

New machinery for effective application of liquid manure on arable crops

EAFRD-funded projects

SLOVAKIA

mproving the economic erformance of all farms and facilitating farm restructuring and modernisation

Location Rožňava

Programming period 2014 – 2020

Priority

P2 - Farm Viability and Competitiveness

Measure

4.1 Support for investments in agricultural holdings

Funding (EUR)

Total budget 1 462 530.04 EAFRD 548 448.76 National/Region. 182 816.26 Private 731 265.02

Project duration 2016 – 2017

Project promoter

AT GEMER, spol s r.o.

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Website

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Summary

The project contributed to enhancing the viability of the agricultural holding AT GEMER (part of AGROTRADE Group – one of the biggest companies in the Slovak agricultural sector) in the Nitra region of south-west Slovakia. Innovative agricultural technologies were used in the application of liquid fertilizers in crop production with the aim to distribute the fertilising liquid slurry correctly with respect to the protection of ground and surface waters.

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Project activities included the procurement of agricultural equipment for the utilization of digestate from a biogas plant including a powerful tractor, an 8-share plough and a cultivator. In addition, a washing area for agricultural machinery and an extension of the storage lagoons for slurry were constructed.

Investing into new machinery for applying liquid fertilizers on crop production in order

Results

Additional crops can be grown on an area of 200 hectares of arable land. The whole area is now covered with an irrigation network for utilizing the water-diluted liquid digestate and liquid manure.

Increased efficiency, soil protection, conservation of soil fertility and soil quality has been achieved by utilising the liquid manure / digestate from the biogas plant.

5 new permanent jobs were and it is expected to create about 10-15 permanent and seasonal jobs.

Lessons & Recommendations

- ☐ It would not be possible for the agricultural holding to implement the project in such a short time period without a massive financial support from the EU and the Slovak state budget.
- ☐ Project preparation and implementation required expertise on production and economics. It was also necessary to have planning skills and the ability to understand the quite complicated administrative obligations as a beneficiary.
- ☐ It is necessary that the beneficiary has a solid financial background to be able to realize a project smoothly even in case of unexpected circumstances.

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Context

The total agricultural output in Slovakia has for long been stagnating and lagging behind in comparison to other European Member States. There has been low added value and revenue per hectare of agricultural land, while production was focused towards low-value-added commodities. Slovak agricultural holdings were also suffering from insufficient financial capacity to invest into new buildings and modern machines and technologies. In 2004, Slovakia became a full member of the European Union and taking part in the Common Agricultural Policy inevitably changed the way agriculture is practiced. It became necessary to increase the competitiveness of the Slovak agricultural sector and its food products.

The company AT GEMER, Ltd. was founded in 2001 with a wide range of diverse activities. In 2013, the company built its own biogas plant with a capacity of up to 1 MW. In 2014, all revenues of the company came from the sale of electricity produced by the plant. In 2015, the company started the cultivation of arable crops. The cultivated areas were 158 ha of arable land, 115 ha of silage maize, 1.2 ha of pea, 30 ha of annual sunflower and 11 ha of spring barley. Prior to this project, the company did not own any machinery for crop production and used machinery that was rented from the sister company AT Dunaj s.r.o. This had a negative environmental impact as the rented vehicles were moving heavy-duty tanks to transfer liquid and digestated manure from the biogas plant to the farmed land and weighed over 20 tonnes, thus causing considerable soil compaction.

Objectives

Specific objectives of the project included:

- limiting soil compaction;
- utilizing digested and farm slurry on the arable land near a biogas plant;
- applying fertilizers in accordance with the modern agro-technical requirements for increasing soil fertility, especially in special plant production;
- expanding the storage capacity for farm slurry;

Activities

Before submitting the project application preparatory activities were carried out. The planning phase included

the identification and selection of the necessary investments, consultation with external advisors, organising public procurement procedures and conducting market research. These activities were concluded before the successful submission of the application in the middle of September 2015. The project was approved and the agreement was signed in March 2016.

After completing the public procurement procedures for purchasing the equipment and separately for the construction works, the company started the acquisition of the equipment to utilize liquid manure and digestate from the biogas plant. All equipment, including machinery to utilise the digestate from the biogas plant, a powerful tractor, an 8-share plough and a cultivator, was purchased and delivered until April 2016. This enabled the beneficiary to use it already in the crop production during the same year. Construction works included building a washing area for agricultural machinery, i.e. sprinklers; and increasing the capacity of the storage lagoons for digestate and farm slurry with handling surface. These construction works started in March 2016 and were concluded in March 2017.

Results

Created the conditions for growing new products and crops on arable land: the cultivation of additional crops is planned on an area of 200 hectares of arable land while the whole area is covered with an irrigation network to utilize the water-diluted liquid digestate and liquid manure.

Increased efficiency, soil protection, conservation of soil fertility and soil quality thanks to the new technology to utilize liquid manure / digestate from the biogas plant and by replacing the heavy machinery (tanks, heavy tractors) for transferring it. Liquid organic fertilizers are transferred to the arable land via pipelines partially built into the ground.

2.5 new permanent jobs were created to operate the machinery and equipment. Later as the plant production will be increased, it is expected to create about 10-15 permanent and seasonal jobs.





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Key lessons

It would not be possible for the farm to implement such a project in such a short time period without massive financial support from the EU and the Slovak state budget.

Project preparation and implementation were very difficult and required expertise on production and economics. It was also necessary to have planning skills and the ability to understand the quite complicated administrative obligations as supported beneficiaries. Especially, since public procurement procedures are very complicated in Slovakia.

Another difficulty was the fact that part of the grant was received in form of refunding. In this project both procurement of goods and procurement of construction works were involved, which led to significant delays in payments and increased non-eligible project costs. Therefore, it was necessary that the beneficiary had a solid financial background to be able to realize the project smoothly even in case of unexpected circumstances.

Additional sources of information

n/a

