AGRICULTURE AND RURAL LIFE
2007/2008
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DEAR READER

You are holding a publication reflecting the activities of the ministry. Here you will find information about the changes that took place in the food chain during the year – from the field to the consumer’s table. Last year was beneficial for the farmer. The fields gave good harvest, incomes of agricultural holdings increased and the export volume of food products grew. It is a great recognition for our farmers that after the accession to the European Union, the entrepreneurial income of agriculture and the level of salaries per employee increased, among the ten new members, the most in Estonia – 2.7 times. The results were certainly affected by the new economic environment. Nevertheless, the main driver for development was skillful usage of EU support.

Despite the achieved good results, the difference in economic capability compared to old Member States is still more than double. Higher salary is an inducement enough for our workers, who sometimes prefer to taste the bread of a farmhand abroad, rather than strive for a better life in homeland. We were successful in the competition of the European Union’s solvent product market, which gives hope that we can manage also in the EU labour market in the near future. Achieving this goal depends on the work of farmers, food processors and handlers, as well as political choices.

It seems surprising to many that the ministry is not involved in the organization of production. The main goal of our activities is to work towards a sustainable, competitive and socially acceptable agriculture. Until recently, the objective of the Common Agricultural Policy was to fulfill the general growing demands of the public in food safety, food quality, product diversification, animal welfare, environmental quality and the protection of nature rural areas. The price rise of food products all over the world, which started last year, adds a question to the list of problems: how to increase the productivity of agriculture and ensure reasonable prices of food products to the consumer. The results of more successful farmers convince
us that Estonian agriculture still has growth potential. The “health check” of the Common Agricultural Policy, where we also have a say in, definitely helps to achieve that goal. The fact of how wisely we are able to do it, affects the development of farmers, rural life, as well as that of Estonia as a whole.

Minister of Agriculture
Helir-Valdor Seeder
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1. FOOD SECTOR’S ROLE IN THE NATIONAL ECONOMY

Ants Laansalu

According to preliminary data, the value of agricultural output was BEEK 10 in 2007. Total output increased by 18.2% in basic prices compared to the previous year. Crop production increased 1.5 times and accounted for 44.2% of total agricultural output in terms of value (34.6% in 2006). Livestock production remained stable and its share in total agricultural output dropped by 8.3% to 45.3%.

Gross value added in agriculture was BEEK 4.2, i.e. 22% more than in the previous year. Value added in agriculture accounted for nearly 1.8% of Estonia’s GDP. Entrepreneurial income was BEEK 2.7, which was 37% more than in the previous year.

The total output of the food industry amounted to BEEK 16.9 or 16.7% of the processing industry’s total. Dairy (28.4%), beverages (20.7%), meat (18%) and fish industries (9.4%) still account for the largest shares in the Estonian food industry in terms of output. Value added by the food industry was BEEK 3.8 and its share in GDP was 1.6% in current prices.

A total of 80 244 t of fish was caught in the Baltic Sea in 2007, accounting for 81% of the total catch. Deep-sea fishing accounts for 15% of Estonia’s total catch in terms of quantity, but significantly exceeds the Baltic Sea and inland waters’ fishing in terms of value. 2568 t of fish was caught in inland waters in 2007. The fish processing industry accounts for 1.6% of Estonia’s processing industry.

20 900 people were employed in agriculture in 2007, which is 6.6 times less than in 1990 when agriculture was the main provider of employment in rural areas. Out of all employed people in rural areas, 56% and 11.3% worked in agriculture in 1990 and 2007, respectively.

An average of 16 713 people work in the food processing industry. Of these, 3421 worked in the meat sector, 2481 in the fisheries sector, 2373 in the dairy sector and 2000 in the beverages sector.

Foreign trade in agricultural products was BEEK 27.2. Agricultural exports and imports amounted to MEEK 11 034.9 and MEEK 16 164.5, respectively, in 2007. Export and import accounted for 40.6% and 59.4% of turnover, respectively. Agricultural products made up 8.8% of total exports and 9.2% of total imports of commodities. Agricultural export grew by 30.7% and agricultural import grew by 33.1%, compared to the year 2006.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

2.1. Production

Kristel Bankier, Kristel Mairde, Elsa Nurk, Viive Alliksoo, Liina Jürgenson, Matti Piirsalu, Merle Saaliste

Total agricultural production

According to preliminary EAA (Economic Accounts for Agriculture) data from January 2008, the output of the agricultural industry for 2007, including refunds, was BEEK 10, of which 2.4% (MEEK 242.7) were product refunds for crop and livestock farming. The value of output increased by 18.2% in basic prices and 22.6% in producer prices, while the quantity of output increased by 10.1%, compared to the previous year.

Final EAA information for 2007 will be made available by the Statistics Estonia in September 2008.

Table 1. Economic Accounts for Agriculture indicators (MEEK), 2001–2007

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production</td>
<td>2646.6</td>
<td>2607.6</td>
<td>3039.9</td>
<td>2941.5</td>
<td>4432.3</td>
</tr>
<tr>
<td>including subsidies on crop production</td>
<td>117.1</td>
<td>206.1</td>
<td>160.5</td>
<td>295.8</td>
<td>214.0</td>
</tr>
<tr>
<td>Livestock production</td>
<td>3405.3</td>
<td>4066.3</td>
<td>4253.2</td>
<td>4542.5</td>
<td>4542.7</td>
</tr>
<tr>
<td>including subsidies on livestock production</td>
<td>146.4</td>
<td>189.3</td>
<td>177.9</td>
<td>238.0</td>
<td>28.7</td>
</tr>
<tr>
<td>Agricultural contract work</td>
<td>139.8</td>
<td>138.1</td>
<td>177.4</td>
<td>159.9</td>
<td>174.0</td>
</tr>
<tr>
<td>Inseparable non-agricultural secondary activities</td>
<td>559.5</td>
<td>593.1</td>
<td>767.3</td>
<td>843.3</td>
<td>884.9</td>
</tr>
<tr>
<td>Output of the agricultural industry in basic price</td>
<td>6751.1</td>
<td>7405.1</td>
<td>8237.7</td>
<td>8487.2</td>
<td>10033.9</td>
</tr>
</tbody>
</table>

*preliminary data, January 2008

Source: Agricultural Market Regulation Department of the Ministry of Agriculture (MoA), Statistics Estonia
According to preliminary estimates for 2007, crop production and livestock production accounted for 44.2% and 45.3%, respectively, of the total agricultural output in terms of value, that is 9.5 pp more and 8.3 pp less, respectively, than last year. Agricultural services formed 1.7% of the output of the agricultural industry and inseparable non-agricultural secondary activities formed 8.8%.

Crop production increased by 51% in basic prices, compared to the year 2006; the value of cereal output increased by 75% in basic prices, as the year was very favourable for cereal production. The output of fruits and berries (74%), industrial crops (rapeseed, protein crops; 53%), potatoes (38%), fodder crops (30%) and vegetables (5%) also increased in terms of value. The output of rye increased four-fold in terms of value.

Crop production value increased 59.4% in terms of producer prices and 32% in terms of quantity, while producer prices rose by 20.8% on average.

The share of cereals in crop production increased by 6 pp, compared to the year 2006, to 42.6%. The share of industrial crops increased by 2.2 pp from 13.8% to 16.01%. The shares of fodder crops and potatoes decreased by 2.4 pp from 17.1% to 14.7% and by 1.1 pp from 12.9% to 11.8%, respectively.

Livestock production was estimated to have grown modestly. Its growth in basic prices was less than 1%, compared to the year 2006. The value of animal production in basic prices decreased (3%), while the value of livestock products increased slightly (2%).

The value of poultry production increased the most (22%), and the value of sheep and goat production also increased (21%), owing to the rising number of animals. The value of cattle production and egg production in basic prices decreased the most (28% and 7%, respectively). The decrease in value of cattle production in basic prices was attributable to the reduction of product refunds.

In livestock production, raw milk had the largest share in both 2007 and 2006 (56.7% and 55.7%, respectively).

Growing areas and yields of agricultural crops

According to the Statistics Estonia, the growing area of field crops was 573 900 ha in 2007, which is 34 900 ha or 6% more than in 2006.

Figure 1. Breakdown on growing areas of field crops in 2007

<table>
<thead>
<tr>
<th>Crop Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td>51%</td>
</tr>
<tr>
<td>Fodder crops</td>
<td>33.1%</td>
</tr>
<tr>
<td>Legumes</td>
<td>1%</td>
</tr>
<tr>
<td>Open field vegetables</td>
<td>0.4%</td>
</tr>
<tr>
<td>Industrial crops</td>
<td>12.7%</td>
</tr>
<tr>
<td>Potatoes</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Source: Agricultural Registers and Information Board (ARIB)
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

Table 2. Production of main crop products in 2005–2007

<table>
<thead>
<tr>
<th>Crop</th>
<th>2005</th>
<th>2006</th>
<th>2007 (preliminary data)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Growing area ('000 ha)</td>
<td>Quantity ('000 t)</td>
<td>Yield (kg/ha)</td>
</tr>
<tr>
<td>Total cereals</td>
<td>282.1</td>
<td>760.1</td>
<td>2 694</td>
</tr>
<tr>
<td>including rye</td>
<td>7.4</td>
<td>20.4</td>
<td>2 747</td>
</tr>
<tr>
<td>winter wheat</td>
<td>19.6</td>
<td>71.4</td>
<td>3 634</td>
</tr>
<tr>
<td>summer wheat</td>
<td>65.8</td>
<td>192.0</td>
<td>2 917</td>
</tr>
<tr>
<td>oats</td>
<td>33.7</td>
<td>84.2</td>
<td>2 496</td>
</tr>
<tr>
<td>barley</td>
<td>143.7</td>
<td>365.6</td>
<td>2 544</td>
</tr>
<tr>
<td>Legumes</td>
<td>4.4</td>
<td>5.7</td>
<td>1 282</td>
</tr>
<tr>
<td>Rape</td>
<td>46.6</td>
<td>83.1</td>
<td>1 781</td>
</tr>
<tr>
<td>Oil flax</td>
<td>0.16</td>
<td>0.2</td>
<td>1 282</td>
</tr>
<tr>
<td>Potatoes</td>
<td>14.0</td>
<td>209.8</td>
<td>15 028</td>
</tr>
<tr>
<td>Open field vegetables</td>
<td>3.0</td>
<td>50.7</td>
<td>16 874</td>
</tr>
<tr>
<td>Total field crops</td>
<td>560.7</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

* 11 400 ha were under energy crops

Source: Statistics Estonia, Agricultural Market Regulation Department of the MoA

Cereals occupied 51.0% of the total growing area, fodder crops 33.1%, industrial crops 12.7%, and potatoes, vegetables and legumes 3.2%.
**Number of animals and poultry**

According to preliminary data from the Statistics Estonia, there were 242,000 bovine animals (including 104,100 dairy cows), 374,700 pigs and 77,900 sheep and goats in Estonia as of 31 December 2007 (Table 3). Compared to the same time in 2006, the numbers of cattle and poultry had decreased by 1% (including dairy cows by 4%) and 12%, respectively, while the numbers of pigs had increased by 8%, and sheep and goats by 18%.

According to the ARIB,¹ the register of farm animals contained 242,300 bovine animals, including 104,500 dairy cows and 6,700 beef cows as of 31 December 2007. The register also contained 61,700 sheep and 2,000 goats.

By counties, the largest numbers of cattle are kept in Järva County (32,074), West-Viru County (30,181) and Pärnu County (23,626). The number of cattle in these counties has decreased since the previous year, especially the number of dairy cows. There were 15,787 dairy cows in Järva County, 12,821 dairy cows in West-Viru County and 10,691 dairy cows in Pärnu County. The number of beef cattle, in contrast, has increased by 28% since 2006. As in previous years, the numbers of beef cattle are the largest in Lääne County (942), Saare County (804) and Hiiu County (627). The number of sheep and goats is the largest in Saare County. The numbers of sheep and goats have increased by 1.4% and 1.6%, respectively, in Saare County.

**Table 3. Numbers of animals and poultry as of 31 December 2007 ('000)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>+/−</td>
<td>%</td>
</tr>
<tr>
<td>Cattle</td>
<td>244.8</td>
<td>242.0</td>
<td>-2.8</td>
<td>98.9</td>
</tr>
<tr>
<td>incl. cows</td>
<td>108.4</td>
<td>104.1</td>
<td>-4.3</td>
<td>96.0</td>
</tr>
<tr>
<td>Pigs</td>
<td>345.8</td>
<td>374.7</td>
<td>+28.9</td>
<td>108.4</td>
</tr>
<tr>
<td>Sheep and goats</td>
<td>66.0</td>
<td>77.9</td>
<td>+11.9</td>
<td>118.0</td>
</tr>
<tr>
<td>Poultry</td>
<td>1,638.7</td>
<td>1,447.4</td>
<td>-191.3</td>
<td>88.3</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia, Agricultural Market Regulation Department of the MoA

**Output of the food industry**

The total output of food industry undertakings was BEEK 16.9 in 2007; this accounts for 16.7% of the processing industry’s total production (Table 4). The dairy industry, beverages industry and meat industry continue to be the largest contributors to Estonia’s total food industry output with 28.4%, 20.7% and 18%, respectively.

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¹ The difference from Statistics Estonia data is due to the fact that according to the regulation establishing the register of farm animals, livestock farmers and persons organising the slaughter of farm animals and handling of animal waste have to register their data within seven days of marking or import to Estonia from another EU Member State of a farm animal, the date of modification of registration data or the date of slaughtering a farm animal or acceptance of animal waste for processing. The Statistics Estonia records data as of a specific date based on information collected by sample survey and processed.
Table 4. Output and export of the food industry in current prices (EEK '000 000) in 2000–2006

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006*</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial output</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All industries</td>
<td>52 583</td>
<td>60 371</td>
<td>68 116</td>
<td>76 177</td>
<td>86 121</td>
<td>96 615</td>
<td>97 203</td>
<td>114 014</td>
</tr>
<tr>
<td>Processing industry</td>
<td>45 513</td>
<td>52 554</td>
<td>59 663</td>
<td>66 409</td>
<td>77 023</td>
<td>88 152</td>
<td>86 427</td>
<td>100 761</td>
</tr>
<tr>
<td>..food and beverages</td>
<td>9 776</td>
<td>11 101</td>
<td>11 384</td>
<td>11 737</td>
<td>13 268</td>
<td>14 352</td>
<td>14 924</td>
<td>16 861</td>
</tr>
<tr>
<td>..percentage of food and beverages in processing industry</td>
<td>21,5</td>
<td>21,1</td>
<td>19,1</td>
<td>17,7</td>
<td>17,2</td>
<td>16,3</td>
<td>17,3</td>
<td>16,7</td>
</tr>
<tr>
<td>....meat and meat products</td>
<td>1 500</td>
<td>1 800</td>
<td>1 931</td>
<td>2 073</td>
<td>2 314</td>
<td>2 651</td>
<td>2 711</td>
<td>3 040</td>
</tr>
<tr>
<td>....fish and fish products</td>
<td>1 514</td>
<td>1 934</td>
<td>1 724</td>
<td>1 448</td>
<td>1 381</td>
<td>1 395</td>
<td>1 365</td>
<td>1 220</td>
</tr>
<tr>
<td>....dairy products</td>
<td>2 557</td>
<td>2 916</td>
<td>2 815</td>
<td>2 930</td>
<td>3 892</td>
<td>3 924</td>
<td>4 203</td>
<td>4 786</td>
</tr>
<tr>
<td>....products of the milling industry</td>
<td>56</td>
<td>99</td>
<td>130</td>
<td>180</td>
<td>202</td>
<td>177</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>....ready-made feedingstuffs</td>
<td>240</td>
<td>296</td>
<td>344</td>
<td>308</td>
<td>358</td>
<td>383</td>
<td>295</td>
<td>385</td>
</tr>
<tr>
<td>...bread and bakery products</td>
<td>1 010</td>
<td>1 134</td>
<td>1 205</td>
<td>1 275</td>
<td>1 352</td>
<td>1 474</td>
<td>2 072</td>
<td>2 536</td>
</tr>
<tr>
<td>...beverages</td>
<td>1 893</td>
<td>1 810</td>
<td>1 966</td>
<td>2 134</td>
<td>2 278</td>
<td>2 600</td>
<td>3 147</td>
<td>3 487</td>
</tr>
<tr>
<td><strong>Sale of output for export</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All industries</td>
<td>23 915</td>
<td>28 191</td>
<td>31 516</td>
<td>36 042</td>
<td>41 443</td>
<td>47 818</td>
<td>50 234</td>
<td>59 597</td>
</tr>
<tr>
<td>Processing industry</td>
<td>23 215</td>
<td>27 789</td>
<td>31 033</td>
<td>35 513</td>
<td>40 917</td>
<td>47 412</td>
<td>49 379</td>
<td>57 838</td>
</tr>
<tr>
<td>...food and beverages industry</td>
<td>2 794</td>
<td>3 190</td>
<td>3 030</td>
<td>3 222</td>
<td>3 570</td>
<td>3 827</td>
<td>4 139</td>
<td>4 513</td>
</tr>
<tr>
<td>....meat and meat products</td>
<td>191</td>
<td>238</td>
<td>271</td>
<td>300</td>
<td>283</td>
<td>341</td>
<td>375</td>
<td>369</td>
</tr>
<tr>
<td>....fish and fish products</td>
<td>1 212</td>
<td>1 540</td>
<td>1 234</td>
<td>1 099</td>
<td>930</td>
<td>979</td>
<td>1 048</td>
<td>920</td>
</tr>
<tr>
<td>....dairy products</td>
<td>740</td>
<td>688</td>
<td>704</td>
<td>886</td>
<td>1 415</td>
<td>1 280</td>
<td>1 236</td>
<td>1 574</td>
</tr>
</tbody>
</table>
The trade balance of agricultural products has been negative since 1995. It has only been positive for dairy and fishery products. In 2007, 26.8% of food industry output was exported. Exports traditionally have the largest shares in the fisheries sector, followed by the dairy sector.
2.2. Dairy market: production, processing, trade

Kalev Karisalu, Ahto Tilk, Eha Niinepuu

Milk production

According to the Statistics Estonia, 689 700 t of milk was produced in 2007, which is 2300 t or 0.3% less than in 2006. The slight decrease in milk production was due to the decrease in the number of cows, while productivity continued to grow. Preliminary data shows that the yield per cow was 6368 kg in 2007, i.e. 83 kg more than last year.

As of 31 December 2007, 1276 herds and 94 671 cows or 91% of cows in Estonia were subjected to performance testing. According to the Animal Recording Centre, the average yield of recorded cows in 2007 was 7052 kg or 190 kg more than in 2006.

<table>
<thead>
<tr>
<th>Size groups (annual average)</th>
<th>Cows per herd in 2006</th>
<th>Number of herds in 2007</th>
<th>Cows per herd in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>…10</td>
<td>2 496</td>
<td>466</td>
<td>2 234</td>
</tr>
<tr>
<td>11…50</td>
<td>10 912</td>
<td>479</td>
<td>10 925</td>
</tr>
<tr>
<td>51…100</td>
<td>7 014</td>
<td>105</td>
<td>7 448</td>
</tr>
<tr>
<td>101…300</td>
<td>25 958</td>
<td>139</td>
<td>25 638</td>
</tr>
<tr>
<td>300…</td>
<td>49 429</td>
<td>87</td>
<td>48 426</td>
</tr>
<tr>
<td>Total</td>
<td>95 809</td>
<td>1 276</td>
<td>94 671</td>
</tr>
</tbody>
</table>

* According to the Animal Recording Centre, 1475 herds with 99 596 cows were subjected to performance testing as of 31 December 2006, including 95 809 cows in herds which were performance tested also as of 31 December 2007; there were 3787 cows in 221 herds which terminated performance testing in 2007. Another 452 cows were added to the terminated herds before performance testing was terminated. The Animal Recording Centre’s data shows that 2757 cows were sold as live animals, 469 cows were culled for other reasons and 1009 cows remained in their herds as of 31 December 2007.

Source: Animal Recording Centre

The average yields of the Estonian Holstein breed and the Estonian red cow breed were 7273 and 6476 kg, respectively. The average milk yield of the Estonian cattle breed cows was 4469 kg.

No new records of annual yields or lifelong yields were set in 2007.
The following cattle breeders had the best herds in terms of annual average yields:

- herds of 3–10 cows – Helju Jaakson (5 cows), 9470 kg;
- herds of 11–100 cows – Lea Puur (34 cows), 11 040 kg;
- herds of over 100 cows – Põlva Agro OÜ (1123 cows), 11 181 kg.

A total of 593 400 t of milk of 4% fat and 3.3% protein contents, i.e. 12 500 t or 2% less than in 2006, was sold to the dairy industry. This accounted for 86% of total milk production. Of the milk bought by the dairy industry, 53% was premium milk and 44% was higher grade milk. The share of premium milk increased by 4%, compared to the previous year.

In 2003–2007, 111 dairy farms holding a total of 35 728 cows were built or reconstructed (according to the Animal Breeders Association of Estonia). As a result, more than one-third of all cows were in new or reconstructed farms by the end of 2007. Unfortunately, two reconstructed farms and one new farm are currently idle due to economic difficulties.

Figure 2 depicts the main indicators of milk production over the past five years. Although the number of cows has decreased year by year, the total output of milk has increased owing to the constant growth of yields till 2007.

The buying-in price of milk, which remained stable during the first three quarters of 2003 (at about 2760 EEK/t), increased in 4Q2003 by about one-fifth compared to 3Q2003, by another 16% in 1Q2004 compared to 4Q2003, and then remained relatively stable for three years (3838 EEK/t in 2004, 3975 EEK/t in 2005, 3805 EEK/t in 2006). The buying-in price of milk started to increase again only in the second half of 2007 and reached 4973 EEK/t in 4Q2007, about 30% higher than in the first half of 2007.

The average buying-in price of milk in 2007 was 4202 EEK/t, which is 397 EEK/t or 10% higher than in 2006.
Organisation of the market in dairy products

The exceptionally favourable situation on both the EU domestic market and global market had a major impact on the organisation of the Estonian market in milk and dairy products.

Against the background of a robust increase in demand and the price increase of butter, cheese, and especially powders, the refund rates used in the still actively applied market organisation schemes dropped rapidly and reached zero by mid-year (for skimmed milk powder, the refund rates had already reached zero in 2006). Therefore, companies showed minimal interest towards various schemes in 2007.

Intervention buying-in of butter (from 1 March to 31 August) was not applied in Estonia in 2007, since the prices of butter remained higher than intervention prices. All butter (714 t) placed in intervention storage in the previous year was sold in February by way of a tendering procedure at a price of 237 EUR/100 kg (3708 EEK/100 kg).

For private storage of butter, two contracts for a total of 84 t of butter were signed in the second quarter of the year. The entire quantity was placed back on the market in the third quarter.

No interest was shown in aid for disposal of dairy products; also, the aid rates dropped to zero in April.

The rates of dairy product export refunds also gradually decreased in the first half of the year and reached zero in mid-June. Still, MEEK 45.9 was paid out in 2007 for earlier export, including MEEK 26.9 for butter, MEEK 11.6 for cheese, MEEK 7.2 for cream and MEEK 0.2 for milk powder.

The milk production quota assigned to Estonia for the quota year 2007/2008, which started in 1 April 2007, is 636 100 t (delivery reference quantity) and 10 300 t (reference quantity for direct marketing), totalling 646 400 t according to data from the ARIB.

During nine months, milk producers supplied the industry with 452 200 t of milk (71% of the annual delivery reference quantity), which is 1000 t less than during the same period last year, and marketed nearly 5000 t of milk directly to the end consumer (38% of the annual reference quantity for direct marketing), i.e. about 1500 t less than during the same period last year. The reduction was due to reduced milk production.

As of the beginning of 2008, there are 1368 holders of milk production quotas in Estonia (157 less than last year), of whom 1202 hold a delivery reference quantity and 303 hold a reference quantity for direct marketing.

Milk processing and market

Number and location of dairy enterprises in Estonia

According to the Veterinary and Food Board (VFB), there were 37 dairy industries in Estonia as of 26 October 2007, including 2 farm dairies which were also approved for organic processing. The regional breakdown was as follows: 2 dairy industries in East-Viru County, 3 in West-Viru County, 10 in Harju County, 1 in Saare County, 2 in Rapla County, 3 in Järva County, 2 in Jõgeva County, 4 in Tartu
County, 2 in Põlva County, 2 in Võru County, 2 in Valga County, 2 in Pärnu County and 2 in Viljandi County. The only county without its own dairy industry is Lääne County.

The share of dairy industries with a foreign shareholding decreased in 2007 in terms of numbers. OÜ Põlva Piim Tootmine and AS Rakvere Piim, which had Dutch and UK holdings, respectively, at the beginning of the year, are again fully based on Estonian capital.

Dairy industries with a foreign shareholding as of 1 January 2008:

- Russia – OÜ Estmilk Production;
- Finland – AS Võru Juust, Valio Eesti AS Laeva Meierei;
- Italy – OÜ Vigala Piimatõöstus.

Of the approved enterprises, 29 procured crude milk, including one that acted as a collection point for crude milk; one engaged in storage and deep freezing; one specialised exclusively in packaging; six enterprises used other processors’ products as raw material (pasteurised cream, curds, powders, butter, whey). Three enterprises that procure crude milk processed only their own farms’ milk. Farm dairies mainly produced cheese, soft cheeses, curds, cottage cheese and soured milk products (yoghurt, sour cream).

In addition to dairy products, Estonian dairy industries also package pastry products and biscuits, produce thickened juices, juices, nectars, beverages and edible ice and store packaged dairy, fish and meat products and vegetables.

Among the products of those dairies that engage in organic processing, curds, yoghurts and cheese may bear the ecolabel. The ecolabel may be used for marking products by undertakings whose enterprise has been approved under the Organic Farming Act, so that consumers can better distinguish organic foods from other similar foods.

Processing areas of the enterprises:
- drinking milk – 10 enterprises;
- fresh cream – 15 enterprises;
- soured milk products – 19 enterprises;
- butter and butter mixes – 15 enterprises;
- cottage cheese, curds, glazed cheese curds, desserts, sauces – 22 enterprises;
- cheese – 13 enterprises;
- processed cheese – 4 enterprises;
- soft cheeses – 12 enterprises;
- UHT² – 1 enterprise;
- milk-based powders – 5 enterprises;
- ice cream – 3 enterprises;
- packaging – 6 enterprises;
- storage – 7 enterprises;
- other activities – 10 enterprises.

Relative share of dairy industry in Estonia’s processing industry

According to preliminary data (Table 6), the dairy industry accounted for 4.75% of the total output of the processing industry and 28.4% of that of the food industry. Dairy products accounted for 34.9% of the total export of food products in 2007.

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² Ultra high temperature treated milk.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

Table 6. Relative share of the dairy industry in the business sector

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of dairy industry in the processing industry, %</td>
<td>4.4</td>
<td>6.2</td>
<td>5.4</td>
<td>4.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Share of dairy industry in the food industry, %</td>
<td>25.0</td>
<td>32.0</td>
<td>30.3</td>
<td>28.2</td>
<td>28.4</td>
</tr>
<tr>
<td>Share of dairy products in export of foodstuffs, %</td>
<td>27.0</td>
<td>40.0</td>
<td>35.8</td>
<td>29.9</td>
<td>34.9</td>
</tr>
<tr>
<td>Number of enterprises (end of year)</td>
<td>41</td>
<td>42</td>
<td>40</td>
<td>38</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia short-term statistics, MoA calculations

Milk quality and price

Dairy enterprises supplied 593 400 t of milk in 2007, which was 12 500 t or 2.1% less than in 2006.

96.5% of bought-in milk was premium or higher grade (Figure 3). The share of premium or higher grade milk increased by 0.8% compared to the previous year. The share (3.0%) of first grade milk decreased by 0.6% in 2007.

Bought-in crude milk contained an average of 4.06% of fat (decrease of 0.017% since 2006) and 3.37% of protein (increase of 0.05% since 2006). The average buying-in price of crude milk was 4.22 EEK/kg in 2007, which is 10.7% or 40.7 cents per litre more than in 2006. The industry's average buying-in price of milk started to rise rapidly from July 2007 (Figure 3) and was 5.157 EEK/kg by December, i.e. a rise of 33.4% or 1.291 EEK/l.

Table 7. Production and buying-in of crude milk

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude milk production (’000 t)</td>
<td>621</td>
<td>611</td>
<td>652</td>
<td>670</td>
<td>692</td>
<td>690</td>
</tr>
<tr>
<td>Crude milk production (’000 t)</td>
<td>497</td>
<td>485</td>
<td>536</td>
<td>571</td>
<td>606</td>
<td>593</td>
</tr>
<tr>
<td>Bought-in milk, %</td>
<td>80</td>
<td>79</td>
<td>82</td>
<td>85</td>
<td>88</td>
<td>86</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia, preliminary data
The buying-in price of milk in Estonia consists of various components. Each processor sets the buying-in price for milk depending on their possibilities and the agreement reached with the producers. The buying-in price is based on the grade price to which a price for protein and fat contents is added. When the protein and fat contents are taken into account, the price is increased or decreased depending on the basic figures and the actual qualities of the milk. The basic figures may differ between industries. The buying-in price is also greatly influenced by the world market demand for dairy products. Therefore, the rises and falls of milk are closely related to raw material needs, quantities, grades, as well as protein and fat contents and world market prices.

Source: Statistics Estonia, MoA calculations

Members of the Estonian Dairy Association (Figure 5) supplied 593 394 t or 71.6% of all bought-in milk.

Source: Estonian Dairy Association
Production of dairy products

Estonia produces more milk than it is capable of consuming. About 33% of dairy products are exported to the EU or third countries. This is why the development of the Estonian dairy industry is closely related to what happens on the world market — consumer preferences and world market prices. The viability of the dairy sector depends on quality raw material and effective agreements with retail chains. It also depends on the ability to quickly react to world events and the skills of making the most of favourable situations. Dairy industries pay great attention to competitive products, product range and quality, modernisation of technology and environmentally sustainable operations. Cooperation with various research institutions is successfully developed, and specialisation and mutual subcontracting are typical practices.

The situation on the world market in dairy products was favourable in 2007, i.e. demand exceeded supply and the prices of most products rose. According to preliminary data for 2007 (Figure 6), skimmed milk powder and 80–90% butter were in especially great demand and their production increased by 44.6% and 27.9%, respectively. The production of cream (12.9%), curds (5.5%), fermented milk products (2.8%) and ice cream made solely of milk (0.7%) also increased. In connection with the increased production of butter and skimmed milk powders, the production of whole milk powder and cheese decreased (by 38.2% and 12.1%, respectively). The production of the most popular school milk product, 2.5% drinking milk, also decreased slightly (by 0.1%). This may be partly due to the gap between the rapidly rising price of the product and the stable rate of subsidy for school milk products.

Figure 6. Production of dairy products, 2003–2007 (’000 t)

Source: Statistics Estonia * – preliminary data

The range of domestic dairy products available in shops is constantly renewing and widening. In addition to developing an assortment of yoghurts, curds, cheese and ice cream, whey-based desserts have been introduced to the market. Curd soufflés are a novelty in the ready-to-eat range.
Products in which butterfat and/or milk protein has been partly or fully replaced with vegetable fats and/or proteins are competing on the market with traditional dairy products. Estonian consumers are familiar with blended spreads (Võidel, Võideks), products similar to glazed cheese curds, ice creams, as well as products similar to cheese, in which milk fat has been partly replaced with vegetable fat.

In addition, products competing with dairy products only by their name have been placed on the market, such as soy protein products.

New products are welcomed as they diversify the market. However, consumers may sometimes receive misleading information from the labelling when it comes to alternative products. Therefore, it is important not to label these products with names reserved for dairy products and to give the consumer a clear idea of the contents when reading the package.

**Consumption of dairy products**

As the buying-in prices of milk rose, the ex-works and retail prices of dairy products also rose sharply (Figure 7). The buying-in price of crude milk rose by 33.4% from June to December 2007. During the same period, the average retail prices in Estonian grocery stores also rose: 44.7% for 2.5% drinking milk, 40.2% for butter, 29.1% for 10% fresh cream, 28.1% for 20% sour cream, 27.1% for domestic cheese, 20% for kephir and 18.4% for cottage cheese. The rapid rise in prices has, to a degree, influenced the quantities of dairy products consumed.

**Figure 7.** Average buying-in price of crude milk (excluding VAT) and average retail prices of dairy products (including VAT) in Estonian grocery stores in 2007 (EEK/kg)

![Graph showing average buying-in price of crude milk and average retail prices of dairy products in 2007](image)

**Source:** Estonian Institute of Economic Research
The survey of the nations eating habits and purchasing preferences for food products carried out by the Estonian Institute of Economic Research shows that 73% of consumers currently prefer domestic products and regard their assortment (69%) and quality (75%) as good. However, large price increases have changed the purchasing habits of 76% of the population when it comes to dairy products. 77% of them started to watch the prices of dairy products more often and 58% started to choose and purchase cheaper products. Contributing to the decreased preference for domestic products is also the fact that it has become more difficult for consumers to differentiate between domestic and imported products.

**Sales, export and import of dairy products**

According to preliminary data, the output, sales and export of dairy industries (Figure 7) increased in 2007 in terms of value. The value of the total output was MEEK 4785.6 (+13.9%), sales were MEEK 4745.8 (+12.8%) and export amounted to MEEK 2063.8 (+34.7%) or MEEK 532 more than in 2006.

*Figure 8. Output, sales, and export of the dairy industries in 1998–2007*

*Source: Statistics Estonia*
The foreign trade balance of dairy products (Figure 9) continued to be positive in 2007 (+MEEK 1584.2), having increased by 31.4% (MEEK 378.3) since 2006. Export of dairy products exceeded import by 4.3 times (MEEK 2063.8 and MEEK 479.6, respectively). Export of dairy products accounted for 18.7% (18.1% in 2006) of total agricultural export (MEEK 11 034.9).

Most of the products were still exported to the EU Member States (84.1%). The major partners among the EU countries were Germany (27.6%), Latvia (14.2%), Finland (10.3%) and the Netherlands (9.1%); Russia (12.1%) was the largest trade partner among third countries. As an aftermath of the bronze Soldier events, export to Russia (Figure 10) started to decline from April 2007 and dropped to MEEK 9.8 by July. Dairy exports started to grow again from August and overall, export to Russia increased by 6.2% or MEEK 14.6 in 2007 compared to 2006.

Of the exported dairy products, 90% in terms of value were produced in Estonia. The main export articles in 2007 were non-condensed dairy products (41 304 t), cheese (11 273 t) and skimmed milk powder (9556 t). The export of skimmed milk powder (3889 t) and butter (2818 t) increased 1.5-fold and 2-fold, respectively. The export of liquid dairy products (19 550 t) and milk powder (2097 t) decreased by 32.1% and 34.9%, respectively.

3 The estimated value of unspecified exports declared under Chapter 04 (MEEK 59.9) was included in the export of dairy products.
Of dairy products exported to third countries, cheese accounted for 50.7%, whey products 17.2%, butter and butterfat 15.5% and milk powders 8.8% in terms of value. Export prices were more favourable than in 2006 for the following products: skimmed milk powder 49.6% (+15.39 EEK/kg), milk powder 28.5% (+9.71 EEK/kg), butter 26.8% (+8.23 EEK/kg) and cheese (others, CN 0406 90) 18.7% (+8.45 EEK/kg).

Compared to the year 2006, the import of dairy products (MEEK 479.6) increased by 47% or MEEK 153.4 and accounted for 3% of all agricultural imports. 94.3% of the import came from the EU countries (Poland 21.4%, Finland 17.5%, Latvia 17.4%, Lithuania 14.4% and Germany 10.4%). As regards third countries, MEEK 5.9 worth of ice cream was imported from Russia and MEEK 21.2 of mainly cheese was imported from Norway. The largest import product groups were cheese (2709.9 t) and fermented milk products (3800.9 t), the import of which accounted for 34.4% and 18% of the total import of dairy product in terms of value.

Compared to the previous year, there was a rise in the average import prices of cheese (CN 0406 90) (+11.47 EEK/kg or 20.5%), butter (+6.43 EEK/kg or 14.5%) and fermented products (+0.76 EEK/kg or 3.5%), while the average import prices of skimmed milk powder and milk powder dropped (by 0.85 EEK/kg or 2.8% and 3.85 EEK/kg or 11%, respectively).

**School milk**

According to preliminary data from the ARIB (as of 31 December 2007), MEEK 14.7 was paid as support (MEEK 8.5 by Estonia and MEEK 6.2 by the EU) for dairy products consumed in 2007. Over this period, support was granted for a total of 2 538 000 litres of school milk products, of which 2.5% drinking milk made up 88% (Figure 11). According to preliminary data, the quantity of products consumed has increased by 3.7% or 90 200 litres, compared to the previous year. The quantity of school milk products supported in 2007 will certainly continue to increase, as applications may be submitted within six months after the end of the supported period. The availability of dairy products for affordable prices was ensured during the study of nursery school opening hours in 883 educational establishments for a total of 186 803 children by the end of 2007.

**Figure 11. Share of school milk products supported, 2007**

<table>
<thead>
<tr>
<th>Product</th>
<th>Support (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unflavoured yoghurt</td>
<td>2.5%</td>
</tr>
<tr>
<td>Soured milk</td>
<td>1.5–1.8%, 1.5%</td>
</tr>
<tr>
<td>Other products</td>
<td>1.2%</td>
</tr>
<tr>
<td>Whole milk</td>
<td>3.5–4.0%, 7%</td>
</tr>
<tr>
<td>Milk</td>
<td>2.5%, 88%</td>
</tr>
</tbody>
</table>

*Source: ARIB, preliminary data*
Employment and wages in the dairy industry

Compared to the year 2006 (2531 employees), the average number of persons employed in the dairy sector (Figure 12) decreased by 158 in 2007 (to 2373 employees). Most of them, 1987 people, worked in enterprises employing 100 or more people. An average of 251 people worked in enterprises with a staff of 50–99 employees. Compared to the previous year, the average number of those employed in enterprises with a total of 100 or more employees and in enterprises with 50–99 employees decreased by 20 and 68 persons, respectively. The number of jobs (70 employees) decreased the most in enterprises with 1–49 employees. One of the reasons for the decrease was the closure of three dairy industries in the third quarter of 2006.

Figure 12. Average number of employees in the dairy industry and the average gross monthly wages in Estonia, the food industry, and the dairy industry, 2000–2007

The average monthly gross wages in the dairy industry were EEK 11 465 in 2007, which is EEK 205 more than the national average and EEK 1997 more than the food industry average.

The average wages in the dairy industry increased by EEK 2023 (22.3%) in 2007, compared to the previous year. The average wages increased by EEK 2095 or 21.3% in enterprises with 100 or more employees and by EEK 1109 or 13.3% in enterprises with 50–99 employees.

Figure 13. Comparison of average wages in dairy industries with 50–99 employees and those with 100 or more employees, 2006–2007 (EEK)

The rapid growth of average wages in the dairy sector was facilitated by increased demand for dairy products on the world market. The free movement of labour within the EU, which makes it possible for people to look for better-paying jobs, is another important factor. Estonian employers are forced to raise wages in order not to lose skilled and experienced staff, who may find employment in other countries.
2.3 Meat market: production, processing, trade

Ragne Lokk, Martin Pretke

Meat production
A total of 105 000 t (live weight) of animals and poultry were slaughtered on farms or sold to meat processing enterprises in 2007 (106 400 t in 2006).

Pigmeat production
There were 374 400 pigs in Estonia as of 31 December 2007, which is 28 900 or 8% more than in 2006. A total of 59 000 t of pigmeat (live weight) was produced in 2007, i.e. 900 t or 1.5% more than in 2006.

Meat processing enterprises bought in 366 000 pigs and obtained 29 000 t of meat from the bought-in pigs, which is 2300 t or 9% more than in 2006. The average weight of a dressed body was 78 kg, which is in the same range as in 2006. Pigmeat accounted for 60% of total meat production (in slaughter weight), i.e. 1 pp more than in 2006, and more than in any of the previous 15 years.

Beef production
There were 242 000 bovine animals in Estonia as of 31 December 2007, that is 2800 or 1% less than in 2006. The total number of meat breed bovine animals has constantly grown and was 22 777 as of 31 December 2007 according to the register of animals, i.e. 4952 animals or 28% more than in 2006. The most numerous breed was Hereford, followed by Aberdeen-Angus, Limousin, and Charolais.

Beef production (in live weight) amounted to 28 300 t and decreased by 6% compared to the previous year.

Meat processing enterprises bought in 42 100 bovine animals in 2007 and obtained 9900 t of beef, i.e. 0.17 t or 2% more than in 2006. Beef accounted for 20% of total meat production (in slaughter weight) in 2007, i.e. 1 pp more than in the previous year.

107 700 calves were born in 2007, that is 1100 calves or 1% more than in 2006. About one-fifth of the calves born dur-

Table 8. Meat production in live weight (t), 2006–2007

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Live weight of slaughter animals and poultry</td>
<td>106 431</td>
<td>105 045</td>
<td>-1 386</td>
<td>98.7</td>
</tr>
<tr>
<td>including bovine animals</td>
<td>30 080</td>
<td>28 341</td>
<td>-1 739</td>
<td>94.2</td>
</tr>
<tr>
<td>pigs</td>
<td>57 769</td>
<td>58 625</td>
<td>+ 856</td>
<td>101.5</td>
</tr>
<tr>
<td>sheep and goats</td>
<td>1 048</td>
<td>1 231</td>
<td>+183</td>
<td>117.5</td>
</tr>
<tr>
<td>poultry</td>
<td>17 534</td>
<td>16 848</td>
<td>-686</td>
<td>96.1</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia, Agricultural Market Regulation Department of the MoA
AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

ing a year are exported to foreign countries at an age up to three months.

After the fall in meat prices in 2003, the buying-in prices rose in the second half of 2004 and remained relatively stable in 2005 – the average buying-in prices were 23.11 EEK/kg and 22.48 EEK/kg for beef and pigmeat, respectively. The buying-in prices of both beef and pigmeat rose in 2006, but the price of beef fell again at the end of the year. The average price increase in 2006 for both beef and pigmeat was 3% compared to 2005. In 2007, the average buying-in price of beef was 23.03 EEK/kg, i.e. 0.85 EEK/kg or 4% less than last year, while the buying-in price of pigmeat was 0.11 EEK/kg higher than last year and reached EEK 23.39.

The ARIB received seven applications for pigmeat export licences in 2007; all the applications were granted. Enterprises also submitted three applications for export refunds, which were also granted (in a total amount of EEK 3999).

No applications were received for beef export refunds or import licenses for import subject to full customs duties.

In 2007, the ARIB issued tariff quota based beef export licences to applicants according to the earlier assigned import rights, and also one licence for non-refunded export.

Sheepmeat and goatmeat production

There were 77,900 sheep and goats in Estonia as of 31 December 2007, that is 11,900 or 18% more than in 2006.

The production of sheepmeat and goatmeat amounted to 1200 t in 2007, i.e. 183 t or 17% more than in 2006. Sheepmeat and goatmeat production has remarkably increased owing to the complementary national direct payment for ewe breeding and to environmental support, but its share in overall meat production continues to be very small at around 1%.

Poultry meat production

Poultry numbered 1,447,400 in Estonia as of 31 December 2007, which is 191,300 or 12% less than in 2006. Poultrymeat production amounted to 16,800 t in live weight and 12,000 t in slaughter weight, i.e. 700 t or 4% less than in 2006. Poultrymeat accounted for 19% of total meat production (in slaughter weight) in 2007, i.e. 2 pp less than in the previous year.

Egg production

155.8 million eggs were produced in Estonia in 2007, which is 26.8 million or 15% less than in 2006. The average yield per hen decreased by 2 eggs or 1% to 254 eggs.

