Imre Rácz farm – plantation of an apple orchard and protection against frost and hail

Two CAP funded investments maintained the financial viability of an apple farm modernising and adapting it to climate risks by replacing an old orchard and installing wind machines to protect against frost.

EAFRD-funded projects

Location: Balkány, Hungary
Programming period: 2014-2020
Priority: P2 – Competitiveness
P3 – Food chain and risk management
Focus Area: Farm performance, restructuring & modernisation
Risk prevention & management
Measures: M04 – Investments in physical assets
M05 – Damage/restoration/prevention actions
Funding:

M04

Total budget:	480 000 (EUR)
EAFRD:	192 000 (EUR)
National/Regional:	48 000 (EUR)
Private/own funds:	240 000 (EUR)

M05

Total budget:	135 000 (EUR)
EAFRD:	86 400 (EUR)
National/Regional:	21 600 (EUR)
Private/own:	27 000 (EUR)

Timeframe: 2022 – 2023
Project promoter: Imre Rácz
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Summary

The beneficiary, Imre Rácz, produces table apples, which need to have the perfect size, shape and colour in order to be sold to supermarkets or wholesale channels. Over time, the fruit produced in older orchards begin to lose their typical appearance.

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This gradual loss of quality means a decrease in income for the farmer, who can no longer charge a premium rate for the crop. In order to maintain the financial viability of his farm, Imre implemented CAP funded projects which saw the apple trees of his 22-year-old orchard replaced with new trees. The funding also allowed him to purchase a tractor and tree shaker as well as a new efficient irrigation system, hail nets and wind machines for protecting the orchard against frost.

Project results

- By replanting the old orchard, this family farm can produce high quality apples for the market and ensure a steady and sufficient long-term income.
- The wind machines can effectively protect the apple trees from temperatures as low as -5 degrees Celsius.

Key lessons and recommendations

- CAP funding helps adapt food supply resilience to changing climate challenges.
- Extreme weather conditions are becoming more frequent and it is therefore very important that commercial orchards are protected against frost damage, hail, sun and drought.

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Context

Imre Rácz Imre's farm in Balkány, Szabolcs-Szatmár-Bereg County, North-Eastern Hungary, cultivates five hectares (ha) of potatoes, 90 ha of arable land and 20 ha of apples of the Jonagold, Jonathan, Idared, golden, Evelina and Jerome varieties.

His table apples are sold through a cooperative and those unsuitable for the market are sold as industrial apples at a lower price. The market for edible apples is imposing increasingly demanding conditions on producers. The appearance of the fruit (size, shape and colour) must be high quality, as this is the only way the supermarket or other wholesale buyer can sell it to customers. That is why, although Imre's orchard was still abundantly productive, its replacement was justified because the fruit had lost their typical appearance, meaning he was no longer able to sell them as table apples. In making such a substantial investment, Imre also wanted to mitigate the impact of the weather on the produce as much as possible and ensure the long-term viability of the orchard in the face of a changing climate.

Objectives

In order to revive and sustain table high-quality apple production on his farm while protecting the fruit against extreme weather events, Imre Rácz implemented two projects funded by the Hungarian Rural Development Programme.

Activities

Project activities included:

- Replacing the nearly 22-year-old plantation. A total of 23 600 trees were planted on 7.5 hectares. Thanks to the favourable weather and professional work, no more than 20 trees were lost, which constitutes a very good ratio. Imre Rácz planted trees with crowns because, in this way, a harvest was possible even in the first year. The trees came from Zala County (Western Hungary). The 'Golden' and 'Idared' trees were replaced with a combination of the same varieties along with 'Evelina' and 'Heroine'. This combination of varieties was chosen so that ripening does not occur all at the same time. Within the framework of the orchard replanting action, Imre was able to purchase machinery up to 35% of the total budget. This included a tractor, a tree-shaking machine and a collecting/pick-up machine.
- Installing an efficient irrigation system to protect the trees in times of drought, laying out an ice protection net against hail and purchasing two wind machines to guard against frost damage at temperatures as low as -5 degrees Celsius.

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Main results

- By replacing the nearly 22-year-old plantation, Imre can again produce perfect-looking apples and sell them for a good price, ensuring a strong and stable income for Imre's farm and his family.
- The wind machines produce excellent results down to -5 degrees Celsius. However, these systems are not sufficient in colder conditions, where the not-very-environmentally-friendly approach of burning damp hay bales is used. However, that method is a last resort when there is a risk of total crop loss.
- The investments have secured the jobs on the farm. The farm provides full-time jobs for three people and plenty of temporary seasonal work. During the harvest time of August to November, 20-40 people work on the farm, many of whom return at other moments of the year to undertake tasks such as pruning, soil work, etc.

Key lessons and recommendations

- CAP funding is available to help adapt food supply resilience to changing climate challenges.
- Anyone who is considering planting an orchard should consider the increasing frequency of extreme weather events. It is not worth making such a huge investment if you cannot also put measures in place to protect trees against frost damage, hail, sun and drought. According to Imre Rácz, a commercial tree plantation today must at least have an ice protection net and an irrigation system.

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