, such as lameness, fertility and respiratory disorders (such as App, mycoplasma, IBR and, paratuberculosis infections). In addition to the resultant reduction of animal welfare, animal health problems can result in substantial economic loss due to the treatment and vaccination costs, wastage, slaughter anomalies and stragglers. A number of these animal health problems on individual farms are caused by the design of the stalls, the feed, the breeding operations, and the farm management. During recent years, the emphasis was, in particular, placed on the prevention of highly-infectious diseases and zoonoses - infectious diseases that can be transmitted from animals to humans - and less attention was devoted to other diseases that can cause problems at farms. Close farm operations and hygiene measures play an important role in controlling these diseases.

The Dutch government's animal-welfare policy is laid down in the *Animal Welfare Policy Document* which is in part based on the European *Animal Welfare Action Plan 2006-2010*. One of the major targets relates to the development of new, integral sustainable stall systems. Stalls of this nature would, for example, obviate the need for medical interventions on animals, such as docking tails and cutting the canine teeth of pigs or trimming the beaks of laying hens. By 2011 5% of the stalls in the livestock sector must be integral sustainable stalls, with intermediate targets of 1.2% in 2009 and 2.8% in 2010. In 2009 2.2% of the almost 100,000 stalls for cattle, pigs and poultry were integral sustainable stalls, and 0.6% of the stalls under construction were integral sustainable stalls. This amounts to a total of 2.8%, equal to the intermediate target for 2010.

A number of organisations in the meat sector and retail trade are collaborating in the abolition of the castration of piglets without anaesthetic from 2015. In advance of this abolition, Dutch supermarkets sell solely fresh pork from piglets castrated under anaesthetic. A major research programme has been set up in the Netherlands and the EU with the intention of rendering the castration of piglets completely superfluous. A similar programme has begun that is designed to obviate, within the space of some ten to fifteen years, the need to dock the tails of pigs now carried out to prevent pigs from biting each other's tails.

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 23.6 billion euros in 2008 was almost 3% higher than in 2007. This increase is primarily due to a larger volume. Arable farming prices decreased by an average of more than 10%. The greatest decline was for cereals, although the year's prices for potatoes also declined sharply. The horticultural sector's value increased slightly due to a higher volume accompanied by lower prices. The price movement in the fruit sector, which recorded higher prices, contrasted with the rest of the horticultural sector, which recorded prices at or below the 2007 level. In the livestock sector, prices increased with a greater volume. The production of milk increased due to the expansion of the quota: the average milk price was also higher, in particular due to the higher prices in the first half of the year. In the intensive livestock farming sector, the price of pigs was particularly good after the very low level in 2007. Prices declined at the end of 2008 under the influence of the recession and the decreasing exports.

It should be noted that both 2007 and 2008 were years with two faces. The tight markets and high energy prices resulted in rapidly increasing prices - both of a number of income items and cost items - in 2007. Although these prices remained reasonably stable at the beginning of 2008, they fell sharply later in the year. Although some of the 2008 prices were above the 2007 level, the general trend was one of decline. This dull mood continued at the beginning of 2009.

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 farm family income increased to more than 57,000 euros per holding in 2007. The forecasts indicate a sharp decrease in 2008, to about 32,000 euros per farm (Table 7). A rapid decrease of this nature between 2 years had not been seen before. The income level is approximately the same as in 2002 and a number of years in the 1990s, although it should be noted that the figures have not been

Table 7	Results (x 1,000 euros per holding) on the average agricultural and horticultural holding, 2001-2008				
		2001-2005	2006	2007	2008 (p)
Gross returns	(+)	275.8	325.9	383.1	388.1
of which agricultural production (%)		*94.1*	*91.2*	*90.8*	*90.7*
subsidies (%)		*2.9*	*4.9*	*4.5*	*4.6*
secondary activities (%)		*3.1*	*4.0*	*4.7*	*4.7*
Paid costs and depreciations	(-)	237.5	273.8	325.1	355.1
Farm family income	**(=)**	**39.3**	**51.8**	**57.5**	**32.5**
Idem per unpaid annual working unit		27.4	36.0	39.9	22.6
Income from outside the farm	(+)	11.6	18.6	19.5	19.5
of which labour		5.5	7.7	8.8	8.8
other income		6.1	10.8	10.7	10.7
Total family income	**(=)**	**50.8**	**70.4**	**77.0**	**52.0**
Taxes	(-)	3.4	3.8	8.4	8.4
Family spending	(-)	37.5	43.5	47.1	44.6
Savings	(=)	10.0	23.1	21.5	-1.0
Source: Farm Accountancy Data Network.					

corrected for inflation and that the size of the average holding has increased greatly. Although the average income per holding has increased slightly since 2007, the costs have increased much more rapidly. More than 90% of the gross returns is comprised of agricultural production. Both subsidies and other income - such as income from diversification operations, the production of energy, recreation and contract work - account for less than 5% of the total, although there are major differences between holdings.