Egg production decreased mainly because of the Newcastle disease outbreak in July in OÜ Abja Muna, where 5000 laying hens had to be slaughtered, and another outbreak of the same disease in October in AS Tallegg, where 237,000 laying hens were therefore slaughtered in November.
trymeat production decreased by 6.1% and 4%, respectively, while pigmeat production increased by 1.4%. Pigmeat makes up more than one half of all meat production, reaching 61.5% in 2007.

Figure 14. Meat production by type ('000 t), 2001–2007

![Graph showing meat production by type from 2001 to 2007]

*preliminary data

Source: Estonian Statistical Office

Compared to the previous year, 5.8% fewer bovine animals were slaughtered in Estonia in 2007 (preliminary information). Also, the import of beef continues to be relatively large. It dropped by 7.6% in 2007, but is still large enough to have an impact on production.

Animal breeding helps to develop the quality of meat (the buying-in price is higher for quality beef, EEK 34–42 per kg depending on the EUROP category).

Both the export and import of pigmeat decreased by 14.6% in 2007 compared to 2006. The export of live pigs increased by 2.1% to 6.8 t in 2007. The greatest change in the export of live pigs was the expansion of destinations. In addition to Russia, 1425 t of pigs were exported to Latvia, which accounted for 20.8% of the total export of live pigs.

There were 119 meat processing enterprises in Estonia at the end of 2007 according to the VFB. There are currently three fewer enterprises than there were in 2006.

Figure 15. Number of enterprises, 2000–2007

![Graph showing number of enterprises from 2000 to 2007]

Source: VFB

Number of employees and wages in the meat industry

According to the Statistical Office, the meat sector employed an average of 3424 persons during 2007. The number of employees has increased by 456 (15.3%) since 2005 and by as much as 657 (23.7%) since 2005. The annual average monthly wages in the meat sector were EEK 9117, which exceeds the average for 2006 by EEK 1153 (14.5%) and that of 2005 by EEK 2187 (32%). Meat industry wages were EEK 2143 (23.5%) below the national average in 2007, according to preliminary data.
Buying-in prices of meat

In 2007, the average buying-in price of pigmeat was 23.27 EEK/kg or 0.3% higher than in 2006 and 3.2% higher than in 2005. The buying-in price of pigmeat was 10% lower in the EU than in Estonia (1.9% lower in 2006, 3.5% lower in 2005 and 1.5% lower in 2004).

The average buying-in price of beef in Estonia was 23.05 EEK/kg in 2007, which is 3.8% less than in 2006 and 0.6% less than in 2004. Estonia's average buying-in price of beef is EEK 25 (52.1%) lower than that of the EU (in 2006 it was 52.6% lower and in 2005, 50.2% lower). This large price difference owes to the quality of meat – our beef is not yet the same quality as beef in the EU, but as beef cattle farming develops, the properties of domestic beef can be expected to improve.

The average buying-in price of poultrymeat in Estonia was 28.55 EEK/kg, i.e. EEK 5.5 (23.7%) higher than in 2006. In the EU, the buying-in price of poultrymeat rose by EEK 3.9 (16.6%) to 27.55 EEK/kg in 2007. In Estonia the buying-in price is EEK 1 (3.6%) higher than in the EU. Traditionally the buying-in price of poultrymeat has been slightly lower in Estonia than in the EU (2.4% lower in 2006, 2.3% lower in 2005 and 6.2% lower than in 2004).

The Estonian Institute of Economic Research was unable to publish the average buying-in price of sheepmeat for the last months of 2007, because the enterprises included in the sample (enterprises slaughtering at least 500 sheep a year must classify the sheep carcases according to the SEUROP classification, as a result of which the producer price of meat depends on the meat quality) had terminated the buying-in and slaughter of sheep.

In general, the buying-in price of sheepmeat was 37 EEK/kg in 2007 (preliminary data for the first months of the year), i.e. 0.3% lower than in 2006. According to the Statistical Office, the sheepmeat and goatmeat were bought in at a price of 33.8 EEK/kg or 0.6 EEK (1.7%) less than in 2006. The EU equivalent was 63 EEK/kg in 2007 or EEK 2.6 (4%) less than in 2006.
Trade in meat: export, import

Seven Estonian meat processing enterprises held licences to export to Russia in 2007. Compared to the previous year, the negative foreign trade balance of meat and meat products increased by MEEK 64.4 (11.6%). The foreign trade balance of meat and meat products has been negative since 1994 and the gap between export and import is constantly increasing.

Figure 18. Foreign trade balance of meat and meat products (MEEK), 1994–2007

Source: MoA

In terms of value, the export of meat and meat products increased by MEEK 44.7 (8.4%) in 2007. The import of meat and meat products exceeded export by 2.1-fold. Export to Russia decreased by 32.6%, but still accounted for 71.2% of export to third countries. Export to EU Member States increased by 10.9% and export to third countries decreased by 23.8%. The export of sausage products and poultrymeat increased the most (37.2% and 8.8%, respectively).

Compared to the year 2006, Estonia had exported 14.6% less pigmeat and 39% less poultrymeat, but 28.6% more beef.

The average export price of pigmeat was 36.18 EEK/kg, which is EEK 3.38 (10.3%) higher than in 2006. The price of poultrymeat was 30.26 EEK/kg, which is about EEK 10.80 (56.2%) higher, and the price of beef was 48.8 EEK/kg, which is EEK 7.05 (12.6%) lower than the average in 2006.

Import of meat and meat products increased by MEEK 97.5 (8.9%) in 2007 compared to 2006. Import from EU Member States increased 9% and import from third countries decreased 2.5%.

Pigmeat import decreased 14.6% compared to the previous year. The import of poultrymeat increased by 10.4% and that of beef decreased by 7.6%.

The average import price of pigmeat was 26.17 EEK/kg, which is EEK 1.6 (6.7%) higher than in 2006. The average import price of beef was 36.15 EEK/kg or EEK 5.15 (16.6%) higher than in 2006, and that of poultrymeat was 18.7 EEK/kg, i.e. EEK 3.5 (22.8%) higher.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

2.4 Cereals and legumes: market, processing, trade

Elsa Nurk, Kadri Rand, Marje Mäger

Cereal cultivation

Cereals were grown on 292,100 ha in 2007, which is 11,800 ha or 4% more than in 2006. Of this, 80% (234,800 ha) was under summer cereals and 20% (57,300 ha) was under winter cereals. The share of winter cereals was 8% higher than in the previous year. The growing area of rye was 16,700 ha; the growing area of barley was the largest – 138,800 ha.

Table 9. Number of cereal farmers in 2006 and 2007

<table>
<thead>
<tr>
<th>Size groups</th>
<th>Number of cereal farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>up to 50 ha</td>
<td>5,715</td>
</tr>
<tr>
<td>50,01…100 ha</td>
<td>433</td>
</tr>
<tr>
<td>100,01…200 ha</td>
<td>287</td>
</tr>
<tr>
<td>200,01…300 ha</td>
<td>116</td>
</tr>
<tr>
<td>300,01…500 ha</td>
<td>133</td>
</tr>
<tr>
<td>500,01…1000 ha</td>
<td>84</td>
</tr>
<tr>
<td>1000,01 ha</td>
<td>22</td>
</tr>
</tbody>
</table>

Source: ARIB

There were a total of 6,656 cereal farmers in Estonia in 2007. This is 2% less than in 2006. In the size group of up to 50 ha, the number of farmers decreased by 2.4%, in the 200–300 ha size group by 9.5% and in the 300–500 group by 6.8%, compared to the previous year. Small producers have terminated (or are terminating) their farming activities, have sold or leased out their lands or transferred to alternative agriculture. However, the number of 500–100 ha holdings among farmers has increased by 10.7%.

The total cereal harvest was 859,600 t and the average yield was 2,943 kg/ha. The total harvest of cereals increased by 240,300 t or 39% compared to 2006, and the yield increased by 733 kg/ha or 33%.

The cereal harvest consisted of 60,500 t of rye, 322,000 t of wheat and 372,800 t of barley. The rye harvest was 3.4 times larger than in 2006 and the harvests of wheat and barley were 1.5 times and 1.2 times larger, respectively. The average yield per hectare was 3,614 kg of rye, 3,299 kg of wheat and 2,665 kg of barley.

41,700 ha of winter wheat, 20,500 ha of rye and 5,400 ha of triticale were sown in the autumn of 2007 for the 2008 harvest.

The rye harvest exceeded over 60,000 t for the first time in a great while, which fully covers the food rye need of flour mills and the seed demand of rye farmers; 2,000 t of rye was exported. AS Tartu Veski purchased its food rye, which is the main cereal for black bread, from Estonian producers.

Many farmers had the best winter cereal harvests in recent years. The journal Maamajandus, AS Kemira GrowHow, and Farm Plant Eesti AS conducted the third cereal farmers’ competition in 2007, in order to introduce new valuable experience and recognise those, who implemented relevant practices. The cultivation competition was summarised by calculating the expected profit and yields per hectare of competing fields. The harvest record for
winter wheat, 8.6 t/ha, was established by OÜ Valdereks from Harju County; the rye record of 7.0 t/ha was established by OÜ Männiku Piim from Tartu County, and OÜ Kabala Agro from Järva County recorded a record 6.5 t/ha of summer barley.

According to the Laboratory of Plant Production of the Agricultural Research Centre (ARS), the quality of cereals was generally good in production fields, and the harvesting conditions were also propitious in 2007. Summer wheat was better than winter wheat in terms of many characteristics (protein in dry matter, specific weight, falling number and wet gluten content). For example, the average protein content in dry matter was 15.1% in summer wheat and 11.2% in samples of winter wheat. Flour mills were also satisfied with the quality of rye; according to 187 samples, the falling number of rye was 132 s (80 s required) and the average specific weight was 752 g/l (690 g/l required).

**Legume cultivation**

Legumes were grown on 5700 ha in 2007, which is 1100 ha or 24% more than in 2006. The total harvest was 9500 t and the average yield was 1668 kg/ha.

All farmers who have cultivated legumes are aware of the positive impact of peas on the crops that follow. Experimental data from research institutes prove that both peas and rape are good precultures for barley. According to researchers of the Estonian Institute of Agriculture, the harvest of barley increased 15.7–20.5% when sown in rotation after peas and 11.8–15.1% when sown after rape. In mixtures of peas and barley, the protein content of barley and its value as fodder improved, while the highest protein quantity per hectare was obtained when growing peas in a mixture with rape.

**Rape cultivation**

According to preliminary data, rape was grown on 73 000 ha in 2007, which is 10 500 ha or 17% more than in 2006, and the total harvest was 132 400 t, i.e. 47 800 t or 56.5% more. The yield was 1813 kg/ha. Rape was grown as an energy crop on 11 400 ha.

Most of the rapeseed harvest for 2007 was bought in by AS Werol, some was exported to Finland and Denmark, and a small part was pressed into oil and cake in local oil mills.

As a rule, the quality of rapeseed was analysed in the oil factory. For those producers who took their samples for analysis to the ARS Laboratory of Plant Production, the oil content of the analysed rapeseed samples was good (42.5% on average). Other quality indicators were also above the average required, except for chlorophyll concentration, which was 33.2 ppm (the recommended concentration is not more than 30). Chlorophyll concentration mainly depends on the time of sowing and the evenness of the ripening of the crop.

No tenders were made in 2007 for intervention buying-in of cereals.

**Distribution of food from intervention stocks to the most deprived persons**

After a long search for a macaroni producer, a food aid programme for least privileged persons was implemented in 2007. In May, a contract was signed with OÜ Malsena
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

for the production of 505 t macaroni from 2012 t of cereals supplied for intervention buying-in, of which 793 t was stored in Estonian intervention stores and the rest in Finland. Three charity organisations participated in the 2007 programme; for them, macaroni was transported to the locations chosen by these organisations.

In 2007, the Management Committee for Cereals also approved the food aid programme for 2008. The funds required for implementation of the plan, totalling EUR 192 388, were allocated in accordance with Commission Regulation (EC) No 1146/2007. Estonia was able to buy macaroni and flour from the market for this sum.

Cereal processing and market

The world consumption of cereals has increased in recent years and exceeds production. Rapid global economic growth results in an increasing worldwide demand for agricultural products. Increased production of ethanol and biodiesel also contributes to the world’s demand for agricultural products. As a result, global cereal stocks are steeply diminishing, while prices are rising. The tense trade situation has raised the prices of many goods to the highest level of the decade. The prices of agricultural products also continue to rise.

Production and consumption of cereals and cereal-based products

According to the Food and Agriculture Organization of the United Nations (FAO), cereal consumption increases year by year. According to preliminary data, cereal consumption amounted to 2105 million tonnes in the harvest year 2007/08, of which 47.9% was consumed as food, 35.1% as animal feed and the remaining 16.9% for other purposes (including bioenergy production). Total consumption was 2.1% higher than in the previous harvest year. While consumption for food and animal feed increased only by 1.1% and 0.5%, respectively, consumption for other purposes (including bioenergy) increased as much as 8.4%. This shows that the increase in the share of bioenergy boosts the world’s demand for cereals.

Table 10. Cereal consumption in the world (’000 000 t)

<table>
<thead>
<tr>
<th></th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08*</th>
<th>Change % 2007/08 2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total consumption</td>
<td>2 037,60</td>
<td>2 062,40</td>
<td>2 105,00</td>
<td>2,1</td>
</tr>
<tr>
<td>…food</td>
<td>982,5</td>
<td>997,5</td>
<td>1 008,70</td>
<td>1,1</td>
</tr>
<tr>
<td>…animal feed</td>
<td>748,7</td>
<td>735,9</td>
<td>739,6</td>
<td>0,5</td>
</tr>
<tr>
<td>…other</td>
<td>306,4</td>
<td>329</td>
<td>356,6</td>
<td>8,4</td>
</tr>
</tbody>
</table>

* preliminary data
Source: FAO

According to the Statistics Estonia, Estonia’s cereal output in the harvest year 2006/07 was 619 000 t; the domestic market demand for cereals and cereal-based products (in grain equivalents) was 671 000 t. This included consumption in the form of animal feed (65.7%), human consumption (15%), seed (11.3 %), and industrial consumption 4 (7.2%) (Figure 19). Domestic market demand was 22 200 t or 3.1% less than in the previous harvest year.

The largest part of cereals, 440 900 t, was consumed in 2006/07 as animal feed, followed by human consumption

4 Industrial consumption means the use of cereals for production of alcoholic beverages and other products, except for food and feedingstuffs.
Compared to the previous harvest year, industrial consumption increased the most (18.4%) in 2006/07, which is explained by increased production of ethanol. Compared to 1999/2000, industrial consumption has increased as much as 89.2%.

Food cereal demand decreased in 2006/07 by 1.3% as the consumption of cereal-based products decreased. The change in the consumption habits of people is witnessed by the fact that the consumption of cereal-based products has decreased by 20.3% since 1999/2000. Consumption for animal feeding was 19.4% higher in 2006/07 than in 1999/2000.

The cereal harvest is also reflected in export and import volumes (Figure 20). Import goes up and export goes down in a good harvest year. Compared to the previous harvest year, which was a good one, import of cereals increased by 10.4% and export decreased by 25% in 2006/07.

Estonia’s self-supply level was 109.7% in 2005/06, 92% in 2006/07 and 128% in 2007/08.
Oats constituted 1.4% of total consumption. The decrease in oats consumption is attributable to the decrease in the number of horses, but there are also other reasons. The areas that were formerly under oats are now used for other crops with higher nutritional values. Farmers raising highly productive meat and dairy cattle need higher energy feed with higher protein content, and this is why oats have become a secondary fodder crop.

Figure 21. *Per capita cereal consumption in the harvest year (kg)*

![Cereal consumption graph](image)

* – maize, triticale, sorghum, buckwheat, mixed cereals, millet

**Source:** Statistics Estonia

**Number of cereal and cereal product processing enterprises**

The cereal processing industry comprises milling industry enterprises and enterprises producing feedingstuffs, bakery products, and other products made from flour.

As of 6 March 2008, there were 331 enterprises processing food of non-animal origin under the supervision of the Veterinary and Food Board. Out of those, 324 were approved (one of them conditionally) and seven enterprises were subject to notification. The VFB supervised 159 cereal processing enterprises as of 6 March 2008. Of these, 137 were bakeries, 10 made pastry products, and 12 produced or handled other cereal-based products.

Cereal processing enterprises are distributed very unevenly across the country’s territory. This pattern is directly associated with the population densities of the counties. The VFB supervises enterprises producing feedingstuffs. The state register of feedingstuffs contained 1622 enterprises handling feedingstuffs, including four approved feedingstuff producers and 18 approved intermediaries. Nine enterprises were in the business of production and intermediation of feedingstuffs.

The VFB supervised 159 cereal processing enterprises as of 6 March 2008. Of these, 137 were bakeries, 10 made pastry products, and 12 produced or handled other cereal-based products.

According to the Statistics Estonia, Estonia’s total output of cereal-based products was 267 200 t in 2007, which is 9.2% (5300 t) more than in 2006. Compound feedingstuffs accounted for nearly one half (45.1%) of the total output of cereal-based products, followed by cereal flour (26.9%),

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5 The compliance of Chapter 10 of the combined nomenclature of goods (CN), except for rice, is assessed in the course of production.

6 Notification is a simplified form of the approval procedure, which is applied to e.g. food transport and retail businesses that handle food which may be stored at room temperature.

7 Such as flour, flakes, mueslis, macaroni, etc.

8 Enterprises engaged in any stage of production, processing, storage, transport or marketing of feedingstuffs.

9 Enterprises producing lower risk feedingstuffs are subject to registration and those producing higher risk feedingstuffs are subject to approval. Approved enterprises must meet stricter requirements and may also handle compound feedingstuffs, additives in feedingstuffs, feedingstuffs intended for particular nutritional purposes and medicated feedingstuffs, the ingredients of which (such as medicinal products, growth promoters, enzymes, micro-organism proteins, etc.) pose a higher risk to the health of people or animals or the environment.

10 Such as flour, flakes, mueslis, macaroni, etc.
bakey products (24.5%), pastry products (3%), and milling industry products (0.4%).

The production of **compound feedingstuffs** increased the most compared to the previous year. 120 600 t of compound feedingstuffs were produced in 2007, which is 13.4% (14 300 t) more than in 2006.

**Cereal flour** production amounted to 71 900 t, which is 7.9% more than in 2006. This increase was necessitated by increased production of bakery and pastry products. Pizza and pastry are increasingly preferred to bread, which is also reflected in production – wheat flour production was 11.4% greater in 2007 than in 2006, while rye flour production decreased by 0.7% over the same period.

The production of **pastry products** grew by 7.2% (8100 t) to 8100 t in 2007, and that of **bakery products** grew by 4.6% (2900 t) to 65 500 t.

Only the output of **milling industry products** has decreased by 28.3% (500 t) to 1300 t in comparison with last year.

The range of cereal-based products available in shops has greatly expanded over the past decade. In 1997, the consumer could choose between eight kinds of bread; in 2007, between forty. The assortment of biscuits (92) and macaroni (43) has grown even more.

When it comes to the shares of domestic¹¹ and imported products in terms of assortment and sales, Estonian products take the largest share in bread products (~100%). The share of domestic wheat flour and oat flakes in the assortment and sales of shops is also over 60%, and that of biscuits is about 30%. No macaroni made in Estonia were available in shops in 2007.

**Figure 23. Share of domestic products in assortment and sales (%)**, 2007

<table>
<thead>
<tr>
<th>Product</th>
<th>Assortment</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread</td>
<td>98.2</td>
<td>100</td>
</tr>
<tr>
<td>Wheat flour</td>
<td>61.5</td>
<td>78</td>
</tr>
<tr>
<td>Biscuits</td>
<td>32.6</td>
<td>31</td>
</tr>
<tr>
<td>Oat flakes</td>
<td>54.3</td>
<td>74</td>
</tr>
</tbody>
</table>

**Source: Estonian Institute of Economic Research**

¹¹Products produced by Estonian processors; the origin of raw materials in the products is not taken into account.
Estonian food industry enterprises pay great attention to product development. Product assortment surveys conducted by the Estonian Institute of Economic Research in 2007\textsuperscript{12} showed that the assortment of bread has increased 7.8 times since 1995. However, as opposed to previous years, when only Estonian bread was available, Lithuanian breads were added to shops’ assortments in 2007. While the assortment of bread remained relatively stable in 2007, the price of bread rose by 19.5%. One of the factors behind this was the rapid rise of food cereal prices.

The assortment of biscuits and wheat flour produced in Estonia has also increased since 1995 (4.6 and 3.7 times, respectively). The share of domestic flour in the wheat flour assortment decreased significantly in 2007 (from 83% to 61%); the share of Estonian flour in sales decreased less (from 87% to 78%). This shows that consumers prefer Estonian flour when available.

The production of macaroni was terminated in Estonia in 2006, facing pressure from the commercial sector due to the poor quality of the products, and now only imported macaroni is available. When identifying the country of production, consumers are misled by products with trademarks resembling Estonian ones, which are actually only packaged in Estonia or commissioned by Estonian companies from abroad.

The year 2007 was characterised by a very rapid rise in food prices. The buying-in prices of cereals have risen 40–50% over the past year, and so have the retail prices of cereal-products.

Food products have also become more expensive elsewhere in Europe. This is due to the rise in the world market price of cereals. According to the Estonian Institute of Economic Research, the price of a kilogram of wheat flour in shops in Tallinn had gone up by 36.3% to EEK 9.89 by December 2007, compared to December 2006. In Berlin, the price of wheat flour rose by 46.8%, in Vilnius by 40.4%, in Riga by 31.2%, in Stockholm by 26.6% and in Helsinki by 12.3% at the same time.

The retail price of toast was EEK 10.71 in Tallinn in December 2007. It had risen by 42.2% since December 2006. In Stockholm, the price of toast rose by 75.9%, in Helsinki by 31%, in Riga by 18.5%, in Vilnius by 15.9% and, with the lowest increase being 6.1% in Berlin over the same period.

\textsuperscript{12} “Position of Estonian food products on the domestic marker”, Estonian Institute of Economic Research, 2007.
The price of spaghetti in Tallinn was the same in December 2007 as it was in December 2006 – EEK 9.83. In Helsinki, the price of spaghetti dropped by 4.6% over the same period. In Vilnius it increased by 37.6%, in Riga by 32.6%, in Berlin by 18.8% and in Stockholm by 15.2%.

*Figure 25. Change of food product prices (%), December 2006 – December 2007*

Wheat had the largest share – 39.9% (46 900 t) of imported cereals, followed by barley – 30% (35 300 t) and maize – 18.5% (21 700 t).

*Figure 26. Import of cereals (‘000 t), 2005–2007*

Export of cereals and cereal-based products (in grain equivalents) amounted to 181 900 t in 2007. Compared to the same period last year, the export of cereals and cereal-based products (in grain equivalents) decreased by 2.5% (4700 t). Cereals as grain formed 81.7% of total export. 78 900 t (43.4%) of the overall quantity of exported cereals and cereal-based products were exported to EU Member States.

Barley took first place in the export of cereals and cereal-based products with 63.3% (99 000 t), followed by wheat with 28.6%. The share of other cereals was less than 5%. Most of the barley (86.5%) was exported to Saudi Arabia; the main export destination for wheat was Germany (67.5%).

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**Trade in cereals and cereal-based products**

Cereals⁠¹³ were imported in 2007 for MEEK 132.8. The volume of imported cereals and cereal-based products was 117 600 t (in grain equivalents), which is 1300 t more than in the same period of the previous year. The import of cereals (as grain) formed 30% of this (35 800 t).

The relative share of cereals in the import of cereals and cereal-based produces has increased by 5%. The bulk of imported cereals (88%) came from EU Member States.

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¹³ Chapter 10 of the combined nomenclature of goods (CN), except for rice.
According to the Estonian Institute of Market Research, the buying-up prices of cereals in Estonia increased by about 50% in 2007.

The prices of fodder cereals rose even more in 2007 than those of food cereals. The average price paid for fodder wheat was EEK 2490 or 56.3% more than in 2006. Fodder oats, fodder barley and fodder rye cost 54.3%, 51.2% and 45.9% more, respectively, than last year.

### Table 11. Average buying-in prices of cereals\(^\text{14}\) (EEK/t), 2004–2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food cereals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...wheat</td>
<td>1883</td>
<td>1650</td>
<td>1910</td>
<td>2588</td>
<td>35.5</td>
</tr>
<tr>
<td>...rye</td>
<td>1816</td>
<td>1524</td>
<td>1687</td>
<td>2503</td>
<td>48.4</td>
</tr>
<tr>
<td>...barley</td>
<td>1816</td>
<td>1524</td>
<td>1687</td>
<td>2503</td>
<td>48.4</td>
</tr>
<tr>
<td>...oats</td>
<td>1404</td>
<td>1507</td>
<td>1571</td>
<td>2249</td>
<td>43.2</td>
</tr>
<tr>
<td><strong>Fodder cereals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...wheat</td>
<td>1682</td>
<td>1383</td>
<td>1593</td>
<td>2490</td>
<td>56.3</td>
</tr>
<tr>
<td>...rye</td>
<td>1654</td>
<td>1238</td>
<td>1545</td>
<td>2254</td>
<td>45.9</td>
</tr>
<tr>
<td>...barley</td>
<td>1600</td>
<td>1418</td>
<td>1570</td>
<td>2375</td>
<td>51.2</td>
</tr>
<tr>
<td>...oats</td>
<td>1291</td>
<td>1259</td>
<td>1372</td>
<td>2117</td>
<td>54.3</td>
</tr>
</tbody>
</table>

*Source: Estonian Institute of Economic Research*

\(^{14}\) Weighted average price of sales transactions to processors, EEK/t, exclusive of VAT.
Among food cereals, the price change was the largest in 2007 for barley (53.1%). The price of a tonne of food barley rose from EEK 1568 in 2006 to EEK 2400 in 2007. The price increase of other food cereals remained below 50%: rye 48.4%, oats 43.2% and wheat 35.5%.

**School bread**

The consumption of bread, a healthy food that is also traditional in Estonia, has decreased from year to year. The Estonian Association of Bakeries has therefore launched various products to promote the consumption of bread and rye bread, to maintain traditional nutritional habits and re-establish the value of bread as a part of the national culture.

Our eating habits are rooted in childhood; this is why healthy preferences should be developed at an early age. The Estonian Association of Bakeries launched a “School bread” project for schoolchildren in 2007. Its objective was to produce healthy and tasty rye bread that schoolchildren would choose. Bakeries and nutrition specialists were involved in the project.

The first presentation of school bread was held at the Estonian Agricultural Museum at Ülenurme in August 2007. By now, school bread has reached various children’s institutions in every county. New bread in a new package would be offered in this campaign every year.

School bread is sliced bread containing 90% or more rye flours. The bread is made exclusively with naturally fermented leaven and its salt content must not exceed 1%. School bread is brown or dark brown in colour and its shelf life is at least three days. The recipe was approved by a committee of health and nutrition specialists and researchers.
2.5. Production of fruits and vegetables

Cultivation of Fruits and Vegetables
Viive Alliksoo, Marje Mäger

The total area of orchards and berry gardens was 9400 ha in 2006. Most of this, 5100 ha, was apple orchards. Regarding berries, the largest areas were under strawberries (814 ha), black currants (553 ha) and red currants (480 ha). The area of orchards and berry gardens has shrunk by 8000 ha over the past five years. The areas of apple orchards and plum and cherry orchards have decreased the most (by 4800 ha and 742 ha, respectively), and the areas of berry plantations have also shrunk considerably.

The apple harvest for 2007 was estimated to be larger than the average for the past five years (7000 t), although the harvest was not good in every region of Estonia. For example, the crops in the apple orchards of Lääne County and Rapla County failed, but apple harvests were abundant in Southern Estonia and in Saare County. In July, hail had an impact on the quality and storage life of the apples grown in some areas.

The harvest of stone fruits was very small or failed completely due to the frost damage that occurred in January 2006. Cherry trees of small orchards bore plenty of fruit, but were heavily damaged by fungus diseases. Currant harvest was estimated to be near the long-term average, but gooseberry harvest was reduced by frosts in May. Strawberry harvest was plentiful and the quality of the berries was good. Those raspberry plantations, which did not suffer frost damage, also yielded a good harvest in 2006. Statistical data about fruit and berry harvests will be published in the summer of 2008.

Open field vegetables.

According to the preliminary data from Statistics Estonia, the growing area of open field vegetables was 2451 ha or 86.6% of the previous year’s growing area. Compared to the average for 2002–2006, the growing area has decreased by 701 ha, especially on account of cabbage and beetroot.

As the 2007 vegetation period was warmer than many years’ average and periods of drought and excessive moisture did not particularly hinder vegetable growth, the total yield of open field vegetables was 52 300 t, which is about 4000 t or 7% more than the average for 2003–2006.

The producer prices of vegetables collected by the Estonian Institute of Economic Research for the harvest of 2007 (average selling prices of vegetable farmers’ own produce at the farmers’ own store) are presented in Table 12. Compared to September, only the prices of greenhouse cucumbers and beets increased in October (by 48.4% and 23.4%, respectively). The prices of other vegetables remained stable.

The prices of swede (3.4%), headed cabbage (8.7%) and greenhouse cucumber (73.9%) rose in November compared to October. Only the price of beet (2%) rose in December, while the prices of greenhouse cucumbers (-5.6%) and carrot (-25%) dropped.
Table 12. Producer prices of vegetables in 2007, exclusive of VAT (EEK/kg; arithmetic mean at end of month)

<table>
<thead>
<tr>
<th></th>
<th>September</th>
<th>October</th>
<th>Change %</th>
<th>November</th>
<th>Change %</th>
<th>December</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headed cabbage</td>
<td>2.30</td>
<td>2.30</td>
<td>0</td>
<td>2.50</td>
<td>8.7</td>
<td>2.50</td>
<td>0</td>
</tr>
<tr>
<td>Carrot</td>
<td>3.60</td>
<td>3.60</td>
<td>0</td>
<td>3.60</td>
<td>0</td>
<td>3.40</td>
<td>-5.6</td>
</tr>
<tr>
<td>Beet</td>
<td>2.07</td>
<td>2.55</td>
<td>23.4</td>
<td>2.55</td>
<td>0</td>
<td>2.60</td>
<td>2.0</td>
</tr>
<tr>
<td>Swede</td>
<td>7.25</td>
<td>7.25</td>
<td>0</td>
<td>7.50</td>
<td>3.4</td>
<td>7.50</td>
<td>0</td>
</tr>
<tr>
<td>Long cucumber</td>
<td>15.50</td>
<td>23.00</td>
<td>48.4</td>
<td>40.00</td>
<td>73.9</td>
<td>30.00</td>
<td>-25.0</td>
</tr>
</tbody>
</table>

The % change is the change compared to the previous month.

Source: Estonian Institute of Economic Research, Agricultural Market Regulation Department of the MoA

A comparison of producer prices in the same months of 2006 and 2007 shows that the prices of most vegetables were higher in 2007, especially in the first quarter. The price of swede stood much higher throughout the year and was especially high in January and February (186% and 167%, respectively). The price of long cucumber was also much higher than in the previous year during some periods, for example 33% in February and 40% in March and September. In the summer months (the short cucumber season), the price of long cucumber was up to 20% lower. Only the price of headed cabbage was lower than last year or the same most of the time; it was 17% higher than last year only in May. Carrots were 41% more expensive in January, but up to 45% cheaper in the autumn.

No applications were submitted in 2007 for export refunds for fruits and vegetables. All eight applications which were submitted for import licenses for fruits and vegetables (apples, garlic, mushrooms) were granted.

The quality of fruits or vegetables was checked in 1650 lots in 2007, including 220 import lots and 35 export lots. Non-compliances with the established requirements were identified in 20 cases and three precepts were issued. The non-compliant goods mainly originated from Poland and Spain.

Processing of and the market in fruits and vegetables

Relative share of the fruit and vegetable sector in the Estonian processing industry

The relative share of the output of the fruit and vegetable sector accounted for 0.7% of the processing industry’s and 4.1% of the food industry’s total output in 2007. The fruit and vegetable sector produced for nearly MEEK 628.7 worth of output in 2007, of which 38.8% was exported. Fruits and vegetables formed 5.9% of the total export of food products in 2007. Output grew by 8.4% and export grew by 20.2% compared to the year 2006. The relative share of fruit and vegetables in the food industry’s total output has increased slightly year by year (3.9% in 2007 compared to 2006).
Employees and wages in the fruit and vegetable sector

The number of people working in the fruit and vegetable sector has increased year by year. The average number of employees in the sector was 454 in 2001 and 626 or 38% more in 2007. The number of employees has remained stable at about 630 over the past three years.

According to short-term statistics, the average gross monthly wages in the fruit and vegetable sector were EEK 10 000 in 2007, i.e. about 10% lower than the national average. The wages increased 15.2% compared to 2006.

Processing and consumption of and the market in fruits and vegetables

The growing areas of fruits and vegetables in Estonia have markedly decreased since the country regained independence, and the level of self-supply is lower than climatic conditions would allow. In the harvest year 2006/2007, domestic vegetables and fruits accounted for 63% and 9%, respectively, of total consumption.

One of the main problems of the fruit and vegetable sector is the uneven supply of the market with goods, i.e. the superabundance of domestic produce in the harvesting period (autumn) and shortage during the winter and spring period. The unstable supply makes wholesale and
retail sellers reluctant to buy from domestic small producers and they prefer to use the services of the few large-scale producers or intermediaries of imported products. In order to extend the consumption period of domestic fruits and vegetables, investments should be made in the construction of efficient, large-capacity storage facilities or in the reconstruction of existing facilities (cooling and freezing equipment, sorting and packaging lines).

The production of “pre-processed” vegetables (peeled, chopped vegetables in vacuum packaging, frozen vegetables) has increased in recent years. The market has been enriched with less common vegetables, various salad vegetables and culinary herbs.

The popularity of organic fruit and vegetable production increases as people become more aware of the need to preserve a healthy living environment. The current situation in Estonia is highly suitable for developing organic farming, since a shortage of funds has forced many farmers to give up artificial fertilisers and chemical plant protection products.

Fruit output, especially apple output has decreased as a result of the liquidation of old apple orchards, largely triggered by the changes brought about by ownership reform. Existing apple orchards are being renewed and fertilisation and plant protection are being intensified.

Plum production has remained relatively stable. Owing to new varieties and the dwarfing rootstocks of sweet cherry currently under experimentation, sweet cherry orchards can be successfully established mainly in Western Estonia and the islands.

Fruit cultivation specialists believe that the use of dwarfing rootstocks for apple trees is a promising way of achieving more competitive products. New methods in fruit cultivation require additional investment.

Suitable soils and a relatively propitious climate allow for quality horticultural produce to be produced in Estonia. The fruits grown in Estonia are sold on the domestic market. It is difficult to compete with the cheap and relatively good quality of fruits sold on the foreign market, e.g. apples, with the main problem being shelf life.

The World Health Organization recommends consuming at least 400 g of vegetables (in addition to potatoes) and fruits/berries every day. The consumption survey conducted in 2002 showed that Estonia has the weakest position among Nordic and Baltic countries when it comes to the consumption of vegetables and fruits/berries. In Sweden, the average person consumed vegetables 38.9 times every month; the relevant indicators were 35.7 for Latvia, 32.4 for Finland, 32.3 in Lithuania, and only 22.3 in Estonia. Onions, garlic, carrot and cucumber are the most frequently consumed vegetables in Estonia. The preferred fruits/berries are apples, citrus fruits and bananas.

According to Statistics Estonia, the quantities of vegetables and fruits purchased decreased in 2006, compared to the previous year. Apples were purchased in a quantity of 0.7 kg per month per person, i.e. 22.2% less than in 2005. The purchased quantities of onions, carrots and headed cabbage decreased by 12.1%, 9.4% and 2.2%, respectively; only the purchased quantities of beetroot and swede remained the same. The reduced quantities purchased reflect the

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15 “Consumption of vegetables, potatoes, fruit, bread and fish in the Nordic and Baltic countries”, NorBaGreen, 2002.
price sensitivity of consumers, because the prices of apples and onions rose the most in 2006 compared to 2005.

Figure 32. Monthly purchased quantities of fruits and vegetables per capita (kg)

Source: Statistics Estonia

Vegetables are consumed in Estonia mainly as food. In the harvest year 2006/2007\(^\text{16}\), human consumption of vegetables amounted to 90 700 t or 93% of total consumption of vegetables. Human consumption increased by 4500 t (4.8%) compared to the previous harvest year. A very small proportion (0.9%) of vegetables is used as animal feed. The share of vegetables used for human consumption has remained relatively stable between 87% and 93% in recent harvest years. The level of self-supply of vegetables was 63% in the harvest year 2006/2007, which was 1 pp less than in the previous harvest year.

A total of 62 500 t of fruits and berries were consumed in Estonia in the harvest year 2006/2007, which was 6400 t (9.3%) less than in the previous harvest year. Most of the production is consumed as food and a small part is consumed industrially\(^\text{17}\). Human consumption amounted to 53 600 t in the harvest year 2006/2007, which accounts for 85.8% of the total consumption of fruits and berries. Industrial consumption was 1900 t or 3% of total consumption. Industrial consumption has started to decrease in recent years. Estonian wineries are going out of business or replacing bottled wine with other products, because berry wines have great difficulty competing with grape wines. Since there are no large berry gardens or apple orchards in Estonia, domestic resources are insufficient and have to be replaced by imported berry concentrates. The Estonian wine market is becoming similar to the EU market, where there are very few currant and apple wine producers.

Estonia supplied only 9.4% of its consumption of fruits and berries in the harvest year 2006/2007. The self-supply level dropped as the area of orchards and berry gardens shrank.

\(^{16}\) The harvest year is the period from 1 July to 30 June.

\(^{17}\) Production of fermented juice and alcoholic beverages.
while a poorer than expected harvest was another major reason. The harvest of apples was more modest than expected in 2006/2007, the harvest of stone fruits was low because of winter frost damage, currants yielded an average harvest, and the gooseberry harvest was reduced by spring frosts.

*Figure 34. Fresh fruit resources and self-supply level (%)*

![Fresh fruit resources and self-supply level (%)](chart)

Source: Statistics Estonia

In the harvest year 2006/2007, consumption of fruits and berries was 39.9 kg per capita, which is 9.3% (4.1 kg) less than in the previous harvest year.

*Foreign trade in vegetables*

Vegetable consumption did not change in 2006/2007 compared to the previous harvest year. As the harvest was slightly smaller, import of vegetables increased in 2006/2007 by 1200 t (1.5%) to 37 500 t. The largest quantities of vegetables were imported from the Netherlands, Spain, Poland, and Lithuania. Tomatoes, cucumbers and onions accounted for about 80% of the total import in terms of volume. The import of lettuce and onions increased compared to the previous harvest year.

*Figure 35. Import, export, harvest and consumption of vegetables ('000 t)*

![Import, export, harvest and consumption of vegetables ('000 t)](chart)

Source: Statistics Estonia

The modest harvest of 2006/2007 also had an impact on export volume. Only 1300 t of vegetables were exported in 2006/2007, i.e. 4.3% less than in the previous harvest year. Latvia and Lithuania were the main export destinations. Cucumbers and lettuce were the greatest export articles and accounted for about 75% of the vegetable export volume.

*Foreign trade of fresh fruits*

As Estonia’s own production is small, imported fruits and berries play a crucial role. The berry and fruit harvest was only about one-third of the previous harvest year in 2006/2007, which is why import levels increased by 4500 t (8%) to 60 300 t.

Export of fruits and berries from Estonia is small, 3400 t in
the harvest year 2006/2007. This is 9.6% less than in the previous harvest year.

**Figure 36.** Export, import, harvest and consumption of fresh fruits ('000 t)

2.6. Potato market, production, processing and trade
Viive Alliksoo, Marje Mäger

**Potato growing**

Potatoes were grown on 10 300 ha in 2007, which is 1200 ha or 12% less than in 2006. The total potato production was 173 700 t and the average yield was 16 871 kg/ha. The harvest exceeded that of 2006 by 21 100 t or 14%, as the yield had increased by 27%.

According to estimates by Luule Tartlan, researcher at the Estonian Institute of Agriculture, growing conditions were average to good for potatoes. The periodic nature of precipitation halted potato plant growth and caused assimilates to be placed unevenly in the tubers, which is why the harvest contained many tubers with growth fissures and protuberances. The drought that occurred at the time of formation of tubers facilitated strong infection with scab.

The due and timely removal of foliage helped the skin to attach to the tubers and reduced damage to the inside. Due to the warm autumn, the storage life of those potatoes which were harvested at a time when the skin was loose was shortened. Farmers who were late with potato harvesting also had problems. Potato varieties with a short dormancy period react quicker to the formation of sprouts, and this becomes evident when sorting in large quantities begins. This is why sorting in large quantities should be avoided.

The harvest contained a large proportion of oversized tubers, and varieties with large tubers lacked fractions with

**Source:** Statistics Estonia
a diameter below 28 mm. The dry matter content of potatoes was somewhat lower than last year, and the flavour was also somewhat poorer.

Yields were good for those farmers who used sufficient amounts of fertilizers, applied plant protection chemicals to seed potatoes and were not late to control potato blight.

**Potato processing and market**

Potato is the fourth most important food crop in the world after rice, wheat, and maize, and demand for it continues to grow. Potato is a staple food which has been consumed for over 7000 years. The United Nations has named 2008 as the International Year of the Potato. In 2007, the largest potato producing countries were China (71 million t), Russia (35.7 million t) and India (26.3 million t).

Asia consumes nearly one half of the world’s potato resources, but because of the enormous population of the area, the average per capita consumption is only 25 kg (in 2005). Europeans are the largest consumers of potatoes. In Africa and Latin America, consumption per capita is low, but is increasing year by year. In Estonia, potato consumption was 106.9 kg per capita in 2005, i.e. about 10 kg more than in Europe on average. However, Estonians have begun to consume significantly fewer potatoes in recent years. Annual consumption has fallen from about 130 kg per capita at the end of the 1990s to 84 kg in the harvest year 2006/2007 (-34.9%).

**Table 13. Potato consumption in the world, 2005**

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total human consumption (’000 t)</td>
<td>kg per capita</td>
</tr>
<tr>
<td>Africa</td>
<td>905.94</td>
<td>12 850.00</td>
</tr>
<tr>
<td>Asia/Oceania</td>
<td>3 938.47</td>
<td>101 756.00</td>
</tr>
<tr>
<td>Europe</td>
<td>739.28</td>
<td>71 087.00</td>
</tr>
<tr>
<td>Latin America</td>
<td>561.34</td>
<td>13 280.00</td>
</tr>
<tr>
<td>North America</td>
<td>330.61</td>
<td>19 156.00</td>
</tr>
<tr>
<td>Estonia</td>
<td>1.35</td>
<td>143.99</td>
</tr>
<tr>
<td>World</td>
<td>6 475.63</td>
<td>218 129.00</td>
</tr>
</tbody>
</table>

*Source: FAO, Statistics Estonia*
There are several reasons behind the drop in consumption. Change in our eating habits are certainly one of the reasons. In European industrial countries, average potato consumption has constantly been less than 100 kg per capita. Potato is substituted by rice and other milling products, bakery products and pasta, which are quicker and easier to cook.

When it comes to the size groups of growing areas, the share of small potato farmers decreases year by year. While 57.7% of potatoes were grown in small fields of up to 1 ha in 2001, then by 2005 the share of such fields had dropped to 46%. The share of fields larger than 30 ha increased from 5.3% (2001) to 12.5% (2005).

Many consumers prefer small farmers’ potatoes, believing that these potatoes have been cultivated with minimum amounts of fertilizers and plant protection products. However, small producers have difficulties marketing their produce. Large retail chains require a stable supply of large quantities, for which even large-scale producers need to cooperate to enter the market. Pre-sale processing and value adding is one way to prevent potato cultivation from receding.

People’s sensitivity to prices also has its impact on consumption. The average price of potatoes was 3.5 EEK/kg, which was 16.5% higher than last year. In better harvest years the potato price is lower and this is reflected in the quantities purchased. In the good harvest year 2005/2006, potato consumption was 107 kg per capita, which is as much as 49% more than in the previous harvest year.

