

Setting up an ultra-modern greenhouse that uses renewable energy for heating

EAFRD-funded projects

ROMANIA

Restructuring and developing physical potential and romoting innovation

Location

Nicolae Balcescu

Programming period 2007 – 2013

Axis / Priority

Axis 1 – Improving the competitiveness of the agricultural and forestry sector

Measure

M121 – Modernisation of agricultural holdings

Funding (EUR)

Total budget 1.7 m EAFRD 758 100 National/regional 39 900 Private 924 782

Project duration 2011 – 2013

Project promoter

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ENRD Contact Point

Rue de la Loi, 38 Boîte n.4 - 1040 Brussels, Belgium Tel. +32 2 801 38 00 email: info@enrd.eu website: http://enrd.ec.europa.eu/ Setting up a state-of-the-art greenhouse for hydroponic production of tomatoes using renewable energy sources for heating.

Summary

An urban family was dissatisfied with the irregular supply and low quality of the vegetables sold in supermarkets. Thus they decided to leave the city and relocate to a rural commune 30 km away and start a business to cultivate and supply the city with fresh vegetables throughout the year.



Using support from the Romanian RDP, the family set up a state-of-the-art greenhouse for growing tomatoes, using renewable energy for heating and innovative production technologies (hydroponic).

Results

350 tons of tomatoes can be produced in a single production cycle.

2 tons of produce delivered per day.

A short supply chain has been established and fresh tomatoes are delivered directly from the farm to the supermarkets in Constanta, 30 km away, without intermediaties

At local level 12 permanent jobs were created. At present, the company has 15 employees, of whom three are members of the Lanţoc family, the beneficiary of the project.

Lessons & Recommendations

- ☐ Co-financing must be foreseen and organised at an early stage as it might affect the duration of the implementation period.
- ☐ The labour supply in an area can also be a constraint if there is insufficient offer of agricultural workers.





Context

As many townspeople, the Lantoc family from Constanta, consisting of the parents, two sons (Andrei and Stefan) and a daughter in law (Evelina), were dissatisfied with the irregular supply and quality of vegetables in the supermarkets. The vegetables in the Romanian market were mostly imported and did not taste "like they knew from childhood". In 2008, the family decided to leave the big city and relocate to Nicolae Balcescu, a commune 30 km to the east of Constanta and to start a rural business that would grow and supply the city with fresh vegetables throughout the year.

Objectives

This objective of the project was to set up a sustainable local business and increase the competitiveness of the agricultural sector in the area. Specific operational objectives included to:

- introduce new tomatoes cultivation methodologies using a greenhouse;
- produce and use of renewable energy;
- build and purchase new machinery and equipment;
- create jobs for the local workforce;
- increase the added value of agricultural products.

Activities

In 2008, the family took the decision to move in a rural area and start a family vegetable company, the SC SERRA IVAS, srl. In 2009, they bought 8 640 sqm of agricultural land in the commune Nicolae Balcescu. Between 2009 and 2011 the young generation of farmers (Andrei, Stefan and Evelina) followed agronomy courses organized by the Agricultural Chamber of Constanta. The family received specialised advice on how to apply hydroponic production, one of the most adequate type of greenhouse production methods available, and the necessary equipment to be purchased. A consultant also supported the family to prepare their project application for RDP support along with a private bank loan, both granted in 2011.

RDP support financed a series of activities among which were included: building the greenhouse and purchasing the necessary equipment such as trolleys and platforms harvesting and preserving the crop; electromagnetic pollination mechanism; a fumigator for phytosanitary treatments; and soil cover foil.

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The project also financed setting up an area of 350 sqm to support the hydroponic production. Operational spaces set up included a sanitary filter, a technical room, a hydrofoil station, a drilled well, a thermal plant using renewable energy (pellet / briquettes), and setting up a control room to centrally manage all operations.

Warehouses were build for storing PETs to be used for the packing of the tomato puree; storing the containers and boxes; and to preserve the packaged primary production of tomatoes in boxes and cartons of different capacities, usually in packages of 5-6 kg.

A refrigeration unit was purchased to temporary store (until delivery) the produced tomato puree. In addition, a delivery area was set up using a forklift truck, and bought the equipment to set up the line for the washing, sorting and processing the tomatoes.

A weighbridge was constructed to weigh the delivered products: this included an over-ground weighing machine with a weighing capacity of 50-60 tn, and pressure sensors connected to a computer with specialised software;

Two refrigerator trucks of 0,8-0,85 tons and 1,6-2 tons were bought for transporting the produce to the clients.

In 2012 and 2013 the company purchased seeds from Greece to use for the cultivation, as there is "no greenhouse seedlings in Romania". In addition, 12 workers were hired, and in December 2012 the first tomatoes were successfully planted and the business had the first production in March 2013.

The owners aim to apply for a new project under the RDP 2014-2020. They plan to build another greenhouse on their available land and to expand the primary processing area. They also intend to plant peppers or other tomato varieties.



Andrei, Stefan and Evelina Lantoc are part of the young generation who are convinced that agriculture will always represent a future. "Food will always be sought / needed", says Andrei Lantoc





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Main Results

In 2015, they were the only major producer in the area. The tomatoes produced by the Lanţoc family go to the Carrefour and Auchan chains, but also to the wholesalers.

The production of the greenhouse accounts for 350 tons of tomatoes in a single production cycle.

The company can deliver up to 2 tons a day, with the two frigo-tech machines purchased through the project.

The company succeeded in creating a short supply chain, as fresh tomatoes are delivered directly from the farm to the supermarkets in Constanta, 30 km away, without other intermediaries.

The project brought direct benefits at local level by creating twelve permanent jobs and increased revenue.

At present, the company has 15 employees, of whom three are members of the Lanţoc family, the beneficiary of the project.

Key lessons

An important lesson learned from this project was that cofinancing must be secured at an early stage. This difficulty was the only problem that led the project to a one-year extension of its implementation period.

The labour supply in the area is still an obstacle that is difficult to overcome. The workforce availability in Romania is considered deficient as many young people in rural areas prefer to work in Spain and Italy in the same sector. The remaining few are generally elderly people who are not satisfied with a monthly salary of 250-300 EUR for unskilled work, although the income is stable. In this respect, farmers intend to discuss with the local administration and other community actors to increase the local interest, number of local jobs and entrepreneurship.

Additional sources of information

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