In addition to operating income, many holdings also have income from other sources (such as income from employment outside the farm, savings, investments and benefits). This income has increased sharply in recent years. After the deduction of taxes, which have also increased in the past years due to the higher income, the average holding has slightly negative savings. Savings are necessary to increase the holding's equity and are, in principle, available for investments in expansion. In the years since 1990, 2002 was the sole year in which, on average, all holdings drew down on their assets. Although the average results were low in a number of years (1992, 1993 and 1999), the savings were just positive.

Differences in income

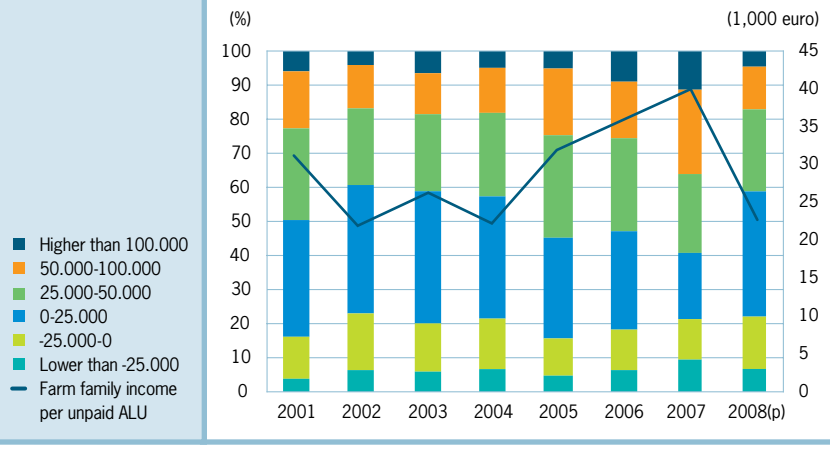
The organisation of the holdings - and, consequently, the results and income - varies greatly between holdings. On average, each holding has about 1.4 unpaid annual working units (ALUs). The number of unpaid ALUs is 1 or less at about 30% of the holdings, primarily smaller holdings at which the labour effort is limited and provided in full by unpaid help (family input). The total labour effort is more than 1 ALU at just one holding in

three, where the - on occasion, large - labour effort is provided by paid employees.

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 costs that are taken into account for this input amount to an average of more than 50,000 euros per unpaid ALU. The income that is generated varies by year. During the period from 2001 to 2007, the worst years were 2002 and 2004, with an amount of about 22,000 euros per unpaid ALU; 2007 was the best year, with an amount of approximately 40,000 euros (Figure 3). In spite of the average high level, many holdings nevertheless recorded a negative or very low amount. Conversely, one in three ALUs generated an income of more than 50,000 euros and one in ten of more than 100,000 euros. These ALUs generally work at large holdings with products that command high prices. Forecasts indicate a sharp decline in the results for 2008 and, consequently, the distribution of the ALUs between the income classes will be much less favourable.

Figure 3

Distribution (%) of the number of unpaid ALU on agricultural holdings according to farm family income, 2001-2008



Source: Farm Accountancy Data Network.

Three-quarters of the holdings receive farm payments

Farms and horticultural holdings received farm payments totalling an average of more than 14,000 euros in 2007. About one in four holdings did not receive payments. The average operating income of these holdings amounted to almost 62,000 euros. More than one-fifth of the total payments (22%) were destined for holdings receiving farm payments of more than 50,000 euros. Four per cent of the holdings fall in this category: the payments account for an average of 10% of the proceeds and 36% of the operating income. Farm payments are also a major constituent of the income of holdings with a high income.

A large number of holdings (29%) received farm payments of a maximum of 10,000 euros. The average income of these holdings is low - about 8,500 euros - and, consequently, is greatly influenced by the income from farm payments.

23% of the total payments were destined for holdings with an income of less than 25,000 euros. Holdings with an income of more than 50,000 euros received 72% of the payments. On average, holdings receiving low payments are smaller than holdings receiving high payments. Virtually all holdings in the arable, dairy and veal farm sectors received farm payments: virtually no holdings in the greenhouse horticulture sector received farm payments.