The cost price of the potato depends on many factors – the growing area, the cost of equipment and the harvest – and may vary as much as three-fold across producers. The difference between the producer price and retail price is also several fold.
In good harvest years, Estonia's self-supply level for potatoes has been over 90%. The harvest year 2006/2007 was less favourable for potato farmers and the self-supply level fell to 86%. A total of 117 600 t of potatoes were consumed in Estonia in 2006/2007, which was 51 500 t (22.5%) less than in the previous harvest year. Potato is mostly used for human consumption. In 2006/2007, human consumption accounted for 63.8% of total potato consumption. Compared to the previous harvest year, human consumption decreased by 20.3% in 2006/2007, and consumption for animal feeding and seed also decreased (by 31.6% and 15.7%, respectively). Potatoes are not used industrially in Estonia.

**Foreign trade in potatoes**

The potato harvest was modest in 2006/2007, compared to the previous harvest year. This is also reflected in the import and export volumes.

In the harvest year 2006/2007, 24 700 t of potatoes were imported to Estonia, which is 18.2% more than in the previous year. Trade with the EU Member States increased sharply after Estonia’s accession to the EU. In 2006/2007, as much as 98% of potatoes were imported from the EU Member States. The main sources of imported potatoes were Finland, Sweden, and the Netherlands.

Only 212 t of potatoes were exported in 2006/2007. Export of potatoes decreased by 40.9%, compared to the previous harvest year. The main countries of export destination were Malta, Finland, and Norway.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

Figure 41. Potato import and export (t), including trade with the EU (%)

2.7. Honey production

Agne Tammistu

According to Statistics Estonia, there were 38 000 colonies of bees in Estonia as of 31 December 2006. The number of colonies increased by 15% compared to 2005. Honey production increased by 62% to 1033 t in 2006 (data on 2007 has not been published yet).

The National Programme for developing the production and marketing of honey for 1.9.2004–31.8.2007 (Apiculture Programme), which was prepared by the Estonian Apicultural Association and the Ministry of Agriculture and approved by the European Commission, ended on 31 August 2008. The programme had a budget of MEEK 5638, of which 50% was financed from the EU budget. A total of three measures were implemented under the programme (technical assistance to beekeepers and associations of beekeepers; control of varroasis and accompanying bee diseases, and assessment and management of the quality of honey).

The objective of technical assistance was to improve the efficiency of the marketing strategy, to extend the bases of apiculture and thereby intensify the production of honey and other bee-keeping products.

The objective of the varroasis control measure was to reduce losses caused by varroasis, to improve the profitability of apiculture and honey production, and to increase honey output.

The objective of the honey quality assessment measure was to improve the quality of honey produced and marketed, and to ensure compliance with food safety requirements.
The results of the national Apiculture Programme at the end of year 3 were as follows:

- 36 apiculture instructors/beepkeepers were attested, at least 2 persons from each county;
- observation and testing apiaries in 15 counties (18 in total);
- one-third of Estonian bee colonies were treated using green methods as of the autumn of 2007;
- the intended number of honey quality analyses were performed;
- a partial database of beekeepers and a database of honey quality characteristics, based on the quality studies, were created in the Estonian Apicultural Association.

Twelve national apicultural exercises and 182 study days at local apicultural associations were carried out, 17 apicultural newsletters Mesinik were published, and various honey consumption surveys were conducted under the technical assistance measure of the programme.

Under the varroasis and accompanying diseases control measure, recommendations and information materials were prepared for beekeepers concerning various treatment methods, and varroasis studies were conducted in 14 observation apiaries.

Under the honey quality assessment and management measure, organoleptic and physico-chemical quality characteristics were analysed from 450 honey samples over a period of three years. In addition, pollen content was assessed in 260 honey samples and heavy metals, other residues and various sugars were determined in 60 samples. Based on the quality analysis results, recommendations and tips were prepared for beekeepers in order to avoid handling and storage errors that can lead to deterioration of honey quality.

In the third quarter of 2007, the European Commission approved the new three-year national apiculture programme “Estonian national programme for development of honey production and marketing 1.9.2007–31.8.2010”. The budget of the new programme is MEEK 4381, of which 50% is funded from the EU budget. The objective of the programme is to develop the Estonian apicultural sector by improving the conditions of production and marketing of apicultural products.

The programme consists of four measures:

“Technical assistance to beekeepers and associations of beekeepers” is aimed at broadening the basis of apiculture.

“Control and prevention of varroasis” is aimed at reducing damage from the weakening and loss of bee colonies due to varroasis, as well as to improve the profitability of honey production and increase honey output.

“Assessment and management of honey quality” addresses quality improvement and compliance with food safety requirements with a view to developing and organising the honey market.

“Development for increasing the number of honey colonies” is aimed at increasing the number of bee colonies and improving honey production potential by applying methods of breed improvement and improvement of the winter and disease resistance of bees.
2.8. Development of renewable energy

Einar Kikkas

The “Development Plan 2007–2013 for Enhancing the Use of Biomass and Bioenergy” was approved by the Government of the Republic on 25 January 2007. The main objective of the development plan is to create conditions facilitating the domestic production of biomass and bioenergy. The use of bioenergy would reduce Estonia’s dependence on imported resources and fossil fuels, as well as pressure on the natural environment; it would improve the efficient and sustainable use of land resources and facilitate employment in rural areas. This would include the optimum use of biomass in the materials industry and energy production.

The development plan is intended to be implemented in two stages: 2007–2008 and 2009–2013. The objective was to use the study results of the first year to identify the necessary fiscal instruments, which are not covered by other measures and therefore need to be solved by a separate development plan. It is now clear that the studies commissioned from researchers did not, as a rule, address the specific questions asked in the terms of reference and did not propose the enhancement measures for implementing the second stage of the development plan: specific investment needs, which depend on the planning of EU structural funds (will be clarified by the end of 2008), the planned green tax reform and an analysis of the developing market (the first analysis was completed at the end of 2007).

Considering that the European Commission recently tabled a new framework directive on the promotion of renewable energy (which will result in the initiation of a number of new national administrative tasks), which also integrates bioenergy, it will take at least one more year to prepare the measures, which are necessary for the implementation of the second stage of the development plan for enhancing the use of biomass and bioenergy. Therefore, a proposal is being drafted to the Government of the Republic for postponing the implementation of the second stage of the development plan by one year.

The new renewable energy directive:
1) sets target rates for renewable energy for the Member States;
2) commits the Member States to preparing national development plans for the achievement of the goals by the year 2010;
3) obliges the Member States to designate an authority in charge;
4) creates a Community system of guarantees to the sustainable origin of raw materials for electricity and heat;
5) creates a system for certifying compliance with the environmental sustainability requirements of the production of transport biofuel.

This establishes a control mechanism to monitor the compliance of renewable energy production with all requirements of environmental sustainability. Any production of renewable energy that does not comply with the requirements will not be granted a certificate of conformity, and energy thus produced will not count toward the achievement of the national targets.
In 2003, the European Commission obliged the Member States to increase the market share of biofuels to 5.75% by the year 2011; each Member State was to develop its own technical solutions according to its particular resources and situation.

In Estonia, the production of biodiesel from rape may prove to be non-competitive (the rape yields in Estonia and in Central Europe are 1.5 t/ha and 4–5 t/ha, respectively), while Estonia is able to compete with the other Member States in the production of bioethanol from sugar beet or maize and in the production of transport biogas from waste.

Considering that Estonia consumes 325 000 t of petrol for transport per year, about 16 000 t of bioethanol would be needed to substitute 5% of the petrol consumption. Kadarbiku vegetable farm plans to produce 2000–3000 t of bioethanol from sugar beet every year; this would account for about 1% of total consumption. The company plans to supply the raw material from its own land (500 ha). In order to achieve the minimum rate of 5% bioethanol, the growing area of sugar beet must be extended to an estimated 2500 ha.

An equal amount of biodiesel is needed, as our transport consumes roughly equal amounts of diesel and petrol. Since Estonia does not have a supply of a raw material whose yield would be suitable for biodiesel production (at least as long as biodiesel is not produced from algae or a second generation production technology is not used), the part of the rate which is short of the national target can be substituted by greater consumption of bioethanol or more efficient use of biogas. The current results of monitoring by the Ministry of Agriculture of biomass and bioenergy production indicate that only a very small part of biomass is used in Estonia for energy; more than two-thirds of the forest and timber industry’s waste and more than nine-tenths of manure and slurry remains unused. In Estonia, biofuel accounts for 0.1% of motor fuels instead of the 2% required by the Commission directive.

The use of timber for fuel has improved Estonia’s contribution to bioenergy production. Estonia leads the world in the production of wood pellets per capita. So far, 95% of this has been exported, because there are only slightly over 1000 pellet boilers in Estonia. The higher environmental taxes in Scandinavian countries make it possible for these countries to pay a higher price for raw fuel material.

Estonia may prove successful in bioenergy production already in the near future, if the bioenergy production plans are implemented — a biodiesel factory in Paldiski and a bioethanol factory in Kunda would be able to process large volumes of the bioenergy material growing in the fields. The combined heat and electricity plants at Väo, Ahtme and Iru are ready to produce energy from a large part of the so far unused timber production waste and also from combustible waste. Large-scale projects for transforming slurry into bioenergy are under way at the Viiratsi pig farm EKSEKO and at the Torma POÜ. Biogas stations are planned to be established in at least twenty locations.

The support measures of the Rural Development Plan and other structural funds, which will be implemented in the near future, will certainly make the situation more favourable for these undertakings as soon as 2008.
2.9. Organic farming

Eve Ader

Organic Farming Development Plan

In the spring of 2007, the Minister of Agriculture approved the Estonian Organic Farming Development Plan for 2007–2013, and its implementation plan. The development plan covers activities, which will help improve the competitiveness of organic farming and ensure better availability of local organic products to consumers. The objective of the development plan is to increase the area of organic farming land to 120,000 ha, the number of organic producers to 2000, the number of processors of organic products to 75 and the share of domestic organic products on the Estonian food market to 3% by the end of 2013. Most of the measures of the Organic Development Plan will be financed via the Estonian Rural Development Plan (RDP) for 2007–2013. The organic production support paid so far under the RDP 2004–2006 helped increase the area used for organic production, but did not significantly increase the quantity of organic produce reaching consumers. In order to increase the market share of organic products, the assessment criteria of several measures of RDP 2007–2013 are related to organic farming, i.e. preference is given to organic farmers, and representatives of organic farmers’ associations and organic farming specialists are involved in the drafting of regulations.

Organic crop and livestock farming

More than 9% of all agricultural land in use in 2007 was organically cultivated. The number of organic farmers and the area of organic land have increased quite rapidly. At the end of 2007, the register of organic farming contained 1211 organic farmers with a total of 81,528 ha of organic land (Figure 42). Compared to 2006, the number of organic farmers still increased by only 38 (3%) and the area of organic land increased by 7758 ha or 10.5%. There was 56,817 ha of land (70% of total organic land) which had undergone the transition period to organic farming. The average size of organic farms grew from 63 ha in 2006 to 67 ha in 2007.

Figure 42. Organic production, 2000–2007 (*2008 estimate)

Source: Register of organic farming and Organic Farming Development Plan
The number of organic farmers is the largest (141) in Võru County (Figure 43). Compared to the previous year, the number of organic farms increased the most in Järva County (22%), but decreased in Hiiu County (9%) and Võru County (1%).

Figure 43. Number of organic farms, 2006–2007

Source: Register of organic farming

The area of organic land was the largest in 2007 in Saare County (9739 ha, Figure 44). Compared to the year 2006, the area of organic land increased the most in Järva County (66%), East-Viru County (59%) and Jõgeva County (41%), and decreased only in Hiiu County (9%).

Figure 44. Organic land (ha), 2006–2007

Source: Register of organic farming

Grasslands formed more than 80% of total organic land in 2007. The sowing area for cereals increased by 16% to 9917 ha (3% of the total growing area of crops); industrial crops were grown on 366 ha (an increase of 17%). Compared to the year 2006, the growing areas of legumes, potatoes, vegetables, aromatic and medicinal herbs and strawberries have decreased (by 9%, 12%, 22%, 9% and 8%, respectively). As in previous years (Figure 45), the most commonly grown cereals were oats (3753 ha) and barley (2682 ha), followed by summer wheat (1021 ha), rye (1012 ha), triticale (120 ha), buckwheat (105 ha) and spelt (41 ha). Rape was grown on 190 ha. The growing area of organic potatoes was 213 ha (2% of the total area under potatoes in Estonia).
Open field vegetables were grown on 45 ha in 2007 (18% of the total area under vegetables), including 3.2 ha of cabbage, 3.7 ha of carrot, 1.5 ha of beetroot, 1.7 ha of garlic, 1.0 ha of onions, 2.8 ha of rhubarb, etc. The area of fruit orchards and berry gardens was 1202 ha (increase of 5%, Figure 47). The main type of fruit was apples (206 ha); pears, plums and cherries were grown on smaller areas. Sea buckthorn was grown on 547 ha (increase of 24 ha since 2006). The growing area of berries was 252 ha, including 118 ha of black currant, 17 ha of red currant and 18 ha of raspberries. Strawberries were grown on 34 ha. Aromatic and medicinal herbs were grown on 138 ha and plant products were collected from 251 ha of non-cultivated lands.

A total of 752 enterprises (62% of all organic enterprises) were in the organic livestock farming business in 2007. Compared to the year 2006, the total number of organically reared cattle increased by 12% on account of beef cattle, while the number of organically reared dairy cows decreased by 9% (Figure 48). A total of 15 890 bovine ani-
mals (7% of all bovine animals in Estonia), including 2959 dairy cows (nearly 3% of all Estonian dairy cows) were reared organically in 2007. Sheep farming continued to be popular among organic farmers. This is proved by a nearly 35% increase in the number of organically reared sheep. Nearly 28 000 sheep (38% of all sheep in Estonia) were reared organically. Organic pig and poultry farming decreased in 2007. Organic apiculture was on the same level as in the previous years with 322 bee colonies.

Figure 48. Organic livestock farming, 2004–2007

A Minister of Agriculture regulation entered into force in 2007, which obliged organic farmers to submit information on their previous year’s output of organic produce. Information on the total output of organic crop and livestock farming was collected for the first time in Estonia in 2007. The total output of organic crop and livestock farming in 2006 was as follows: cereals 7336 t (including winter, summer and spelt 1253 t), rye 518 t, barley 2032 t, oats 2815 t, legumes 88 t, rape and turnip rape 49 t, potato 2214 t, open field vegetables 256 t, greenhouse vegetables 3 t, fruits and berries 327 t, cow milk 13 473 t, goat milk 43 t, beef 602 t, sheepmeat 107 t, pigmeat 24 t, honey 6 t, hen eggs 365 000 pieces.

Production and marketing of organic products

The number of enterprises producing organic products has increased (Figure 49). At the end of 2007, the register of organic farming contained 24 producers or distributors of organic products from eight counties (71% more than in 2006), including 2 meat industries, 2 milk processors, 6 producers of cereal-based and bakery products, 7 processors of fruits and vegetables, 4 producers of herbal teas or mixtures of herbs, 1 vegetable oil producer, 1 buyer-up and distributor of organic products and 1 catering enterprise. Fertilizers are not produced organically. Producers of organic products submit information on their previous year’s production to the Veterinary and Food Board by 10 April every year.

The following quantities of organic products were produced in 2007: 2.7 t of meat, 72.6 t of dairy products (curds, yoghurt, cheese), 24.7 t of ordinary bakers’ wares, 33.4 t of cereal-based products, 31.6 t of products from berries, fruits and vegetables, etc., and 2.8 t of herbal teas, herbs and aromatic herbs (Figure 50).

The small number of producers of organic products is one of the main obstacles to the availability of organic food. It
is increasingly difficult for farmers to cope in a situation where raw material prices are rising and product prices are falling under the pressure of global competition, and they need to pay increasingly more attention to added value by processing on the farm. MTÜ Saare Mahe was commissioned by the Ministry of Agriculture to prepare an information booklet titled “Tips for small processors of agricultural products,” introducing the processing of fruits, berries, and vegetables. Already more than 20 shops in Tallinn, Tartu, Viljandi, Pärnu, Haapsalu, Kuressaare and Kärdla are offering local organic products such as curds, yoghurt, potatoes, fruits and vegetables, berries, honey, herbal teas, aromatic herbs, cereal-based products (kama – a traditional Estonian breakfast mixture of ground roasted cereals; flakes, flour), and ordinary bakers’ wares, and the number of such shops is growing rapidly.

Figure 49. Enterprises producing organic products, 2003–2007 (*estimate for 2008)

Figure 50. Output of organic products (t), 2006–2007

Source: VFB

To enhance the awareness of consumers, the Estonian Organic Farming Foundation was commissioned by the Ministry of Agriculture in the autumn of 2007 to conduct two promotional events for organic food in the food department of the Tallinna Kaubamaja, during which consumers were explained the differences between organic and ordinary food, local organic products were introduced and offered for tasting, consumers were informed of the national ecolabel, and information on organic farming and the ecolabel was distributed. A consumer survey, conducted in the food departments of the Kaubamaja in Tallinn and Tartu, two Selver supermarkets in Tartu and at the Tartu Market, showed that people wish to buy organic food and there are more people, compared to the previous year, who are willing to pay a higher price for it. The consumer survey also showed that 85% of respondents preferred to buy organic food at shopping centres.
Training and dissemination of information

Commissioned by the Ministry of Agriculture, the Estonian Organic Farming Foundation organised 5 information days on organic farming, 12 beginner courses in organic farming and 6 complementary courses on organic production for producers. The Ecologic Technologies Centre conducted a two-day seminar on organic vegetable farming for advisers, with the participation of a foreign lecturer. The Ministry of Agriculture supported the Ecologic Technologies Centre in the publication of the Organic Farming Paper and financed the cooperation project “Sustainable rural development via promotion of processing, marketing and consumption of organic food 2005–2007” under the EU INTERREG III C programme. As a result of the project outcome, a number of activities were launched relating to the marketing of organic food (e.g. an organic food restaurant was opened, organic products are sold at the markets of Kuressaare and Kärdla, etc.), and information materials were published about the project. Maps were drawn up of Hiiu County, Saare County, Põlva County, Võru County and Viljandi County introducing organic producers, their products and services. As in 2006, the Ministry of Agriculture and MTÜ Ökokratt signed a contract in 2007 to organise the promotion of organic food for children and youth at ten open-air events. On 8 November 2007, the Estonian University of Life Sciences, commissioned by the Ministry of Agriculture, organised an organic farming conference in Tartu entitled “Development trends of organic farming – possibilities for sustainable development”. The presentations made at the conference focused on the history of organic farming in Estonia and its development possibilities during the RDP 2007–2013 support period and introduced the organic farming practices of Europe and other areas, discussing the human health, environmental and economic aspects.


State supervision

With the entry into force of the new Organic Farming Act on 1 January 2007, the VFB was assigned new duties, which were formerly duties of the Plant Production Inspectorate. For example, primary processors of their own agricultural produce are subject to supervision by the VFB as producers of organic food from 2007. As a result of reorganisation of food supervision, the Health Protection Inspectorate’s food-related duties were transferred to the VFB. In the course of compliance checks of organic crops and livestock farmers, inspectors of the Plant Production Inspectorate took 35 control samples and drew up 2160 inspection reports, of which 61% concerned crop farming and 39% concerned livestock farming. Precepts were issued in 19 cases of non-compliance (48 cases in 2006). Thirteen misdemeanour proceedings were instituted (five in 2006). Fines were imposed in a total amount of EEK 2440 (EEK 800 in 2006). The VFB drew up 33 inspection reports and 14 precepts.
Cooperation

The Organic Farming Cooperation Network, which represents nine active organic farming organisations, is a good cooperation partner of the Ministry of Agriculture. The objective of the cooperation network is to promote cooperation between participants in the organic farming sector and to represent organic farmers’ interests to the public and to policy-makers.

2.10. Fishing, fish market and processing

Lya Mägi, Vahur Vörel, Maarja Purik

Fishing and fish resources

The Estonian fisheries sector uses the fish resources of the Baltic Sea and inland waters; Estonia also has access to the fish resources of the north-west Atlantic (NAFO), north-east Atlantic (Spitsbergen and NEAFC) and south-west Atlantic. The status of internationally regulated fish resources is assessed by international research organisations. The assessments of fish resources become increasingly critical year by year and a reduction in fishing efforts is recommended (Table 15). The situation of inland waters’ fish resources mainly depends on the fishing efforts, weather, and the effectiveness of supervision.

Brisling and Baltic herring from the Baltic Sea are of economic importance to Estonia. The status of these resources is assessed to be good in the Estonian exclusive economic zone, but the resources are shrinking. The resources of codfish and salmon are considered unsatisfactory.

80 244 t of fish was caught from the Baltic sea in 2007; coastal fishing accounts for 11% of this (Table 16). 2568 t of fish was caught in inland waters (Figure 51).

Fishing in the offshore part of the Baltic Sea is regulated by maximum allowed fishing quantities (quotas) (Table 14); fishing in coastal and inland waters is regulated by the amount of fishing gear. The fishing restrictions are established by the Minister of the Environment.
Baltic Sea fishing accounts for 81% of the total catch (Figure 52). But in terms of value, deep-sea fishing is very important for Estonia: although it accounts for only 15% of Estonia’s total catch by quantity, it considerably exceeds Baltic Sea and inland waters’ fishing in terms of value. The reason for this is the highly valuable fish species caught by deep-sea fishing; while the main species caught in the Baltic Sea – Baltic herring and brisling – are considered low-value species.
### Table 14. Baltic Sea catch quotas

<table>
<thead>
<tr>
<th>Name</th>
<th>Name unit</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltic herring</td>
<td>tonnes</td>
<td>39 000</td>
<td>26 036</td>
<td>20 800</td>
<td>21 536</td>
<td>31 487</td>
<td>32 227</td>
<td>33 816</td>
</tr>
<tr>
<td>Brisling</td>
<td>tonnes</td>
<td>41 200</td>
<td>35 123</td>
<td>43 260</td>
<td>56 650</td>
<td>48 204</td>
<td>52 060</td>
<td>52 060</td>
</tr>
<tr>
<td>Codfish</td>
<td>tonnes</td>
<td>1 353</td>
<td>1 335</td>
<td>1 060</td>
<td>1 079</td>
<td>1 290</td>
<td>1 171</td>
<td>1 054</td>
</tr>
<tr>
<td>Salmon</td>
<td>individuals¹⁸</td>
<td>14 877</td>
<td>14 154</td>
<td>2 555</td>
<td>2 000</td>
<td>11 008</td>
<td>10 609</td>
<td>9 255</td>
</tr>
<tr>
<td></td>
<td>including</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>individuals in</td>
<td>9 297</td>
<td>9 504</td>
<td>2 000</td>
<td>1 800</td>
<td>9 504</td>
<td>9 028</td>
<td>7 674</td>
</tr>
<tr>
<td></td>
<td>the Baltic Sea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>including</td>
<td>5 580</td>
<td>4 650</td>
<td>555</td>
<td>200</td>
<td>1 581</td>
<td>1 581</td>
<td>1 581</td>
</tr>
<tr>
<td></td>
<td>individuals in</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the Gulf of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: European Commission

### Table 15. Estonia’s deep-sea catch quotas

<table>
<thead>
<tr>
<th></th>
<th>unit</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redfish</td>
<td>tonnes</td>
<td>1 571</td>
<td>1 571</td>
<td>1 571</td>
<td>1 571</td>
</tr>
<tr>
<td>Squid (Illex)</td>
<td>tonnes</td>
<td>128</td>
<td>128</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Greenland halibut</td>
<td>tonnes</td>
<td>380</td>
<td>371</td>
<td>321</td>
<td>321</td>
</tr>
<tr>
<td>Rajiformes</td>
<td>tonnes</td>
<td>546</td>
<td>546</td>
<td>546</td>
<td>546</td>
</tr>
<tr>
<td>Shrimp (in zone 3L)</td>
<td>tonnes</td>
<td>144</td>
<td>245</td>
<td>245</td>
<td>278</td>
</tr>
<tr>
<td>Shrimp (in zone 3M)</td>
<td>fishing days</td>
<td>1 667</td>
<td>1 667</td>
<td>1 667</td>
<td>1 667</td>
</tr>
</tbody>
</table>

Spitsbergen

| Shrimp¹⁹     | fishing days | 377 | 377 | 377 | 377 |

¹⁸ Maximum 3 ships at the same time
¹⁹ Maximum 3 ships at the same time
### NEAFC

<table>
<thead>
<tr>
<th>Species</th>
<th>Coastal fishing</th>
<th>Deep-sea fishing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redfish</td>
<td>tonnes</td>
<td>344</td>
<td>284</td>
</tr>
<tr>
<td>Mackerel</td>
<td>tonnes</td>
<td>115</td>
<td>119</td>
</tr>
<tr>
<td>Roundnose grenadier</td>
<td>tonnes</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Black scabbard</td>
<td>tonnes</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Dogfish</td>
<td>tonnes</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Blue ling</td>
<td>tonnes</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Greenland halibut</td>
<td>tonnes</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: European Commission

### Table 16. Fishing from the Baltic Sea, 2007

<table>
<thead>
<tr>
<th>Species</th>
<th>Coastal fishing</th>
<th>Deep-sea fishing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perch</td>
<td>776.8</td>
<td>0.0</td>
<td>776.8</td>
</tr>
<tr>
<td>Eel</td>
<td>6.1</td>
<td></td>
<td>6.1</td>
</tr>
<tr>
<td>Pike</td>
<td>13.7</td>
<td>0.0</td>
<td>13.7</td>
</tr>
<tr>
<td>Goldfish</td>
<td>56.6</td>
<td></td>
<td>56.6</td>
</tr>
<tr>
<td>Brisling</td>
<td>0.1</td>
<td>51007.1</td>
<td>51007.2</td>
</tr>
<tr>
<td>Pike-perch</td>
<td>99.2</td>
<td></td>
<td>99.2</td>
</tr>
<tr>
<td>Bream</td>
<td>9.0</td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td>Flounder</td>
<td>315.9</td>
<td>19.0</td>
<td>334.9</td>
</tr>
<tr>
<td>Burbot</td>
<td>3.1</td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Salmon</td>
<td>5.5</td>
<td>0.3</td>
<td>5.8</td>
</tr>
<tr>
<td>Sea trout</td>
<td>17.1</td>
<td>0.0</td>
<td>17.1</td>
</tr>
<tr>
<td>Common whitefish</td>
<td>30.8</td>
<td></td>
<td>30.8</td>
</tr>
</tbody>
</table>
## 2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

<table>
<thead>
<tr>
<th>Species</th>
<th>Lake Peipus and Lake Lämmijärv</th>
<th>Lake Võrtsjärv</th>
<th>Narva River and Reservoir</th>
<th>Emajõgi River</th>
<th>Other inland waters</th>
<th>Total inland waters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow smelt</td>
<td>480.9</td>
<td>68.6</td>
<td></td>
<td></td>
<td></td>
<td>549.5</td>
</tr>
<tr>
<td>Silver bream</td>
<td>38.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>38.8</td>
</tr>
<tr>
<td>Baltic herring</td>
<td>6464.6</td>
<td>19643.5</td>
<td></td>
<td></td>
<td></td>
<td>26108.1</td>
</tr>
<tr>
<td>Roach</td>
<td>62.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>62.9</td>
</tr>
<tr>
<td>Ide</td>
<td>9.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.2</td>
</tr>
<tr>
<td>Codfish</td>
<td>0.8</td>
<td></td>
<td>945.0</td>
<td></td>
<td></td>
<td>945.8</td>
</tr>
<tr>
<td>Garfish</td>
<td>109.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>109.5</td>
</tr>
<tr>
<td>Baltic vimba</td>
<td>35.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35.3</td>
</tr>
<tr>
<td>Other</td>
<td>22.5</td>
<td>2.2</td>
<td></td>
<td></td>
<td></td>
<td>24.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8558.4</strong></td>
<td><strong>71685.7</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>80244.1</strong></td>
</tr>
</tbody>
</table>

Source: Ministry of Agriculture

Table 17. Fishing from Estonian inland waters, 2007
Fishing fleet. In 2007 there were 68 Estonian vessels fishing on the Baltic Sea and 6 vessels on the Atlantic Ocean. A total of 879 coastal fishing boats and 386 inland fishing boats had been entered in the Fisheries Information System as of 2007.

Baltic Sea catch is divided into offshore fishing and coastal fishing. Brisling, Baltic herring and codfish are caught offshore. Trawls are the main fishing gear.

Many species of fish are caught by coastal fishing: economically, the most important are Baltic herring, perch, rainbow smelt, flounder, garfish, and pike-perch, and to a lesser extent common whitefish, sea trout, pike, Baltic vimba, eel, roach and goldfish. Traps, nets and longlines are the main fishing gear.

Catch from inland waters. Industrial fishing is carried out on a considerable scale on Lake Peipus and Lake Võrtsjärv. The main fish caught are pike-perch, bream, perch, pike, roach, eel, and lamprey (Table 17). Nets, traps, pound nets and demersal seines are the main fishing gear.

Deep-sea fishing. Estonia’s deep-sea fishing is carried out on the Atlantic Ocean. Shrimp is the main species caught. Other major species caught are: redfish, Greenland halibut, ray, roundnose grenadier and rough rattail. Fishing is carried out by trawlers.

Overview of the aquaculture sector

There are about 35 aquaculture enterprises in Estonia, which earn their main income from fish or crayfish farming. In addition to the fish farms producing commercial fish, there are more than 50 enterprises in the commercial register that engage in aquaculture and produce enough fish to be considered aquaculture enterprises. As many as 60 businesses throughout Estonia provide angling, i.e. fishing tourism services.

Another activity in the aquaculture sector, in addition to commercial fish production, is the breeding of juveniles for restocking. Estonian water bodies have been restocked in the 2000s with eight species of fish: salmon, sea trout, river trout, common whitefish, pike, eel, pike-perch, tench and crayfish. Sea trout and salmon are being restocked in the
largest numbers. In 2007, the Environmental Investment Centre allocated MEEK 6.26 for the restocking of fish resources and restoration of spawning places. Two enterprises, Põlula Fish Breeding Centre and Õngu Juvenile Hatchery are exclusively in the restocking business. Private fish breeders also contribute to restocking.

Divided by the type of fish being bred, fish are mostly bred in tanks and ponds. Fish are also bred in rapid-flow channels, ponds, and natural water bodies adjusted for fish farming. There is also one enclosed rainbow trout farm which reuses its water.

According to Statistics Estonia, the average number of employees in fish farms has varied between 53 (in 2004) and 103 (in 2001).

**Table 18. Total fish farming output (t), 2000–2006**

<table>
<thead>
<tr>
<th>Species</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow trout</td>
<td>313</td>
<td>412</td>
<td>287</td>
<td>304</td>
<td>194</td>
<td>451</td>
<td>520</td>
</tr>
<tr>
<td>Carp</td>
<td>47</td>
<td>52</td>
<td>53</td>
<td>51</td>
<td>47</td>
<td>44</td>
<td>80</td>
</tr>
<tr>
<td>Eel</td>
<td>0</td>
<td>0.3</td>
<td>12.5</td>
<td>15</td>
<td>7</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Crayfish</td>
<td>0</td>
<td>0.3</td>
<td>2.6</td>
<td>1</td>
<td>0.2</td>
<td>2.2</td>
<td>0.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>360</td>
<td>467</td>
<td>356</td>
<td>373</td>
<td>251</td>
<td>554</td>
<td>702.6</td>
</tr>
</tbody>
</table>

**Source:** Statistics Estonia

According to Statistics Estonia, the average number of employees in fish farms has varied between 53 (in 2004) and 103 (in 2001).

**Fish processing, consumption and sales**

Freezing and filleting, making fish preserves and ready-to-eat foodstuffs are the main activities of the Estonian fish processing enterprises. Frozen and canned fish are mainly sold on the Eastern market (79% of the total export of these products in 2006) and Central and East European markets (18%), the rest is exported to the West. Ready-to-eat foodstuffs are marketed on both the Eastern and Western markets. A large part of the product range is represented on the domestic market.

As of 25 February 2008, the VFB is supervising 89 enterprises involved in the processing of fish and preparation of fishery products. Two-thirds of these enterprises are located in three counties: 27 in Harju County, 18 in Pärnu County and 12 in Tartu County.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

Table 19. Relative share of fish processing in the processing industry and food industry

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
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</thead>
<tbody>
<tr>
<td>Share of fish processing</td>
<td>3.9</td>
<td>3.5</td>
<td>3.3</td>
<td>2.5</td>
<td>2.2</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>in the processing industry, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Share of fish processing</td>
<td>15.3</td>
<td>14.2</td>
<td>14.8</td>
<td>12.3</td>
<td>11.9</td>
<td>8</td>
<td>9.4</td>
</tr>
<tr>
<td>in the food industry, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share in export of foodstuffs, %</td>
<td>44.4</td>
<td>43.1</td>
<td>36.9</td>
<td>31.9</td>
<td>24.9</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td>Number of handling entities</td>
<td>135</td>
<td>109</td>
<td>97</td>
<td>95</td>
<td>96</td>
<td>100</td>
<td>90</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia, VFB

The number of persons employed in fish processing has decreased constantly in the period 2000–2005. A rise in the number of employees was observed in the second quarter of 2006 (2758 employees), but in the fourth quarter the number of employees declined to 2256. It should be mentioned that the fish processing industry depends on the seasonality of fishing: as spring and autumn are the main fishing seasons, the labour indicators vary accordingly.

Figure 53. Employees of the fish processing industry, calendar quarters of 2000–2007

Source: Statistics Estonia

The local Baltic Sea species of Baltic herring and brisling are the main raw material for Estonian fish processing enterprises; filleting businesses use freshwater fish like perch and pike-perch. Ready-to-eat foodstuffs are mainly made of imported raw material.

51 100 t of food fish products (except for canned fish) and 5800 t of canned fish (16.6 million conditional cans) were produced in 2006.

Figure 54. Production quantities

Source: Statistics Estonia
In 2006, the Estonian Fisheries Association commissioned a survey into the consumption patterns of fish and fishery products. The survey was conducted by Emor AS. The survey showed that more than one half (57%) of Estonian inhabitants aged 15–74 eat fish and fishery products at least once a week; 87% eat these products at least once a month, and 8% do not eat fish or fishery products at all.

Out of the different categories of fishery products, canned fish, fish preserves, salted and smoked fish have the largest number of consumers, fresh or chilled fish is the second most popular product category, while delicacies and frozen fish have the smallest number of consumers.

Most consumers in Estonia considered the country of origin very important and preferred Estonian products.

In summary, the survey revealed that the situation is the most critical when it comes to the supply of fresh and chilled freshwater fish, salmon and trout on the Estonian fish market; the availability and range of products are in a particular need of improvement.

The survey conducted by the Estonian Institute of Economic Research in 2003 showed that Estonians consume an average of 17 kg (in raw material) of fish products per year. An analysis of the Emor AS survey of 2006 suggests that the consumption patterns of fish and fishery products have significantly changed over the past three years; consumers are paying more attention to the quality and origin of the products.

Export of fish and fishery products accounted for 76% of the total sales of these products in 2006. Export has remained stable at 74–76% since 2005. More attention is being paid to the domestic market, where the prices obtained and the quantities sold are not high, but the market itself is relatively stable.

Frozen fish is Estonia’s greatest fish export article by volume, while fish fillets take first place in terms of value. Canned fish is mainly exported to the Eastern market and Central and East European markets. Fish fillets are mostly sold to the Western market.

The export volumes of fresh and frozen fish have remarkably decreased in the period 2001–2004. In 2005, the export of both fish products and canned fish, as well as fresh and frozen fish, started to increase (34% and 67%, respectively). The data for 2006 reflects a slight decrease in both export and import. Import of fish products and canned fish grew considerably in 2007 (132%), the main sources of import being Latvia and Lithuania.

According to the Tax and Customs Board, the main export destinations of fishery products, especially frozen and canned fish, are Ukraine and Russia. The respective export volumes in 2007 were 41 365 t and 39 552 t. Overall, Estonia had 68 trade partners for fish and fishery products.
Table 20. Export/import of fish and fishery products and the EU’s share in export, 2007

<table>
<thead>
<tr>
<th>HS code</th>
<th>Chapter</th>
<th>Export</th>
<th></th>
<th></th>
<th></th>
<th>Import</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quantity(t)</td>
<td>Sum (EEK '000)</td>
<td>EU’s share in terms of value(%)</td>
<td>Quantity(t)</td>
<td>Sum (EEK '000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0301</td>
<td>Live fish</td>
<td>31.5</td>
<td>5 509.3</td>
<td>96.4</td>
<td>44.4</td>
<td>4 120.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0302</td>
<td>Chilled fish</td>
<td>2 521.0</td>
<td>23 081.5</td>
<td>86.6</td>
<td>4 319.6</td>
<td>193 840.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0303</td>
<td>Frozen fish</td>
<td>54 834.0</td>
<td>233 308.8</td>
<td>11.3</td>
<td>10 778.6</td>
<td>170 860.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0304</td>
<td>Fish fillet</td>
<td>4 262.1</td>
<td>484 479.2</td>
<td>79.4</td>
<td>5 842.8</td>
<td>260 109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0305</td>
<td>Dried, salted and smoked fish</td>
<td>2 340.7</td>
<td>55 229.6</td>
<td>61.2</td>
<td>623.9</td>
<td>39 057.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0306</td>
<td>Crustaceans</td>
<td>9 164.2</td>
<td>201 462.4</td>
<td>10.9</td>
<td>7 109.7</td>
<td>203 667.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0307</td>
<td>Molluscs</td>
<td>228.6</td>
<td>4 323.2</td>
<td>94.6</td>
<td>789.2</td>
<td>12 103.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1604</td>
<td>Canned fish</td>
<td>40 318.8</td>
<td>471 256.1</td>
<td>59.1</td>
<td>15 127</td>
<td>412 412.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1605</td>
<td>Canned crustaceans</td>
<td>782.8</td>
<td>37 605.4</td>
<td>78.5</td>
<td>242.8</td>
<td>18 693.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>114 767.2</td>
<td>1 516 255.5</td>
<td>53.6</td>
<td>44 878</td>
<td>1 314 864.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Tax and Customs Board, calculations of the Trade Policies Bureau of the Ministry of Agriculture
Table 21. Dynamics of the export and import volumes of fish and fishery products (t), 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fresh and frozen fish (Chapter 03)</td>
<td>Fish products and canned fish (1604; 1605)</td>
</tr>
<tr>
<td>1999</td>
<td>60 719</td>
<td>40 627</td>
</tr>
<tr>
<td>2000</td>
<td>72 702</td>
<td>13 950</td>
</tr>
<tr>
<td>2001</td>
<td>101 537</td>
<td>46 314</td>
</tr>
<tr>
<td>2002</td>
<td>63 692</td>
<td>62 134</td>
</tr>
<tr>
<td>2003</td>
<td>54 099</td>
<td>58 224</td>
</tr>
<tr>
<td>2004</td>
<td>45 818</td>
<td>38 069</td>
</tr>
<tr>
<td>2005</td>
<td>76 706</td>
<td>51 086</td>
</tr>
<tr>
<td>2006</td>
<td>71 739</td>
<td>46 872</td>
</tr>
<tr>
<td>2007</td>
<td>73 665</td>
<td>41 102</td>
</tr>
</tbody>
</table>

Source: Tax and Customs Board, calculations of the Trade Policies Bureau of the Ministry of Agriculture

Associations of producers of fishery products

Three associations of producers of fishery products were approved at the end of 2005: Estonian Association of Professional Fishermen, Estonian Fishing Association and Estonian Trawl Fishing Association. The gathering of fishery product producers into associations helps improve marketing activities and selling conditions, and stabilise the prices of products.

Associations currently include 22 enterprises and represent a large part of trawl fishing enterprises and a considerable share of the Pärnu coastal fishers. Associations own 68 fishing vessels that are longer than 12 m and 207 that are shorter than 12 m.

As regards fish species, approval gas been granted for brisling, Baltic herring and cod fishing. Associations accounted for 81.7% of Estonia’s total brisling production, 76.6% of Baltic herring production and 76.8% of cod production in 2007.

The main ports where associations operate are Dirhami, Haapsalu, Paldiski, Miiduranna, Leppneeme, Veere and Lehtma.

By establishing withdrawal prices from the market at the beginning of every fishing year, i.e. minimum prices at which products are sold; associations are well able to influence the market situation.
2. AGRICULTURAL PRODUCTION, FISHING, PROCESSING, MARKET AND TRADE

2.11. Trade in agricultural and fishery products

Örve Pill

Foreign trade

Foreign trade in agricultural products increased from MEEK 20 590.40 in 2006 to MEEK 27 199.40 in 2007. Agricultural exports and imports amounted to MEEK 11 034.90 and MEEK 16 164.50, respectively, in 2007. Export and import accounted for 40.6% and 59.4% of foreign trade, respectively. The foreign trade deficit was MEEK 3703.60 in 2006 and MEEK 5129.60 in 2007. Agricultural products formed 8.8% of total export and 9.2% of total import of commodities. Agricultural export grew by 30.7% and agricultural import grew by 33.1% compared to the year 2006.

In 2007, MEEK 6751.30 (61.2%) and MEEK 4283.70 (38.8%) worth of agricultural products were exported to the EU common market and to third countries, respectively. Import of agricultural products from the common market and from third countries amounted to MEEK 14 789.90 (91.5%) and MEEK 1374.60 (8.5%), respectively.

The export of agricultural products in 2007, broken down by CN Chapters in terms of value, are as follows: non-alcoholic and alcoholic beverages (CN 22) 27.5%; milk and dairy products and eggs (CN 04) 18.5%; fresh and frozen fish and crustaceans (CN 03) 9.7%; processed meat and fish products (CN 16) 6.8%; miscellaneous edible preparations (CN 21) 5.8%; cereals (CN 10) 5.1%; coffee, tea and spices (CN 09) 4.1%; meat and edible meat offal (CN 02) 3.1%; and animal and vegetable fats (CN 15) 3.6%.

The share of beverages in total export has increased remarkably after Estonia’s accession to the EU. However, the large quantities of whisky and brandy exported from Estonia are usually not produced in Estonia, but imported from other Member States and exported to third countries. Therefore, caution should be exercised when judging Estonia’s food export potential based on foreign trade statistics, because in some cases the statistics do not adequately reflect the export of Estonia’s own products.

Export to the following destinations increased in 2007: Russia (MEEK 1025.60), Latvia (MEEK 372.70), Saudi Arabia (MEEK 307.50), Germany (MEEK 283.00), Finland (MEEK 156.40), Denmark (MEEK 148.90) and Lithuania (MEEK 142.30), while export to the Netherlands (MEEK 56.70), Switzerland (MEEK 41.00), Ukraine (MEEK 12.30) and Greece (MEEK 14.40) decreased.

In 2007, the main export partners were Russia (26.7% of the total export of agricultural products), Latvia (16.0%), Lithuania (12.2%), Finland (10.9%) and Germany (7.3%), and the main import partners were Finland (14.4%), Latvia (11.7%), Lithuania (9.7%), the UK (8.0%), Germany (7.5%), Poland (7.4%) and the Netherlands (7.0%).

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20 The Statistics Estonia’s estimated volumes in terms of value have not been translated into quantities for the Chapters for 2006 and 2007, i.e. the actual quantities may be larger than indicated here.
21 Chapters 01–24 of the Nomenclature of Commodities (CN)
Russia was the main export destination for agricultural products in both 2006 and 2007. In 2007, export to Russia increased 1.5-fold to MEEK 2944.9. Beverages and alcohol (CN 22) accounted for 67.6% of the 2007 Russian export volume, followed by fish and crustaceans and other aquatic invertebrates (CN 03) 6.5%; dairy products, eggs and honey (CN 04) 8.5%; live animals (CN 01) 3.3%; and coffee, tea, maté and spices (CN 09) 6.4%. Compared to the previous year, the export of fish (CN 03) to Russia increased by 7.3 times; the export of beverages, spirits and vinegar grew by 2.2 times; export of preparations of cereals, flour, starch or milk and the selection of pastry products (CN 19) grew by 4.1 times; milling industry product exports, malt and starches (CN 11) increased by 4.2 times and the
export of oil seeds and miscellaneous seeds and fruits (CN 12) increased by 3.9 times. The export of live animals amounted to 58 pure-bred heifers and 47 300 pigs (average live weight 111 kg).

