

SLOVENIA

Bioeconomy

Location

Spodnji Duplek

Programming period

2014 – 2020

Priority

P4 – Ecosystems
management

Measure

Beneficiary of M10 - AECM

Funding (EUR)

Total budget 6 675.95
EAFRD 2 940.76
National/Regional 735.19
Private 3 000.00

Project duration

2015 – 2018

Project promoter

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The project took nature-friendly vine cultivation on a family farm a step further to develop zero-waste processing methods that valorise all by-products of grapes in a sustainable and fully circular way. The resulting seeds, oil and flour have proved very popular with customers.

Summary

The Kokol House of Wine grows 2.7 ha of vines in the Podravje region of Slovenia. The vines are managed using methods that reduce the negative impact of farming on the biodiversity and environment, and contribute to the mitigation of and adaptation to climate change. The environmental footprint of the farm has been further reduced by developing a closed loop that refines all wastes of wine production into new commercialised products.

Grape seed oil is used as a food stuff and in cosmetics, while the flour generated by the cold pressing of grape seeds is used as both a nutritional supplement and as feed for livestock. Grape pomace without seeds is used as a fertiliser in vineyards.



Results

2.7 ha of vineyards are cultivated totally free of herbicides and with minimal use of insecticides. The winemaking process produces 0% waste thanks to circular practices and new product development. Approximately 1 000 kg of grape seeds are harvested and processed each year, a rise from 300 kg in 2017 and 500 kg in 2018. The grape seeds, grape seed oil and flour have been sold out each year and they currently account for approximately 10% of the business turnover. Through the marketing of grape seed products, the project has increased awareness of healthy eating and the use of cold-pressed oils, as well as helping to preserve the environment and jobs.

Lessons and recommendations:

- ❑ Environmental sustainability in high-quality wine production can cover the whole process from cultivation methods that respect the environment to processing that efficiently re-uses all wastes and by-products.
- ❑ Viticulture has its own season and a precisely defined technological process (cultivation and pruning of the vine, tending the crop, harvesting, pressing and cellaring). Its by-products must be separated, dried, screened and stored immediately after pressing, while pressing the oil and grinding the seeds into flour may be carried out throughout the year.
- ❑ The development of a farm logo, labels, promotion material and packaging for new products has given the farm more visibility. Marketing activities at fairs, on websites and through social media has increased the sales of all the products (including wines).

Context

Kokol House of Wine is committed to environmentally sound agriculture, aiming to strike a balance between food production and the protection of the environment. It applies nature-friendly land management practices on its vineyards. In line with the principles of circularity and resource efficiency, the farm also explored the potential of using by-products from the wine-making process (stems, grape skins and grape seeds) that had previously gone to 'waste', and found that the pressing of grape seeds results in a high-quality oil that can be used for human nutrition and in cosmetics. The newly developed grape seed by-products now provide a new income for the farm and support its profiling as an innovative, sustainable and high quality wine producer.

Objectives

- Increase the sustainability of wine production through the application of natural and nature-friendly cultivation methods and introducing circular practices in the processing.
- Use research and development to develop new products made from wine making waste (the grape seed itself, cold-pressed oils, flour).
- Preserve jobs on farms and potentially improve the local tourism offer.
- Increase the processing capacity through the development of partnerships with other wine producers.

Activities

The farm cultivates 2.7 ha of vineyards and processes grapes into wine. The vineyards benefit from the agri-environment-climate (AEC) payments.

The environmental measures applied in the vine cultivation include the following:

- VIN_VABE — the use of pheromones and adhesive traps for the purpose of monitoring harmful insects;
- VIN MECHANISATION – mechanical weed control (underneath vines);
- VIN insecticide – elimination of the use of insecticides.

To extend the nature friendly methods throughout the wine production process the farm also started valorising what had hitherto been regarded as 'waste', to the point that the whole wine production process is today waste free. The approach has offered the farm an additional income through new, value added products.

By testing various methods of grape seed drying, manual cleaning and sorting, the Kokol House of Wine can now produce grape seeds that are clean, dried, of good quality, and suitable for further processing. The oil extracted through cold pressing grape seeds is prized for its virtues in both food and cosmetic products, as the grape seeds contain a powerful antioxidant (Bioflavonoid - Oligomeric Proanthocyanidin complex).

The residual seeds from the press are dried and then ground into a flour that is used as a food supplement or as feed for livestock. Seedless grape pomace is used as a natural fertiliser in the vineyards.

Other activities included developing a logo for the farm, as well as a label and other promotional materials, to market and promote the new products, promoting them at fairs, setting up a farm shop, launching a website and Facebook page, and developing aftersales advice.

Main Results

2.7 ha of vines are being managed in a way that has minimal impact on soil, ground water and biodiversity. Thanks to abandoning the use of herbicides and insecticides the farm produces no consequent chemical burden on the environment.

The waste from wine processing is being used as raw material for new, value-added products or as natural fertiliser in the vineyards.

In the space of three years, the farm successfully developed the innovative idea of transforming the 'waste' generated during the wine production process into new products with positive health benefits. These new products could then be commercialised as food and cosmetics.

Approximately 1 000 kg of grape seeds were harvested and processed in 2019, a rise from 300 kg in 2017 and 500 kg in 2018. This figure is anticipated to increase further as new partnerships with other producers are developed.

Grape seeds currently account for approximately 10% of the business turnover, which is substantial in relation to the quantity of raw material extracted.

The farm has become a business success story which is open to participation by winemakers from the local and regional area, especially in supplying grape seeds for oil extraction. It sets an example of environmentally sustainable wine making from cultivation throughout the production process.

Key lessons

The project is a good example of how environment and climate friendly practices in agriculture and food production can lead to diversified and additional economic benefits.

The response from those buying new products has been overwhelmingly positive. This has provided an additional impetus to the continuation and further development of the farm's activities (including investing in a new store, a new oil press and new bottling facilities, as well as new business premises for organising health-related workshops, etc.).

Other regional wine producers have expressed an interest in the farm, and they are encouraged to either adopt the grape seed processing technology themselves or work in partnership with The Kokol House of Wine. The project has also attracted the attention of local municipality officials, the Local Action Group, as well as other associations and organisations cooperating with the farm. The project is seen as an example of good practice.



The project contributes to the objectives of European agricultural policy, particularly in terms of environmentally-friendly farming, the circular economy, and the creation of value-added products from 'waste' materials. It also contributes to the sustainable development and management of the countryside and natural landscape, as well as preserving rural jobs, encouraging local production, processing and sales, and increasing the farm and the local population's purchasing power.

Additional sources of information

www.facebook.com/hisavin.kokol

*This project has been categorised under 'Bioeconomy' by the nominating National Rural Network