

LATVIA

Agri-food chain integration & quality

Location

Jaunpils novads

Programming period

2014 – 2020

Priority

P3 Food chain & risk management

Measure

M04 – Investments in physical assets

Funding (EUR)

Total budget 570 393
RDP contribution 228 157
Private 342 236

Project duration

2017 – 2018

Project promoter

JSC ‘Jaunpils Pienotava’

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In response to the changing global markets, a dairy used Rural Development Programme (RDP) support to reorient its production and maintain its export potential.

Summary

During the 2007-2013 programming period, the ‘Jaunpils Dairy’ made investments supported by the European Union, which resulted in the reconstruction of its cheese factory to target the Russian market. When the Russian trade embargo began, the company was forced to make certain investments to adjust production to the new market realities.

The main investment went towards the expansion of the cheese production space, the purchase and installation of cheese/curd vats, the purchase of curd block forms and a foreign object detector. A cheese packer was purchased and installed as well as the construction of an industrial wastewater pre-treatment station.



Results

Turnover is predicted to increase from 11.5million euro in 2017 to 12.3million euro in 2018, an increase of 7%.

Payments to farmers are predicated to increase from 6.8million euro in 2017 to 7.5 million euro in 2018, an increase of 10.3%.

Industrial wastewater pollution reduced by 38% in 2018, from 50 milligrams/litre of total nitrogen in 2017 to 31 milligrams/litre of total nitrogen in 2018.

Employment rose by 1.5% in 2018, going from 135 employees in 2017 to 137 in 2018.

Lessons & Recommendations

- ☐ This investment could not have been achieved without active cooperation between the cooperative’s members and it stands out as a good example for the new EU and post-Soviet countries.

Context

During the 2007-2013 programming period, Jaunpils Dairy invested 7 million euro, with the support of the European Union to rebuild a cheese factory targeting the Russian market. When the Russian trade embargo began, the company was forced to make certain investments to adjust production output. The project was also designed to enable the company to optimise the newly adjusted production.

After the initial investment, 90% of the production capacity was devoted to the production of cheese and the remainder to cottage cheese. After the Russian embargo, the production breakdown changed to 90% cottage cheese, and only 10% to other cheese production. Only the latter used the existing equipment, the production technologies being different. With the existing universal cheese / curd makers, it was only possible to produce a small amount of cottage cheese compared to the amount of other types of cheese that could be produced at the same time.

Before the project was implemented, the dairy had four cheese/curd vats. During the cheese production process six production cycles could be performed overnight in each vat. For cottage cheese, it was one cycle a night per vat. There were also differences in milk fermentation time: one hour was needed for cheeses, and 12 to 14 hours for cottage cheese. In consequence, it was possible to produce a maximum of four cycles of cottage cheese daily and, if necessary, one production cycle of other cheese.

The dairy sold to both the local and export markets and the project had identified potential to sell additional cottage cheese. This was the first reason the project started.

The second was the, other equipment – the cheese / curd former, block-form stack cutter, block-form washing machine, milk, cream separation, pasteurisation equipment, etc. had been purchased to meet the needs of higher yield than was required in the redesigned plant. To guarantee a return on investment, it was essential to increase equipment load. The bottlenecks in the entire technological chain were the cottage cheese production vats. Their total production capacity needed to be increased and the existing production equipment used more efficiently.

The company implemented both the ISSO 22000 standard and the self-monitoring HACCAP systems. Prior to the implementation of the project, the finished products were

tested with a metal detector to ensure no foreign matter was present in the products. The project purchased product control X-ray equipment to make the process was even more efficient.

Jaunpils Pienotava is a socially responsible company. As production volumes increased, industrial wastewater also increased. The biological treatment plants in the region where Jaunpils is situated were periodically unable to treat all the wastewater received, because of their limited capacity. The municipality was not able to renovate and expand its own treatment plant, therefore the dairy shareholders decided to invest in the development of the pre-treatment plant to avoid the insufficiently treated wastewater from the dairy from being released into the environment.

Jaunpils Pienotava works as a cooperative of local dairy farmers; it is one of the best examples in Latvia and very highly valued. Although cooperation is quite common in many Member States, it is less common in New Member States and post-Soviet countries.

Objectives

The main objective of this project was to balance the different types of cheeses produced make the best use of the production equipment. This investment project aimed to boost the overall capacity of the production equipment, to reduce production costs and increase the company's competitiveness, while ensuring environmental protection.

Activities

The project was approved by the Rural Support Service in March 2017 and the following activities were carried out:

- extension of the space dedicated to cheese production;
- purchase and installation of cheese/curd vats;
- purchase of curd block forms and a foreign object detector;
- purchase and installation of a cheese block case packer; and
- construction of an industrial wastewater pre-treatment station.

In order to get the best value for money when purchasing the new equipment, technical specifications were developed for each item. These were then published with an invitation to tender on the website of the Procurement Monitoring Bureau.

Jaunpils established a Commission of dairy experts who assessed the offers received and chose which tenderer would be awarded the contract for the relevant procurement.