The import of agricultural products, broken down by value, are as follows: non-alcoholic and alcoholic beverages (CN 22) 23.9%; meat and edible meat offal (CN 02) 6.4%; miscellaneous food products (CN 21) 6.4%; edible fruits (CN 08) 6.2%; fresh and frozen fish and crustaceans (CN 03) 5.8%; sugar and confectionery products made from sugar (CN 17) 5.9%; coffee, tea and spices (CN 09) 4.3%; and preparations of vegetables, fruit and berries (CN 20) 4.2%.

The import of agricultural products from the following countries increased: the UK (MEEK 1 092.50), Latvia (MEEK 698.40), France (MEEK 437.00), Lithuania (MEEK 259.60), Poland (MEEK 237.90), Finland (MEEK 219.50), the Netherlands (MEEK 166.30) and Denmark (MEEK 107.10), while import from Norway (MEEK 43.90), Belarus (MEEK 21.60) and the Czech Republic (MEEK 6.30) decreased.

In 2007, import of agricultural products from Russia amounted to MEEK 318.9, i.e. MEEK 32.4 less than in 2006. Export of agricultural products to Russia exceeded import by more than nine-fold. Import from Russia broke down as follows: fish (CN 03) 25.7%; beverages (CN 22 14.6%; animal fodder (CN 23) 16.6%; oil seeds and miscellaneous seeds (CN 12) 11.5%.

**Dairy products**

Because of the unfavourable climatic conditions in 2007 (drought in Australia), many countries decreased their exports of dairy products or imposed other export restrictions, which is why world market prices rose sharply. In order to meet the growing demand on the milk market, the European Commission proposed to increase the milk quota by 2% from 1 April 2008, so that EU farmers could make a contribution to increasing the production of dairy products. The situation on the world milk market, where prices went up as a result of falling supply and rising demand, was favourable for milk producers in 2007.

Export of dairy products amounted to MEEK 2063.80 in 2007 (34.7% more than last year) and import amounted to MEEK 479.60 (47.0% more than last year). Dairy products accounted for 18.7% and 3.0% of total agricultural export and import, respectively. MEEK 1736.50 of dairy products (84.1% of the total export of dairy products) reached the EU common market and MEEK 327.30 (15.9%) was exported to third countries, including MEEK 249.50 to Russia (76.2% of total export to third countries). MEEK 452.50 worth of dairy products (94.3% of the import of dairy products) were imported from the common market and MEEK 27.10 (5.7% of import) from third countries.

Exporters of dairy products earned revenue from both larger selling volumes and higher prices. In 2007, the export quantities of butter and butterfat increased two-fold, those of skimmed milk powder by 1.7 times, those of fermented milk and cream products, including yoghurt by 18.9% and those of whey products by 1.7%; the export volumes of cheeses and whole milk powder decreased by 2.4% and 35%, respectively. The export prices of all the main export articles rose. Imported quantities of fermented milk and cream products increased by 1.7 times,
Table 22. Average export quantities and prices of some dairy products

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity, t</td>
<td>Price, EEK/t</td>
</tr>
<tr>
<td>Butter and butterfat (0405)</td>
<td>2 737</td>
<td>30 759</td>
</tr>
<tr>
<td>including butter (0405 10)</td>
<td>2 695</td>
<td>30 707</td>
</tr>
<tr>
<td>Total cheese (0406)</td>
<td>11551</td>
<td>44 576</td>
</tr>
<tr>
<td>including cheese (0406 90)</td>
<td>8 516</td>
<td>45 224</td>
</tr>
<tr>
<td>Skimmed milk powder</td>
<td>5 667</td>
<td>31 058</td>
</tr>
<tr>
<td>Whole milk powder</td>
<td>6 017</td>
<td>34 081</td>
</tr>
<tr>
<td>Yoghurt</td>
<td>4 766</td>
<td>13 582</td>
</tr>
<tr>
<td>Other fermented milk and cream products</td>
<td>1 647</td>
<td>18 209</td>
</tr>
<tr>
<td>Whey products (0404)</td>
<td>6 034</td>
<td>9 841</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia, short-term statistics

those of cheeses by 1.4 times, and those of skimmed milk powder, butter and whey products by 14.7%, 18.7% and 2.8%, respectively; the imported quantity of whole milk powder decreased. The import prices of fermented milk and cream products, whey products, butter and cheeses rose, while the import prices of skimmed milk powder and whole milk powder fell.

Meat and meat products

Meat and meat products accounted for 5.2% (MEEK 574.00) of total agricultural export and 7.4% (MEEK 1191.10) of agricultural import in 2007; EU Member States accounted for 95.0% of export and 99.0% of import and third countries had a 5.0% and 1.0% market share in export and import, respectively. Export and import increased by 8.4% and 8.9%, respectively. Self-supply of meat (including meat offal) has remained between 74 and 77% in recent years, the rest is imported. The average consumption of meat (including meat offal) has been 70 kg per capita in recent years, of which pigmeat had a nearly 50% share. The export and import of meat and meat products (in meat equivalents) have been 18 000–20 000 t and 42 000–51 000 t in the past three years.

Export of beef amounted to MEEK 23.90, pigmeat: MEEK 221.00, edible meat offal: MEEK 13.30, sheepmeat: MEEK 1.50, and poultry: MEEK 60.40 in the year 2007. Compared to the previous year, export increased by 11.5% (in terms
of value) for beef, 3.7 times for sheepmeat and 1.4 times for edible meat offal, and decreased by 5.8% for pigmeat and 4.7% for poultrymeat. There were also increases in the quantities of exported beef, sheepmeat and meat offal, and in the export prices of pigmeat, sheepmeat and poultrymeat. Of the total quantity of exported beef, 41.6% was exported to Latvia, 32.9% to Finland and 9.7% to Lithuania. Of total exported pigmeat, 46.0% and 33.0% were sold on the Latvian and Lithuanian markets, respectively. Of poultrymeat exports, 36.9% were sold to Latvia, 25.2% to Finland and 16.7% to Lithuania.

Import of beef amounted to MEEK 120.70, pigmeat: MEEK 447.20, edible meat offal: MEEK 27.50, sheep meat: MEEK 11.60, and poultrymeat: MEEK 317.30. Compared to the previous year, the import of beef, sheepmeat and poultrymeat increased, while the import of pigmeat and meat offal decreased (in terms of value). The import prices of these products rose and only the import of poultrymeat increased in terms of quantity.

The export of sausages, preserves and other meat products (CN 1601–1602) amounted to MEEK 224.10 (28.9% more than in 2006). Sausages and preserves accounted for 39.0% of the total export of meat and meat products in terms of value (32.9% last year). Of the import of meat and meat products, sausages and preserves (CN 1601–1602) formed 12.4%

The 2007 export volumes of live bovine animals were as follows: 973 pure-bred heifers, 8091 domestic bovine animals weighing up to 80 kg, 91 bovine animals weighing 80–160 kg (except for slaughter animals), and 842 bovine animals weighing over 300 kg (except for slaughter animals). Pure-bred heifers were sold to Latvia, the Netherlands, Spain, Lithuania, and Russia. The export of live pigs amounted to 71 556 animals.

The export and import of live animals and poultry in terms of value were MEEK 180.70 and MEEK 18.90, respectively.

**Cereals and cereal-based products**

The total harvest of cereals in the 27 EU Member States decreased by 2.3% in 2007 compared to the previous year. The cereal harvest also decreased in Europe as a whole. The world’s cereal consumption has increased at a higher pace than production in recent years, while the Canadian and US cereal stocks of the main exporters have markedly decreased, which is why demand surpassed supply and the buying-in prices of cereals rose. In the harvest year 2007/2008, EU farmers will be allowed to use lands formerly withdrawn from production, as a means of boosting the cereal harvest and supply.

The export of cereals, cereal-based products and flour confectionery (CN 10, 11, 19) reached MEEK 895.10, having increased 1.8 times since the previous year and accounting for 8.1% of the total export of agricultural products; the import of these products...
products was MEEK 1168.90, i.e. 19.0% more than last year, accounting for 7.2% of total agricultural import. Cereals (CN 10) accounted for 62.4% of export, followed by preparations of cereals, flour, starch or milk (CN 19) with 24.8% and products of the milling industry, malt and starches (CN 11) with 12.8%. Because of the favourable world market prices of cereals, the export of cereals (CN 10) decreased by 5.4% by quantity, but increased 1.6 times by value. Total import (in terms of value) consisted of 13.8% of cereals, 26.1% of level 1 processed products with a higher value added22 (CN 11), and 60.1% of preparations of cereals, flour, starch or milk, and pastry products (CN 19). Cereals, cereal-based products and flour confectionery were exported to and imported from the common market in totals of MEEK 430.60 (48.1%) and MEEK 1091.90 (93.4%), respectively.

The main export destinations of these products were Saudi Arabia (44.0%), Latvia (11.3%), Lithuania (10.8%), Germany (10.6%) and Russia (7.8%), and the main country of import was Latvia (21.8%), followed by Finland (18.0%), Lithuania (14.3%), Denmark (9.1%), Poland (7.6%) and Germany (7.5%). 99 000 t of barley was exported to Saudi Arabia.

Beverages, alcohol

Products of Chapter 22: beverages, spirits and vinegar had the largest share in the total export of agricultural products in 2007. These products were exported in the sum of MEEK 3030.60 (growth in comparison with last year 1.7 times), accounting for 27.5% of total agricultural export. Import amounted to MEEK 3867.9 (growth in comparison with last year of 2.1 times) or 23.9% of total agricultural import. Of the export in this Chapter, 70.1% was non-denatured ethyl alcohol of an alcoholic strength by volume of less than 80% vol: spirits, liqueurs and other alcoholic beverages (CN 2208), of which whisky (CN 2208 30) formed 44.7% and spirit drinks from grape wines or grape marc (CN 2208 20) formed 29.2%; 12.1% was water, including mineral water and carbonated water (CN 2202); 7.5% was grape wine from fresh grapes, including fortified wines (CN 2204); 5.0% was beer made from malt (CN 2203) and 5.3% was other beverages and vinegar.

Of the import of Chapter 22 products (beverages, spirits and vinegar), 62.8% was non-denatured ethyl alcohol of an alcoholic strength by volume of less than 80% vol: spirits, liqueurs and other alcoholic beverages (CN 2208); 16.0% was grape wine from fresh grapes, including fortified wines (CN 2204); 9.6% was water, including mineral water and carbonated water (CN 2202); 3.9% was beer; 2.5% was other fermented drinks (CN 2206) and 5.2% was other beverages and vinegar.

The main export destinations of products from this Chapter were Russia (65.7%), Latvia (13.5%), Lithuania (11.4%) and Finland (8.0%), and the main sources of import were the UK (28.9%), France (16.3%), Finland (12.3%), Ireland (4.9%), and Italy (4.5%).

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22 Level 1 processed products are flour, groats, flakes, pearls, malt, etc.
Vegetables and edible roots and tubers (CN 07); edible fruits and nuts, peel of citrus fruits or melons (CN 08)

Potatoes and vegetables occupied 1.8% and 0.5% of the total growing area of field crops in 2007, respectively, while their export volumes remained modest. Export and import of potatoes was 33 t (MEEK 0.30) and 2967 t (MEEK 10.50) in 2006 and 7 t (MEEK 0.090) and 2386 t (MEEK 14.50) in 2007, respectively.

Potatoes and vegetables were exported for MEEK 66.70 and imported for MEEK 478.90 in 2007, accounting for 0.6% of agricultural export and 2.9% of agricultural import. Export grew by 20.5% and import increased by 22.6% compared to the previous year. Estonia’s vegetable output has covered more than one half (63–65%) of the domestic market need in recent years.

Of the exports in 2007, 26.3% was dried leguminous vegetables (CN 0713), 20.2% was lettuce (CN 0705), 12.8% was dried vegetables (CN 0712), 10.6% was fresh cucumbers (CN 0707) and 7.5% was other vegetables: asparagus, eggplants, celery, mushrooms, sweet peppers, spinach, etc. (CN 0709). Of the import in this Chapter, 28.4% was fresh tomatoes (CN 0702), 12.3% was frozen vegetables (CN 0710), and 12.1% was other vegetables: asparagus, eggplants, celery, mushrooms, sweet peppers, spinach, etc. (CN 0709), 9.4% was fresh cucumbers (CN 0707) and 7.7% was onions (CN 0703).

Potatoes and vegetables were exported to Lithuania (23.6%), Latvia (23.4%), Italy (15.9%), Sweden (9.2%) and the Netherlands (7.1%) and imported from the Netherlands (33.7%), Lithuania (14.4%), Poland (13.9%), Spain (9.4%) and Germany (7.7%).

Fruits, berries, nuts and their preparations have an important place in the diet of the population. According to Statistics Estonia, 39–44 kg of fresh fruits and berries have been consumed per capita in recent years.

The import of fruits, berries and nuts has increased year by year. These products were exported for MEEK 269.20 and imported for MEEK 1002.00 in 2007, accounting for 2.4% of total agricultural export and 6.2% of agricultural import. Export decreased by 2.7% and import increased by 6.8% compared to the previous year.

Of these exports in 2007, 66.9% (MEEK 180.20) was frozen fruits (CN 0811), including 83.7% (MEEK 150.90) of frozen bilberries; 4.8% (MEEK 12.80) was fresh fruits (CN 0810); and 12.2% (MEEK 32.70) was nuts (CN 0801–0802).

Of the imports in 2007, 16.4% (MEEK 164.70) was fresh or dried citrus fruits (CN 0805); 13.8% (MEEK 137.90) was fresh or dried bananas (CN 0703); and 13.5% (MEEK 135.10) was fresh apples, pears and quinces (CN 0808).

**Fish and fishery products**

Fish and fishery products were in first place in the export of food products for a long time, but have now lost their position and placed third after beverages and dairy products in 2007.
Table 23. Trade in fish and fishery products

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2007/2006, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export of fish (CN 0301–0307), t</td>
<td>72 480</td>
<td>73 382</td>
<td>101.2</td>
</tr>
<tr>
<td>Import of fish (CN 0301–0307), t</td>
<td>30 831</td>
<td>29 508</td>
<td>95.7</td>
</tr>
<tr>
<td>Export of fishery products (1604–1605)</td>
<td>46 948</td>
<td>41 102</td>
<td>87.5</td>
</tr>
<tr>
<td>Import of fishery products (1604–1605)</td>
<td>6 700</td>
<td>15 370</td>
<td>2.3 times</td>
</tr>
<tr>
<td>Export of fish and fishery products, MEEK</td>
<td>1 740</td>
<td>1 590</td>
<td>91.4</td>
</tr>
<tr>
<td>Import of fish and fishery products, MEEK</td>
<td>1 137</td>
<td>1 408</td>
<td>123.8</td>
</tr>
<tr>
<td>Share in total export of agricultural products, %</td>
<td>20.6</td>
<td>14.4</td>
<td>x</td>
</tr>
<tr>
<td>Share in total import of agricultural products, %</td>
<td>9.4</td>
<td>8.7</td>
<td>x</td>
</tr>
</tbody>
</table>


Fish and fishery products accounted for 14.4% (MEEK 1590) of the export and 8.7% (MEEK 1408) of the import of agricultural products in 2007. Compared to the previous year, the export of these products decreased by 8.6% or MEEK 150, and import increased by 23.8% or MEEK 271. In 2007, export to EU Member States and third countries was 55% and 45% of total export, respectively, and the respective shares of import were 75% and 25%.

The export of fish increased by 902 t (1.2%), while the export of fishery products decreased by 5846 t (12.5%) compared to the previous year. The import of fish decreased by 1323 t (4.3%) and the import of fish products increased by 8670 t (2.3 times). Of the total export of fresh and frozen fish (CN 03), 43.6% is fresh, chilled or frozen fish fillets, 18.7% is frozen shrimps, 14.6% is fresh and frozen fish fillets and fish meat (fresh, chilled, frozen; 0304) 31%.

Source: Statistics Estonia, short-term statistics
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brisling, and 3.0% is frozen herring. Of the import of fresh and frozen fish (CN 03), 21.1% is frozen shrimp (Crangon spp. and Palaemon spp.), 16.2% is frozen fish fillets, and 24.0% is fresh, chilled or frozen salmon.

Of the export of fish and fishery products in 2007, 18.1% (in terms of value) was sold to Ukraine, 13.6% to Russia, 13.1% to Finland, and 6.7% to Denmark, and of import, 23.0% came from Latvia, 17.7% from Lithuania, 9.6% from Finland, 9.1% from Denmark and 7.1% from Sweden.

Domestic trade, prices of food products

According to Statistics Estonia, consumer goods were 6.6% more expensive, on average, in 2007 compared to 2006. The price dynamics were as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>goods</td>
<td>+4.8%</td>
</tr>
<tr>
<td>including food</td>
<td>+8.0%</td>
</tr>
<tr>
<td>industrial goods</td>
<td>+2.3%</td>
</tr>
<tr>
<td>services</td>
<td>+10.0%</td>
</tr>
</tbody>
</table>

The food basket of the Estonian Institute of Economic Research was 12.5% more expensive in December 2007 than in December 2006; all the foods in the basket except for potatoes and vegetables had become more expensive. Potatoes and vegetables were 19.9% and 11.1% cheaper, respectively. Compared to December 2006, the prices of the foods in the basket rose as follows: dairy products 27.5%, hen eggs 32.1%, meat products 5.9%, cereal-based products 19%, and fish 13.6%. The price increase of dairy and cereal-based products is expected to decelerate, while that of meat products is expected to increase.

The Institute’s published comparison of the retail prices of week 49 of 2007 and week 49 of 2006 in Tallinn supermarkets shows that the price increase was the largest for butter and hen eggs (45%), fresh broiler meat (40%), top loin of beef (42%), pork chops (16%), cheese (38%), drinking milk (33%), single cream (30%), unflavoured yoghurt (20%), and wheat flour (36%); the price of potatoes and vegetables fell.

Figure 60. Change in the retail prices of food products in Tallinn supermarkets (week 49 of 2007 compared to week 49 of 2006), EEK

Drinking water, 1.5 l  -0.22
Orange juice (100%), l  2.32
Bananas, 1 kg  0.54
Onions, 1 kg  -0.67
White cabbage, 1 kg  -0.73
Potatoes, 2 kg  -6.86
Sugar, 1 kg  -0.79
Wheat flour T550, 2 kg  5.27
Hen eggs, L 10 pcs  6.9
Broiler, fresh 1 kg  13
Top loin of beef, fresh 0.5 kg  23.45
SPork chops, 0.5 kg  6.68
Unflavoured yoghurt, 0.5 kg  1.9
Single cream 10%, 0.2 l  1.19
Cheese (Edam or Gouda), 0.5 kg  16.29
Butter, 80–82.5%, 200 g  6.03
Milk 3.5%, l  3.13


Consumers continued to prefer domestic food products: the survey commissioned by the Ministry of Agriculture and conducted by the Institute of Economic Research showed that domestic products were preferred by 73% of respondents in 2007, i.e. 2 pp less than a year earlier. This is probably due to the rapid price increase of domestic products. If the price increases continue, consumers with lower incomes are especially likely to change their purchasing patterns. The respondents also believed that in addition to the price increase, domestic food products were increasingly less characterised by freshness, healthiness, high quality, wide assortment and suitable packaging. It has become more difficult over the year to distinguish domestic products from imported products. The survey results indicate a certain downtrend in the competitiveness of domestic food products, which may, if continued, jeopardise their market position.

In 2005, the Government of the Republic approved the development plan “Estonian Food,” which was to be implemented over a period of three years (2006–2008). The outcome of the development plan should be an improvement in the competitiveness of food products, on the one hand, and the enhancing of consumer awareness of food safety, healthy nutrition and typical Estonian food, on the other. MEEK 20, MEEK 15 and MEEK 10 were allocated to the implementation of the development plan for 2006, 2007 and 2008, respectively. Various projects have been carried out under the development plan, such as participation in fairs, publications and recipe books about Estonian food, information hand-outs for consumers concerning the labelling of food products, as well as surveys, seminars, conferences, campaigns for children, training sessions, promotion of organic food, various competitions, TV shows, etc.

**Cereal prices**

The European Commission has planned to increase the share of biofuels by the year 2020. According to the EU Commissioner for the Environment, the objectives of biofuel introduction will be reviewed to make sure that they bring no harm to the environment or people. The production of biofuels was expected to reduce environmental pollution by greenhouse gases and develop substitutes for fossil fuels. Researchers believe that biomass production (which uses cereals, potatoes, etc. as raw material) should follow the principle of giving priority to food and animal feed. If energy crops are extensively subsidised, the production of food and fodder crops may suffer and the prices of food products will go up.

Because of poor weather conditions, the European cereal harvest was lower than expected in the harvest year 2006/2007. However, overall demand has increased because of additional demand for food cereals, especially in Asia. Estonia’s total cereal output in 2006/2007 was the highest in recent years; cereal prices also rose significantly.

In December 2007, the buying in prices were as follows: wheat 3030 EEK/t (1.36 times more expensive than in December 2006), rye 2753 EEK/t (1.5-fold increase), barley 2845 EEK/t (1.5-fold increase), and oats 2078 EEK/t (1.5-fold increase).
In December, buying in prices of fodder crops were as follows: fodder wheat 3138 EEK/t (1.7 times more expensive than in December 2006), fodder rye 2700 EEK/t (1.5-fold increase), fodder barley 2845 EEK/t (1.5-fold increase), and fodder oats 2039 EEK/t (1.5-fold increase).

In week 50 of 2007, the prices of food wheat were 3870 EEK/t in Germany (1.6-fold increase since week 50 of 2006), 3003 EEK/t in Estonia (1.3-fold increase), 3420 EEK/t in Latvia (1.4-fold increase), 3473 EEK/t in Lithuania (1.75-fold increase) and 3398 EEK/t in Poland (1.4-fold increase).

The buying-in prices of cereals in Estonia rose till October and then started to fall, the falling trend being led by food cereals. The average buying-in prices were lower in December than in October, except for fodder wheat, fodder rye and fodder oats.

In December 2007, rape was bought in at the average price of 5517 EEK/t (1.37-fold increase since December 2006), which is the highest price in recent years. The sharp increase in cereal buying-in prices was accompanied by a steep increase in the retail prices of cereal-based products. Compared to December 2006, the retail prices of black bread, white bread, wheat flour and oat flakes in Estonian grocery stores rose by 27.2%, 30.2%, 35.1% and 11.2%, respectively.

**Prices of meat, meat products and hen eggs**

As a rule, an increase in the buying-in prices of cereals results in an increase in meat prices with a certain lag. A comparison of the buying-in prices of cows (category D) in various countries over the past two years shows that the buying-in prices and price dynamics in Germany are quite similar to the EU average prices and price dynamics. Price changes in Finland are stable. While in Latvia and Lithuania the prices increased by 20.9% and 28.4%, respectively, from December 2006 to December 2007, in Estonia the price change was only 1.2%.

**Figure 62. Average buying-in prices of cows (category D), EEK/kg**

Source: Estonian Institute of Economic Research, “Price Information” No 11, 2007
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Table 24. Average buying-in prices of beef and pigmeat

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>23 882</td>
<td>23 031</td>
<td>96.4</td>
</tr>
<tr>
<td></td>
<td>including December</td>
<td>including December</td>
<td>105.9</td>
</tr>
<tr>
<td>Pigmeat</td>
<td>23 179</td>
<td>23 286</td>
<td>100.5</td>
</tr>
<tr>
<td></td>
<td>22 231</td>
<td>23 548</td>
<td>99.97</td>
</tr>
</tbody>
</table>


During 2007, processing enterprises paid an average of EEK 23 031 for a tonne of beef (3.6% less than last year) and EEK 23 286 per tonne of pigmeat (0.5% rise), including EEK 23 548 for beef and EEK 23 671 for pigmeat in December (5.9% more and the same, respectively, as in December 2006). In mid-December 2007, the buying-in price of class E pigs in Estonia was 22.83 EEK/kg, i.e. 10.3% higher than the EU average and 2.6% and 1.6% lower than the buying-in prices of Latvia and Lithuania, respectively. Pigmeat is mostly imported from Denmark, Finland and Poland. The increase in the price of beef was halted by the termination of the export ban on Brazilian beef.

Eggs (on trays) were sold ex-works at 0.913 EEK/pc in 2007 on average, including 1.179 EEK/pc in December, which was 8.3% and 41.0% more expensive than a year earlier. The Estonian producer price for hen eggs in mid-December (1.179 EEK/pc) was 8.2% lower than the EU average. The retail price of hen eggs (L) in Tallinn supermarkets was 2.23 EEK/pc in week 49, i.e. 45% more than a year earlier.

Prices of milk and dairy products

The price of dairy products shot up in 2007 because the main exporters of dairy products reduced their export volumes due to increasing demand. The favourable world market situation boosted the export of Estonian dairy products. Export of dairy products increased in terms of both quantities and prices.

The average price obtained for a tonne of crude milk in 2007 was EEK 4216, including EEK 5157 in December, i.e. 10.7% and 35.2% more than a year earlier. The ex-works prices of dairy products have increased over the year by 50% for skimmed milk powder, 33.0% for whole milk powder, 13–19% for Edam cheese, 15% for cottage cheese, 15–18% for butter and 13–15% for drinking milk.
The ex-works prices of dairy products compared to December 2006 have increased by 33.6% for skimmed milk powder, 18.6% for whole milk powder, 37–45% for Edam cheese, 27% for cottage cheese, 34% for butter in blocks and 53% for butter in sticks, and 39-51% for drinking milk. The ex-works price of butter in mid-December was 59.81 EEK/kg in Estonia, 61.73 EEK/kg in Latvia, 67.29 EEK/kg in Lithuania, 42.50 EEK/kg in Finland, 43.09 EEK/kg in Sweden and 52.68 EEK/kg in Germany. Compared to December 2006, the (retail) prices of the dairy products included in the basket of the Estonian Institute of Economic Research increased by 27.5%.

The retail prices of dairy products in Estonian grocery stores increased as follows compared to December 2006: drinking milk 40.1–59.2%, kephir 22.5–28.4%, butter (sticks) 42.0%, cheese 38.5%, and cottage cheese (4%) 27.7%.

**Producer prices of potatoes and vegetables**

The producer price of potatoes (2.51 EEK/kg) in December 2007 was 31.7% lower than in December 2006, because unlike the harvest year 2006/2007, the harvest year 2005/2006 was not favourable for potato farmers, which is why producer prices were high. The producer prices of carrots and beetroot were also lower than last year’s (13.6% and 24.6%, respectively), the price of headed cabbage was slightly higher (2.0%) and that of swede remained unchanged. Retail prices of potatoes, headed cabbage, carrots and corm in Estonian grocery stores were lower in December 2007 than a year earlier, while the prices of cucumbers, imported tomatoes and apples were higher.

**2.12. Alcohol market**

*Katrin Karolin*

According to the Veterinary and Food Board, there are 28 alcohol producers in Estonia as of 1 April 2008), which have been approved under the Food Act; 1 of them produces spirits, 10 distil spirits, 7 brew beer, 8 produce other alcoholic drinks and 11 produce fruit and berry wines and cider. This overview uses the production and foreign trade data of Statistics Estonia, the production and domestic sales data of enterprises, and the alcohol sector studies and retail price surveys conducted by the Estonian Institute of Economic Research.

**Production**

The outputs of most producers of alcoholic beverages increased in the first three quarters of 2007, compared to the same period last year, only the outputs of spirit (-10%) and fruit and berry wines decreased; the latter decreased by 41% according the Estonian Institute of Economic Research and 43% according to Statistics Estonia. There are also differences between the data of these two institutions as regards the outputs of spirits. The output of spirits during the first nine months of 2007 exceeded last year’s by 28% according to the Institute and 24% according to Statistics Estonia. The difference is probably due to the fact that some producers are not included in the Statistics Estonia’s sample. Statistics Estonia’s data on the output of spirits and low-alcohol beverages was used in this market overview. During the period observed, the outputs of vodka and liqueurs exceeded those of the same period a
The output of low-alcohol beverages increased by 7.1% owing to the increased (+23%) production of low-alcohol mixed beverages, while the output of cider decreased (-11%). As the output of fruit and berry wines decreased substantially, the overall output of low-alcohol beverages was less than in the first nine months of 2006. The output of beer has not changed much over the year and amounts to 110 million litres, which is 0.8% more than for the first three quarters of 2006.

**Foreign trade**

According to the foreign trade data of Statistics Estonia, export and import of alcoholic beverages in the first nine months of 2007 exceeded those for the first nine months of 2006 by 13%. As in previous periods, the foreign trade balance remained negative and import exceeded export as much as a year ago (more than twice). The export of almost all alcoholic beverages increased, except for spirit and low-alcohol beverages. The main export articles were spirits, beer, and low-alcohol beverages (shares of 35%, 25% and 21% in total export, respectively). Most of the alcoholic beverages exported from Estonia were sold to the other Baltic countries, as in previous years. The import quantities of almost all alcoholic beverages increased. Compared to 2006, the import of low-alcohol beverages decreased, while the import of low-alcohol mixed beverages increased, while the import of fermented beverages, including cider, decreased.

**Table 25. Output of alcoholic beverages in Estonia (millions of litres), 2005–2007**

<table>
<thead>
<tr>
<th></th>
<th>2005 9 months</th>
<th>2006 9 months</th>
<th>2007 9 months</th>
<th>Change +,-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 months 07 / 9 months 06 '000 000 l</td>
</tr>
<tr>
<td>Spirits</td>
<td>11.5</td>
<td>11.3</td>
<td>14.0</td>
<td>2.7</td>
</tr>
<tr>
<td>by assessment of the Estonian Institute of Economic Research</td>
<td>11.5</td>
<td>11.3</td>
<td>14.48</td>
<td>3.18</td>
</tr>
<tr>
<td>Beer</td>
<td>104.8</td>
<td>108.97</td>
<td>109.85</td>
<td>0.88</td>
</tr>
<tr>
<td>Low-alcohol beverages*</td>
<td>19.1</td>
<td>25.6</td>
<td>27.4</td>
<td>1.82</td>
</tr>
<tr>
<td>Rectified ethanol</td>
<td>2.84</td>
<td>4.21</td>
<td>3.78</td>
<td>-0.43</td>
</tr>
<tr>
<td>Fruit and berry wines</td>
<td>3.32</td>
<td>6.79</td>
<td>3.88</td>
<td>-2.91</td>
</tr>
<tr>
<td>by assessment of the Estonian Institute of Economic Research</td>
<td>7.36</td>
<td>6.79</td>
<td>4.03</td>
<td>-2.76</td>
</tr>
</tbody>
</table>

*Calculations of the Estonian Institute of Economic Research (low-alcohol mixed beverages and cider, are summarised according to Statistics Estonia’s classification)

Source: Statistics Estonia, Estonian Institute of Economic Research

Year earlier by 32% and 11%, respectively. The output of low-alcohol beverages increased by 7.1% owing to the increased (+23%) production of low-alcohol mixed beverages, while the output of cider decreased (-11%). As the output of fruit and berry wines decreased substantially, the overall output of low-alcohol beverages was less than in the first nine months of 2006. The output of beer has not changed much over the year and amounts to 110 million litres, which is 0.8% more than for the first three quarters of 2006.
Table 26. Basic export and import of alcoholic beverages in terms of value and export and import prices, 2005–2007 (9 months)

<table>
<thead>
<tr>
<th></th>
<th>Price, EEK/l</th>
<th>Turnover, MEEK</th>
<th>2005/06 +/- %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20059 months</td>
<td>20069 months</td>
<td>20079 months</td>
</tr>
<tr>
<td><strong>EXPORT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirits, up to 80% alcoholic content*</td>
<td>140.94</td>
<td>152.22</td>
<td>133.35</td>
</tr>
<tr>
<td>Beer</td>
<td>5.57</td>
<td>5.85</td>
<td>6.13</td>
</tr>
<tr>
<td>Low-alcohol beverages</td>
<td>6.10</td>
<td>7.01</td>
<td>7.16</td>
</tr>
<tr>
<td>Ethyl alcohol, &gt;80% alcoholic content</td>
<td>9.24</td>
<td>9.65</td>
<td>12.54</td>
</tr>
<tr>
<td>Grape wine</td>
<td>41.52</td>
<td>35.45</td>
<td>38.16</td>
</tr>
<tr>
<td>Vermouth</td>
<td>18.21</td>
<td>24.90</td>
<td>21.51</td>
</tr>
<tr>
<td><strong>TOTAL EXPORT</strong></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>373.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>419.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>474.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12.9</td>
</tr>
<tr>
<td><strong>IMPORT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirits, up to 80% alcoholic content*</td>
<td>136.30</td>
<td>84.27</td>
<td>84.50</td>
</tr>
<tr>
<td>Beer</td>
<td>8.24</td>
<td>8.20</td>
<td>8.96</td>
</tr>
<tr>
<td>Low-alcohol beverages</td>
<td>11.20</td>
<td>11.66</td>
<td>12.00</td>
</tr>
<tr>
<td>Ethyl alcohol, &gt;80% alcoholic content</td>
<td>9.31</td>
<td>8.58</td>
<td>10.07</td>
</tr>
<tr>
<td>Grape wine</td>
<td>31.39</td>
<td>32.40</td>
<td>34.22</td>
</tr>
<tr>
<td>Vermouth</td>
<td>28.80</td>
<td>27.00</td>
<td>30.76</td>
</tr>
<tr>
<td><strong>TOTAL IMPORT</strong></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>640.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>986.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1115.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13.1</td>
</tr>
</tbody>
</table>

* In 100% alcohol

Source: Statistics Estonia
Table 27. Basic export and import of alcoholic beverages by quantity (‘000 l), 2005–2007 (9 months)

<table>
<thead>
<tr>
<th></th>
<th>2005 9 months</th>
<th>2006 9 months</th>
<th>2007 9 months</th>
<th>9 months % 07 / 9 months 06 %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirits, up to 80% alcoholic content*</td>
<td>1 071</td>
<td>913</td>
<td>1 238</td>
<td>35.6</td>
</tr>
<tr>
<td>Beer</td>
<td>18 885</td>
<td>16 443</td>
<td>19 086</td>
<td>16.1</td>
</tr>
<tr>
<td>Low-alcohol beverages</td>
<td>12 064</td>
<td>14 402</td>
<td>14 000</td>
<td>-2.8</td>
</tr>
<tr>
<td>Ethyl alcohol, &gt;80% alcoholic content</td>
<td>963</td>
<td>2 334</td>
<td>1 510</td>
<td>-35.3</td>
</tr>
<tr>
<td>Grape wine</td>
<td>848</td>
<td>1 705</td>
<td>1 886</td>
<td>10.6</td>
</tr>
<tr>
<td>Vermouth</td>
<td>45</td>
<td>36</td>
<td>44</td>
<td>23.8</td>
</tr>
<tr>
<td><strong>IMPORT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirits, up to 80% alcoholic content*</td>
<td>3 203</td>
<td>4 224</td>
<td>4 651</td>
<td>10.1</td>
</tr>
<tr>
<td>Beer</td>
<td>11 105</td>
<td>11 223</td>
<td>12 638</td>
<td>12.6</td>
</tr>
<tr>
<td>Low-alcohol beverages</td>
<td>15 607</td>
<td>16 631</td>
<td>16 125</td>
<td>-3.0</td>
</tr>
<tr>
<td>Ethyl alcohol, &gt;80% alcoholic content</td>
<td>2 233</td>
<td>1 947</td>
<td>2 796</td>
<td>43.6</td>
</tr>
<tr>
<td>Grape wine</td>
<td>9 497</td>
<td>9 707</td>
<td>10 909</td>
<td>12.4</td>
</tr>
<tr>
<td>Vermouth</td>
<td>424</td>
<td>500</td>
<td>465</td>
<td>-6.9</td>
</tr>
</tbody>
</table>

* In 100% alcohol

Source: Statistics Estonia
Consumption and domestic market prices

The retail turnover of alcoholic beverages amounted to nearly BEEK 3.5 in the first nine months of 2007, exceeding the turnover of the first nine months of 2006 by 20%. The growth was due to the price increase of products and also the increase in the quantities of most alcoholic products sold on the domestic market.

The retail prices of most of the more popular domestic alcoholic beverages increased when compared to the first nine months of 2006. The only exception was downscale vodka, whose price remained stable. Mid-scale vodkas and gins gained more than 5% in price over the year. Upscale vodkas and high-alcohol liqueurs were 4.5% more expensive than a year ago. The prices of cream liqueurs rose almost as much (4.7%), while the price increase in berry liqueurs was more modest (1.3%). The prices of domestic beer and cider went up by nearly 10% and 3.5%, respectively. The average price of fruit and berry wines rose more than that of other alcoholic beverages (13%), while the price increase was much lower in Tallinn (5.5%) than in other regions. The prices of all alcoholic beverages continued to rise in the last quarter of 2007.

Table 27. Average retail prices of Estonian spirits (price of 0.5 l glass bottle, EEK, including VAT)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Estonia on average</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vodka (unflavoured)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower price class</td>
<td>55.42</td>
<td>54.06</td>
<td>53.13</td>
<td>55.14</td>
<td>-0.5</td>
<td>57.04</td>
</tr>
<tr>
<td>Medium price class</td>
<td>68.80</td>
<td>68.55</td>
<td>72.22</td>
<td>72.46</td>
<td>5.3</td>
<td>78.81</td>
</tr>
<tr>
<td>Higher price class1</td>
<td>147.82</td>
<td>148.97</td>
<td>154.48</td>
<td>154.48</td>
<td>4.5</td>
<td>155.67</td>
</tr>
<tr>
<td><strong>Liqueurs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Berry liqueurs</td>
<td>52.89</td>
<td>52.20</td>
<td>52.92</td>
<td>53.67</td>
<td>1.3</td>
<td>53.64</td>
</tr>
<tr>
<td>High-alcohol liqueurs</td>
<td>93.95</td>
<td>96.02</td>
<td>98.31</td>
<td>98.19</td>
<td>4.5</td>
<td>99.29</td>
</tr>
<tr>
<td>Cream liqueurs</td>
<td>75.18</td>
<td>74.99</td>
<td>76.89</td>
<td>78.74</td>
<td>4.7</td>
<td>80.07</td>
</tr>
<tr>
<td><strong>Gin</strong></td>
<td>72.36</td>
<td>75.81</td>
<td>75.24</td>
<td>76.43</td>
<td>5.6</td>
<td>78.11</td>
</tr>
</tbody>
</table>

* 0.7 l glass bottle
## Competitiveness of Estonian alcohol producers

Domestic and imported **beer** accounted for 89% and 11%, respectively, of the beer sales of shops in 2007. Of all beer sold in Estonia, i.e. including restaurants, domestic beer had a share of nearly 88% as opposed to the level of 89% of the past few years.

Of the beer assortments available in shops, 59% originated from Estonian producers and 41% was imported. The size of the domestic assortment of beer did not change compared to the year 2006 and remained at an average of 42 designations. The assortment of imported beer increased by 3 products to an average of 28 designations per shop. Consumers were able to choose from 53 domestic and 94 imported designations in Tallinn, 43 domestic and 27 imported designations in other cities, and 35 domestic and 3 imported designations in rural areas. The largest share of foreign designations (28%) originated from Russia. German and Finnish designations had respective shares of 15% and 11%.

Of the domestic beer sold in shops in 2007, 93% was in bottles and 7% in cans. In 2006, 15% of the local beer assortment was in cans. By package size, 75% of domestic beer cans were 0.5 l, 18% were 0.33 l and 7% were sold in boxes of 24 cans of 0.33 l. Compared to 2006, the share of 0.5 l cans increased by 3 pp and the share of small cans decreased by 1 pp. Of imported beer, 62% was in bottles and 38% in cans.

### Tallinn on average

<table>
<thead>
<tr>
<th>Vodka (unflavoured)</th>
<th>Lower price class</th>
<th>Medium price class</th>
<th>Higher price class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54.28</td>
<td>69.19</td>
<td>145.97</td>
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<td></td>
<td>51.97</td>
<td>69.80</td>
<td>148.27</td>
</tr>
<tr>
<td></td>
<td>51.63</td>
<td>73.21</td>
<td>154.63</td>
</tr>
<tr>
<td></td>
<td>56.11</td>
<td>72.18</td>
<td>154.63</td>
</tr>
<tr>
<td></td>
<td>3.4</td>
<td>4.3</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>56.72</td>
<td>80.96</td>
<td>157.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liqueurs</th>
<th>Berry liqueurs</th>
<th>High-alcohol liqueurs</th>
<th>Cream liqueurs</th>
<th>Gin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>52.05</td>
<td>90.95</td>
<td>74.18</td>
<td>73.15</td>
</tr>
<tr>
<td></td>
<td>50.62</td>
<td>95.96</td>
<td>73.80</td>
<td>75.97</td>
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<tr>
<td></td>
<td>52.78</td>
<td>98.74</td>
<td>76.31</td>
<td>75.77</td>
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<td></td>
<td>53.05</td>
<td>97.70</td>
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<td></td>
<td>1.9</td>
<td>7.4</td>
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<td>4.7</td>
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<tr>
<td></td>
<td>53.91</td>
<td>100.07</td>
<td>79.67</td>
<td>79.47</td>
</tr>
</tbody>
</table>

*Source: Estonian Institute of Economic Research*
According to the Estonian Breweries Association, 40% of Estonian beer was sold in glass bottles, 34% in plastic containers, 21% in cans and 5% in kegs in 2007. Estonian breweries have reduced the share of beer sold in plastic bottles.

Domestic canned beer cost 23.15 EEK/l and imported beer cost 28.43 EEK/l in May 2007 on average, which is 6.2% and 4.8% more, respectively, than in May 2006.

Of the vodka turnover of shops in May 2007, 87% was domestic and 13% was imported. The market position of domestic vodka weakened by 2 pp since 2006. Domestic and imported vodkas were available in 36 and 17 designations, respectively, in an average shop. In 2006, the average assortment of a shop contained 2 more designations of domestic vodka. Imported vodka originated from 18 countries and its assortment was wider by one product compared to the year 2006. 32% of the assortment of imported vodka available in shops originates from Russia and 12% from Ukraine.

Of vodka available in shops in May 2007, 29% of Estonian vodka and 48% of imported vodka was packaged into 0.7 l glass bottles.

At the same time, local vodka in 0.7 l bottles cost 149.41 EEK/l and imported vodka cost 265.38 EEK/l, on average. The prices of domestic and imported vodka rose by 5.4% and 2.1%, respectively, over the year.

Domestic beer and vodka both still held strong positions on the Estonian market in 2007. Estonian beer is keeping its position owing to good flavour, high quality and strong trademarks, and according to tourists’ opinions, the packaging is also good. Vodka’s position remains high thanks to lower prices compared to imported products of the same quality, and also strong trademarks.

**Population’s assessment of alcohol consumption and alcohol policy**

Alcohol is consumed by 84% of adults in Estonia, while low-alcohol beverages (especially beer) are consumed more frequently than spirits. People consider celebration traditions to be the main reason for alcohol consumption. Taste and quality are the main criteria behind purchasing choices of alcoholic beverages.