Operating income by type of holding (estimates)

The operating income of the average dairy farm is estimated to amount to 35,000 euros average income in 2008, a sharp decline as compared to 2007: in spite of the high price of milk, income fell due to the increased price of feed. The average income per unpaid ALU of arable farms in 2008, 25,000 euros, was significantly lower than in 2007. This fall was due to lower selling prices that were not compensated in full by the increased yield per hectare. Pig farmers enjoyed a somewhat better year than the very poor year of 2007. Income per unpaid ALU amounted to 8,000 euros. Although the holdings' turnover and growth increased sharply, these were largely nullified by the higher feed costs. The income of laying-hen holdings fell substantially from the level in 2007, and amounted to an average of 9,000 euros per unpaid ALU: the higher yields did not compensate the higher feed costs. The broiler sector also had a poor year, primarily due to the increased compound feed prices (+20%): the income per unpaid ALU was minus 7,000 euros. Estimates indicate that the income of specialised veal holdings will amount to 32,000 euros per unpaid ALU. In the greenhouse horticulture sector, the average income per unpaid ALU is expected to decrease to about 9,000 euros, primarily due to the lower proceeds as a result of the lower than forecast prices. Incomes fell in the greenhouse vegetable sector, in particular. Estimates indicate that the average income per unpaid ALU in the mushroom sector will amount to 27,000 euros, substantially lower than in the good years of 2006 and 2007. The results are low in the outdoor vegetable cultivation sector (on average, 22,000 euros per unpaid ALU), although the amounts vary greatly between holdings since they are dependent on the crops cultivated by each holding. The estimated income in the fruit cultivation and tree nursery sectors differs little from the income in 2008 (35,000 euros and 45,000 euros per unpaid ALU respectively). Bulb growers recorded a negative average income for the first time in many years, approximately minus 14,000 euros per unpaid ALU, due to the static exports and the resultant below-forecast prices. The price of a number of flowers was nothing less than disastrous, in part due to the high exchange rate of the euro. The bulb sector, more than other sectors, is dependent on exports to destinations outside Europe.

Assets

The value of the average agricultural and horticultural holding was around 1.95 million euros at the beginning of 2008. Around 40% of this is in the land and 14% in intangible assets, largely milk quotas.

The dairy farms were traditionally the holdings with the highest average value. However, they were passed by greenhouse horticultural holdings in 2007. This was due to the major investments made by many holdings in this sector: revaluations and increases in scale also played a role.

The equity (business and private) of agricultural holdings increased by an average of 22% to more than 1.2 million euros between 2003 and 2007. In addition to the annual savings, the development of the holdings' equity is determined or largely determined by increases in the value of production resources (such as land, buildings and production rights) and by gifts and inheritances.

Arable farms, with average equity of more than 1.5 million euros, had the highest equity in 2007. This sector's equity has increased sharply in recent years due to the growth in the size of the holdings, the increased value of the production resources in 2005 and 2007, and the excellent operating results recorded in 2006. The equity of dairy farms increased in the years until 2005, but has since fallen due to the declining value of the milk quotas. This decline will continue in the coming years due to the abolition of milk quotas in 2015. Savings and the increased value of the land will need to retain the dairy farms' equity at the current level. The greenhouse horticulture sector recorded the greatest increase in equity during the past years: equity increased by 70%. This increase was largely due to the increasing value of the land and other tangible assets (greenhouses and equipment). Most pig farms have little land and, on average, the lowest equity. The movements in their equity are greatly dependent on the movements in the operating results.

The importance of sufficient equity

The equity of agricultural holdings serves primarily as a buffer to absorb fluctuations in income and, consequently, is the most important source of the funds required to support the entrepreneur's family when incomes are low. In addition, entrepreneurs perceive the development of the value of the holding as by far the most important basis for the accrual of their pension: this is applicable to all entrepreneurs in all agricultural and horticultural sectors. However, it should be noted that the pension available to the parents is greatly decreased when their holding is passed on to the next generation: holdings taken over by the children are often viable solely when the parents leave equity in the holding. Finally, equity offers an important form of security for bank loans. The ability to furnish security has become even more important in the current difficult economic situation.

About two-thirds of the assets of agricultural and horticultural holdings are comprised of equity. This share is above average at dairy and arable farms and below average at pig farms and greenhouse horticulture holdings. Nevertheless, there are large differences between holdings in this respect. For example, of the greenhouse horticulture holdings 20% have a solvency of more than 87 per cent, whilst at the other end of the scale 20% of the holdings have a solvency of below 33%. The twenty percentile solvency of dairy and arable farms is 57 and 66% respectively.

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

LEI Wageningen UR carries out its research in close consultation with clients and other concerned parties within society. LEI Wageningen UR bases its expertise on thorough knowledge of the sector and the focused use of economic and other social scientific disciplines in this regard. The field of work encompasses the agricultural sector, fisheries, nature management and the use of the natural environment. All the links in the chain, from consumer to producer, are involved.
LEI Wageningen UR collaborates with a great many scientific partners, both within the Netherlands and in other countries. LEI Wageningen UR also forms part of Wageningen University and Research Centre, within which it combines with the Department of Social Sciences to form the Social Sciences Group.

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