1. Extension of the space dedicated to cheese production.

An agreement was signed with "KaimS" Ltd on March 2017 and commissioned in October 2017. There was not enough space for two cheese/curd vats in the existing production building so a 67m² extension was added to the cheese factory. The existing external wall was dismantled to enlarge the building to fit 2 cheese/curd vats, as well as the necessary auxiliary equipment and pipelines. The work was carried out in line with the fire, health and safety requirements for food production.

2. Purchase and installation of cheese/curd vats.

An agreement with "AISIS" Ltd was signed in March 2017. The handover certificate was signed in September 2017. The technical specifications detailed that the new vats should be proportional to the existing vats to facilitate their integration into the existing production system. Also, the volume of 10 000 litres of milk per vat was optimal for obtaining high-quality products. The vats are vertically oriented, equipped with a universal cutting and mixing mechanism, a whey separation system and hot water heat exchangers.

The new vats were integrated into the existing cheese/curd production technology stream using both the existing service platform and cheese forming, processing and washing equipment. This process reduced the amount of investment by 30% compared to if the vats had been installed separately and curd vats used only for the production of cottage cheese.

3. Purchase of curd block forms and a foreign object detector.

A contract was signed with "BENEFORTI" s.r.l. in March 2017. The hand over certificate was ready in September 2017.

With the addition of cottage cheese vats, the production of cottage cheese tripled to 3.6 tonnes / day. To ensure the continuous work of the factory, there was a need for additional moulds in which the milk solids can separate from the whey and then be cooled down.

364 block moulds are required to prepare 2 vats worth of cottage cheese. These moulds are matched both to the size of the product and the related equipment. Each block mould has 36 separate moulds. In general, it allows to

make 13 104 pieces of cottage cheese with a nominal weight of 275 gr; a total of 3.6 tonnes of cottage cheese. This is the maximum amount that can be produced in the two machines. The quality of the cottage cheese is influenced by the chemical composition of the milk, the technological process and indicators for the finished product.

Before the project was launched, a metal detector checked whether there was any foreign metal in the product. This detector did not detect other types of foreign bodies and so plastic (block mould material), glass or rubber could find their way into the product. To counteract this, an X-ray detector, able to detect all foreign matter, was purchased. When it detects foreign matter in a product, this detector ensures the products is diverted from the conveyor belt and is reported via an acoustic signal.

4. Purchase and installation of a cheese block case packer

An agreement was signed with "PTC" Ltd in March 2017. The handover certificate was signed in May 2017. Due to the Russian trade embargo, Jaunpils' range of dairy products changed. The decrease in the share of 'yellow' cheeses made the company change its existing packaging equipment intended exclusively for these cheeses for a universal packager suitable for the packaging of 'pasta filata' and 'white' cheeses where sales volumes had increased.

5. Construction of an industrial wastewater pre-treatment station.

An agreement was signed with "VEGA 1" Ltd in June 2017 and was commissioned in May 2018. On average, Jaunpils Dairy emits 150 m³ of industrial wastewater a day. The dairy generally observed the rules of the Cabinet of Ministers regarding pollution, but there were 'peak' moments when the waters with a higher pollution rate had to be discharged into the wastewater system. These waters were then transferred to the district wastewater treatment plant causing the risk of insufficiently treated wastewater leaking into the reservoir. To avoid this, an industrial wastewater pre-treatment station was built. The main unit of the pre-treatment station is a tank where organic matter is removed from wastewater, thus reducing pollution. The treated wastewater is then discharged into the village drainage pipes. Organic compounds are stored in a special container and transported to Zemgales enerģijas parks Ltd for the production of biogas. Each week, 40 m³ of sludge from the flotation process is delivered to the bio-gas plant.

Main Results

- Milk treatment is forecast to increase from 21 083 tonnes/year in 2017 to 23 669 tonnes/year, an increase of 12.3%.
- Turnover is predicted to increase from 11.5million euro in 2017 to 12.3million euro in 2018, an increase of 7%.
- Production is expected to rise from 5 592 tonnes/year in 2017 to 5 944 tonnes/year in 2018, an increase of 6.3%.
- Payments to farmers are predicated to increase from 6.8 million euro in 2017 to 7.5 million euro in 2018, an increase of 10.3%.
- Industrial wastewater pollution reduced by 38% in 2018, from 50 milligrams/litre of total nitrogen in 2017 to 31 milligrams/litre of total nitrogen in 2018.
- Industrial wastewater pollution reduced by 86% in 2018, from 62 milligrams/litre of total phosphorus in

2017 to 8.7 milligrams/litre of total phosphorus in 2018.

- Suspended matter reduced by 55% from 508 milligrams/litre in 2017 to 230 milligrams/litre in 2018.
- Employment rose by 1.5% in 2018, going from 135 employees in 2017 to 137 in 2018.

Key lessons

The modern milk treatment factory was built thanks to a co-financing effort from the EU and the beneficiary. This investment helped to increase the price of milk for the providers, compared with the average Latvian milk price over the last three years. The Coop farmers also received dividends from their own company during these years. The milk market is guaranteed to those farmers who are members of the Cooperative. All this was achieved thanks to active cooperation among the cooperative’s members and the project is a good example for the new EU and post-Soviet countries.



Additional sources of information

www.youtube.com/watch?v=fWOZ0E6lxVU