Most Estonian inhabitants consider their own alcohol consumption to be modest, but believe that the nation as a whole consumes too much alcohol and this consumption should be reduced as it results in problems and damage. As in earlier years, drunk driving was mentioned as the biggest problem. People believe that reducing alcohol consumption should be everyone’s own concern, while national alcohol policy should support such reductions by various measures. The Government of the Republic is increasingly expected to take action. Increased control over offences related to alcohol sales, youth work promoting alcohol-free leisure activities, and stricter restrictions on alcohol advertising are considered to be the most necessary measures to reduce consumption. Outdoor advertising in the form of large posters is believed to be the most unsuitable channel of alcohol advertising.
Alcohol is readily available in Estonia, as indicated by the fact that 88% of the population are able to obtain alcohol within 10 minutes, if they wish — that is the time it takes to get to the nearest point of sale. Two-thirds of respondents mentioned that they do not approve of the sale of alcohol in shops located in residential buildings and in petrol stations; opinions are also against selling alcohol at sporting and cultural events. In addition to restrictions on points of sale, people also appreciated limitations on the time of sale. According to public opinion, the Estonian parliament should adopt a nation-wide ban on alcohol sales during the evening hours; the most popular opinion is that the ban should be effective from 22.00 to 8.00.

In conclusion, the Estonian population think a more stringent alcohol policy is necessary and are in favour of strict restrictions.
3. AGRICULTURAL POLICY

3.1. Strategic decisions

Marko Gorban

One of the most important events in 2007 was the finalisation and approval by the Government of the Republic and the European Commission of the Estonian Rural Development Plan (ERDP) 2007–2013. The government approved the ERDP on 8 February. This mandated the Ministry of Agriculture to enter into ERDP negotiations with the European Commission and the Committee on Rural Development, which consists of representatives of the EU Member States. Negotiations with the Committee started in April and the ERDP was approved in November. The approval was a result of several years’ work, including contributions from social partners and various ministries.

A steering committee was set up in 2005 for preparation of the ERDP; the committee was given the task of coordinating the plan’s strategic bases, reviewing proposals on the strategy and the plan, and formulating Estonia’s positions concerning the relevant EU legislation. In addition, the preparatory work for the ERDP was done by specific working groups for the measures and objectives. Nearly 350 proposals on the ERDP were received from 32 different organisations and individuals, of which more than 60% were taken into account to some degree.

The main measures, the justification and conditions of which were negotiated with the European Committee, were as follows: maintenance of semi-natural habitats, liming of acid soils, demolition of abandoned buildings, support to the renovation of dwellings, maintenance of biodiversity, division of some measures into submeasures, establishment of energy shrubs and distribution of bioenergy investments between Axis I and Axis III.

Support for the maintenance of semi-natural habitats can be implemented only under the article concerning agri-environmental support. This is the reason for important changes in the general principles of the measure. Particularly, it implies that in order to be eligible for support, an applicant commits to the maintenance of a semi-natural habitat for five years and to comply with the support criteria (instead of one-year commitment, which was planned under the article concerning Natura 2000 support). The essential difference between these two schemes is that agri-environmental support requires at least a five-year commitment and the applicant is paid for voluntary commitment to requirements, which are more strict than those provided by the legislation. Natura support is a one-year support, paid for certain environmental restrictions. The rate of support was also increased due to the change.

As the European Commission regards the liming of acid soils as an operating expense, it cannot be implemented as a low-productivity environmental protection investment, as a separate measure, or as a separately supported measure of investment support. However, it can, under certain conditions, be supported under the framework of support for infrastructure of agriculture and forest management – liming is eligible if it is a part of a larger land improvement project, and liming is supported only once during the programming period.
Initially, it was planned to support the demolition of abandoned agricultural buildings under Axis II as a low-productivity investment. As its goal is, rather, to improve the quality of life, this activity has been transferred to the village renewal and development measure, under which the activity should be launched in 2008.

In order to alleviate the shortage of qualified labour, it was planned to support investments contributing to making buildings habitable, under projects which create new jobs, under measures 1.4.1 (investments into the development of micro agricultural holdings) and 3.1 (diversification of the rural economy). As the European Commission took the view that this was contrary to the articles of the rural development regulation on which this type of support is based, support for the renovation of dwellings as a part of investments was discarded from the strategy and the development plan.

The position of the Environment DG of the European Commission during the negotiations was that more attention should be paid to biodiversity. This is why the ERDP was supplemented with support for the establishment of mixed species hedgerows in order to extend the activities promoting biodiversity. Support for the establishment of protection forest on agricultural land was supplemented with a new eligible activity — establishment of forest groves. In addition, it is intended to support semi-natural habitats of high nature value, which are not included in the Natura areas, during this programming period, after such habitats have been exactly defined or included in the Natura 2000 areas. Certain measures will be supplemented with the requirement of leaving strips of perennial plants on field edges.

The development, efficiency and effectiveness of the ERDP will be assessed via monitoring to be performed via the collection of monitoring indicators. In the initial version of the ERDP, the measures “Diversification of the rural economy” and “Village renewal and development” combined, respectively, two and three different articles of the rural development regulation. At the proposal of the European Commission, both measures were divided into submeasures for the purpose of collecting monitoring data and for financial management. Diversification of the rural economy was divided into submeasures: diversification into non-agricultural activities and support for business development. Village renewal and development was divided into the following submeasures: basic services for the economy and rural population, village renewal and development, and conservation and upgrading of the rural heritage. The changes are not essential as far as implementation goes, as a single implementation regulation of the Minister of Agriculture will be drafted for both measures.

Support for the establishment of energy shrubs was initially foreseen as an independent measure under Axis II. The Commission found this to be out of line with the Axis II ideology and, like Estonia, other Member States have had to transfer their similar measures to Axis I. Estonia transferred the establishment of energy shrubs as an eligible activity under “Investments into the production of bioenergy”. Therefore, an area-based unit rate of support cannot be used in this case. Instead, establishment is supported as
a percentage of the investment. In addition, the measure “Investments into the production of bioenergy” included support for all investments into bioenergy production, but the Commission drew attention to the fact that where an agricultural holding produces bioenergy mainly for its own use, this belongs to supports for agricultural investments (Axis I), but where an agricultural holding produces bioenergy for sale, it belongs to Axis III (Quality of life in rural area and diversification of the rural economy). Therefore, bioenergy investments were divided between Axis I and Axis III.

By the end of 2007, the Commission had approved 54 of the 95 development plans drafted by the Member States. Under the ERDP, Estonian rural development can be supported over the next seven years with BEEK 14.5, of which BEEK 11.2 will be contributed by the EU.

3.2. Support and state aid
Kristel Bankier, Kristel Maidre, Einar Kikkas, Marko Gorban, Margus Palu, Riin Saluveer

Single Area Payment Scheme (SAPS) and Complementary National Direct Payment

A total of BEEK 1.3 was allocated for direct payments in 2007, i.e. 25% more than in 2006 and 82% more than in 2004.

A total of 17 550 applications were received in 2007 for Single Area Payment. Payments were made to 17 336 applicants for 832 091 ha of land in a total amount of MEEK 630.96.

The number of approved applications decreased by 3% but the total area approved increased by 2.5%, compared to the previous year.

The amount of complementary national direct payments increased by 45% in 2007 (to MEEK 691.46). The maximum level of complementary national direct payments has also increased year after year. In 2004, the maximum level of the payments in the new Member States was, as a rule, 55% of the EU level; in 2007 it was 70%. The only exception is the payment for milk, which could be paid at a level of 100% in 2007.

54% of complementary national direct payments were made for animal breeding and 46% of the payments were made for crop growing in 2007. In 2006, complementary payments for crop growing accounted for 55% of all complementary national direct payments.
### 3. Agricultural Policy

**Table 1. Number of approved applications and numbers of hectares, animals and units specified in the applications for SAPS and Complementary National Direct Payment, 2004–2007**

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAPS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of applications</td>
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<td>17 884</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>payment for growing field crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of applications</td>
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<td>x</td>
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<tr>
<td>Area (ha)</td>
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<td>x</td>
<td>x</td>
<td>364 183</td>
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<tr>
<td><strong>Complementary national direct</strong></td>
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<td><strong>payment for agricultural crops</strong></td>
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<tr>
<td>Number of applications</td>
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<td>x</td>
<td>6 455</td>
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<tr>
<td>Area (ha)</td>
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<td>x</td>
<td>x</td>
<td>353 264</td>
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<tr>
<td><strong>payment for growing agricultural</strong></td>
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<tr>
<td>crops</td>
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<td>341 259</td>
<td>349 453</td>
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<td><strong>Complementary national direct</strong></td>
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<tr>
<td><strong>payment for suckler cow breeding</strong></td>
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<tr>
<td>Number of applications</td>
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<td>7621</td>
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<td><strong>Complementary national direct</strong></td>
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<td><strong>payment for bovine animal breeding</strong></td>
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<td>Number of applications</td>
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<td>Number of bovine animals</td>
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<td>221 675</td>
<td>122 755</td>
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<td>animals</td>
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<tr>
<td>Number of applications</td>
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<td>x</td>
<td>5 324</td>
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<tr>
<td>Number of LU</td>
<td>x</td>
<td>x</td>
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<td><strong>Complementary national direct</strong></td>
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<tr>
<td><strong>payment for dairy cow breeding</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Number of applications</td>
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<td>x</td>
<td>1 620</td>
<td>1453</td>
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<tr>
<td>Number of bovine animals</td>
<td>101 144</td>
<td>106 531</td>
<td>98 970</td>
<td>x</td>
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<td><strong>Complementary national direct</strong></td>
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<td></td>
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<tr>
<td><strong>payment for ewe breeding</strong></td>
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<td></td>
</tr>
<tr>
<td>Number of applications</td>
<td>729</td>
<td>879</td>
<td>888</td>
<td>925</td>
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<tr>
<td>Number of ewes</td>
<td>18 945</td>
<td>25 616</td>
<td>29 551</td>
<td>36 947</td>
</tr>
</tbody>
</table>

* In 2004, payments for suckler cows were made as a component of complementary national direct payment for breeding bovine animals.
** In 2005, payments for breeding dairy cows were made as a component of complementary national direct payment for breeding bovine animals, and the number of applicants is not specified separately. 2006. In 2006, payments were made per kg of the milk production quota and the Table contains the number of dairy cows indicated in the applications. Complementary national direct payment made under the milk production quota in 2007.

*Source: ARIB*
### Table 2. Sums of SAPS and complementary national direct payments (EEK ‘000 000), 2004–2007

<table>
<thead>
<tr>
<th>Support</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
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<tr>
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<td>332.17</td>
<td>431.96</td>
<td>532.44</td>
<td>630.96</td>
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<td>Complementary national direct payment for growing field crops</td>
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<td>X</td>
<td>X</td>
<td>214.03</td>
</tr>
<tr>
<td>Complementary national direct payment for growing agricultural crops</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>103.32</td>
</tr>
<tr>
<td>Complementary national direct payment for growing agricultural crops</td>
<td>205.04</td>
<td>160.36</td>
<td>292.32</td>
<td>X</td>
</tr>
<tr>
<td>Complementary national direct payment for suckler cow breeding</td>
<td>76.85</td>
<td>7.52</td>
<td>13.60</td>
<td>20.57</td>
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<tr>
<td>Complementary national direct payment for bovine animal breeding</td>
<td>108.79*</td>
<td>109.66</td>
<td>157.51</td>
<td>252.17**</td>
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<td>Complementary national direct payment for dairy cow breeding</td>
<td>4.13</td>
<td>5.47</td>
<td>6.53</td>
<td>8.09</td>
</tr>
<tr>
<td>Total</td>
<td>726.98</td>
<td>770.22</td>
<td>1061.54</td>
<td>1322.41</td>
</tr>
</tbody>
</table>

* 2004 national scheme, paid before the EU accession.
** Complementary national direct payment made under the milk production quota in 2007.
*** Complementary national direct payment made on the basis of livestock units of bovine animals in 2007.

Source: Agricultural Market Regulation Department of the Ministry of Agriculture

**Complementary national direct payment for growing field crops** is a production-related payment, which was made to 6743 applicants for 364 183 ha of cereals, oilseed, protein crops, flax and hemp in a total amount of MEEK 214.03.

**Complementary national direct payment for agricultural crops** was granted to 6455 applicants for 353 264 ha in a total amount of MEEK 103.32.

**Complementary national direct payment for suckler cow breeding** was granted to 1099 applicants for breeding 10 890 suckler cows in a total amount of MEEK 20.57. Compared to the year 2006, the number of suckler cows increased by 3269 animals (42.9%) and the number of approved applications increased by 28.5%.

**Complementary national direct payment based on LU of bovine animals** was granted to 5324 applicants for 75 841 LU in a total of MEEK 93.28.

**Complementary national direct payment based on the milk production quota** was paid to 1453 applicants out of
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1461 for 630 420 452 kg of milk production quota in a total amount of MEEK 252.17.

During 2006, 1620 applications were approved and MEEK 157.51 was granted for payment. Compared to the previous year, the number of approved applications decreased by 10.3% in 2007, while the total amount of the payment increased by 60.1%.

**Complementary national direct payment for ewe breeding** was granted to 925 applicants for breeding 36 947 ewes in a total amount of MEEK 8.09. The number of approved applications increased by 4.2%, the total payment was 23.9% larger and the number of ewes was 25% larger, compared to the previous year.

**Support for energy crops.** The estimated total amount of support is EEK 5 737 966 for 11 586 ha and the unit rate is 495.25 EEK/ha. The final amount will be known at the end of June, when all payments have been made. There were a total of 124 applicants and 98% of the support was requested for rape (11 400 ha), 1% for red canary grass (100 ha) and 1% for oats (75 ha) and willow (1 ha).

**Estonian Rural Development Plan 2007–2013 (RDP) support**

More than thirty (sub)measures will be applied under the ERDP, of which 10 had been launched by the end of 2007 or beginning of 2008: setting up of young agricultural producers, support for advisory system and services, investments into the development of micro agricultural holdings, investments into livestock buildings, infrastructure of agriculture and forest management, support for less-favoured areas, Natura 2000 support for agricultural land, support for keeping animals of endangered breeds, support for the maintenance of semi-natural habitats, village renewal and development.

Applications for support for setting up of young agricultural producers were received in February and March of 2008. A total of 253 applications were received from persons wishing to set up agricultural production, who requested a total amount of MEEK 151. The budget for this application round of the measure was, however, MEEK 56. The main areas where the applicants wished to invest the support were cereal growing (39%), livestock farming (14.1%), and growing of fruits, vegetables and berries (14%).

Under support for advisory system and services, applications for development of the advisory system were received in December 2007. A total of 11 applications for MEEK 4.2 were submitted from eleven counties. The largest amounts (MEEK 1.8) were requested for purchasing work equipment for advisers. Applications for advisory services were received from January 2008 and will be received till the end of November.

Applications for the development of micro agricultural holdings were received from December 2007 till February 2008. A total of 892 applicants applied for support. The requested amount was MEEK 578, which will be used as a contribution for making total investments of BEEK 1.3. The budget for this application round of the measure was MEEK 458. The main investments intended to be made with this support were purchases and installations of machinery
and equipment (64%), purchase of tractors (33%) and construction of buildings or facilities (1.8%).

Applications for investments in livestock buildings were received from December 2007 till February 2008. Applications were received from 140 applicants for a total amount of MEEK 474, which will be used as a contribution to investments totalling BEEK 1.2 in animal livestock buildings. The budget for this application round of the measure was MEEK 312.60. Of all applicants, 48% wished to invest in the construction of livestock buildings (for dairy cows), 8.9% wished to install permanent technological equipment (for dairy cows) and 8.3% wished to construct livestock buildings for young animals, cattle for fattening and beef cattle.

Applications for the support of infrastructure of agriculture and forest management were received from December 2007 till January 2008. A total of 109 applications for MEEK 144 were received for making investments of MEEK 175. The budget for this application round of the measure was MEEK 150. The largest numbers of applications were submitted for the reconstruction of control networks of drainage systems (30%), reconstruction of service roads and road structures of land improvement systems (24%), and reconstruction of water conduits and land improvement structures (8.6%).

Like other area-based types of support, applications for support for less-favoured areas were received in May. A total of 9962 applications for this type of support for 339 593 ha were received in 2007. The largest numbers of applications were received from Võru County (1803), Pärnu County (1398) and Saare County (1310). The area of land was the largest (53 180 ha) in applications from Lääne County.

Applications for Natura support for agricultural land were accepted in May. A total of 1376 applicants applied for Natura support for 21 009.91 ha in 2007. The number of applicants was the largest in Võru County (333), followed by Valga County (215) and Lääne County (176). The areas covered by the applications were the largest in Lääne County (3537.56 ha), Valga County (3102.57 ha) and Võru County (3017 ha).

Applications for keeping animals of local endangered breeds were accepted in May. A total of 784 applications were received for keeping and raising 2614 local endangered breeds in 2007. Of this, 301 applications were for keeping Estonian native horses (1180 Estonian native horses), 184 for Estonian native cattle (802 bovine animals), 53 for Estonian heavy draught horses (139 horses), and 246 for Tori horses (493 horses).

Applications for support for the maintenance of semi-natural habitats were accepted in May. A total of 704 applications for this type of support for 15 578.36 ha were received in 2007. The largest numbers of applications were received from Saare County (156), Pärnu County (130) and Lääne County (125). Applications from Lääne County covered more than one-third (5511 ha) of the total area applied for. As a result of the ERDP negotiations with the European Commission, the initially planned one-year commitment under this measure had to be replaced by a five-year commitment. This is because this type of support can be paid only under the article regulating environmental support, in which case the commitment has to be at least five years and the applicants are paid for voluntarily complying with requirements stricter than those provided by legislation. Therefore, those who applied for support for maintenance of semi-natural habi-
tats had to additionally submit a five-year commitment.

Applications for support for village renewal and development were received in November and December 2007. 312 applications for a total of MEEK 173 were received from 15 counties in order to invest MEEK 215 into village renewal and development. The budget of the measure to be divided between the counties (50% equally between all counties and 50% according to the population of each county) was MEEK 366 in the first application round. Similar to the measures of SAPARD and the ENDP, the most popular objects of investment are the reconstruction of existing community centres, cultural centres or other buildings or parts of buildings (45%), establishment of playgrounds or other leisure facilities (12.8%), and construction of new community centres or other buildings (6.4%).

In addition to the aforementioned measures, a number of new measures will be launched in 2008, such as investments into the production of bioenergy, support for adding value to agricultural and non-wood forestry products, and diversification of the rural economy. In summary, it may be said that the first year of the ERDP implementation has been successful and all the types of support foreseen in the ERDP 2007–2013 should become available in the forthcoming years.

Priority 3 support under the Estonian National Development Plan 2004–2006 (ENDP)

Although application rounds for a few measures (3.7, 2.8, 3.10, 3.11.3, 3.12.1) were still open in 2007, the programme was largely coming to an end.

To sum up the EAGGF (rural development and agriculture) measures implemented from 1 January 2004 to 31 December 2007, a very large number of applications were received. The total sum requested was 134% of the programme budget; granted applications made up 100% of the budget. As of the end of 2007, 83% of the budget was paid out. As regards the FIFG (fishery) measures implemented during the same period, also a large number of applications were received, the requested total amount was 149% of the budget and 85% of the budget has been paid out. The common problem is the shortage of funds.

Together with co-financing from the Estonian state budget, the total budget of Priority 3 of the ENDP is nearly BEEK 1.53.

Agriculture and rural development

Under measure 3.1 (investment into agricultural holdings) approvals were granted for 747 projects with the support amount of MEEK 624.4, which covers 101% of the budget. Of all approved applications, 89% have been paid out.

Investment support for improving the processing and marketing of agricultural products (measure 3.2) has been granted for 58 projects in a total amount of MEEK 178.60. 101% of the budget has been used. Payments have been made to an extent of 89% of the budget.

Under measure 3.3 (diversification of economic activities in rural areas), 205 projects have been approved with a support amount of MEEK 115.5 or 100% of the budget. Of all approved applications, 76% have been paid out.

Integrated land improvement (measure 3.4) attracted great attention. A total of MEEK 191.5 has been applied for, but the budget can cover only MEEK 134.9. 65% of the budget has been paid out.
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Under measure 3.5 (renovation and development of villages), 283 projects were approved with a total amount of MEEK 99.1, covering 100% of the budget. Of all approved applications, 96% have been paid out.

Under measure 3.6 (local initiative based development projects) 24 applications in a total of MEEK 28.8 were received; all the applications were approved in the maximum amount allowed by the budget. By the end of 2007, 14% of the budget was paid out.

Under the forestry measure (3.7), 927 applications were received, of which 896 were approved with a total amount of MEEK 31.50 going toward investments of MEEK 49.70. By the end of 2007, 33% of the budget was paid out.

Of the EAGGF measures, the largest number (1643) of applications were received over the three-year period (2005–2007) for support for setting up and provision of farm advisory and extension services (measure 3.8); the total amount applied for was MEEK 21.3. Approval was granted for 1427 projects with a total support amount of MEEK 17.8, which makes up 84% of the budget. Payments have been made to an extent of 46% of the budget.

Fisheries

As many applicants waived their investments and some investments became cheaper, some funds were left in the budgets of various measures at the end of the year. The Ministry of Agriculture decided to transfer the remaining balances of measure 3.11 (investment support measures for fisheries production chain) to measure 3.11.4 (investment support for inland fisheries) so as to give inland fishermen another chance to either buy new fishing vessels or modernise their existing vessels. The application round began at the beginning of 2008.

Under measure 3.9 (regulation of the fishing capacity of the fishing fleet), approval was granted to 19 projects with a total support amount of MEEK 66.50. By the end of 2007, all the approved projects had been paid in full.

Under measure 3.10 (modernisation and renewal of the fishing fleet), approval was granted to 59 projects with a total support amount of MEEK 37.90. Payments have been made to an extent of 76% of the budget.

Under measure 3.11 (investment support measures for fisheries production chain), which is divided into four submeasures, 106 projects were approved over the four-year period for a total support amount of MEEK 166.3. For all approved applications, 80% of the budget of the measure has been paid out.

Under other fisheries related measures (measure 3.12 with its two submeasures), 66 projects with a total support amount of MEEK 23.1 were approved during the reporting period. As of the end of 2007, final payments had been made for 65 projects.

Summary

By the end of 2007, approved projects covered 100% of the budget and 83% of the budget (BEEK 1.27) has been paid out. A total of 4920 applications were received, of which 3957 or 80% were satisfied and 2815 projects had been completed by the end of 2007.

The impact of support has been provisionally assessed
for 2808 projects which have submitted their final reports. According to the output indicators – cattle, pig and sheep places – the target has been met several times over. The objective of non-agricultural business diversification projects has been met to a degree of 58% and the objective of fisheries projects was achieved by 142%. As a result of the projects, 738 jobs were created, implying 301% of target performance. By the end of the projects, 2011 jobs were maintained, i.e. the target was met at the level of 165%.

**Results of pre-accession support aid from SAPARD**

Ex-post evaluation of SAPARD was conducted in 2007 by the independent evaluator Ernst&Young Baltic AS. The main objective of the ex-post evaluation was to evaluate the achievement of the SAPARD programme objectives and the impact of the programme on rural and agricultural development. The independent evaluators concluded that considering the scope of investments and the implementation conditions of the programme, SAPARD was a successful programme for Estonian agricultural and rural development, which largely met its set objectives. The total SAPARD budget was BEEK 1.065. Applications were received for a total of BEEK 1.343, of which BEEK 1.116 or nearly 105% of the budget was granted. Final payments amounted to BEEK 1.062, i.e. 99.7% of the programme budget. Investments were made in the amount of BEEK 2.3.

In 2001, the ARIB received 248 applications, of which 130 were granted; a year later, the respective numbers were 426 and 385, and in 2003 as many as 1158 applications were received, of which 1016 were granted.

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**3.3. Issues discussed and decisions adopted by the Special Committee on Agriculture (SCA) and the Permanent Representatives Committee (COREPER)**

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**Rural development policy and its financing during the period 2007–2013**

In June 2006, the Council of Europe adopted a draft specifying the amount of Community aid to be granted for rural development each year during the period 2007–2013. The legal framework was created by the official approval of the Estonian Rural Development Plan (ERDP) on 20 November 2007. The funds designated to Estonia for rural development will increase in the period 2007–2013 as compared to 2004–2006. Estonia will be able to support rural development with nearly BEEK 14.5 over the seven-year period.

**Amendments to the regulation on the financing of the common agricultural policy**

In March 2007, the European Commission tabled a draft of ten articles for bringing the CAP financial regulation into conformity with the requirements of the Community Financial Regulation and for improving the transparency of the existing provisions.

According to the Commission’s compromise proposal, Member States will have to publish information about those beneficiaries who received support from the European Agricultural Guarantee Fund (EAGF) and from the European Agricultural Fund for Rural Development (EAFRD) from 16 October 2007 and 1 January 2007, respec-
The names of the beneficiaries will be published on the website of the ARIB in line with the Commission’s request. Suspension of payments is also allowed in the applicable regulation and the specification restricts the Commission’s decision-making right rather than extends it.

**CAP “health check”**

This means the review and assessment of the results of the 2003 reform. The objective of the check is to identify possibilities to adapt to market changes without changing the agricultural policy’s existing goals and principles. The Commission published the “health check” report on 20 November 2007, and presented it to the Committee on Agriculture of the European Parliament. The report was also presented for discussion to the November 2007 session of the Council of Ministers. Discussions will continue in working groups and at the SCA level in the first quarter of 2008, and a decision is expected to be reached in May. Implementing decisions should be passed in the first half of 2008 and implementation is planned for 2009.

The “health check” covers the following areas:

- Review of the EU **Single Payment Scheme** (SPS) and its simplification by reducing the number of various types of entitlement;
- Review and simplification of the cross-compliance system;
- Partial/full decoupling of support in all Member States and setting of maximum upper and lower limits in support levels;
- Possible modification of various **market measures**, such as intervention, export refunds and quotas. The issue of set-aside from agricultural production will also be discussed. Potential abolishment of milk quotas is an important issue;
- Problems which are related to environmental changes: the risks of climate change, bioenergy production and water management; risk and crisis management;

Possible increase of the level of compulsory modulation (transfer of resources from the first to the second pillar).

**Cross-compliance**

The Commission submitted a report on the application of the cross-compliance system in accordance with the direct payments regulation, which was approved by the 2007 June Council. The draft regulation was discussed in working groups and on the political level at the Agriculture and Fisheries Council on 26–27 September. Estonia’s positions on the draft were approved at the Government of the Republic session of 11 October 2007.

The rules for assessment of eligibility will be simplified for both the Single Payment Scheme and Single Area Payment Scheme (SPS and SAPS) in relation to the time period during which the farmer uses the land, and the obligations of farmers will be clarified with respect to cross-compliance if the land is transferred during the calendar year. As a new requirement, parcels would have to be in the farmer’s use on 15 June of the year when the application is submitted. The draft sets out a legal basis for applying the de minimis rule within the framework of cross-compliance obligations, under which reductions can be applied and exceptions made to reductions in the event of minor non-compliances (up to EUR 100).

**Common organisation of agricultural markets**

On 18 December 2006, the Commission submitted a pro-
posal to the Council for the establishment of a common organisation of agriculture markets and on specific provisions for certain agricultural products (single CMO regulation), which brings together into a single regulation the 21 existing CMOs and the 23 related Council acts, including regulations governing those agricultural products which are not regulated by CMOs (silkworms, ethyl alcohol of agricultural origin, and apiculture products), and rules on competition, state aid, private storage, state intervention, and sugar and milk quotas. The Council adopted the proposal at its October 2007 session. The establishment of a joint management committee was the most important aspect for Estonia.

Raising of milk quotas
In addition to the raising of the quota decided under Agenda 2000, the Commission proposed to raise the Member States’ milk quotas by an additional 2%. Estonia supports the abolition of milk quotas as soon as possible, but not later than after the quota year 2014/2015. All the transition measures: gradual increase of production quotas, gradual reduction of the surplus levy, and netting of the fulfilment of quotas between the Member States are suitable for Estonia, and it is Estonia’s preference that all these measures be applied in combination.

The milk “mini-package”
The Council adopted a proposal for the amendment of the milk regulations at its September 2007 session. For Estonia, the important points of the draft regulation are the establishment of a protein standard for skimmed milk powder, removal of the intervention trigger for butter, abolition of the national quality class for butter, introduction of a single rate of aid for school milk, and liberalisation of the classification of drinking milk. The latter implies the right to market the traditional 2.5% drinking milk in Estonia without an exception from the EU.

Organic farming
Status quo: The European Organic Farming Action Plan was finalised in 2004 and published as a Commission Communication. The “general approach” of the framework regulation on organic products was agreed at the December 2006 Council. GMOs are banned in organic farming. As a compromise, it is allowed to produce only vitamins and enzymes with the help of GMOs.

Estonia was in favour of leaving the GMO provision in the draft, since vitamins and enzymes are a necessary component of animal feed in our climate. Unfortunately, the aforementioned GMO-free products are not always available on the market.

Census of surplus stocks of other agricultural products
According to Commission Regulation (EC) No 1972/2003, the stock levels of other agricultural products in the new Member States, except for sugar, were to be determined at the moment of accession. In July 2005, the Commission presented an initial calculation, according to which Estonia had surplus stocks of 20 products and the estimated charge was MEEK 374. Bilateral consultations on statistics, methodology and circumstances were held over a period of one and a half years. It was agreed that Estonia did not have inadmissible stocks of meat, cheese, spirits, and juices, amongst other things.
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On 17 April 2007, the Commission submitted a draft decision to the Trade Mechanisms Management Committee. Even so, Estonia did not agree with the existence or size of a number of stocks. As a result of the busy correspondence that followed, the Commission accepted Estonia’s butter production statistics, as a result of which the charge payable was decreased by MEEK 15.4. 26. The Commission’s decision was approved by a repeat vote on 26 April 2007 (the Committee did not deliver an opinion, i.e. non avis).

Estonia was found to have surplus stocks of butter, whole milk powder, wine, and rice. Estonia voted against the decision, since the Commission did not consider, in Estonia’s opinion, the commercial trends and all the circumstances concerning wine and whole milk powder. The charge for stocks of other agricultural products was eventually decreased to MEEK 103, payable in equal instalments over a period of four years.

Sugar reform

In May 2007, the Commission proposed to repurchase a quota of 4 million tonnes in the marketing year 2008/2009. The Member States admitted that the change was necessary and proposed various solutions, most of which entailed maintenance of the countries’ production levels. The European Parliament stated its opinion at the plenary session of 25 September. The Council adopted the proposal at its September 2007 session.

Estonia has no agricultural or production interests in this issue, but as consumers, we preferred liberalisation of the market and a reduction of prices.

Marketing of bovine animals aged 12 months or less

The Commission presented the draft regulation in December 2006. The age to be added to the label was the main topic of discussion. Eventually, the Member States agreed to indicate the age category (V and Z). The Council approved the draft by qualified majority on 11–12 June.

Marketing of the meat of bovine animals aged 12 months or less has varied across the Member States. The definition of veal needs to be harmonised in order to avoid confusion and unfair competition in trade between different countries. These categories were chosen on the basis of studies showing that the organoleptic characteristics (tenderness, flavour, and colour) of meat mainly depend on the age and feeding system of the animals. Estonia supported the draft.

Amendment of the regulation on the definition, description, presentation and labelling of spirit drinks

In December 2005, the Commission published the draft regulation on the definition, description and presentation of spirit drinks, which the Council adopted at its December 2007 session.

The draft sets out rules on the classification, definition, and presentation for sale, including labelling of spirit drinks. The key issue for Estonia is the definition and classification of vodka. According to the compromise solution, vodka may also be produced from raw materials other than potatoes, cereals or sugar beet molasses, but in such case the raw material must be indicated on the product label. Where vodka is made from traditional raw materials (potatoes, cereals, beet molasses), the raw material need not be
Reform of the fruit and vegetable sector

The Council regulation, which will be applied from the beginning of 2008, was adopted in September 2007. The reform simplifies the establishment of producer organisations and renders the activities of existing organisations more flexible; activities such as market crisis management, insurance, investing and training are conducted via these organisations, with Community co-financing. Fruits and vegetables will be added to the Single Payment Scheme, while also allowing aid to be granted in those countries that apply the Single Area Payment Scheme. Export refunds were abolished for trade, but maintained for canned products and the sugar component. Estonia considered the promotion of fruits and vegetables important from the aspect of healthy nutrition. Because of Estonia’s small size, there are no producer organisations in this country, yet; Estonia will benefit from the simplification of the rules of their establishment and the payment of support.

Wine sector reform

The Commission presented the draft to the Member States on 4 July 2007. Estonia’s positions concerning the draft regulation were approved at the Government of the Republic session of 6 September 2007. On 1 November 2007, Estonia submitted to the Council secretariat Estonia’s position on the wine market reform, which emphasizes not only the Government’s approved positions but also the important issue of fruit and berry wines. A political agreement was reached at the December session of the Agriculture and Fisheries Council.

Maintenance of the current situation, as regards the labelling of fruit and berry wines, is the most important issue for Estonia. The initial draft by the Commission abolished the exception by which fruit and berry wines could be called wines in the future, provided that the raw material is indicated on the label. The solution contained in the adopted decision suits Estonia, as the former situation was essentially maintained.

The Commission’s Green Paper on Agricultural Product Quality

The Commission’s Green Paper would particularly concern the following aspects:

• geographical indications and protected designations of origin;
• alternative ways of protecting geographical indications, e.g. trademarks;
• products covered by the regulation;
• identification of the raw material;
• criteria for establishment of designations of origin;
• symbols of geographical indications and protected designations of origin.

Estonia currently has no products with protected geographical indications, protected designations of origin or traditional speciality guaranteed. On 29 October 2004, the Ministry of Agriculture submitted applications to the European Commission for registration of Saaremaa cheese and Põltsamaa cheese. The Commission has asked elaborating questions about the applications, since the link between the product and the geographical area requires justification and definition, i.e. it has to be proved that a production
stage of Põltsamaa cheese takes place in Põltsamaa.

**Animal health and welfare**

The Commission will present the implementation plan of the new animal health policy in April 2008. For this reason, three working groups were set up under the Council’s CVOs working group (the “Adalbrecht process”). Estonia, together with Germany, leads the working group on the principles of financing animal disease prevention.

The need for a new Community policy on animal health arises from the following circumstances:

• enlargement of the Community; – the existing strategy was established at a time when there were 12 Member States;
• outbreaks of new diseases in the Community (e.g. SARS) and expansion of the dimensions of existing diseases (e.g. avian influenza, bluetongue, etc.);
• changes in trade conditions over the past ten years and the increased share of products of animal origin in trade;
• research, technological and institutional changes.

On 16 November 2007, the Council adopted a decision – a compromise solution by which the electronic identification of small ruminants will become mandatory from 31 December 2009.

According to Council Decision 21/2004, the mandatory electronic identification system for sheep and goats must be launched in the Community from 1 January 2008. Many Member States have informed the Commission of problems with preparations for the implementation of the system and this is why it is planned to postpone the implementation date of the electronic system by one year. In Estonia, the system will be mandatory only with respect to export animals born after 31 December 2009.

**Fishing quotas**

The most important topic for Estonia was the Baltic Sea fishing opportunities. After lengthy negotiations with the Commission and the Presidency, Estonia had to vote against the compromise proposal of the Baltic Sea quota regulation for 2008. The main reason for this was the fishing opportunities for Baltic herring in the Gulf of Riga. Estonia wishes that decisions concerning the determination of fishing quotas be based on scientific recommendations. Fishing efforts and organisation should generally be planned for a longer term and the current quota allocation procedure should be revised. The established fishing effort limits, time and technical limits to fishing, and other detailed fishing rules must ensure an effective protection of fish resources, while taking into account the socio-economic needs of the Member States. Proposals on the allocation of the annual fishing quota should be published immediately after the receipt of scientific advice, i.e. earlier than is currently done. More multiyear management plans should be developed.

**Commission’s Action Plan for simplifying the Common Fisheries Policy**

The Commission has reached a conclusion on the need to simplify and update the common fisheries policy and legislation governing fisheries.

The main problems are:

• the scope of legislative drafting – the scope of existing regulations, doubling, and misunderstanding and interpretation;
• the reporting obligation – requirements for the collec-
tion and use of reported data are not always reasoned;
• differences arising from geographic peculiarities – disregard for such differences;
• great fishing capacity and overfishing – the low efficiency of existing measures.

Multiyear action plans contained in the draft, which would enable stability for the enterprises of the sector, are especially important for Estonia. Estonia also agrees to the Presidency’s position that the action plan should take into account and provide an overview of how the simplification of the fisheries policy is monitored (constant monitoring). From 2008, information will be communicated to the Commission every year, which will serve as the basis for establishing intervention prices for fishery products. The Commission will examine the information received and set the initial intervention prices. Baltic herring (which classifies as herring) and brisling are currently the only fish species for which the market organisation is applicable and which Estonian fishermen catch from Estonian waters.

Data collection procedure and regulations in the fisheries sector

The Commission’s proposal for a Council Regulation concerning data collection in the fisheries sector is aimed at the development of long-term integrated regional sampling programmes covering biological, economic, environmental and social data. The purpose of the amended regulation on data collection is to respond to the need to gear fisheries management toward fleet-based and regionally based management rather than fish resources-based management, and to develop an ecosystem approach to fisheries management.

Authorisations for fishing activities of Community fishing vessels outside Community waters and the access of third country fishing vessels to Community waters

This regulation will establish the general rules and conditions concerning the transmission of applications for authorisation. It explains to the Member States and fishermen which conditions need to be met, and helps the Commission to manage the transmission of applications in a better and more efficient manner. Application of this regulation simplifies the work of national administrative agencies and the Commission. The regulation introduces clear rules and a single procedure to be applied for the management of all fishing authorisations and fixes the general division of responsibilities between the Commission and the Member States.

Preparations for a draft regulation to prevent illegal, unreported and unregulated fishing

The draft, which is planned to be adopted at the Fishery Council of June 2008, contains a number of new chapters to fight against illegal fishing. This requires thorough analysis. An entirely new topic is the import control of fishery products; the Commission also intends to establish a list of the EU and third countries’ illegal vessels, as well as to harmonise sanctions.

Participation in the European Union committees and working groups

Officials of the Ministry participated in the work of the following committees and working groups of the European Commission in 2007.

Management Committee for Direct Payments

Commission Regulation (EC) No 552/2007 was approved, which establishes budgetary ceilings for 2007. Estonia’s
annual financial envelope for the Single Area Payment Scheme in 2007 is MEUR 40,503 (MEEK 633,734).

Support for energy crops is available for land covered by the SAPS as well as other land. The total area of energy crop support was specified; it exceeded the established eligible area, which is why the support rate had to be reduced by a coefficient of 0.703.

Amendments to Regulation (EC) 796/2004 specified the concept of an agricultural parcel by adding that where a separate declaration of the use of an area within a crop group is required in the context of a particular requirement, that specific use shall further limit the agricultural parcel. The content of a single application is elaborated in Article 12 (4), when making corrections in the pre-printed application form relating to the reference parcel area, the farmer shall declare the up-to-date area of each agricultural parcel concerned and where necessary indicate the new boundaries of the reference parcel. The amendments entered into force from the year 2008.

According to the reform decision of 2003, the Commission presented a report at the end of 2007 concerning the implementation of the cross-compliance system and started to develop proposals for supplementation of legislation on the basis of the report.

The Commission’s expert groups met on six occasions to discuss the Member States’ experience in cross-compliance: the scope and repeatability of checks of support applications, also the assessment of applications and the question of which sanctions or tolerance levels should be applied to minor irregularities, or in which cases it is sufficient to give the producer a warning. The “tolerance system” is applied to minor irregularities only on the first occasion and, as a rule, with respect to requirements concerning the identification and regulation of bovine animals or over-declaration of the area, if the difference does not exceed 3%. Punishments for intentional errors are rigorous: payment will be reduced by 15–100% depending on the gravity of the violation, or the applicant will be deprived of payments for two years. It was also deemed necessary to increase the role of the advisory and information service in informing farmers of the application requirements, and to improve cooperation between this service and the paying agency. It was considered important in the cross-compliance system to inform producers via the advisory system. Emphasis was also placed on the necessity of a general procedure for the indicators system for all Member States, having regard to the different conditions of each Member State. Ways of reducing cross-compliance checks are sought via the possibilities of using enterprise approval certificates.

**Management Committee for Cereals**

The weather and the development of plants during the growing period and the changes in cereal prices on the world market are regularly monitored. Cereal prices on the world market continued to rise in mid-July, as demand was great, but resources limited. The export price of US maize rose to 2441 EEK/t (maize was used in large quantities in the production of bioethanol). The price of wheat on the EU markets rose to 3755 EEK/t in August, to 3943–4225 EEK/t at the end of December, while the prices of barley and maize rose to 3786 and 3442 EEK/t, respectively.
In October, the total output of cereals for the marketing year 2007/2008 was estimated to be 250–257 million tonnes, which is 4–6% less than the total output for 2006 (266 million tonnes).

In order to improve the market situation, 0% was set as the mandatory set-aside rate, and cereal import tariffs were suspended for the marketing year 2007/2008.

As of 20 December, import and export for 2007/2008 amounted to 15 million and 8.7 million tonnes, respectively (compared to 6.9 and 9.7 million tonnes at the same time of the previous marketing year). The EU is thus a net importer in the marketing year 2007/2008 (with 6.3 million tonnes), after having been a net exporter in the previous year (with 2.8 million tonnes). Intervention storage amounted to 456 000 t of cereals as of 20 December, of which 29 000 t was wheat and 426 000 t was maize. Intervention buying-in of rye was discontinued from 2004; the last stocks were sold at the cereals committee of 12 July 2007 meaning there are no longer any intervention stocks of rye.

In October, the Commission reported the results of the impact analysis of biofuels. Biofuels should have a share of 10% of transport fuel by 2020 and 5.75% by 2010. According to current analyses, the target of 5.75% for the year 2010 is not feasible, as the market and technology require a longer period of time to adapt.

In November, Christina Möller (DG AGRI d2) reported on the price increases of cereals and food products. She pointed out the growing demand for food and feedingstuffs, and also speculation about the shortage of cereals, as the reasons for the price increase. She predicted the prices to remain high for some time, but not as high as they were in the summer of 2007. In November 2007, bread and cereal prices had increased by 8% and the prices of milk, cheese and eggs had risen by 11%, compared to November 2006. The price increase had the greatest impact on the poultry, meat and pigmeat sectors. She estimated that the prices of fodder cereals would rise by 38%. Consumer prices have been rising at a stable rate for years already.

The reporter predicted cereal prices to be high for the next ten years, but the impact on the average EU consumer would be modest and the risk of food shortage would be low. Approval was given to a draft amendment of Commission Regulation (EEC) No 3149/92 laying down detailed rules for the supply of food from intervention stocks for the benefit of the most deprived persons in the Community. As intervention stocks are running out, the scheme for 2008 provides for buying the required products on the market. Estonia was allocated EUR 192 338 for procuring products from the market; 4.5% of this amount is for transport and 1% is for administrative expenses. Estonia remained undecided, as no consensus was reached – some of the Member States took the view that the scheme no longer served its initial purpose of reducing intervention stocks. The Commission informed the Member States that the food aid programme will be analysed, because there were no intervention stocks, while budgetary resources were available.

Legislation on the cereals sector will be harmonised with other legislation concerning export licences, quota-free import licences, approved support and export duties.

The Commission’s position was that the slow approval pro-
cess, the Member States’ lack of support for approval of new GMO species, and the identification of new measures to promote the co-existence of GMO and conventional crops were major problems. The low popularity of GMO crops among the population is a problem: 80–90% of the population are against GMO cultivation.

Management Committee for Fresh and Processed Fruit and Vegetables

Decisions on issues relating to the announcement of export refunds and approval of support rates were discussed and adopted. In comparison with 2006, export refunds were reduced by 10% for the year 2007. The marketing year starting in 2007 will be the last year for export refunds, since the Council decided to discontinue refunding export. Similarly, the marketing year starting in 2007 will be the last year for various processing aids, since the latter will be covered by the SPS.

The market organisation of the fruits and vegetables sector was reformed in 2007 in order to improve the competitiveness and market-orientation of the fruits and vegetables sector.

Management Committee for Natural Fibres

The committee discussed the situation and prospects of the markets in cotton, flax, hemp, and silkworms at its sessions. The committee organises the assessment of flax and hemp fibre markets within the framework of the CAP “health check,” for which the Member States have been asked to communicate the actual production costs of fibres compared to those of cereals.

The growing area of hemp is increasing owing to the development of the industry and the single payment scheme, which no longer requires that this crop be grown solely for obtaining fibre.

Management Committee for Milk and Milk Products

Only 437 t of butter was bought into the EU storage during the intervention period that started on 1 March. The price of butter sold from intervention storage by tendering procedure rose gradually against the background of increasing demand and changed from 236.5 EUR (EEK 3700) / 100 kg at the beginning of the year to 365.2 EUR (5714 EEK) / 100 kg in June. The butter stored in Estonia (714 t) was sold in February at 3708 EEK / 100 kg. In June, the storage time of butter to be sold was shifted from 1 September 2006 to 1 June 2007, which made it possible to sell the freshly bought-in 437 t of butter bought in spring already in July. Intervention buying-in has not been applied to skimmed milk powder for many years. For the first time in the history of the CAP, the EU intervention stocks were completely empty.

The payment of compensation for private storage in previous years was abolished for those who entered into a storage contract before 1 July. Private storage contracts were signed for 124 000 t of butter in 2007, of which 45 600 t was still in storage at the end of the year.

For school milk support, an exception was granted in May 2007, analogous to the previous year, according to which the support rate applicable on the first day of June may also be applied in July if the school year ends in July. In November, approval was given to amendments to the school milk regulation arising from the milk mini-package (bringing drinking milks under a single category with a single support rate); the application of all product categories
Management Committee for Pigmeat

It was concluded at the committee’s discussions that the situation in pig farming was somewhat more difficult in 2007, as the prices fell in many Member States compared to the year 2006, while expenses on feedingstuffs increased due to the rise in cereal prices. The average market prices of pigmeat in the EU were 7.5% lower in September 2007, compared to the same time last year. Support for private storage of pigmeat was made available in October, and the rates of export refunds were increased and the list of products subject to support was extended in November.

The EU average market price of a pig carcass was 21.15 EEK /kg in 2007 (22.74 EEK/kg in 2006). The price was the highest in the third calendar quarter (22.80 EEK/kg) and the lowest in the first quarter (20.21 EEK/kg).

The Member States were not satisfied with the fact that the reference price for pigmeat fails to reflect the market situation prospects and does not cover increasing production costs.

A new draft regulation was prepared establishing common rules for the administration of import tariff quotas for agricultural products, the system of import licences, etc. The Member States approved the draft.

Approval was granted to a draft for approval of the weighted average coefficients necessary for calculating the EU average price of pigmeat, according to which the Member States will inform the Commission of the average prices on a weekly basis. The EU average market prices will be calculated on the basis of this data.

Management Committee for Beef and Veal

At the committee’s sessions, the market situation was discussed and various draft regulations concerning market measures and product labelling were approved.

Producer prices of beef were generally lower in 2007, when compared to the record prices of 2006. The EU average producer price for category D was 35.96 /EEK/kg in 2007 and 37.36 EEK/kg in 2006, i.e. the price of cows dropped more than 3%. There were no big differences in the prices of heifers in 2006 and 2007; the average producer price was 49.18 EEK/kg. The producer prices of young bulls dropped by 4.5% to 47.17 EEK/kg in 2007.

From January to October 2007, the EU exported 209 000 t of beef and live animals (in carcass weight), i.e. 19% less than in 2006. The main export destinations were Russia (34.4%), Nigeria (7.7%) and Croatia (6.6%). Refunded export of beef and live animals from July to December 2007 amounted to 42 000 t, i.e. 45% less than during the same period of 2006.

473 000 t of beef and live bovine animals were imported to the EU from January to October, i.e. 8% less than during the same period in 2006. The sources of import have not changed over the years: Brazil ranks first (66.4%), followed by Argentina (16.6%) and Uruguay (7.1%).

The rates of export refunds were not changed and many Member States expressed their dissatisfaction with this at the committee’s sessions, as expenses on feedingstuffs have considerably increased owing to the high prices of cereals.

The Management Committee for Sheepmeat and...
Goatmeat approved draft regulations governing market measures for sheepmeat and goatmeat: setting of tariff quotas, granting of private storage aid and the establishment of rules on the scale for the classification of sheep carcasses.

Management Committee for Eggs and Poultrymeat
The committee discussed market reviews and changes to market measures at its sessions. The average price of hen eggs was at the highest level in the last four years in the EU in 2007, reaching 131 EUR (EEK 2025) / 100 kg in week 50; the average price of hen eggs in Estonia was 121 EUR (1892 EEK) / 100 kg at the same time.

In the course of 2007, the average price of poultrymeat in the EU was at its highest level since Estonia’s accession to the EU. In week 50, the average price of poultrymeat was 181 EUR (2799 EEK) / 100 kg in the EU and 209 EUR (3270 EEK) / 100 kg in Estonia. The higher price of feedingstuffs was the greatest contributing factor to the increase in the price of poultrymeat (as well as the price of eggs).

Approval was given to draft legislation on the opening and administration of tariff quotas, compensation for damage caused by disease outbreaks, extraordinary market measures and the implementing of the rules of the hen eggs standard.

The Commission introduced a draft decision on the next apiculture programme period (2007–2010): there are 33 000 bee colonies in Estonia and 13 602 700 in the EU. All 27 Member States communicated their own apiculture programmes. The part co-financed by the EU – the budget of the apiculture programme totals MEUR 24, which is divided between the Member States according to the number of bee colonies. The budget of the apiculture programme has increased by MEUR 1 or 4%, compared to the previous period, while the total number of bee colonies in the EU has increased by 15% on account of the Member States that acceded to the EU on 1 January 2007; as a result, the amount of support per colony decreased.

Advisory Committee on State Aid
The committee discussed amendments to Regulation (EU) No 1860/2004 on de minimis aid in the agriculture and fisheries sectors. The regulation became invalid as of 31 December 2007 and is being replaced by Commission Regulation (EC) No 1535/2007 from 1 January 2008. While as a general rule, all state aid measures are subject to notification and approval by the Commission, Regulation (EC) No 1535/2007 provides a legal basis to the Member States for granting de minimis aid (support, loans, and guarantees) without notifying the Commission. However, such aid is limited by de minimis ceilings. Agricultural producers may be granted EUR 7500 (EEK 117 350) of aid over a period of three fiscal years. Aid within this limit is not regarded as a threat to competition. This is especially intended for supporting areas where aid is not permitted under the Commission’s general legislation on state aid.

In addition to the ceiling for producers, ceilings apply to each Member State. Estonia may grant a maximum of EUR 3 502 500 (MEEK 54.8) of de minimis aid to its farmers over three calendar years.

The most important changes that entered into force on 1 January 2008 with Regulation (EC) No 1535/2007 are the following:

- A farmer may be granted up to EUR 7500 over three fiscal...
years instead of the previous EUR 3000.

- The ceiling applicable to Member States for three calendar years was raised from the current 0.3% to 0.75% of the annual output of the agriculture sector, i.e. EUR 3 502 500 in Estonia.
- The regulation was extended to aid in the form of a guarantee; the maximum amount of the guarantee is EUR 56 250 and it may not exceed 80% of the guaranteed loan.
- The period of calculation of ceilings was changed. While earlier, a three-year period was calculated as the past three years, from 1 January 2008 farmers are required not to exceed the ceiling (EUR 7500) during three fiscal years.

With the entry into force of the de minimis aid regulation, all the major regulations on state aid to agricultural producers (block exemption, guidelines) have been adopted and are intended to remain in force until 31 December 2013.

**Standing Committee for Agricultural Statistics**

Work is under way with the draft regulation of the European Parliament and of the Council establishing the obligation to conduct an agricultural census in 2010 and structure surveys in 2013 and 2016. In order to achieve comparability of the Member States’ results of structure surveys of agricultural households, it is intended to define and enact characteristics and indicators of the agricultural environment.

The main issue discussed at meetings of the FADN Committee was the development of a new typology of agricultural households. The typology of agricultural households currently used was established in 1985 and is based on standard gross margin (SGM). In connection with the CAP reform, the old typology is no longer suitable for assessment of the impact of the new measures (diversification of agricultural activities and decoupling of support).

So far, agreement has been reached in the following:

Approval was granted to supplementation of Regulation (EEC) No 1859/82 (concerning the selection of returning holdings for the purposes of determining incomes of agricultural holdings; establishes a threshold of economic size and the number of returning holdings for each country). In connection with the accession of Bulgaria and Romania, the draft supplementation establishes relevant indicators for these countries and amends the Slovakian sample. No changes are made concerning Estonia.

Approval was given to an increase in the fee payable for the report in 2008. The fee applicable in 2007 was EUR 148, but considering the inflation rate determined by the European Central Bank, the fee payable for a report in 2008 is EUR 151.

The standard results and some initial analyses for 2005 were introduced. The EU FADN sample covered 76 644 holdings representing a total of 4 090 380 holdings. In 2005, the average gross output per holding was EUR 62 220, i.e. 0.5% or EUR 293 more than in 2004. The output per holding continued to be the largest in Slovakia – EUR 372 946 – and the smallest in Cyprus – EUR 17 043. The EU average expenses were EUR 45 040 per holding: the highest and lowest expenses were incurred in Slovakia (EUR 355 054) and in Greece (EUR 9216), respectively. The EU average net value added per holding was EUR 27 969; the highest in the Netherlands (EUR 101 452) and the lowest in Cyprus (EUR 5629).
4. ECONOMIC SITUATION IN AGRICULTURE AND THE FOOD INDUSTRY

4.1. Economic situation of agricultural holdings

Kristel Bankier, Kristel Maidre, Urve Valdmaa, Liisa Kähr, Ants Laansalu

Owing to increased crop production and an increase in the price of agricultural products, the entrepreneurial income of Estonian agricultural holdings increased by more than one-third in 2007 to BEEK 2.7. The price of agricultural products rose by 13% on average, compared to the year 2006; the price of production inputs rose by 12% on average.

According to preliminary data, intermediate consumption amounted to BEEK 5.8 in 2007, or 58% of the output of the agricultural industry. Intermediate consumption increased by 15.5%, compared to 2006, and its share in the output of the agricultural industry increased by 1.3 pp.

Gross and net value added increased by 22% and 24%, respectively. The increase in gross value added was influenced by the increased value of intermediate consumption owing to the price increase of production inputs – feeding-

Table 1. Economic accounts for agriculture indicators (MEEK), 2001–2007

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production</td>
<td>2646.6</td>
<td>2607.6</td>
<td>3039.9</td>
<td>2941.5</td>
<td>4432.3</td>
</tr>
<tr>
<td>including subsidies on crop</td>
<td>117.1</td>
<td>206.1</td>
<td>160.5</td>
<td>295.8</td>
<td>214.0</td>
</tr>
<tr>
<td>production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock production</td>
<td>3405.3</td>
<td>4066.3</td>
<td>4253.2</td>
<td>4542.5</td>
<td>4542.7</td>
</tr>
<tr>
<td>including subsidies on livestock</td>
<td>146.4</td>
<td>189.3</td>
<td>177.9</td>
<td>238.0</td>
<td>28.7</td>
</tr>
<tr>
<td>production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural contract work</td>
<td>139.8</td>
<td>138.1</td>
<td>177.4</td>
<td>159.9</td>
<td>174.0</td>
</tr>
<tr>
<td>Inseparable non-agricultural</td>
<td>559.5</td>
<td>593.1</td>
<td>767.3</td>
<td>843.3</td>
<td>884.9</td>
</tr>
<tr>
<td>secondary activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output of the agricultural</td>
<td>6751.1</td>
<td>7405.1</td>
<td>8237.7</td>
<td>8487.2</td>
<td>10033.9</td>
</tr>
<tr>
<td>industry in basic price</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate consumption</td>
<td>4024.3</td>
<td>4287.1</td>
<td>4982.5</td>
<td>5036.2</td>
<td>5819.1</td>
</tr>
<tr>
<td>Gross value added</td>
<td>2726.8</td>
<td>3118.0</td>
<td>3255.2</td>
<td>3451.0</td>
<td>4214.8</td>
</tr>
<tr>
<td>Depreciation of fixed assets</td>
<td>699.2</td>
<td>716.6</td>
<td>766.7</td>
<td>955.9</td>
<td>1127.1</td>
</tr>
<tr>
<td>Net value added</td>
<td>2027.6</td>
<td>2401.4</td>
<td>2488.5</td>
<td>2495.2</td>
<td>3087.8</td>
</tr>
<tr>
<td>Other subsidies</td>
<td>124.3</td>
<td>822.0</td>
<td>1063.9</td>
<td>1208.9</td>
<td>1714.5</td>
</tr>
<tr>
<td>Factor income</td>
<td>2121.6</td>
<td>3199.2</td>
<td>3504.6</td>
<td>3657.3</td>
<td>4754.4</td>
</tr>
<tr>
<td>Entrepreneurial income</td>
<td>1041.1</td>
<td>1944.7</td>
<td>2049.6</td>
<td>1971.0</td>
<td>2711.8</td>
</tr>
</tbody>
</table>

*preliminary data, January 2008

Source: Agricultural Market Regulation Department of the Ministry of Agriculture, Statistics Estonia
4. ECONOMIC SITUATION IN AGRICULTURE AND THE FOOD INDUSTRY

stuffs, energy, and maintenance of machinery. In connection with the considerable price rise in the building sector and the increased share of buildings in fixed assets, depreciation also increased, having the effect of decreasing net value added.

As other production subsidies (support for less-favoured areas, agri-environmental support, support for semi-subsistence farms undergoing restructuring, single area payment, complementary national direct payments decoupled from the production commitment, state aid) increased from MEEK 1208.9 in 2006 to MEEK 1714.5 in 2007 or by 42%, factor income (net value added plus other subsidies less other taxes) increased by 30%. Entrepreneurial income increased by 38% according to a preliminary estimate.

The Figure shows how agricultural output, net value added and factor income changed during the period 2002–2007. The changes were quite modest until 2003, but accession to the EU in 2004 and the related increase in support levels and price rises had an impact on economic results, which is why entrepreneurial income increased considerably. The income of the agriculture sector continued to grow in the period 2004–2006.

Wages and the agricultural producer price index and purchase price of means of production index

According to the Statistics Estonia, the average monthly gross wages in agriculture and hunting were EEK 9407 in 4Q2007, which is 77% of the national average (EEK 12270). Wages in agriculture and hunting were EEK 225 or 2.5% higher in 4Q2007 than in 3Q2007, and EEK 2148 or 29.6% higher than in 4Q2006.

If we compare gross monthly wages in agriculture and hunting across the calendar quarters of 2005–2007 with other sectors of the economy prevailing in rural areas (Figure 2), we can see that wages in forest management and timber production have been 30–40% higher than in agriculture and hunting. Gross monthly wages in fishing were slightly lower than in agriculture and hunting, but in both 4Q 2006 and 4Q2007 the gross wages in fishing were 20–30% higher than in agriculture and hunting.

\[ \text{Source: Statistics Estonia} \]
The producer price index of agricultural products characterises the change in the selling prices of agricultural products produced in Estonia.

The producer price index of agricultural products changed 19.1% in 4Q2007, compared to 4Q2006, including 24.5% in crop production and 17.8% in livestock production. The producer price index increased the most (in 4Q2007, compared to 4Q2006) for cereals (62.3%), industrial crops (36.7%), eggs (26.5%) and milk (25.3%), and decreased for potatoes (17.8%) and vegetables and horticultural products (0.3%).

### Table 2. Change in the producer price index of agricultural products in 4Q2007 compared to 4Q2006

<table>
<thead>
<tr>
<th>Agricultural product</th>
<th>Percentage</th>
<th>Change % 4Q2006–4Q2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production</td>
<td>17.7</td>
<td>24.5</td>
</tr>
<tr>
<td>Cereals (including seeds)</td>
<td>7.6</td>
<td>62.3</td>
</tr>
<tr>
<td>Industrial crops</td>
<td>3.8</td>
<td>36.7</td>
</tr>
<tr>
<td>Vegetables and horticultural products</td>
<td>5.2</td>
<td>-0.3</td>
</tr>
<tr>
<td>Potatoes (including seeds)</td>
<td>0.7</td>
<td>-17.8</td>
</tr>
<tr>
<td>Livestock farming</td>
<td>82.3</td>
<td>17.8</td>
</tr>
<tr>
<td>Bovine animals for meat</td>
<td>4.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Pigs for meat</td>
<td>21.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Milk</td>
<td>45.8</td>
<td>25.3</td>
</tr>
<tr>
<td>Eggs</td>
<td>7.7</td>
<td>26.5</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia
The purchase price index of means of agricultural production, which characterises changes in the prices of items of expenditure of agricultural holdings, increased by 15.1% in 4Q2007, compared to 4Q2006. The index rose the most for feedingstuffs (27.8%), maintenance and repair of buildings (8.8%) and energy, fuel and lubricants (8.1%).

The producer price index of agricultural products increased by 19% in 4Q2007, compared to 4Q2006, and the purchase price index of means of production increased by 15% over the same period, meaning that the prices of means of production rose less than the selling prices of agricultural products.

### Taxes and arrears of agricultural producers

Agricultural producers declared MEEK 875 of taxes in 2007, of which MEEK 480 (55%) was social tax, MEEK 216 (25%) was withheld income tax of natural persons, and MEEK 44 (5%) was refundable VAT. Legal persons declared 81% and self-employed persons declared 19% of the total taxes.

MEEK 214 (33%) more taxes were declared in 2007 than in 2006. An average legal person engaged in agriculture declared EEK 407 000 and an average self-employed agricultural producer declared EEK 10 000 in taxes (Table 4).

---

### Table 3. Change in the purchase price index of means of agricultural production in 4Q2007, compared to 4Q2006

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
<th>Change % 4Q2006–4Q2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>2.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Energy, fuel, lubricants</td>
<td>20.3</td>
<td>8.1</td>
</tr>
<tr>
<td>Fertilisers and soil improvers</td>
<td>4.4</td>
<td>7.7</td>
</tr>
<tr>
<td>Plant protection products</td>
<td>1.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Veterinary costs</td>
<td>1.8</td>
<td>4.6</td>
</tr>
<tr>
<td>Feedingstuffs</td>
<td>43.4</td>
<td>27.8</td>
</tr>
<tr>
<td>Maintenance and repair of equipment, materials</td>
<td>19.6</td>
<td>4.2</td>
</tr>
<tr>
<td>Maintenance and repair of buildings</td>
<td>1.5</td>
<td>8.8</td>
</tr>
<tr>
<td>Other goods and services</td>
<td>5.1</td>
<td>7.6</td>
</tr>
</tbody>
</table>

**Source:** Statistics Estonia
4. ECONOMIC SITUATION IN AGRICULTURE AND THE FOOD INDUSTRY

Table 4. Taxes declared by agricultural producers (EEK '000), 2006–2007

<table>
<thead>
<tr>
<th>Type of tax</th>
<th>Legal persons</th>
<th>Self-employed persons</th>
<th>Total</th>
<th>Legal persons</th>
<th>Self-employed persons</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAT</td>
<td>-6 341</td>
<td>-42 052</td>
<td>-48 393</td>
<td>45 159</td>
<td>-907</td>
<td>44 252</td>
</tr>
<tr>
<td>Social tax</td>
<td>365 121</td>
<td>64 434</td>
<td>429 555</td>
<td>404 051</td>
<td>76 059</td>
<td>480 110</td>
</tr>
<tr>
<td>Personal income tax withheld</td>
<td>181 508</td>
<td>9 228</td>
<td>190 727</td>
<td>204 076</td>
<td>11 574</td>
<td>215 650</td>
</tr>
<tr>
<td>Self-employed person’s income tax</td>
<td>-</td>
<td>12 255</td>
<td>12 255</td>
<td>-</td>
<td>46 269</td>
<td>46 269</td>
</tr>
<tr>
<td>Corporate income tax</td>
<td>13 741</td>
<td>31</td>
<td>13 772</td>
<td>20 598</td>
<td>21</td>
<td>20 620</td>
</tr>
<tr>
<td>Unemployment insurance premium</td>
<td>10 347</td>
<td>690</td>
<td>11 037</td>
<td>10 109</td>
<td>747</td>
<td>10 856</td>
</tr>
<tr>
<td>Contribution to mandatory funded pension</td>
<td>11 267</td>
<td>728</td>
<td>11 995</td>
<td>13 382</td>
<td>1 521</td>
<td>14 903</td>
</tr>
<tr>
<td>Heavy goods vehicle tax</td>
<td>995</td>
<td>1 569</td>
<td>2 564</td>
<td>1 105</td>
<td>1 727</td>
<td>2 832</td>
</tr>
<tr>
<td>Land tax</td>
<td>8 319</td>
<td>28 860</td>
<td>37 178</td>
<td>9 838</td>
<td>29 181</td>
<td>39 019</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>584 957</strong></td>
<td><strong>75 743</strong></td>
<td><strong>660 700</strong></td>
<td><strong>708 479</strong></td>
<td><strong>166 085</strong></td>
<td><strong>874 563</strong></td>
</tr>
<tr>
<td>Number of agricultural producers</td>
<td>1 649</td>
<td>18 835</td>
<td>20 484</td>
<td>1741</td>
<td>16 921</td>
<td>18 662</td>
</tr>
<tr>
<td>Average per agricultural producer</td>
<td>354.7</td>
<td>4.0</td>
<td>32.3</td>
<td>406.9</td>
<td>9.82</td>
<td>46.87</td>
</tr>
</tbody>
</table>

Source: Tax and Customs Board, Agricultural Market Regulation Department of the Ministry of Agriculture

An average legal person declared EEK 124 000 (21%) more taxes and an average self-employed person declared EEK 6000 or two times more taxes in 2007 than in 2006. However, the total tax arrears have also increased (Table 5).

Legal persons have paid about MEEK 52 more VAT, while self-employed persons have claimed about MEEK 41 less of VAT refunds.

In 2007, taxes were declared by 18 662 agricultural producers, including 1741 legal and 16 921 self-employed persons; as of 31 December, 7265 persons owed tax arrears. The number of agricultural producers owing arrears has decreased by 439 over the year, but the total arrears have increased by MEEK 3 to MEEK 169. As of 31 December 2007, 46% of the legal persons and 38% of the self-employed persons engaged in agriculture business owed tax arrears.
### Table 5. Breakdown of tax arrears\(^{24}\) (EEK ’000), 2006–2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Income tax</th>
<th>VAT</th>
<th>Self employed person’s income tax</th>
<th>Social tax</th>
<th>Other taxes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.12.2006</td>
<td>Legal persons</td>
<td>2 108</td>
<td>35 540</td>
<td>16 302</td>
<td>42 109</td>
<td>4 063</td>
</tr>
<tr>
<td></td>
<td>Self-employed persons</td>
<td>16 415</td>
<td>19 845</td>
<td>758</td>
<td>22 071</td>
<td>5 863</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>18 523</td>
<td>55 385</td>
<td>17 060</td>
<td>64 180</td>
<td>9 926</td>
</tr>
<tr>
<td>31.12.2007</td>
<td>Legal persons</td>
<td>2 468</td>
<td>34 304</td>
<td>13 545</td>
<td>35 663</td>
<td>3 839</td>
</tr>
<tr>
<td></td>
<td>Self-employed persons</td>
<td>20 983</td>
<td>28 073</td>
<td>894</td>
<td>23 238</td>
<td>5 582</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>23 451</td>
<td>62 377</td>
<td>14 440</td>
<td>58 900</td>
<td>9 421</td>
</tr>
</tbody>
</table>

Source: Tax and Customs Board, Agricultural Market Regulation Department of the Ministry of Agriculture

The structure of tax arrears has changed, compared to the year 2006 (Table 6). While social tax arrears used to be the largest in earlier years, the arrears are the greatest now for VAT, which accounts for about 37% of the total arrears instead of the former 34%. Income tax arrears have also increased, but arrears of social tax, self-employed person’s income tax and other taxes have decreased.

### Table 6. Structure of tax arrears (%), 2006–2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Income tax</th>
<th>VAT</th>
<th>Self employed person’s income tax</th>
<th>Social tax</th>
<th>Other taxes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.12.2006</td>
<td>Legal persons</td>
<td>2</td>
<td>35</td>
<td>16</td>
<td>42</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Self-employed persons</td>
<td>25</td>
<td>31</td>
<td>1</td>
<td>34</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11</td>
<td>34</td>
<td>10</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>31.12.2007</td>
<td>Legal persons</td>
<td>3</td>
<td>38</td>
<td>15</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Self-employed persons</td>
<td>26</td>
<td>36</td>
<td>1</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14</td>
<td>37</td>
<td>9</td>
<td>35</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Tax and Customs Board, Agricultural Market Regulation Department of the Ministry of Agriculture

\(^{24}\) Arrears consist of principal and interest.
Assessment of the economic sustainability of agricultural holdings based on the Farm Accountancy Data Network (FADN)

According to the compilation “Economic Indicators of Agricultural Producers 2006”, published by the Rural Economy Research Centre in 2007, the average size of an Estonian agricultural holding in 2006 was 16.5 ESU. Pig and poultry farms were the largest (82.9 ESU). An average agricultural holding had 115.9 ha of agricultural land (60% of it rented). More than one half of the land (51%) was used for fodder crops; one-third was under cereals. On average, 3.0 annual units of labour were used in a holding (1 annual unit equals 2200 working hours), of which the unpaid labour of the owners formed 50%. Pig and poultry farms were the most labour intensive: they employed 13.3 persons on average.

An average agricultural producer received EEK 251 000 of support in 2006. The amount of support per hectare of agricultural land was EEK 2172 in 2006, which is EEK 431 or 25% more than in 2005. Total expenditure amounted to EEK 9585 per ha, which is EEK 1248 or 15% more than in 2005. In 2006, EEK 1860/ha or 8% less than in 2005 was left for investments and production development.

Gross value added per labour unit was EEK 168 732 in 2006, or EEK 14 680 (10%) more than in 2005. Support accounted for 50% of gross value added.

Average net value added per labour unit was EEK 131 586 in 2006, or EEK 6621 (5%) more than in 2005. Pig and poultry farmers worked most efficiently and obtained EEK 168 320 of net value added per labour unit.

Competitiveness of agricultural holdings

The competitiveness of agriculture, assessed by the net value added (NVA) per employee and by the ability to invest in production development, was EEK 58 870 in 2003 before the EU accession, i.e. 5.6 times less than the average for the EU15, where NVA per employee was EEK 333 035. During the period 1992–2002, the investments in Estonian agriculture relative to value added were 2.5 less than in the EU15 average.

Owing to the improvement of economic conditions after accession, NVA per employee in Estonian agriculture increased by 278% in 2007, compared to the year 2000, while in the EU27 this indicator increased by 14.7%, according to Eurostat.
In 2006, gross investments in production were 16.5% in Estonian agriculture, i.e. 2.5 times more than in the pre-accession period and the implementation of the EU aid programmes in 2002, when these investments amounted to 6.5%. Because of the investment need that accumulated over the decade, fixed assets per employee in Estonian agricultural holdings were 693 000 in 2006, i.e. more than three times less than the average for the EU25 (MEEK 2.3). Fixed assets relative to agricultural land were 17 900 EEK/ha, i.e. six times less than in the EU25, where the corresponding indicator is EEK 107 700/ha. Competitiveness is also influenced by supports, which are higher in Estonia than the average for the EU25, according to calculations based on the value of total output.

Even though NVA per employee is still relatively low in Estonia, compared to the average for the EU25, Estonian farmers have possibilities to improve their competitiveness in the EU economic area. This is indicated by the increase of fixed assets per employee from EEK 420 000 in 2003 to EEK 693 000 in 2006.

**Table 7. Percentage of net support in total output, 2005**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of Net Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU25</td>
<td>16.7%</td>
</tr>
<tr>
<td>Finland</td>
<td>70.7</td>
</tr>
<tr>
<td>Ireland</td>
<td>50.2</td>
</tr>
<tr>
<td>Austria</td>
<td>33.6</td>
</tr>
<tr>
<td>Slovenia</td>
<td>32.6</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>28.4</td>
</tr>
<tr>
<td>Lithuania</td>
<td>27.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>25.9</td>
</tr>
<tr>
<td>Sweden</td>
<td>24.5</td>
</tr>
<tr>
<td>Latvia</td>
<td>23.4</td>
</tr>
<tr>
<td>UK</td>
<td>22.6</td>
</tr>
<tr>
<td>Greece</td>
<td>22.2</td>
</tr>
<tr>
<td>Slovakia</td>
<td>22.0</td>
</tr>
</tbody>
</table>

*Source: Rural Economy Research Centre*

Analyses show that the productivity of work mainly depends on the level of fixed assets. In the old EU Member States: the UK, Germany, Finland, Sweden, etc., where agricultural holdings have more than EEK 70 000 of fixed assets per hectare of agricultural land and more than MEEK 3 of fixed assets per employee, the productivity of labour is higher than average and NVA per employee is over EEK 300 000 per year.
In Estonia, Hungary and the Czech Republic, fixed assets per employee are MEEK 0.6–1.0 and NVA per employee is EEK 135 515 in Estonia (accountancy data network information is available for 2005), EEK 151 975 in Hungary and EEK 155 650 in the Czech Republic. In Latvia and Lithuania, fixed assets per employee are less than MEEK 0.4 and NVA per employee is EEK 84 730 and EEK 76 150, respectively.

The structural differences in agricultural holdings have to be kept in mind when comparing the average economic results in different countries. In Estonia, Latvia, Lithuania, Poland, etc., the lower limit of the economic size of agricultural holdings is 2 ESU (1 ESU = EUR 1200) or EEK 37 550 of standard gross margin. Therefore, the average economic results of the agricultural holdings of these countries are not exactly comparable to those of the UK, the Netherlands and Germany, where the lower size limit of agricultural holdings is 16 ESU or EEK 300 400, i.e. the smallest holdings are eight times larger. These differences in the minimum size have a great impact on average economic indicators. In Estonia, NVA per employee in the size group 2–6 ESU was EEK 66 425, i.e. 2.6 times less than in the size group over 16 ESU, where this indicator was EEK 173 229.

The results of the more successful holdings in Estonia also exceed the average results of the holdings of the old Member States. In 2006, NVA per employee in Estonia’s largest five agricultural holdings in the size group 6–16 ESU was EEK 562 970, which exceeds the averages for the UK, Germany, France, Sweden, etc., and in the five most successful Estonian agricultural holdings in the size group over 16 ESU, NVA per employee was EEK 970 190 a year, exceeding the average for the most productive Danish farms, where the annual NVA per employee was EEK 802 545.

### 4.2. Economic situation in the food industry

**Merle Saaliste, Eha Niinepuu, Martin Pretke, Marje Mäger**

**Number of enterprises and employment**

According to short-term statistics, the food industry employed an average of 16 713 persons in 2007. Of these, 3421 worked in the meat sector, 2481 in the fisheries sector, 2373 in the dairy sector and 2000 in the beverages sector.

While the total number of processing enterprises and employment both show continued upwards trends in Estonia, the number of food industry enterprises and the number of people employed by them continues to decrease every year by a few per cent, owing to the modernisation of production and the closing down of less competitive businesses (Figures 5 and 6). The same process continued in 2007, according to short-term statistics.

**Figure 5.** Percentage of the number of food and beverage producing businesses in the processing industry, 2000–2006

![Graph showing the percentage of food and beverage producing businesses in the processing industry, 2000–2006.]

**Source:** Statistics Estonia, annual statistics
An observation of the dynamics in 2005–2006, and the division of enterprises into size groups according to the number of employees, reveals a general pattern for the industry as a whole – the smaller the number of employees in the size group, the more new enterprises were added to the group, while a vast majority of the new enterprises were micro-enterprises with up to 9 employees.

In the food industry, the trend is completely the opposite. The number of enterprises decreased the most (by 18) in the micro-enterprises group; the number of small enterprises with 10–49 employees decreased by 13 and in the size group 50–249 employees the decrease was three enterprises. The only size group that grew larger (by two enterprises) was the group of enterprises with more than 250 employees. Competition is very tough in the food industry; large-scale operation and efficiency are the keywords for survival.

*Figure 6. Percentage of persons employed in food and beverage producing businesses relative to the processing industry, 2000–2006*

![Graph showing percentage of persons employed in food and beverage producing businesses relative to the processing industry, 2000–2006.](image)

*Source: Statistics Estonia, annual statistics*

**Labour costs, value added, profit**

The labour cost indicators of food industry sectors (Figure 7) follow the general Estonian wages dynamics, being constantly on a higher or a lower level. Distinct trends characterise the fisheries sector and production of ready-made feedingstuffs. In the fisheries sector, the monthly labour cost per employee is significantly lower than the average for the Estonian processing industry, and the gap is increasing. In the production of ready-made feedingstuffs, labour costs have grown rapidly according to short-term statistics. It should be kept in mind that the sample of feedingstuffs producers on which the statistics are based is very small. This means that each enterprise’s contribution is decisive and the likelihood of statistical error is accordingly greater.

*Figure 7. Average monthly labour cost per employee, 2000–2007*

![Graph showing average monthly labour cost per employee, 2000–2007.](image)

*Source: Statistics Estonia, short-term statistics*
Labour productivity (Figure 8) has increased in the production of ready-made feedingstuffs, dairy products and beverages more rapidly than in the other sectors of the food industry. This has been apparently facilitated by the favourable situation on the world market for these sectors’ products, enabling those products to be sold in larger quantities and at higher prices.

Value added has increased at a slower pace in the food industry, compared to the processing industry as a whole, which is why the food industry’s contribution to GDP has also slowly decreased (Table 1).

The profit of the food industry totalled MEEK 707 in the year 2006, i.e. 3.7% of turnover. Food industries are characterised by the fact that increased turnover has not resulted in increased profits so far (Figure 9). Enterprises have been forced to make great investments to meet hygiene requirements and modernise production. Profits started to increase somewhat in 2006. Short-term statistics for 2007 show that sales income continued to grow and suggest that profits were at their highest level (MEEK 1247) for the past seven years.

**Source:** Statistics Estonia, short-term statistics

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Labour productivity based on net value added = \[
\frac{\text{sales income} - \text{total costs} + \text{labour costs}}{\text{quarterly average number of employees}}
\]
Table 1. Value added and relative share in the GDP of the food industry, 2000–2007

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP in current prices, MEEK</strong></td>
<td>95 491</td>
<td>108 218</td>
<td>121 372</td>
<td>136 010</td>
<td>149 923</td>
<td>175 392</td>
<td>207 061</td>
<td>243 252</td>
</tr>
<tr>
<td><strong>Value added, MEEK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All industries</td>
<td>49 327</td>
<td>57 188</td>
<td>66 212</td>
<td>73 731</td>
<td>85 547</td>
<td>99 245</td>
<td>124 804</td>
<td>129 295</td>
</tr>
<tr>
<td>Processing industry</td>
<td>13 393</td>
<td>15 468</td>
<td>17 848</td>
<td>19 978</td>
<td>21 792</td>
<td>24 909</td>
<td>29 879</td>
<td>32 572</td>
</tr>
<tr>
<td>…food and beverages industry</td>
<td>2 322</td>
<td>2 495</td>
<td>2 584</td>
<td>2 846</td>
<td>2 752</td>
<td>3 149</td>
<td>3 641</td>
<td>3 782</td>
</tr>
<tr>
<td>Relative share in the GDP of value added by food and beverages industry, %</td>
<td>2.4</td>
<td>2.3</td>
<td>2.1</td>
<td>2.1</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Source: Statistics Estonia

Research and development

Fostering of R&D and innovation is one of the keywords for the competitiveness and development of the Estonian food industry. While the R&D investments of other branches of the processing industry have robustly increased every year, the food sector has not made such a stable input.

The most successful year in the food industry’s self-reliant development activities so far was 2005, when the businesses’ internal R&D expenses amounted to MEEK 45. In 2006, however, food industry enterprises again invested only MEEK 13 of their own resources in R&D.

By contrast, when it comes to external expenses, i.e. studies commissioned from research institutions, the food sector has been on the forefront of the processing industry. In 2005, the food sector’s expenditure on external R&D were 28.1% of the entire processing industry’s relevant expenditure; in 2006 this share was once again much smaller, just 6.5%.

Figure 10. R&D expenditure of the processing industry and of enterprises producing food and beverages, 1998–2005

Source: Statistics Estonia
**Investments**

In 2006, the food industries’ investments in structures, on the one hand, and machinery and equipment, on the other, were quite similar (45.8% and 43.3%, respectively, of total investments); in 2007 investments in machinery and equipment (61.1%) considerably outbalanced investments in structures (34.8%). As the economic situation of food industries has improved in recent years, investments have also grown. However, most (91.3%) of the investments made in 2007 were made by larger enterprises employing more than 50 persons. Small enterprises with 10–49 employees and micro-enterprises (up to 9 employees) accounted for only 8.4% and 0.3% of total investments, respectively.

Micro-enterprises invested considerably in 2003–2005 (for example, MEEK 40.6 in 2005), but have practically lost interest in business development in the past two years. Micro-enterprises’ investments in 2007 were only MEEK 4.5.

Small enterprises’ investments also dwindled in 2007. Compared to the year 2006, when small enterprises’ investments in machinery, equipment, and production buildings amounted to MEEK 363, the investments of these enterprises shrunk 2.7 times in 2007 to MEEK 135.

The investments of larger enterprises, however, are growing robustly. Their investments in 2007 increased by 43% to BEEK 1.46 compared to the previous year.

**Figure 11. Investments of food and beverage production enterprises in fixed assets in current prices*, 2002–2007**

- Purchase, construction and reconstruction of buildings
- Other machinery and equipment, fixtures
- Other fixed assets

*according to short-term statistics

**Source:** Statistics Estonia

**Dairy industry’s turnover, profit, and value added**

In order to survive and remain competitive, the dairy sector has had to make major investments in recent years. The assets of the dairy industry have therefore increased and renewed, while their financial obligations have also increased year by year. This in turn resulted in losses (Figure 13).
The year 2007 was a success for the dairy industry – both domestic and export sales increased. World market prices have risen rapidly this year and also brought about price increases on the domestic market. Continued attention is being paid to the development and export of products with a higher value added. Large investments, which were made at the right time, have justified themselves. Owing to the aforementioned factors, profit and value added per employee were at the highest level in several years in 2007.

According to preliminary data, the turnover of the dairy industry grew by 13% to BEEK 5.8 in 2007. Profit amounted to MEEK 339 or 5.9% of total turnover (in 2006 the total turnover was BEEK 5.1 and profit was 3.2% or MEEK 166).
**Investments in the dairy industry**

Investments in the dairy industry’s fixed assets were on a record level in 2007 (MEEK 640.3). Investments grew by MEEK 412 and exceeded the previous year’s investments (MEEK 228.30) by 2.8-fold. 33% of the investments were made in the first calendar quarter, 12% in the second, 33% in the third and 21% in the fourth quarter. MEEK 270.10 was invested in buildings (Figure 15), of which MEEK 133.50 was spent on purchases of buildings and facilities, and MEEK 136.60 was spent on reconstruction and construction. In order to improve competitiveness and ensure a more stable product quality, the bulk of investments – MEEK 365.60 or 57% – were made in machinery and equipment.

Investments are made with continued attention to increasing the share of products with a higher value added and to extending the shelf-life. Industries specialising in particular products (cheese or curd production, whey processing) ensure their positions by investing in modern production lines and technologies, which multiply the production volumes and improve the production hygiene, thus meeting the market demand (an example is the whey cheese or ricotta production line of the Rannu plant of the Põltsa County Dairy’s Cheese Industry).

**Figure 15. Investments in fixed assets (MEEK), 2000–2007**

*according to short-term statistics*

**Source:** Statistics Estonia

**Figure 16. Breakdown of investments by enterprise size (number of employees) (MEEK) 2006–2007**

*according to short-term statistics*

**Source:** ESA

This year, 96.8% (MEEK 620.30) of the total investments of the dairy industry were made by enterprises with 100 or more employees; 3% (MEEK 18.50) by enterprises with 50–99 employees, and 0.2% (MEEK 1.5) by enterprises with 10–19 and 20–49 employees.
Turnover and profit of the meat industry

The meat industry's turnover increased by 17% in 2007 compared to the year 2006. Profit relative to turnover decreased to 4.1% (4% at the end of 2005 and 5.5% in 2006).

The sector’s total turnover in 2007 was MEEK 3605, which is 17% more than in 2006 and as much as 33% more than in 2005. The sector earned a total profit of MEEK 149 in 2007 (preliminary data).

Figure 17. Realised net turnover and gross profit (MEEK), 2002–2007

Profit and investments in the fruit and vegetable sector

According to the short-term statistics of the Statistics Estonia, the sales income of the fruit and vegetable sector was MEEK 887.30 in 2007. Profits accounted for 4.6% or MEEK 41.10 of the sales income. Compared to the year 2006, sales income increased by 22.1%, while profits decreased by 40% or MEEK 27.50. Expenses grew in 2007 by 27.3% compared to the previous year.

An estimated MEEK 141.9 of value was added in 2007 according to short-term statistics. The value added decreased by 6.6% (MEEK 10) compared to the year 2006.

Figure 18. Sales income, gross profit and value added (MEEK)

*short-term statistics

Source: Statistics Estonia

The fruit and vegetable industry invested MEEK 44.9 in fixed assets in 2007, which is MEEK 185 or 0.4% less than in 2006.

The largest investments were made in 2007 in machinery and equipment, totalling MEEK 33.2 and accounting for approximately 75% of all investments in tangible assets.

MEEK 11 (24.4%) was invested in construction and reconstruction of buildings, EEK 632 000 (1.4%) was invested in computers and EEK 82 000 (0.4%) was invested in means of transport. Investments in construction and reconstruction of buildings increased by 27.4% compared to the previous year, and investments in computers increased by 13.1%. Investments in means of transport decreased (-94.2%).

*preliminary data

Source: Statistics Estonia
The growth in investments was facilitated by the investment support granted under the National Development Plan (NDP) 2004–2006 for improving the competitiveness of agricultural products (measure 3.2), which was financed from the EAGGF (European Agricultural Guidance and Guarantee Fund).

The investment support budget for 2002–2006 was MEEK 177.90. Investment support for the meat industry made up the largest part of the budget (51%), followed by the dairy industry (29%), vegetable industry (13%) and cereal industry (7%). Investment support was granted to the vegetable industry for the purpose of constructing production buildings and purchasing new production equipment.

According to the ARIB, the entire amount of investment support (MEEK 23.1) granted to the fruit and vegetable industry had been paid out as of 27 September 2007.
5.1. Development of villages

_Sille Rähn_

Estonia has 4433 villages, housing 20% of the country’s population. Tallinn is the most attractive place of residence – 30% of the entire population. In a situation where the population is small and enterprise, as a rule, of little reward, the strength of the local community is important. An organisation of rural inhabitants has taken place – about one-fourth of the more than 4000 villages have elected village elders to coordinate local activities; about 700 associations are involved in village development.

Village development has been supported through three different programming documents. The first measure for village restoration and development was opened under the SAPARD programme in 2003 (measure 6). This was a unique measure whose decision-making level, i.e. substantial assessment of applications, was taken to the county level after a compliance check by the ARIB.

Village development continued under the Estonian National Development Plan 2004–2006 via the renovation and development of villages (measure 3.5). Two application rounds were held. In the first round in 2004, 333 applications were received and 172 were granted. In the second round that lasted from the end of 2005 till the beginning of 2006, 289 applications were received, of which 115 were granted. Support was divided between three submeasures: 92% for buildings (community or cultural centre or sports facility), 5% for furnishing the buildings, and 3% for information points (construction, reconstruction, and furnishing). In total, MEEK 94.7 (96% of the budget) has been paid out under this measure over the course of four years for 281 projects. The support was used for investments totalling MEEK 114.9.

During the period 2004–2006, a total of 595 applications were received, of which 281 were granted. Support for investments for restoration and development of villages was still very popular among applicants.

The third programming document, under which support has been granted for village development and will be granted in the future, is the Estonian Rural Development Plan 2007–2013 (ERDP). Its support measure “Village renewal and development” (3.2) is similar to the aforementioned measures. The overall objective is to improve the physical and social environment and the quality of life in rural areas by way of encouraging local action and developing the non-profit sector.

An important priority in the new period is cultural heritage and its appreciation via improving and restoring the appearance of villages and agricultural landscapes. Many cultural phenomena that have been lost elsewhere in Europe – ancient fields, historic villages and building traditions – have been preserved on the Estonian cultural landscape; many handicraft skills are still viable. Appreciation for cultural heritage improves the attractiveness of the physical and social environment and encourages the community to make a contribution.

For improving the social infrastructure of villages, it is important to continue the restoration of buildings and facilities intended for joint activities of the village community, which was commenced under previous programmes. This will improve the ability of the people to cooperate and help organise joint events, enable access to information,
and improve the appearance and overall quality of the physical and social environment of villages.

**MTÜ Külaliikumine Kodukant (Kodukant Village Movement)**

The year 2007 was a significant year for Estonian villages, as their representative organisation, the Estonian Village Movement **Kodukant**, celebrated its tenth anniversary.

The Kodukant Movement is a federation of non-profit associations which was founded by 13 organisations. Kodukant currently unites 15 county associations and 7 local organisations.

The main objective of the **Kodukant** Movement is to contribute to the preservation, revival and harmonic development of Estonian rural life and villages, including support of the rural economy, ethnic culture and various village movements.

The **Kodukant** Movement trains village elders, local leaders and entrepreneurs, and has issued compilations of Land Days, handbooks for village elders and various other publications.

Since 1996, the village movement has its own great event – the Land Council or the village parliament, which serves the purpose of uniting its members, village representatives of the counties, partners and authorities in brainstorming on the topic of village development. Land Councils provide clear directions for village movements, set specific goals, work out various solutions, and formulate proposals to the national parliament, ministries, and local governments. Seven Land Councils have been held so far. The most recent, 7th Land Council was held at Kuremaa, Jõgeva County, in August 2007.

The Estonian Village Movement **Kodukant** is an approved rural development association in Estonia, which has its own team and has been an active partner in rural issues.

### 5.2. The LEADER programme

*Katre Kets*

The LEADER approach will be integrated into the overall EU rural development policy from the programming period 2007–2013. This means that the LEADER measure will be added to the national rural development plans which are supported by the EU alongside other rural development measures. The LEADER measure is not a traditional “horizontal” measure, but rather, the granting of wider decision-making rights to the local level.

A local development strategy is prepared for the region, which is implemented on the local level via project competitions. The activities being supported and the beneficiaries thus depend on the strategy developed by the action group of the particular region. The local action group chooses the projects to be implemented on the basis of the strategy (including cooperation projects). In order to set up a local action group, its members must include at least two local governments and undertakings and citizens’ associations of the same area; local government representatives must have a minority vote in decision-making. The territory of a local action group consists of rural municipalities and cities with common economic, cultural and social interests, whose territories fall into the same geographic region. The measure is implemented in Estonian rural areas. Rural areas are understood as rural municipalities (including towns within the borders of such municipalities) and small towns with up to 4000 inhabitants. The population of an action group’s territory must be between 10 000 and 100 000 (justified exceptions are allowed).
The activities foreseen in the strategy may be carried out by local action groups (non-profit associations), undertakings, local governments, and citizens’ associations depending on the regional strategy.

The LEADER measure may also cover activities that remain outside the “horizontal measures,” provided that these activities are in line with the objectives of the three axes laid down in Council Regulation (EC) No 1698/2005. Local action groups may finance projects that remain outside the activities supported under Council Regulation (EC) No 1698/2005, provided that these projects contribute to the achievement of the objectives of Axis I (competitiveness), Axis II (environment) or Axis III (quality of life and diversification) of the Estonian Rural Development Plan 2007–2013 (ERDP). This allows for a more efficient implementation of integrated and innovative projects that meet local needs. The combination of various activities gives local action groups greater freedom in deciding over the choice and implementation of their activities.

As the priority during the programming period 2007–2013 is to give more intensive support to the creation of non-agricultural jobs in rural micro-enterprises and to the growing local initiative for the mobilisation of local development potential, LEADER or Axis IV has been allocated 10% of the budget of the ERDP. This means BEEK 1.34 of support to be granted via the LEADER axis, or more than EEK 200 million every year.

Estonia implemented the LEADER approach during the EU programming period 2004–2006 via measure 3.6 of the ENDP (“Development of local initiative --- a LEADER type measure”). The overall objective of the LEADER measure is to promote local initiative by contributing to the improvement of the competitiveness of agriculture and forestry, the environment and locality, and especially the quality of life in rural areas and diversification of economic activities via the inner development opportunities of rural areas. The LEADER measure is applied to two areas of activity: acquisition of skills and integrated rural development strategy. Local development strategies are prepared under the first area and implemented under the second. Partnership-based local action groups are set up for the preparation and implementation of the strategies (Figure 1). Measure 3.6 was a small-scale measure aimed at preparations for the implementation of LEADER activities in Estonia, and also at conducting pilot projects on a smaller scale.

In 2006, 24 local action groups applied for support under the LEADER measure: 21 of them requested support for the preparation of strategies and 3 groups requested support for the implementation of pilot projects. The total amount of support was MEEK 28.8.

As of 15 November 2007, the action groups had conducted 14 study tours (with the participation of 12 action groups), 10 receptions of foreign guests (8 different action groups), participated in international LEADER events on 7 occasions and invited foreign lecturers to LEADER events in Estonia on 5 occasions. The action groups have been on study tours to many countries: Finland, Sweden, Germany, France, Ireland, Austria, Slovakia, Hungary, Latvia, Lithuania and Åland.
The strategies (presumably 21 in total), which will serve as the basis for the LEADER applications during the new period (2007–2013), will be completed by that date. This is also the deadline for implementation for the action groups (in Põlva County, Valga County and Võru County) that conducted LEADER activities in the form of pilot project during the previous period.

The implementation period of the programming period 2004–2006 will end for the LEADER measure on 30 June 2008. The strategies (presumably 21 in total), which will serve as the basis for the LEADER applications during the new period (2007–2013), will be completed by that date. This is also the deadline for implementation for the action groups (in Põlva County, Valga County and Võru County) that conducted LEADER activities in the form of pilot project during the previous period.

**Source:** Ministry of Agriculture
5.3. National rural network

Krista Kõiv

During 2005–2007, an information centre operated as the support structure for local action groups for the efficient implementation of the LEADER principles; the centre’s contract with the Ministry of Agriculture ended in May 2007. At the same time, the duties of the information centre were assumed by the Rural Economy Research Centre, which launched rural network activities as an extra-structural unit. In April 2008, an amendment to the Statutes of the Rural Economy Research Centre entered into force, stipulating that the primary objective of the Centre is to function as a rural network, and a rural and fisheries network department was established.

A national rural network is being established in all the EU Member States under a Council Regulation, according to which every Member State is to create its national rural network by 31 December 2008, at the latest.

The objective of the rural network is to facilitate the implementation of the RDP 2007–2013: exchange of knowledge and experience on the Member State level and to support domestic and international cooperation. With respect to LEADER activities, the network has the function of supporting the establishment of cooperation, organising thematic meetings dedicated to cooperation, facilitating the exchange of contacts and organising training for local action groups.

Rural network events, including events for local action groups, were held on a total of 16 days in 2007. 270 persons participated in the events. Local action groups benefited from 11 days of seminars, 2 days of introduction to local action group activities (within the framework of the Estonian Farm Days 2007), a one-day information event for the rural municipalities that had not joined the LEADER programme, and a two-day seminar for the wider target group of the rural network.

In 2007, the Rural Economy Research Centre participated in the organisation of the first Estonian international LEADER conference (“Leader – an Organisation or a Project?” 15–16 November 2007, Pärnu) under a cooperation agreement. The conference drew nearly 150 participants.

Facilitation of international cooperation, especially between the action groups of various countries and their regions, is an important area in the work of the rural network. The rural network unit participated in seven international events (in Lithuania, Latvia, Poland, Portugal, France, Slovakia, and Finland). Information exchange has facilitated local action groups to participate in international events, for example 10 representatives of the 24 Estonian action groups attended the international conference organised by the LEADER+ Observatory in Évora, Portugal, in November.

From June 2007, data collection began for the rural network’s electronic calendar which is available on the network’s website. From June till the end of 2007, 325 entries were made in the calendar, of which 46% are events of local action groups.

The rural network’s news section started to publish news and articles on rural affairs, the RDP 2007–2014 and
5. RURAL DEVELOPMENT

LEADER at the same time. By the end of 2007, the network’s website contained 522 pieces of news, 242 of which (46%) are dedicated to LEADER activities. 452 pieces of news concern the year 2007; of these, 182 (40%) are about LEADER. Of all news on LEADER, 15% were published by the rural network unit. Various media channels (radio, television, newspaper) were given information on the rural network’s activities on three occasions.

The website contains the materials, summaries, and attendance lists of all the events organised by the rural network unit. Also published are the presentations that the network staff has made at local action groups’ and other events. By the end of 2007, the network’s visitation frequency had increased to 20 000 Web Part viewings per month.

Information exchange with local action groups by e-mail is regular; at least one to three e-mails a week, according to need. The rural network sent its first newsletter to local action groups in May 2007; a total of 62 newsletters had been posted to the list of local action group representatives during the year.

5.4. Private forestry

Helve Hunt

Forest is one of the most important renewable natural resources; it covers one-half of Estonia’s land area (2.28 million ha). Estonia has 1.63 ha of forest land per capita.

The area of forest land almost doubled during the 20th century. In the course of the land reform carried out after Estonia regained its independence, at least 30% of the formerly used arable land was set aside. By now, a vast majority of these areas have been covered by woodlands, so that the forest area can be expected to grow further on account of these areas.

Figure 2. Breakdown of Estonia’s area by land category

<table>
<thead>
<tr>
<th>Land Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest land</td>
<td>50.1%</td>
</tr>
<tr>
<td>Agricultural land</td>
<td>29.3%</td>
</tr>
<tr>
<td>Swamps</td>
<td>5.1%</td>
</tr>
<tr>
<td>Inland waters</td>
<td>5.8%</td>
</tr>
<tr>
<td>Housing area</td>
<td>3.8%</td>
</tr>
<tr>
<td>Other</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

Source: Yearbook “Forest 2006”
Of the total forest area, 38% or about 860 000 ha belong to the state, and 39% or about 900 000 ha belong to private owners. Most of the remaining woodlands are still subject to the land reform. After the end of the land reform, which commenced in 1991, about 60% or 1.3 million ha of forest land should be in private ownership.

The overall volume of cutting has increased as a result of forest management; for example, the cutting volume of 2003 exceeded that of 1993 by more than three-fold. In 2005, 5.12 million cubic metres of timber was cut in the Estonian forests (7.63 million cubic metres in 2004), which is the lowest cutting volume since 1997. In 2005, in private forests, 2.76 million cubic metres of timber was cut and the total cutting area was nearly 82 000 ha. By type of cutting, 63% was regeneration cutting, 36% was improvement cutting, and 1% was selection and other cuttings in 2005. Sanitary cutting has increased compared to the previous years and was at its highest level in the past ten years in 2005.

In connection with cutting, reforestation has increased year after year, especially in private forests. Reforestation work was carried out on 10 000 ha in 2002 and 11 307.3 ha in 2003. In 2005, reforestation covered nearly 8200 ha, of which 6000 ha was planted with new forest and contributions to natural reforestation were made on 850 ha. Forest plantations were established on 6500 ha of clear cut areas, 170 ha of former quarries and 520 ha of agricultural land.

**Support for private forestry**

In 2007, private forest owners were eligible to apply for support from national and EU funds for forest management activities in order to improve the economic or ecological value and species composition of forests. Private forest owners as natural persons and forest associations were able to apply for support under measure 3.7 “Forestry” of the Estonian National Development Plan 2004–2006 for tending to young growths or the restoration of damaged forests. In addition, forest associations could apply for support for purchasing forestry machines, for conducting forest associations’ activities and for implementing development projects. The largest numbers of applications were received from private forest owners in Viljandi County (191), Põlva County (95) and Võru County (93).

<table>
<thead>
<tr>
<th>Type of support</th>
<th>Scope</th>
<th>Financing, EEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restoration of damaged forest</td>
<td>242 ha,168 applications</td>
<td>2 800 000</td>
</tr>
<tr>
<td>Tending to young growths</td>
<td>2 044 ha,654 applications</td>
<td>4 900 000</td>
</tr>
<tr>
<td>Purchase of forestry machines</td>
<td>61 applications</td>
<td>6 400 000</td>
</tr>
<tr>
<td>Support for forest associations</td>
<td>11 applications</td>
<td>250 000</td>
</tr>
<tr>
<td>Implementation of development projects</td>
<td>33 applications</td>
<td>2 000 000</td>
</tr>
</tbody>
</table>

**Source:** ARIB

As regards appropriations from the national budget, the emphasis was on improving economic and ecological value, but financial assistance was also available for advice and training, for developing the activities of advisers and...
support persons, preparation of forest management plans, etc.

Measure 1.5 “Improving the economic value of forests and adding value to forestry products” of the Estonian Rural Development Plan 2007–2013 will be implemented from the autumn of 2008. In the new programming period, private forest owners (natural persons and legal persons in private law) and forest associations may apply for support for improving the economic value of forests, including for purchasing forestry machines and plant protection products, as well as for restoring forests damaged by windbreakage or fire. For the first time, support will be granted for fire-prevention activities in forests with a high and medium fire hazard. For micro-enterprises processing forestry products or managing forests, support will be available for activities related to adding value to forestry products, including for the production of biofuels and the registration of a patent or utility model or acquisition of a licence.

5.5. Land improvement

Luule Lindma

1. In the new EU programming period that started on 1 January 2007, the support to be granted under measure 1.8 “Infrastructure of agriculture and forest management” of the Estonian Rural Development Plan 2007–2013 is a continuation of the support granted under measure 3.4 “Integrated land improvement” of the Estonian National Development Plan for the Implementation of the EU Structural Funds – Single Programming Document 2004–2006”.

In Estonia’s climatic conditions, more than one half of the agricultural land and approximately one half of the forest land can be used for its intended purpose only if the land improvement systems function properly. Land improvement creates the preconditions for plant growth and for the use of profit yielding land for its intended purpose in areas where the water regime of the soil is unfavourable, and levels the production conditions on agricultural and private forest lands when compared to moderately moist areas. For land users, land improvement means an expensive additional duty, which most land users cannot afford to do without support. According to information from the regional land improvement bureaux, land improvement systems were repaired on 14 583.3 ha in the year 2007, including 6650.4 ha of fields and private forests and 7932.9 ha of the State Forest Management Centre forests.

The main objective of supporting land improvement under measure 1.8 is to maintain the functionality of drainage systems in agricultural and private forest lands, so as to
prevent land as the main resource of the rural economy from becoming unusable in the future.

The first round of applications was held from 3 December 2007 to 17 January 2008. A total of 110 projects were received, requesting MEEK 145.3 of assistance.

**Table 2. Applications broken down by activities**

<table>
<thead>
<tr>
<th>1.1.1 Activity</th>
<th>1.1.2 Support requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction, reconstruction and renovation of land improvement systems</td>
<td>116 985 716</td>
</tr>
<tr>
<td>Construction and reconstruction of access routes</td>
<td>17 300 000</td>
</tr>
<tr>
<td>Construction and reconstruction of fire fighting ponds</td>
<td>4 587 283</td>
</tr>
<tr>
<td>Preparatory work</td>
<td>6 375 419</td>
</tr>
<tr>
<td>Total</td>
<td>145 248 418</td>
</tr>
</tbody>
</table>

*Source: ARIB*

**Environmental protection constructions of land improvement systems**

Some of the diffuse pollution inevitably enters natural water bodies with the water flowing in land improvement systems. To prevent the spread of diffuse pollution, support is granted under measure 1.8 for extensions of water protection zones, water purification marshes and sedimentation pools. Support is granted to the following environmental protection constructions that reduce damage to the environment: drainage with controlled runoff (controlled drainage), drainage water re-use ponds, fire fighting ponds and windbreak barriers. Support is also available under measure 1.8 for the construction, reconstruction and renovation of the environmental protection constructions of land improvement systems.

**Liming of acid soils**

More than one-third of the soil in Estonia’s agricultural lands (over 300 000 ha), is acid, mainly in central and southern Estonia. As a result of a sharp decrease in the scope of liming in the 1990s, agricultural land began to become acid again. Although partial support was granted for the liming of agricultural lands in 1998–2003, 2005 and 2006, the liming operations were not sufficient to stop the re-acidification of the lands. For further reduction of acid soils, it is planned to supplement measure 1.8 “Infrastructure of agriculture and forest management” with a single liming of acid soils as part of land improvement in the area of the control network of a land improvement system. In Estonian legislation, the liming of agricultural land is understood as a land improvement work and the liming materials used for such work improve the qualities of the soil. The liming materials – clinker dust, oil-shale ash, limestone flour and dolostone flour – are production residues whose utilisation in agriculture is a positive step and reduces the environmental load.
6.1. Agricultural vocational education

Liina Kaljula

There were 1979 students in agricultural vocational schools in the academic year 2006/2007. In the academic year 2007/2008, the number of students is 1.4% lower, i.e. 1952.

The Estonian vocational education system has become more flexible over the years and offers various opportunities for young people and adults. The objective of vocational education is to make available education, taking into account the needs of the economy and the opinions of social partners, to modernise vocational education infrastructure and reorganise the network of schools, and to merge the Estonian vocational education and qualification system with the EU structures.

The Ministry of Agriculture cooperates with the Rural Development Foundation by paying stipends to full-time students in the following areas of specialisation: agriculture, farm economics, fisherman/deck officer, small harbour specialist, land improvement and hydraulic engineering, forest management, forest entrepreneur, forestry machine operator, nature management, gardening, landscape gardening, horse breeding, fur animal breeding, dairy and meat technology, agricultural mechanisation.

The Rural Development Foundation issues the C. R. Jakobson stipend, founded in 1999 by the Ministry of Agriculture and the council of the C. R. Jakobson Foundation in order to thank and recognise those teachers and students who have demonstrated the most serious attitude to sharing and acquiring agricultural knowledge. The stipend also serves the broader purpose of drawing society’s attention to the need for all-round support for agricultural education.

To enhance the practical knowledge of future farmers and attract the interest of undertakings, the Ministry of Agriculture has applied a traineeship grant which covers part of the costs of supervision and organisation of field training for agricultural students in agricultural enterprises.

In 2007, grants were requested for 113 trainees for a total of 6223 field training days.

The international project “Development of Cooperation with Agricultural and Rural Economics Organisations and Schools in European Union Countries”, organised by the non-profit association EUROPEA Estonia and financed by the Ministry of Agriculture, continued in 2007 to enhance the level of agricultural vocational education, to exchange students and teachers, to develop international cooperation projects (including outside the EU), to develop module studies and to offer training courses to persons engaged in rural economics. Students of Estonian agricultural vocational schools participate in international professional competitions as a part of this project.

On the initiative of and with financing from the Ministry of Agriculture, a combined competition for young farmers was held at the Türi School of Technology and Rural Economy (42 participants), a ploughing competition and a marketing competition were organised at the Olustvere School of Service and Rural Economics (26 individual participants and teams of four schools, respectively), a professional competition for young gardeners was held at the Räpina Gardening College (58 participants), and the youth information fair Teeviit fair was participated in.
### 6. AGRICULTURAL EDUCATION, RESEARCH, AND ADVISING

Table 1. Numbers of students broken down by agricultural schools, curricula and specialisations in 2007/2008

<table>
<thead>
<tr>
<th>Group of curricula</th>
<th>Educational institution</th>
<th>Curriculum</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardening</td>
<td>Luua Forestry School</td>
<td>Landscape Gardening</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Engineering</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Pärnu County Vocational Education Centre</td>
<td>Gardening (Assistant Gardener)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Räpina Gardening College</td>
<td>Garden and Nature Management</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gardening</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gardening (Gardening and Home Economics)</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floristics</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Gardening</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Gardening (Landscape Gardener)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Engineering</td>
<td>359</td>
</tr>
<tr>
<td></td>
<td>Suuremõisa Technical School</td>
<td>Floristics</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Gardening</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Tallinn Industrial Education Centre</td>
<td>Gardening (Assistant Gardener)</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Gardening</td>
<td>871</td>
</tr>
<tr>
<td>Fisheries</td>
<td>Estonian Maritime Academy</td>
<td>Navigation (Watch Officer) of ships with a total capacity of 500 and more</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine Engineering (Duty Engineer) of motor ships with the main engines' total effective capacity of 750 and more</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shipping Trade and Fishing</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Suuremõisa Technical School</td>
<td>Fisher-Boatmaster</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Fisheries</td>
<td>271</td>
</tr>
</tbody>
</table>
### 6. AGRICULTURAL EDUCATION, RESEARCH, AND ADVISING

<table>
<thead>
<tr>
<th>Forestry</th>
<th>Luua Forestry School</th>
<th>Forwarder Operator</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Harvester Operator</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Forest Management</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Forest Management (Arborist)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Forest Management (Skilled Forestry Worker)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Forest Technician</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Timber Trade</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Timber Trade (Saw Conveyor Operator)</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Pärnu County Vocational Education Centre</td>
<td>Forest Management</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Suuremõisa Technical School</td>
<td>Logger</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total Forestry</strong></td>
<td></td>
<td></td>
<td>294</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fisheries (general)</td>
<td>Kuressaare Vocational School</td>
<td>Farm Economics</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Olustvere School of Service and Rural Economics</td>
<td>Nature Management</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Rural Economics</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Põltsamaa Vocational School</td>
<td>Farm Economics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Vana-Antsla Vocational Secondary School</td>
<td>Farm and Home Economics</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total Agriculture, Forestry and Fisheries (general)</strong></td>
<td></td>
<td></td>
<td>136</td>
</tr>
<tr>
<td>Crop and Livestock Farming</td>
<td>Kuressaare Vocational School</td>
<td>Rural Enterprise</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Olustvere School of Service and Rural Economics</td>
<td>Agriculture</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agriculture (Livestock Farmer)</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Põltsamaa Vocational School</td>
<td>Agriculture</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Türi School of Technology and Rural Economy</td>
<td>Horse Farming</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Vana-Antsla Vocational Secondary School</td>
<td>Agriculture</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Crop and Livestock Farming</strong></td>
<td></td>
<td></td>
<td>380</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
<td></td>
<td>1952</td>
</tr>
</tbody>
</table>

*Source: Estonian Education Information System (EHIS), November 2007*
6.2. Higher education

Küll Kaare

The Ministry of Agriculture’s cooperation partners in higher education are the Estonian University of Life Sciences, the University of Tartu, and the Tallinn University of Technology. The Ministry of Agriculture recognised the Estonian University of Life Sciences as the best cooperation partner in 207 as an acknowledgement of its agricultural teaching and research work, on which the entire knowledge-based agricultural sector depends.

The Estonian University of Life Sciences plays a crucial role in the development of agricultural research as the basis for the continuity and viability of agriculture. The University’s many years of work in preparing agricultural education specialists and researchers is praiseworthy. The University received 2654 applications for its 457 state-sponsored student places in 2007. Competition was the toughest (31.5) for the speciality of Economics and Entrepreneurship; the average competition was 5.8. The next most popular specialisations were Landscape Protection and Preservation (16.28), Landscape Architecture (13.65), Natural Resources Management (11.59), and Real Estate Planning (11.33). The same specialities attracted the greatest number of applicants in the previous year. Interest was also great in the new Technotronics curriculum of applied higher education, taught by the Tartu College of Technology of the Estonian University of Life Sciences in cooperation with the University of Tartu, the Võru County Vocational Training Centre, and the Tallinn University of Applied Sciences. There were 2.93 applicants per place for this speciality. The four-year study covers engineering and management of technological processes; field training is conducted in Estonia’s leading enterprises. Twenty students are admitted to the speciality this year. In self-sponsored studies, the most popular specialisations were Economic Accounting and Financial Management (208 applications), Nature Tourism (109), Economics and Entrepreneurship (96), Landscape Architecture (95), and Rural Buildings (73).

On 19 October, Mait Klaassen was elected by the electoral body as the Rector of the Estonian University of Life Sciences. The Rector’s term of office is five years. Professor Jüri Lehtsaar of the Department of Accounting and Finances, Institute of Economic and Social Sciences, assumed the office of Vice-Rector of Studies. Professor Anne Luik of the Department of Plant Protection, Institute of Agricultural and Environmental Sciences, became the Vice-Rector of Research.

Two of the ten Republic of Estonia state research awards in 2007 were awarded to researchers at the Estonian University of Life Sciences: Ingmar Ott and Peeter Nõges for their monograph “Lake Verevi, Estonia – a Highly Stratified Hypertrophic Lake” and scientific articles about the ecology of inland water bodies, and Mihkel Jalakas for the monograph “Pathology of Bovine Pregnancy and Parturition” and studies into the anatomy of the pelvic and udder structure and obstetric pelvimetry.

In March 2007, the Rõhu Experimental Station, which formerly was part of the Agricultural Research Centre, was transferred to the Institute of Agricultural and Environmental Sciences of the Estonian University of Life Sciences. The Institute will establish a modern experimental centre at Rõhu and transfer most of its field trials to said location. The objective is to continue experiments with
decorative garden plants and vegetables, to offer more internships to landscape architecture students, and to take over field trials of grassland and crop cultivation from their current location at Eerika, Tartu. The Rõhu experimental centre was established in 1958 as the South-Estonian Centre for Variety Testing of Fruit and Berry Varieties. The first collection of apple varieties was planted in 1959; experiments with garden strawberries began in 1960.

The Estonian University of Life Sciences and the National Institute of Chemical Physics and Biophysics signed a cooperation agreement for joint promotion of R&D and doctoral studies in the field of exact science and natural science.

The Bachelor and Master level Landscape Architecture curricula of the Estonian University of Life Sciences were the first ones in Eastern Europe to be internationally recognised by the General Assembly of the European Foundation for Landscape Architecture (EFLA) in October 2007. This recognition enables holders of Master diplomas in Landscape Architecture to enter the professional association of their home country and work as landscape architects in the private and public sector throughout Europe. The recognition is also a signal to European landscape architecture bureaux and exchange students of the fact that the quality of landscape architecture education available at the Estonian University of Life Sciences implies a good professional qualification. Recognition was granted to the single five-year programme in Landscape Architecture which closely combines the Bachelor and Master levels. The good integration of subjects was highlighted. Studies in an international environment and good cross-border cooperation were also acknowledged. The Department of Landscape Architecture has two foreign lecturers among its staff for the third year already.

6.3. Advice and dissemination of information

Hanna Kreen, Eva Lehtla

Advising activities continued in 2007, looking for directions for the future. Some of the measures launched were completely novel for Estonia, and discussions were held on how consultation and information should be organised on the national level.

It is practically impossible to draw a clear line between what is information and what is advice. Every piece of advice always contains information, and every request for information is driven by a need for advice. This is why information and advice should be viewed together, and the system should be able to offer integrated information and advice.

Survey results

The results of two surveys were published in the spring, both of them important for assessing and planning advisory activities.

The survey by AS Resta involved the satisfaction of users of the advisory service with the availability and quality of the service. The survey covered everyone who requested advisory support via the ARIB in 2005–2006. Advice was used the most by farmers with 6–25 years of farming experience; 57% of the respondents had acquired agricultural education in a vocational school or university; however, 24% of the respondents admitted to not having any agricultural education.

Farmers are generally satisfied with the current advisory support and receive the information and advice they need. However, farmers wish that advisory services would also cover areas not directly related to production (manage-
6. AGRICULTURAL EDUCATION, RESEARCH, AND ADVISING

The survey conducted in cooperation between the Rural Development Institute and the Institute of Economics and Social Sciences of the Estonian Institute of Life Sciences covered the information, training and advice needs of farmers. Investment capacity, labour, production technology and marketing possibilities were the greatest problems for agricultural enterprises. Larger producers had greater training and retraining needs, as labour was their main development issue; smaller producers needed more general information, basic introduction to a specific area such as accounting or legislation, or solutions to particular problems.

Entrepreneurs are generally satisfied with existing advisers, but their number is thought to be insufficient and the queues are long. Impartial trials and reference materials are needed; advisers are also expected to encourage local producers to think together.

A part of the survey was dedicated to a thorough study of cross-compliance and how farmers are ready to comply with statutory requirements. It was revealed that the lack of funds for investments, as well as insufficient information of producers and the poor availability of information were the main difficulties when it came to cross-compliance. Producers are not fully aware of new requirements (employees were assessed to be less informed than managers) and are able to partly comply with the requirements at their current level of production, but believed the situation to improve in the future.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Yes</th>
<th>Partly</th>
<th>Cannot Say</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good agricultural and environmental practices requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal welfare requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious animal disease requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant health requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human and animal health requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental protection and nature conservation requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey by the Rural Development Institute, February 2007

The most difficult requirements to follow are those pertaining to environmental protection and nature conservation, and also good agricultural and environmental conditions, which are also the areas where the training need is the greatest.

Development of the advisory and information dissemination system

The Estonian advisory system is decentralised. Each county has its own approved advisory centres, totalling 15. The centres provide both advice and information in their respective counties. Each centre has agricultural advisers, attested or qualified by a professional certificate, at least for the areas of crop and livestock farming and finance; farmers are able to apply for advisory support to pay for their services.

A coordinating centre – the Estonian Chamber of Agriculture and Commerce – has been designated to ensure the functioning of the agricultural advisory system, including the communication of information about state measures and the availability of quality advice. In addition to gene-
6. AGRICULTURAL EDUCATION, RESEARCH, AND ADVISING

r al managers (advisory service and information), daily advisory work is directed by four area coordinators (crop farming, livestock farming, finance, and other). The centre prepares action plans and training plans, analyses the work of advisers, applies the simplified advising system, organises the payment of a basic fee to the advisers, implements a mentoring system, and maintains the www.pikk.ee portal. It also develops advisory products and advertises the advisory service, seeks possibilities for cooperation with other organisations, looks for new advisers, etc. In 2007, the Ministry of Agriculture commissioned from the coordinating centre activities relevant to the advisory system in the amount of MEEK 9.3.

In addition to county advisory centres, a coordinating advisory centre was approved in June 2007, which is located at the coordinating centre and unites the advisers who did not wish or were not able to work at the county centres.

As of 31 December 2007, there were 107 advisers holding valid attestations or qualification certificates, who mainly provide individual advisory services, but also conduct information and training days for their clients. A total of 68 advisers provided advisory services under the advisory support arrangement in 2005–2007. In 2007, 42 advisers concluded advisory contracts and 58 advisers participated in the simplified advisory scheme. Although advisers are expected to give specific advice on production or economic activities, the possibility to discuss business issues with a specialist is even more important.

The clientele of advisory centres varies to a considerable extent. Of the range of services offered, the most popular service is both information and advice on the types of support available. The second and third most common inquiries concern production and market, and accounting, taxation and legislation, respectively. The demand for information is quite even throughout the year and increases sharply only during the period of submission of support applications. Information services replied to 25 343 information requests in 2006 and 27 002 requests in 2007. All advisory centres receive equal basic funding for organising information and feedback. In 2007, this basic funding was EEK 12 000 per month.

Support for advisory and information services


A total of 1643 projects with a support amount of MEEK 21.30 were submitted over three years (2005–2007). Approval was granted for 1427 projects in a total support amount of MEEK 17.78. In 2007, 531 applications for MEEK 5.3 were submitted.

Table 2 gives an overview of the breakdown of support between submeasures.

Advisory support was granted for 398 projects in an amount of MEEK 2.3. Out of this, 50% was for crop farming advice, 20% for financial and economic advice, and 14% for livestock farming advice. A more exact division of the approved support amounts is presented in Figure 2.
Table 2. Amounts of support approved for submeasures of measure 3.8, 2007

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of projects</th>
<th>Investment amount applied for</th>
<th>Approved amount of support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory support</td>
<td>398</td>
<td>3 134 730</td>
<td>2 345 186</td>
</tr>
<tr>
<td>Support for national information days</td>
<td>85</td>
<td>4 384 857</td>
<td>4 384 857</td>
</tr>
<tr>
<td>Support for county information days</td>
<td>130</td>
<td>1 836 634</td>
<td>1 469 304</td>
</tr>
</tbody>
</table>

Source: ARIB

Figure 2. Division of approved support amounts of individual advisory support for the most widely used types of advice

MEEK 2.7 was granted for organising nationwide information days and MEEK 1.5 for county information days. By the end of 2007, a total of 223 information events had been conducted with the help of support; supported information days will also be held in 2008.

All those who filled out a final report gave a positive assessment to their project implementation, as the development of advisory and information systems for farmers and all rural inhabitants is crucial.

As a rule, the Internet (24%) and NDP information materials (21%) are the main sources of information for those who applied for investment support for rural development. The help of advisers was used by 19% of applicants and 12% of them received information from the media. Applicants also obtained information from their colleagues, the ARIB, information days, and prior application experience. Of applicants for support from the Financial Instrument for Fisheries Guidance, 14% used the help of advisers and 15% received information from professional associations.

The submeasure “Development of the advisory system” of the Estonian RDP 2007–2013 was opened at the end of 2007. Advisory centres or the coordinating centre were
able to apply for support under this submeasure. An advisory centre is granted EEK 25 000–400 000 depending on the year, and the coordinating centre is granted EEK 93 000–1 870 000 of support per annum. Support was available for the specific purposes of organising the work of the centre and improving the rooms, covering the costs of advisory products, training and field training of advisers, and the work equipment of advisers. Eleven centres applied for a total of MEEK 4.2 of support. The largest amounts were requested for purchasing work equipment for advisers (42%) and to cover labour expenses (36%); no payments were made in 2007.

**Evaluation of the past three years’ activities**

A total of 632 farmers used advisory support in 2005–2007. Supported individual advice is for companies that can afford this most expensive type of advice. Group and mass advice are offered to smaller undertakings; they are also offered short-term advice free of charge. A minimum amount of bureaucracy is probably why this scheme of advice has been very well received – a producer is advised for two hours and has no need to send any documents to the ARIB. Nearly 2000 persons used this opportunity in 2007.

In summary, all producers use advice from various sources to a greater or lesser extent, i.e. advice from acquaintances or agricultural businesses, or advice for which support is not requested or not available.

Producers generally assess the advisers as competent and their advice as effective. Of the respondents, 58% confirmed that the received advice has helped to improve productivity, 55% stated that the advice had given new ideas or directions, and 72% stressed that the advice has, above all, given assurance and encouragement to act and decide.

Among information sources and channels, the press (especially the Maaleht newspaper) has always taken first place; the ARIB has become another crucial source of information. Information days and seminars have improved their position among information channels. As the need for information becomes increasingly specified, the relative importance of general channels of mass communication declines. Websites and printed publications are also important sources.

At the beginning of 2008, the Ministry of Agriculture commissioned an expert assessment from Kera OÜ of the advisory and information activities conducted in recent years. The assessment confirmed that the existing advisory system is able to perform the functions of the mandatory advisory system as required by the EU Common Agricultural Policy. The situation of advisory activities will undoubtedly improve with the help of the coordinating centre, new organisation schemes, and various other preparations. However, there is a clear need for changes so as to ensure the continued functioning of the advisory system and the satisfaction of the target group.

**The number of actively involved advisers is estimated to be at least four times less than needed to satisfy the needs of the entire target group.**

- More than a half of the existing advisers are not active. During the period 2005–2007, 80% of the supported advisory contracts were signed by 30 advisers.
- More than a half of the acting advisers are older than 50.
- The acting advisers are largely involved in preparing investment support applications, projects and business
plans for loan applications.

- Finding and training new advisers is a lengthy process that takes years.
- The number of persons involved in the advisory system is not sufficient to maintain the system and develop it.

A full-time adviser should have about 60 clients in a year, meaning that the target group of 6000 would need 120 advisers. Attention is needed to developing management competence in the centres, especially as regards planning, organisation of work and performance assessment.

Readiness for cross-compliance advice should be a priority in the organisation of advising. Development of advisory products, mass training of advisers, the informing of producers and dissemination of printed and electronic materials should be the first priority.

Regardless of the time and nature of changes, much more attention should be paid to development of cooperation and to networking, i.e. sharing of best practices and communication of innovation news. As information needs become increasingly specific and go beyond the traditional areas of agriculture, it is unthinkable for the agricultural advisory system to be competent in everything its clients may be interested in. This is why even greater emphasis should be placed on developing cooperation and information exchange with organisations inside and outside the fields of agriculture, rural enterprise and the food industry. Above all, events are needed that enable people to get acquainted with and better understand each other’s goals and operations via joint participation in projects, development activities and joint initiatives.

Effective changes require a balanced reform that maintains the existing competence as much as possible on the individual level, on the one hand, and introduces gradual changes for consolidation and improving the efficiency of the system, on the other.

Involvement – cooperation with social partners

The Ministry of Agriculture has systematically and regularly involved its social partners / interest groups since 2002 when preparations started for the Estonian RDP 2004–2006. The Rural Development and Agricultural Market Regulation Act of 2004 laid down a legal basis for such consultation with social partners in the form of the Council for Agriculture and Rural Development. In addition to the Council for Agriculture and Rural Development, the Ministry of Agriculture is also the venue for the meetings of the Fisheries Council that unites the interest groups of the fisheries sector, the monitoring committee of the Estonian RDP since May 2007, and the monitoring committee for the Operational Programme for the European Fisheries Fund 2007–2013 since October 2007; the latter consists of representatives of 29 professional associations, umbrella organisations and research institutions and specialists of other ministries, state boards and inspectorates.

In order to ensure a more adequate representation of the agriculture and fisheries sector in these councils and committees, the Ministry of Agriculture commissioned a survey from the ARIB in September 2007 to identify the county, national and professional organisations that represent the economic and professional interests of the undertakings of this sector. The ARIB issued 9384 questionnaires for this
The results show that farmers place the greatest trust in the professional organisations of their area of specialisation. Professional organisations received the weighted support of 29.3% of farmers (3091 votes in total). Support was highest for the Estonian Private Forest Union (329), Estonian Animal Breeding Association (249), Estonian Beef Breeders Association (239), Estonian Organic Farming Foundation (196), and the Estonian Sheep Breeders Association (152).

Of representative organisations, the Estonian Farmers Federation and its member organisations received the weighted support of 27.3% of farmers (2005). In comparison, the Central Union of Estonian Farmers and its member organisations were supported by 12.4% of farmers (980).

The Ministry of Agriculture intends to take the survey results into account in communications with the agriculture and fisheries sector, funding of joint activities, and delegation of public duties to social partners.

An involvement coordinators working group, consisting of representatives of all the ministries, was set up on the initiative of the State Chancellery in 2007. The duty of coordinators, i.e. persons in charge of involvement in each ministry, is to monitor the application of good involvement practice in the respective area of administration of the ministry. The good involvement practice summarises a common set of principles which should be followed when involving the public and interest groups in decision-making. Therefore, the Ministry of Agriculture has also started to map all the social partners involved and the forms of involvement. The involvement schedule prepared at the beginning of 2008, which is available on the Ministry’s website (www.agri.ee/kaasamine) contains an overview of the consultations, working groups, round tables, and interest groups involved during the year.

For better application of the good involvement practice, the public consultation web environment www.osale.ee was developed and introduced in 2008 on the initiative of the State Chancellery. The Animal Welfare and Zootechnics Bureau of the Ministry of Agriculture was one of the first to use this opportunity in February, when it posted a Government of the Republic regulation on pet keeping requirements for public discussion. It is planned to publish the Animal Protection Act Amendment Act on the involvement website for comments in May 2008.

**Information and youth**

Young people are one of the most important target groups of the information activities of the Ministry of Agriculture. The ministry has involved young people since 2004 in organising the youth competitions “Countryside is Cool”! Art, essay, photography and poetry competitions have been held over the years. The first project competition was held in 2007; forty draft projects were received and assessed by a panel composed of representatives of the ministry and social partners. The following projects were declared as the best:

- “Charity glass” (Klooga, Harju County)
- “Tidy up the Laekvere gravel quarry!” (Laekvere, West-Viru County)
- “Country houses are cosy” (Põdrala, Valga County)
- “Tidy up the spring area of my neighbourhood” (Roosna-
Alliku, Järva County)
- “We will have cinema!” (Pahkla, Rapla County)
- “Peraküla school road” (Peraküla, Lääne County)
- “Revival of an old house” (Lohusuu, East-Viru County)
- “Study and rest outdoors” (Päkste, Tartu County)

The project “Construction of an observation tower in the Väätsa nursery school,” by a Järva County project team, received the special recognition of the Rural Development Foundation.

The teams of all funded projects were able to implement their ideas during the summer. Children of the Klooga Cultural and Youth Centre used their funding to purchase glass paints and pay for transport. The children made beautiful stained glass objects from glass residues received from the glass factory; these items were given as gifts to orphanages and retirement homes.

In Laekvere, young people tidied up the old and littered gravel quarry at the edge of the small town. Half of the school participated in the one-day working campaign. After the tidying-up operation, a bonfire place was built; the slopes of the quarry were graded and can now be used for skiing and sledging. Benches were installed for the convenience of young people, families with children and elderly people. The project team hopes that the public will keep the quarry in good order after having participated in the tidying-up.

At Sillaotsa, children in their last year of basic school built an outdoor classroom in the school yard, where the first lesson was given on Teachers’ Day. It is planned to build a study trail from the schoolhouse, following the example of the Pala School which the schoolchildren of Sillaotsa studied as a part of the project.

In Lääne County, the old Peraküla school road was tidied up for children of the Peraküla village to use as a direct route to the Nõva schoolhouse. The road was overgrown and in a bad state, with many fallen trees on it. The 3 km road was cleaned of branches and scrubs and a proper bridge was built across the river. At Roosna-Alliku, girls established a hiking trail in the area of springs, installed signs at the springs, built footbridges, prepared worksheets, a website and a web log, and conducted a hiking event in the locality for the whole school. Young people of the Põdrala Rural Municipality helped compile a database of rural building heritage and took photos of the more interesting buildings in the villages of Valga County, following the methodology of the Estonian Open Air Museum. An exhibition was made of the best photos.

Pahkla village in the Kohila Rural Municipality is 20 km from the nearest cinema, without a bus connection. The young people organised a film day in their former schoolhouse as their project.

The Rural Development Foundation gave a special award to the observation tower built in the Väätsa nursery school. The young people, who had attended the nursery school in their childhood, wanted to do something for the nursery school children. As the nursery school is near a forest, it is interesting for children to observe wildlife from the observation tower. The young people reached an agreement with the State Forest Management Centre, which gave them free building material in exchange for tidying up the hiking trail in the Väätsa high moor. This saved project money,
which was used to buy paints, and the girls painted cheerful cartoon characters on the bleak walls of the nursery school building. The tower construction and wall decoration proved to be so popular that the original project team enlarged a great deal during the course of the project.

Summaries of the project competition were made in November 2007, and the project teams and their supervisors were recognised. According to Helir-Valdor Seeder, Minister of Agriculture, the biggest benefits that the children gained from the competition were experience, skills, emotions, and the newly created objects. As so many interesting project ideas were received in the competition, it was decided to continue the competition in 2008.

6.4. Agricultural research and development

Külli Kaare

On 14 August 2007, the Minister of Agriculture approved the Estonian Agricultural Research Development Plan 2007–2013, which sets out the directions and principles of Estonian agricultural research. The development plan defines Estonia’s position against the international background of agricultural research and contributes to the development of knowledge-based society, where the results of Estonian researchers are part of world research and research is valued as a condition of the functioning and development of society as a whole. Implementation of the development began; this ensures enhancement of the quality and standard of research, the availability of sustainable research competence in key areas, adequate and stable financing of R&D, and modernisation of research infrastructure and equipment.

The overall financing of the national programme “Agricultural Applied Research and Development 2004–2008” increased by 35% in 2008, compared to the year 2004. So far, the programme has financed an average of 51 projects every year, of which 15 are international cooperation projects. The average annual cost of a project was EEK 435 985; the cost of individual projects ranged from EEK 72 900 to EEK 2 410 000.

The average age of project leaders was 52 years; the oldest project leader is 73 years old and the youngest is 32.

An average of 18 Doctoral candidates, 10 Masters and 11 Master’s candidates were involved in the implementation of the projects every year.
Conservation and sustainable use of genetic resources of agricultural crops is a vital task for both variety breeding and for agricultural research and production in general, so as to ensure development and maintain biological diversity. Related activities are carried out under the development plan “Collection and Conservation of Plant Genetic Resources for Food and Agriculture 2007–2013,” which the Minister of Agriculture approved on 23 March. By the beginning of 2008, the ex situ gene bank contained 2000 conserves of 57 species of cereals, grass plants, vegetables and oil crops; the in vitro gene bank holds 1200 potato and horticultural conserves; collection plantations include 950 conserves of 17 species of fruits and berries, and private collections and botanical gardens hold 470 conserves of aromatic and medicinal herbs and decorative plants.

The Jõgeva Plant Breeding Institute conducts R&D activities for the purposes of variety breeding of agricultural crops, varietal improvement, and R&D and innovation of agricultural technology. The institute’s vision is an innovative state institution of research and development, which is constantly developing, open for cooperation, and widely recognised for its variety breeding, environmentally sustainable plant production research, and advice. The Jõgeva PBI employs 114 people, including 26 researchers, whose average age is 47. Eight researchers have a Doctoral level degree, 12 have a research master’s degree; 9 and 4 researchers, respectively, are continuing with their Doctoral and Master’s studies.

Terje Tähtjärv defended her Master’s thesis “Varietal suitability of prospective potato breeds” in 2007. She was
supervised by Aide Tsahkna and Juhan Jõudu, Candidates of Agricultural Science.

The land resource of the Jõgeva PBI is broken down as follows:

<table>
<thead>
<tr>
<th></th>
<th>Variety breeding</th>
<th>203 ha</th>
<th>93 ha of fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed Centre</td>
<td>227 ha</td>
<td>678 ha of fields</td>
<td></td>
</tr>
<tr>
<td>Mooste</td>
<td>234 ha</td>
<td>136 ha of fields</td>
<td></td>
</tr>
<tr>
<td>Sangaste</td>
<td>59 ha</td>
<td>58 ha of fields</td>
<td></td>
</tr>
</tbody>
</table>

Together with rented land, the Institute cultivated 1100 ha of land in 2007.

Of experimental fields, 28 ha (about 4000 trial plots) are under cereals and legumes, 5 ha under potatoes and 15 ha under grass plants. The main tasks of the institute in its area of activity are: breeding new varieties of agricultural crops; ensuring the maintenance breeding of varieties; development and improvement of agricultural technology for the varieties; commercial production and marketing of basic grain seed and certified seed; preservation of varieties and valuable breeds in the gene bank; basic and applied research in plant production for gathering new knowledge; development and innovation for the application of new knowledge; publication of research results; organisation of advising and training within the Institute’s area of competence.

In 2007, the Institute engaged in variety breeding and varietal improvement of cereals, legumes, oil crops, potatoes, fodder crops and vegetables, and seed production research. Four new varieties were added in 2007 to the Estonian Variety List: the barley varieties ‘Viire’ and ‘Leeni’, the potato variety ‘Reet’ and the summer wheat variety ‘Mooni’ (bred in cooperation with the Finnish company Boreal). The Jõgeva PBI has bred 285 varieties over the course of 87 years. The 2007 Estonian Variety List contains 65 varieties; the Variety List for recommended vegetables contains 8 varieties. All the varieties on the Estonian list are included in the EU Variety List. The winter turnip rape varieties are being grown in Sweden, grass plant varieties in Finland, Sweden, Norway and Russia, and vegetable varieties in Finland and Latvia.

Closely related to variety breeding is the theme financed by the Ministry of Education and Research “Links between and the hereditability of the yields, quality, and disease resistance of field crops bred for sustainable farming,” four grants of the Estonian Science Foundation, and the market development projects “Rhizobia cultures and mixtures thereof forming symbiotic relationships with leguminous grass plants,” “Product development of industrial hemp,” and “Laboratory analyses of soya beans,” which were conducted together with farmers.

International cooperation includes participation in the EU framework programme projects “Faba bean breeding for sustainable agriculture” (EUFABA), “Oat genetic resources for quality in human consumption” (AVEQ), and participation in the Potato Late Blight Network for Europe (EUROBLIGHT).

The Institute coordinates the implementation in Estonia of the development plan “Collection and Conservation of Plant Genetic Resources for Food and Agriculture 2007–2013”.

In the area of bioenergy, the Institute studied the “Energy uses of reed canary grass, cereals and hemp in Estonia” under the “Development Plan for Enhancing the Use of Biomass and Bioenergy 2007–2013”, and the “Use of reed canary grass for bioenergy production by reculti-
vation of depleted peat bogs,” with financing from the Environmental Investment Centre.

In the area of plant protection, the Institute developed and implemented a web-based advisory system and identified the paths of a viral seed potato infection and measures for reducing viral infection. The efficiency of plant protection products and preparations influencing the growth and harvest quality of plants was assessed on a commercial basis for private companies.

Agrometeorological monitoring was continued in order to extend long-term observation series and to supply the Ministry of Agriculture committee with assessments of natural damage with nationwide agrometeorological information for the year.

Under measure 3.8 of the ENDP, 12 national information days were organised for farmers and the publications “Suitability of field crops and their varieties for organic farming,” “Varieties of field crops grown in Estonia, their properties and specificity of cultivation,” “Soya, growing possibilities in Estonia, and use,” and “Newer varieties of field crops, their properties and specificity of cultivation” were issued.

The Estonian Research Institute of Agriculture (ERIA) has the mission of being a reliable partner in the promotion of Estonian agriculture and rural development, in the efficient resolution of problems, in improving the competitiveness of farmers and in generating new ideas.

The ERIA conducts R&D in the following areas:

- plant production (farming, horticulture, grassland cultivation, plant protection, variety breeding and seed production, agrobiology);
- plant biotechnology (improvement of disease resistance and yield of plants, creation of effective production systems of improvement, propagation and planting material, and in vitro conservation and development of plant biodiversity and genetic resources);
- food research and food production biotechnology (processing of agricultural products, consumption value of raw material for food, biological quality and healthiness, food and feed safety);
- environmental research (agroecology, soil science, land improvement, landscape ecology);
- agricultural technology, construction and energy (cultivation technology, agricultural energy, including renewable energy);
- rural economics and sociology (agricultural economics, rural socioeconomic development and rural accounting).

All these areas of research form an integral whole. The keywords that connect the various directions of research are: sustainable agriculture and rural development; innovation; resource-saving new technologies; food, feed, and environmental safety; precision farming technology; alternative agriculture; economy and bioenergy.

The ERIA employs 61 people, including 34 researchers: 12 D.Sc. (Agr), 2 D.Sc. (Eng), 1 Ph.D. (Biol), and 14 M.Sc.

11. On 11 June 2007, ERIA researcher Raivo Vettik defended his Ph.D. in Agricultural Engineering on the topic “Computer-aided optimization of pig farming technologies and machinery use” at the Institute of Technology of the Estonian University of Life Sciences.

The following M.Sc. theses were defended at the Institute of Agricultural and Environmental Sciences of the Estonian
University of Life Sciences:

10 December 2007, agronomist Reijo Simson of the ERIA Field Crops Department, “Effect of fertilising on the yield and quality of various potato varieties”;

17 December 2007, special researcher Elina Akk of the ERIA Field Crops Department, “Development of harvest quality and yield in single and multiple crops of field pea and its companion crops, barley and turnip rape”;

17 December 2007, researcher Heli Meripõld of the ERIA Grasslands Department, “Agronomic and economic aspects of eastern galega and hybrid alfalfa seed production”.

At the formal ceremony of the Estonian University of Life Sciences on 22 June 2007, M.Sc. diplomas were awarded to special researcher Liina Edesi of the ERIA Field Crops Department (thesis “Residual effect of compression on soil properties and the composition of agrophytocoenosis in a barley field,” defended 28 June 2006), and senior agronomist Ando Adamson of the Field Crops Department (thesis “Effect of sulphur fertilisers on winter wheat against the nitrogen background,” defended 18 June 2007).

According to the ERIA staff, a precondition for solving the problems that farmers face is multifunctional cooperation with:

- Estonian farmers, advisers, and agriculture officials. The ERIA has helped farmers solve the problems they have encountered in their farming activities. Such cooperation will continue and develop further;

- Estonian R&D institutions. To broaden the bases of its activities, the ERIA attempts to involve subcontractors from universities and other R&D institutions in its stronger areas of research. In the areas of research that require development, the ERIA’s own researchers are encouraged to participate in the projects of other research institutions;

- foreign R&D institutions. As regards international cooperation, one of the main priorities is to become involved in the R&D programmes, projects and networks of the EU. The ERIA has closer cooperation with the research institutions of Lithuania, Latvia, Denmark, Russia, Armenia, and Georgia.

The development of cooperation in 2007 is characterised by 17 cooperation agreements with Estonian farming organisations, 3 with Estonian research institutions, and 8 with foreign research institutions.

Sixteen follow-up projects and two start-up projects were implemented in 2007 under the national programme “Agricultural Applied Research and Development in the period 2004–2008”.

In the 13 applied research projects concluded in 2007, new knowledge and advice was made available to farmers and others at the ERIA website www.eria.ee.

Six grant projects are being conducted with support from the Estonian Science Foundation.
6.5. Activities of agricultural museums

Sirje Tamkõrv

Agricultural museums had the following priorities in 2007: development of infrastructure, systematisation and restoration of collections, creation of an open study environment and its maintenance via various programmes, active exhibition activities in Estonia and abroad, conducting of various major events, research, cooperation with various institutions, etc.

Three museums within the area of administration of the Ministry of Agriculture: the Estonian Agricultural Museum, the C. R. Jakobson Farmstead Museum, and the Estonian Dairy Museum, have intensified both their mutual and international cooperation.

In September they held a joint exhibition in the Sóstó Museum Village, Hungary, entitled “Bread is the host of a farm, milk is the hostess of a farm”. An international food festival featuring Estonian traditional food, amongst others, was held on the opening day of the exhibit. Interest in the exhibition and Estonian food was great. The exhibition was displayed in several locations in Hungary. The museum staff had a great opportunity to acquaint themselves with a Hungarian agricultural, open air and ecology museum.

**Estonian Agricultural Museum**

The year 2007 was a very busy and successful year for the Estonian Agricultural Museum.

The museum was open to visitors 353 days during the year. The number of visitors reached 38 659.

A number of delightful new projects were initiated. Cooperation was launched with the Tartu shopping centres Eeden and Lõunakeskus. The creative competition “Steps on the ancestors’ trails” was held for children for developing their woodwork skills; the participants were 59 children from various schools and their work was displayed in the renovated workshop. Another children’s project was carried out in the form of a floor game called “How bread is made,” introducing the history of land cultivation and the history of rye bread making. The museum staff introduced the floor game in many schools nationwide. An inter-school competition was announced in cooperation with the Estonian Association of Bakeries; 11 schools participated in the final.

The Osula Basic School, Vara Basic School, Kavastu Primary & Nursery School, Tamme Upper Secondary School, Ülenurme Upper Secondary School, and Tartu Commercial Upper Secondary School were awarded the prize of an excursion in southern Estonia.

New workbooks were published — “Ahjualuse leivaraamat” about the history of rye bread, and “Sirvilauad” about the history of the calendar in Estonia.

With support from the Ministry of Agriculture, the museum launched study programmes about the history of land cultivation and rye bread for schoolchildren in the southern Estonian counties and the city of Narva (a total of 1855 children from 38 schools). The programmes will continue in 2008, in Lääne County, Pärnu County, Saare County, and Hiiumaa County.

The active exhibition activities of the museum attracted more new guests. As a result of the renewal of the apicultural exposition, the modern and educating permanent...
exhibition on the development of apiculture in Estonia was displayed in the renovated apicultural building. To make the exhibition more attractive, multimedia programmes are being developed and a honey-themed workbook entitled “Kärje-Kärdi ja Mee-Meeli meeraamat” was submitted for publication.

The Museum’s Yearbook I was published; the photography competition Focus on Rural Economy was announced, a research conference was held and a collection tour was made to Piistaoja.

Cooperation with various institutions was also successful in 2007. The museum has good cooperation relations with the Vana-Vigala School of Technology and Service, Youth Policy Service of the Tartu City Government, Estonian University of Life Sciences, and the Tartu Vocational Education Centre.

The museum conducted a Bread Week in cooperation with the Estonian Association of Bakeries and celebrated St Mary’s Day on 15 August with the Estonian Rye Association. The educational film “St Mary’s Day at the Estonian Agricultural Museum” was made in cooperation with Mati Narusk; the film introduces the history of land cultivation and cultivation tools.

The museum has been able to uphold its operational capacity and offer suitable services to various target groups owing to the development of the museum’s infrastructure. Renovation of the smithy into a workshop was a major event for the museum’s staff. The smithy is now excellently furnished for conducting various programmes: blacksmithing and woodwork, weaving and various handicrafts, study programmes in the old classroom and farm’s living room. Bread making in the workshop’s stoves has been a success.

In 2008, the Estonian Agricultural Museum will celebrate its 40th anniversary and has started to prepare the concept for its new permanent exhibition “Agriculture and rural life in Estonia through centuries”.

C. R. Jakobson Farmstead Museum

The numerical indicators below show that the year was busy and full of achievement for the C. R. Jakobson Farmstead Museum.

The museum was open for 353 days in 2007. It was visited by 26 770 people, including 19 149 individual visitors and 7621 visitors as part of excursions.

The scientific library of the museum was supplemented by 18 items. 53 newspaper articles were added to the catalogue.

As of 1 January 2008, the museum’s main collection includes 9662 items, of which 6862 have been scientifically described; 568 items are displayed and there are 3760 items of supplementary scientific material.

The museum conducted 7 study days and meetings, 24 family celebrations, 5 camps and 2 family days. A record number of 18 couples held their wedding ceremonies (including silver or gold anniversaries) at the museum; two couples also held their official marriage registration ceremony at Kurgja and eight couples held their wedding party at the museum.

The programme “Shrovetide on a Farm” attracted eight groups of a total of 340 people, including, once again, large families from Pärnu County.

The year 2008 is a year of many anniversaries for the C. R. Jakobson Farmstead Museum: the museum’s 60th anni-
versary, the 40th anniversary of the Sakala road hiking tour, 130th anniversary of the Sakala newspaper, and 30th anniversary of the Sakala road running race.

**Estonian Dairy Museum**

The year 2007 was stable, yet full of hope for the Estonian Dairy Museum. The museum was visited by 5700 people. This was 300 people more than in the previous year.

Seven public events were held at the museum. Public events include the milkmaid’s and pedagogue’s information work at schools, nursery schools and public events on nearly 50 days per year.

Joint sales activities with other tourism operators in the region continued. “Take a break at Imavere” is a trademark that the museum continued to promote via publications, the media, and activities at public events and fairs.

The home economics competition “Milkmaid” and the Milk Day promoting domestic dairy products were organised in cooperation with the Estonian Dairy Association and the Ministry of Agriculture. The museum began work on the concept for its new permanent exhibition. A milk and dairy products programme was launched titled “The milkmaid’s visit”, under which the museum’s pedagogue, along with a milkmaid, visited pre-school children’s establishments and the primary years’ pupils of comprehensive schools in Järva County. They spoke about the benefits of milk and played a floor game with the children that tells them about the processes that milk goes through, from milking to the grocery store. The museum plans to take the project to other counties in the forthcoming years. The series of concerts and plays continued with six events in 2008. The museum has become a popular venue for seminars and training courses.

Articles by specialists of the Estonian Dairy Museum were printed in various publications. Cooperation with researchers in various dairy areas intensified. As a result of collection and archival work, the museum had a total of 52 770 items in its collections at the end of the year. Restoration work has contributed greatly to the museum’s industrial exposition.
7. FOOD SAFETY AND VETERINARY ACTIVITIES

Heneli Lamp, Tiina Mällo, Piret Rajasalu, Regina Pihlakas
Ave Raie, Aivar Alt, Sirje Sokk, Raili Pall, Vivika Eha, Maie Help, Maarja Tuimann, Aivar Vuks, Matti Nautras, Pirje Rool, Tarmo Serva

Food control

The organisation of work, infrastructure, and statutory activities of supervisory agencies changed on 1 July 2007. In connection with Government of the Republic Order No 51 of 9 January 2006 “Setting up a group of experts for reorganising food supervision” and Government of the Republic Decision of 16 March 2006, the competence to conduct supervision over food safety under the Food Act was vested in the Veterinary and Food Board (VFB). The supervisory competence was transferred on 1 July 2007. With the transfer of the area under the VFB’s supervision, the organisation has a number of new duties and functions which were earlier performed by the Health Protection Inspectorate, Plant Production Inspectorate and Consumer Protection Board.

The VFB thus started to exercise state supervision over food safety in all areas of processing and over the materials and articles intended to be brought into contact with food, as specified in Article 1 (2) of Regulation (EC) No 1935/2004 of the European Parliament and of the Council. The number of entities supervised by the VFB increased with the addition of retail and catering enterprises, from 1 July 2007. A total of 11 513 food processing enterprises were under the supervision of the VFB as of 1 January 2008.

Laboratories were authorised to operate as approved laboratories under Government of the Republic Regulation No 435 of 29 December 1999 “Approval of the procedure for application and criteria for approval of laboratories” until 1 July 2007. The Minister of Agriculture granted the approvals. After the amendment to the Food Act, from 1 July 2007, laboratories are approved to perform analysis of samples taken in the course of supervision by the VFB.

Various food safety monitoring programmes continued in 2007: monitoring of zoonoses and zoonotic agents and the collection, analysis and publication of information about related resistance to medicinal products; monitoring of dioxins and dioxin-like PCBs in food of animal origin; and monitoring of residues of plant protection chemicals, mycotoxins and GMO in food of animal origin.

A total of 9423 samples were taken in 2007 in the course of food inspection (including monitoring) for microbiological and chemical analyses, of which 336 or 3.6% proved to be non-compliant. The general principles and results of official inspection have been published in the Food Control section of the VFB website.

For analysis of samples taken in the course of official inspection, the VFB cooperates with the Veterinary and Food Laboratory, Agricultural Research Centre, laboratories of the Health Protection Inspectorate, Radiation Protection Centre, and the Estonian Environmental Research Centre. In order to coordinate and improve cooperation, the VFB has entered into agreements with the Plant Production Inspectorate for the supervision and monitoring of residues of plant protection chemicals in foodstuffs of vegetable origin, for establishment of residue limits and the related comitology procedure, and with the Health Protection Inspectorate in the...
area of zoonoses and other infectious diseases, and drinking water and natural mineral water.

**Trade, import and export of foodstuffs**

The main duty of officials of the Trade, Import and Export Department in 2007 was inspection of imported and transit foodstuffs from third countries on the Estonian border which constitutes the external border of the EU, as well as of the foodstuffs traded between the Member States.

A total of 4083 lots of goods were checked on the border during the year, of which 4067 were products of animal origin and 16 were live animals. In addition, border inspections covered compliance with animal welfare requirements upon export of pigs from the EU. 160 samples were taken of animal products on the border and 378 analyses were performed over the year. Eighteen lots were returned from the border and one lot was destroyed due to various non-compliances.

The Department handled five misdemeanours; in most cases, the offenders were punished with fines or cautionary fines. The main reasons for the institution of misdemeanour proceedings were related to failure to provide prior notice of import and to undergo veterinary inspection on the EU external border.

The VFB is also liable for operating the Rapid Alert System for Food and Feed (RASFF) in Estonia. The European Commission, the European Food Safety Authority and the Member States participate in the system. When a member of the network has information on a serious direct or indirect risk to the health of people arising from food or feed, immediate notice must be sent to the Commission, who will forward the information, without delay, to the other members of the network. In 2007, the contact person for the RASFF sent 17 alerts to the European Commission concerning non-compliant goods identified in Estonia. Most of the non-compliances were related to an excessive content of food additives in food products. Twelve alerts from the Commission were handled concerning products which had Estonia marked as their destination. These alerts were sent because of substances dangerous to human health contained in the materials which came in contact with food; insufficient labelling concerning food additives, and dangerous substances in pet food.

Owing to the cooperation agreement signed by the Directors General of the VFB and the Tax and Customs Board, officials of these boards held numerous meetings in 2007. This has led to a better working relationship, solved a number of misunderstandings, and ensured better harmonisation of various procedures and enhanced communication between the two agencies. The VFB also cooperated with the Consumer Protection Board, Health Protection Inspectorate, Plant Production Inspectorate, and Veterinary and Food Laboratory.

The VFB also coordinated supervision over trade between Estonia and other Member States in animals and animal products. Of food products imported to Estonia from and produced in other Member States, 93 samples were taken in 2007 for 458 analyses. Eight cases of non-compliance were identified as a result of the analyses (most of them concerned microbiological irregularities).
Supervision over the export of animals and animal products from Estonia consisted mostly of checking the lawfulness and coordination of the issue of veterinary certificates. This ensures the coordinated issue of veterinary certificates; a total of 6312 veterinary certificates were issued in 2007, in compliance with requirements. The bulk of export certificates are certificates for exporting animals and animal products to Russia (3021 certificates), followed by the Ukraine (2151), Moldova (172) and Belarus (122).

The VFB specialists conducted various training events in 2007, including for customs officials, veterinary inspectors at border points, and specialists in county veterinary centres. Officials of the central office of the Department checked the organisation of work in the veterinary and food inspection bureaux of border points at least once during the year; the compliance of border points with requirements was also inspected.

**Food safety supervision in market organisation**

**Supervision of support for common organisations of the market in dairy products**

According to the European Union Common Agricultural Policy Implementation Act, the VFB supervises aid for disposal and intervention buying-in, and inspects the compliance of agricultural products subject to private storage with the requirements for their quality and composition, and issues quality certificates upon export to another Member States.

In 2007, supervision was exercised over the certification of “Extra quality” butter, which included checks of two enterprises approved under the Food Act.

A total of 99 samples were collected, on which 749 analyses were performed. Nineteen samples fell short of the requirements.

**Supervision of support for organisation of the market in meat products**

In 2007, two enterprises participating in the market measure imported into Estonia 114.2 t of frozen beef intended for processing, which was processed into group A products according to formulae approved by the VFB.

Nine initial inspections of enterprises were made to check the disposal of meat – it was verified that the declared quantity of meat arrived at the enterprise; the aim of 33 disposal inspections was to check whether all the imported meat was processed into the required products within three months after the date of import. The Tax and Customs Board was informed of the inspection results; from October, the information was communicated in digitally signed form.

**Control of the classification system of bovine and pig carcasses**

A total of 27 inspections of Estonia’s three largest meat industries were made in 2007, to check bovine carcass classification results; this included three follow-up visits due to the classifier’s exceeding of the allowed limit of error. The correctness of classification results was checked in 983 carcasses, of which 848 were classified into the correct fleshing class and 895 into the correct fatness class. The participating slaughterhouses classified a total of 30 442 beef carcasses during the year.
To check the classification results of pig carcasses, 17 visits, including one follow-up visit, were made to four enterprises using the SEUROP system; the measuring results of 340 carcasses were checked, of which 288 had been correctly measured.

**Supervision concerning inspection of composition and quality requirements established for agricultural products (spreadable fats, drinking milk, and dairy products with reserved designations) for market organisation purposes and protection of geographical indications and designations of origin**

In previous years, supervision over compliance with composition and quality requirements for market organisation purposes and protection of geographical indications and designations of origin was conducted in production enterprises and, for goods originating in other Member States and third countries, in the wholesale warehouses of importers. From 2008, such supervision is also conducted in retail businesses. The plans for 2008 include 36 checks of retail businesses. Supervision was conducted in the following areas in 2007:

- **Spreadable fats.** The composition and labelling of 83 products were checked in the course of supervision. Non-compliances with Regulation (EC) No 2991/94 were identified in six cases.

- **Drinking milk** (including drinking milk intended for schools). The composition, quality and labelling of 41 products was checked. Two precepts were made for non-compliant labelling.

- **Dairy products with reserved designations, including school milk products** (cheese, fresh cream, sour cream, yoghurt, and kephir). During the course of inspection, 213 products were controlled. Ten precepts were issued.

- **Protection of geographical indications of agricultural products, foodstuffs, and alcoholic beverages** (wines, spirit drinks). The purpose of supervision in this area is to protect registered geographical indications and designations from direct or indirect or commercial use. Various product groups were checked on 86 occasions. No non-compliances were identified.

**Supervision of compliance with marketing standards applicable to hen eggs**

Supervision of compliance with marketing standards applicable to hen eggs was added as a new market organisation function in 2007. Inspections are carried out in hen egg packaging centres. Inspection is batch-based; batches are checked for compliance with the required qualities, labelling, and indicated weight class. All approved packaging centres are planned to be inspected in 2008.

**Supervision of support for organisation of the market in fishery products**

On the basis of the Fisheries Market Organisation Act and the relevant EU legislation of direct application, the VFB supervises the market measures for fishery products from the year 2007. These intervention measures cover supervision over carry-over aid and financial compensation for withdrawals of fishery products.

The procedure of carry-over aid was effectively launched in
2007. Two approved producers’ organisations (the Estonian Trawl Fishing Association and Estonian Association of Professional Fishermen) applied for carry-over aid and 65 interventions were conducted.

The VFB carried out 96 inspections: 3 in the primary buying-in and processing stage, 44 in the storage stage, and 49 in the selling stage.

A total of 667 t of brisling and 509 t Baltic herring were subjected to intervention.

**Supervision of the definition, description and presentation for sale of alcohol, and the state register of alcohol**

As a result of the reorganisation of the functions of alcohol quality supervision, approved laboratory for alcohol analyses, and the maintenance of the state register of alcohol initiated in 2005, the VFB began to supervise compliance with the requirements for the definition, description, and presentation for sale of alcohol, and to act as the authorised processor of the state register of alcohol, from 1 January 2007.

Supervision was conducted in the stages of production, storage, and retail trade in 2007. Of the 710 products checked during inspections, 12% were non-compliant. Analysis results were non-compliant for 3.38% of the products (mostly wines), 4.8% of the inspected products had incorrect labelling, 4.4% had discrepancies with the register entry, and in some cases discrepancies were found in the accompanying documents.

A total of 5308 statements on entry of alcohol in the state register were issued in 2007. Register entries were accompanied by checks of the presented product samples for compliance with the applicant’s presented documents and the EU and Estonian legislation governing alcohol.

The development of a new computer programme for the state register of alcohol continued in 2007. The new programme allows undertakings to apply for register entries and submit alcohol movement reports via the citizens’ portal X-tee.

**Control and coordination of the VFB’s breeding activities in 2007**

The Office of Animal Breeding has the duty of exercising state supervision over animal breeding, inspecting the activities of animal breeding associations, animal breeders and livestock farmers in implementing breeding programmes, and issue precepts for the elimination of shortcomings.

Inspections of animals subject to support for the breeding of farm animals revealed that incorrect herd-book entries had been made concerning one beef animal, two sheep, and one dairy animal; one sheep had been excluded without notifying the ARIB or the Animal Recording Centre; one foal of the Tori horse breed had died before identification, and one foal was a hybrid; the herd-book for the Estonian sport horse contained 230 foals, but the application had been submitted for 232 foals.

In the course of checking the details of applicants for support for breeding farm animals, visits were made to Eha Treier’s Estonian quail farm in Äksi and Úlo Pullisaar’s quail farm in Matjama, Tartu County. Inspections also covered the herd-book entries of 470 Estonian native cattle and the conformity of the electronic entries of 78 Estonian native horse...
foals, which were identified in 2006, with the procedure for maintenance of the herd-book for the Estonian native horse. Non-conformities with the requirements for granting breeding support were identified in seven bovine animals.

The Office of Genetic Resources checks the activities of conservers of endangered breeds in the implementation of approved conservation programmes and conservation and breeding programmes and coordinates the general conservation of genetic resources in Estonia.

An official of the Office of Genetic Resources checked the compliance of the parentage data of 2583 animals of endangered breeds, reared by 606 keepers, with the requirements of Minister of Agriculture Regulation No 61 of 20 April 2007 “Requirements for eligibility to support the rearing of animals of endangered breeds and detailed procedure for application for support and processing of applications”. Applications were submitted for 1168 Estonian native horses (275 applicants), 478 Tori horses (213 applicants), 139 Estonian heavy draughts (50 applicants), and 798 Estonian native cattle (170 applicants). Among the applicants for support for breeding animals of endangered breeds, 72 and 13 requested support for rearing two and three breeds of animals, respectively.

Inspection by the VFB revealed that 2459 animals were eligible for support, including 1150 Estonian native horses, 459 Tori horses, 139 Estonian heavy draughts, and 711 Estonian native cattle. The main reason for non-eligibility was the non-compliance of parentage data or age (less than 6 months at the time of application) with the requirements of the regulation, and ownership problems.

Applicants for support were also subjected to on-site inspection. For this type of inspection, the head of the Office of Animal Breeding made a control sample of 10% of the total number of applicants. Leading specialists inspected the applicants’ premises to verify that the declared animals actually existed, were properly identified, and replaced, if necessary, within 20 days, and whether the replacement was duly reported to the VFB within seven days of replacement, and whether the animals were rented.

The inspection covered 68 applicants for support for rearing animals of endangered breeds. It was revealed that some of the sold bovine animals had not been replaced within 20 days. In some cases, the keepers did not provide some of the declared animals for on-site inspection.

**Animal health**

Estonian animal herds were checked for more than 40 diseases in 2007, in the framework of the National Infectious Animal Disease Control Programme. A total of 534 000 diagnostic tests were carried out. Of these, 313 979 were laboratory analyses of animal health.

Livestock farms were checked on 7943 occasions. Three keepers of animals were punished by fines for violations of veterinary requirements.

It may be confirmed, on the basis of the aforementioned study results, that the overall epidemiological situation of the animal populations is good.

So far, Estonia has been able to avoid the spread of especially dangerous infectious animal diseases in the animal populations (the last occurrence of such a disease was in 1994, when...
one case of classical swine fever was diagnosed). However, despite the various measures introduced by the Estonian veterinary service, the spread of Newcastle disease in Estonian poultry flocks resulted in vast economic loss in 2007.

The VFB officially confirmed the diagnosis of Newcastle disease in the OÜ Abja Muna poultry farm on 31 July 2007 and in the Kulli hen farm of AS Tallegg on 5 July 2007. A total of 242,354 hens were killed to prevent the spread of the disease.

The situation necessitated preventive vaccination of whole poultry flocks.

Rabies continues to be the greatest problem among infectious animal diseases, threatening both people and animals, although the number of cases is decreasing.

In the autumn of 2005, the VFB launched a programme for the eradication of rabies in Estonia by oral vaccination of wild animals (by laden baits) in an area of 25,540 km². Wild animals are vaccinated nationwide twice a year since 2006. The vaccination programme is followed every year by an effectiveness assessment. The initial results have been very positive so far. The study results showed that 73% and 85% of animals had eaten the vaccine during the 2005 and 2006 vaccination campaigns, respectively. Blood test results show that 55% of the tested animals were protected against rabies. The change in the number of cases of rabies in the vaccinated area is the best indicator of the effectiveness of vaccination. Rabies was diagnosed in 266 animals in 2005, and 114 animals in 2006. Only four infected animals were detected in 2007: two bovine animals, one raccoon dog and one badger.

Vaccination of wild animals will continue until no cases of rabies have been detected for two years. If the neighbouring countries have not been able to eradicate rabies at the same time as Estonia, vaccination will continue in the border areas to avoid a new spread of the virus.

Full-scale TSE investigation was again applied in 2007 to the Estonian ruminant populations. Samples from 35,276 bovine animals and 3,000 sheep and goats were studied in 2007; all results were negative. As a result of the leucosis control programme that began in 1987, the number of cases of leucosis in bovine animals has substantially decreased over the past decade. The number of bovine animals diagnosed with leucosis has decreased from 33,349 in 1992 to five in 2004. Leucosis monitoring principles were changed from the beginning of 2005 and brought into conformity with the EU requirements. In connection with this, all bovine animals older than 24 months were subjected to leucosis testing, which means that meat breed cattle, the number of which has increased in recent years, were also covered by the programme. In earlier years, monitoring was mainly focused on dairy herds. The change in the programme resulted in an increase in the number of cases of leucosis. Despite this temporary repercussion, the objective is to soon achieve the complete eradication of leucosis in Estonian cattle herds. Leucosis was detected in 13 bovine animals in 2006. 2007. In 2007, it was diagnosed in 3 bovine animals. Because of the continued threat of avian influenza, the measures planned and implemented in 2006 were continued in 2007, in order to reduce the risk of spread. In the framework of the National Infectious Animal Disease Control Programme, 630 domestic and 111
wild birds were laboratory tested for avian influenza. All the tests had negative results.

**Feedingstuffs**

The VFB is responsible for feed safety since 1 July 2007. The Feedingstuffs Office of the Animal Health, Welfare and Feedingstuffs Department has the main duty of organising and conducting state supervision in line with the Feedingstuffs Act over compliance with the legislation governing feedingstuffs, including over approval and registration of feed business operators and the production, processing, placing on the market, storage and transport of feedingstuffs, and it conducts laboratory analyses to assess the conformity and safety of feedingstuffs. The lists of approved and registered feed business operators are available and publicly accessible on the VFB website, together with details of the specific lines of business of each operator. The Office is also responsible for organising checks of nutrition of food-producing animals, production and use of medicated feedingstuffs, and the import of feedingstuffs of non-animal origin. A feed safety supervision plan is prepared on an annual basis, describing the details of the checks, samples and analyses to be made and taken. Laboratory tests are made at the Veterinary and Food Laboratory and the laboratories of the Agricultural Research Centre and Health Protection Inspectorate. County veterinary centres have three leading specialists of feedingstuffs who inspect feed business operators in the 15 counties. 341 inspections were conducted in 2007 (including those made by the Plant Production Inspectorate until 30 June). 335 control samples were taken of feedingstuffs, including 189 from feedingstuffs made in Estonia, 65 of those made in the EU, and 81 from those originating from third countries.

On 3–7 September, the DG SANCO mission to the VFB assessed the measures that have been taken for implementation of various legal acts of the European Parliament and the Council. All stages of the feed chain, from primary production to the use of farm animals as feedingstuffs, including traceability, were checked in the course of the visit. The mission report stated that a system of official controls of the feed chain was in place, but instructions were given as regards some of the measures; relevant changes will be made in the planning and implementation of supervision.

**Animal protection**

During 2006, a total of 8546 enterprises were inspected, 226 violations of animal protection requirements were discovered and 14 misdemeanour proceedings were instituted. Most of the violations concerned cattle farming. Tethering of calves, which is banned in the EU, was the greatest problem. Other frequent violations related to pet keeping and the stunning of farm animals in slaughterhouses.

Compliance with animal welfare requirements was inspected in the course of regular and sample checks by supervisory officials and authorised veterinarians. Such inspection covers the animal keeping conditions, ante mortem keeping and slaughter at slaughterhouses, public display and transport of animals, and compliance with the requirements for rearing, intermediating and using test animals. Once a year, authorised veterinarians check all
livestock farms, paying attention to compliance with animal protection requirements, among other things. In addition to that, the supervisory officials of veterinary centres carried out regular checks of pigsties, henhouses and calf houses, slaughterhouses and enterprises raising, intermediating and using test animals, as well as sample checks of transport of animals. Supervision is carried out in cooperation with the Police Board, Environmental Inspectorate and volunteer animal protection organisations. Greater attention was paid to the transport of animals. According to an EC regulation, the transporter is required to hold a type 1 transport authorisation for journeys longer than 65 km, and a type 2 transport authorisation for journeys lasting longer than 8 hours. On long journeys, the transporter must additionally have a certificate of approval of the means of transport.

157 type 1 transport authorisations, 58 type 2 transport authorisations and 62 certificates of approval of means of transport had been issued as of 2007.

A training programme for drivers and attendants was launched in 2007. According to Council Regulation (EC) No 1/2005, no person shall drive, or act as an attendant on a road vehicle transporting domestic animals or poultry unless he holds a certificate of competence. 272 certificates of competence were issued in 2007.
Siim Tiidemann

Foreign visits and official meetings of the Ministry of Agriculture management

The Ministry of Agriculture delegation visited the Grüne Woche fair in Berlin on 16–21 January 2007. In the course of the visit, the delegations had traditional meetings with the ministers of the German federal states with which the Ministry of Agriculture has signed cooperation agreements.

The Ministry of Agriculture has a good tradition of sending its representatives to the Salon International de l’Agriculture fair in Paris, France. Secretary General Mr Ants Noot and Head of the European Union and Foreign Affairs Department Mr Olavi Petron participated in the fair on 2–3 March.

On 15–16 March, Premier of the state of Schleswig-Holstein Peter Harry Carstensen visited Estonia and met with the Minister of Agriculture and the Prime Minister. They discussed the successful cooperation between the two states and planned the activities of the INTERREG “Baltic Sea Food Route” project. On 24–26 March, the Minister of Agriculture participated in the European Union’s 50th anniversary celebrations in Berlin.

On 28–30 June, a delegation from the European Parliament Committee on Fisheries was hosted Estonia. The delegates visited Härjanurme fish farm and discussed the developments in fish farming in Estonia and Europe, as well as the potential environmental impacts on fish farming. In the same month, specialists from the Personnel Department and Public Relations Department went on a study tour to the Dutch Ministry of Agriculture, Nature and Food Quality. The objective of the study tour was to get acquainted with the personnel policy and public relations of the Dutch ministry.

The European Commissioner for Health, Mr Markos Kyprianou, visited Estonia on 11–12 July. His meeting with the Minister of Agriculture focused on animal welfare and GMO-free regions; the minister introduced to the Commissioner the measures, which are being developed in Estonia for the potential co-existence of GMO, traditional and organic crops. The Ministry of Agriculture, led by the Minister of Agriculture, participated in the Riga Food fair on 4–5 September, which mainly focused on the future of the EU agricultural policy in the forthcoming years.

On 13–16 September, the 16th international specialised exhibition for agriculture and food processing, packaging and wholesale, AGROBALT 2007, was held in Kaunas on the premises of the Lithuanian University of Agriculture. The fair was visited by a delegation from the Ministry of Agriculture led by Secretary General Ants Noot.

Officials from Mecklenburg-Vorpommern visited Estonia in October; they participated in the Estonian Food fair in Haapsalu and prepared a bilateral cooperation programme for 2008–2010 with the Ministry of Agriculture officials. The programme provides for cooperation in the fields of research, education and training, cooperation between professional associations and museums, and the exchange of experts. The programme was signed in January 2008, during the International Green Week in Berlin.

In November 2007, Estonia was visited by officials of Saxony-Anhalt, who participated in the bioenergy confer-
ence organised by the Estonian University of Life Sciences in Tartu. The guests familiarised themselves with the Rural Development Foundation and prepared a bilateral cooperation programme with Ministry of Agriculture officials; the programme focuses on bioenergy, rural development and twinning projects. The programme was signed in January 2008, during the International Green Week in Berlin. Representatives of Thuringia and Bavaria also made a brief visit to Tallinn.

A delegation of officials and producers from Thuringia visited Estonia on 24–30 November, to seek cooperation contacts. The German guests familiarised themselves with the relevant institutions and producer organisations.

In addition to the above, the Ministry of Agriculture received farmers from Norway and France, students from the University of Birmingham, a sprinkler irrigation organisation from Chile, New Zealand’s Special Trade Envoy, the Vietnamese ministry, and many other guests during the year. Overall, it was a busy year in terms of foreign relations.

Transition Facility projects concluded in 2007

The project “Development of detection systems of veterinary drug residues in live animals, animal products and feeds” ended in January 2007. Its total budget was EUR 657 000 (MEEK 10.3). The beneficiary was the Veterinary and Food Laboratory. The objective of the project was to strengthen Estonia’s capacity for food safety in the area of detection of veterinary drug residues. The purchase of new laboratory equipment for the Veterinary and Food Laboratory for conducting analyses of veterinary drug residues was financed via the project (MEEK 8.9).

The Twinning Light project also covered training for specialists of the Chromatography Department of the Tallinn Veterinary and Food Laboratory in drug residue testing, and training for specialists of the Food Department of the Veterinary and Food Board in the preparation of a national programme for residue monitoring.

The project “Development of GMO chain management for co-existence of genetically modified, conventional and organic crops” was concluded in October 2007. Its total budget was EUR 452 745 (MEEK 7.1). Beneficiaries: Ministry of Agriculture and Agricultural Research Centre.

In the course of the project, Estonian requirements for the cultivation, processing and supervision of GMO were developed in line with EU legislation and other international regulations; a PCR machine was purchased for the Agricultural Research Centre for DNA analyses.

Upgrading of functional capability on testing of harmful organisms in Estonia.

The project was concluded in December 2007. Its total budget was EUR 2 409 237 (MEEK 37.7).

Beneficiary: Agricultural Research Centre. The objective of the project was to bring the system for testing and diagnosing harmful organisms in Estonia into compliance with EU requirements. A quarantine greenhouse was established at the Agricultural Research Centre in Saku, permitting the studying and testing of harmful organisms.

Current projects

8. FOREIGN RELATIONS

budget was EUR 1 264 500 (MEEK 19.8). The objective of the project is to develop an Estonian fisheries strategy and a relevant database. A contract has been signed with Webmedia AS for software development and the purchasing of IT hardware. A preliminary analysis has been made for creating the database; this will be followed by development, testing, and implementation.

Development of a cross-compliance control system in Estonia. Beneficiary: ARIB. The budget was EUR 219 018 (MEEK 3.4). A cross-compliance control system will be developed and inspectors from the ARIB, Plant Protection Inspectorate, VFB and Environmental Inspectorate will be trained in performing inspection activities using the new system. A contract with the partner country Denmark was signed in December 2007.

Strengthening the management capacity of the inspection authorities in the area of organic farming, according to the requirements of Council Regulation (EEC) No 2092/91. Beneficiary: Plant Production Inspectorate (PPI). The budget was EUR 69 124 (MEEK 1.1). The objective of the project is to develop a certification and inspection system for organic farmers in line with Regulation (EEC) 2092/91 and to train inspectors of the PPI and VFB. A contract with partner country Austria was signed in December 2007.

Improving the quality of pesticides authorisation and surveillance system for marketing and use of pesticides in Estonia. Beneficiary: PPI. The budget was EUR 87 633 (MEEK 1.4). Requirements for the use of pesticides and a relevant surveillance system will be developed, and inspectors of the PPI and VFB will be trained in surveillance. A contract with partner country UK was signed in December 2007.

Identification of harmful and invasive wood pests, in terms of the contribution of laboratory testing capability to plant and forest protection. Beneficiary: Agricultural Research Centre. The budget was EUR 135 617 (MEEK 2.1). The project may be viewed as a follow-up to “Upgrading of functional capability on testing of harmful organisms in Estonia,” aimed at improving the effectiveness of the Agricultural Research Centre, PPI and Centre of Forest Protection and Silviculture in the identification of wood pests. A contract with partner country UK was signed in December 2007.

Development of legislative basis and administration of implementation of Common Agricultural Policy (CAP) 2003 reform: decoupled payments and partial implementation of coupled payments, implementation of cross-compliance. Beneficiary: Ministry of Agriculture. The budget was EUR 155 642 (MEEK 2.4). The partner country Germany will share with Estonia its experience in developing legislation corresponding to the CAP 2003 reform. A relevant contract was signed in December 2007.

Strengthening of the official food control system in Estonia related to environmental contaminants in products of animal origin. Beneficiary: Veterinary and Food Laboratory. The budget was EUR 418 000 (MEEK 6.5). The objective of the project was to improve the laboratory detection control of environmental contaminants in
products of animal origin. In the course of the project, the Veterinary and Food Laboratory is supplied with the laboratory equipment required for testing and the laboratory specialists are trained in new methods of analysis and operation of the new equipment. The project’s opening meeting with partner country representatives from Hungary was held on 21 November 2007.