

FINLAND

Biodiversity's restoration, preservation & enhancement

Location
Hyvinkää

Programming period
2014 – 2020

Priority
P4 – Ecosystems
Management

Measure
M11 – Organic farming

Funding (EUR)
RDP support 160
EUR/ha/year

Project duration
2015 – 2020

Project promoter
Knehtilä organic farm

Contact
markus.eerola@gmail.com

Website
n/a

An award-winning organic farm in Finland set up a food production network with neighbouring farms aiming to achieve energy and nutrient self-sufficiency.

Summary

Knehtilä Farm is focused on organic farming and in 2015 it won the WWF Baltic Sea region environmentally friendly farm competition. The farm is also at the centre of a cooperative food production network based on energy and nutrient self-sufficiency. This multi-enterprise network, located in Hyvinkää, is the first of its kind in Finland. It aims to produce local, organic food (e.g. oats) using bioenergy and recycled nutrients.



Results

Knehtilä Farm has developed a network of several organic producers and processors. The farm has just opened a service station, where cars can be refuelled with organic biogas.

Biomass is produced from green manuring in Knehtilä's organic crop rotation which is combined with hen manure and manure from the local horse stables. The nutrient-rich digestion residue from biogas production is then used as organic fertiliser and soil conditioner in the farm fields.

Lessons & Recommendations

- ❑ The "Palopuro symbiosis" system, is based on a closed biomass chain and the cooperative is able to operate in a sustainable manner. The model should be replicated by other farms across Finland. Cooperation could be the answer to a sustainable and vibrant organic sector in Finland.

Context

The Finnish Mainland Rural Development Programme (RDP) supports active farmers converting to organic production, or already engaged in it. The farmers must comply with the organic plant production rules as set in the Council Regulation (EC) No 834/2007 and the related eligibility conditions. For commitments undertaken the payments are made annually per hectare. Parcels covered by commitments may be exchanged between farmers, if both farms have undertaken commitments on organic production. As a rule, all parcels on a farm must be converted to organic production. The commitments may also exclusively cover arable land used for vegetable production.

In 2015, Knehtilä farm won the WWF Baltic Sea region environmentally friendly farm competition. During the Finnish EU presidency in 2019, the Knehtilä farm hosted a visit of EU Ministers of Agriculture.

In addition to meeting the organic production support criteria, Knehtilä farm recognised the need to develop cooperation with other organic farms in its neighbourhood, Palopuro village, in the municipality of Hyvinkää. This project was supported by the University of Helsinki. The farm is also at the centre of a cooperative food production network based on energy and nutrient self-sufficiency. This multi-enterprise network is located in Hyvinkää and is the first of its kind in Finland. It aims to produce local, organic food (e.g. oats) using bioenergy and recycled nutrients. This cooperative serves as a model for organic food production and processing which is truly energy and nutrient self-sufficient.

Objectives

The objective of Knehtilä farm was to fulfil the organic production criteria in the Finnish RDP in order to be eligible for the organic production support through the five year commitment.

In addition, Knehtilä farm wanted to increase cooperation with their neighbouring farms, a process known as “Palopuro symbiosis”.

Activities

During the five year commitment period at least 30% of the area covered must be under a cash crop. The entire commitment area may be under grass only on farms where the harvest is mainly used as feed for the farm's own cattle, or on farms with cattle where the farm engages in regular cooperation that have undertaken a commitment on organic livestock production.

At the expiry of the five-year commitment period, the commitment may only be renewed on a farm that has livestock and whose entire arable land area is under grass. Additionally the farms must have converted to organic livestock farming for all their animals. Alternatively, the farm must cultivate cash crops as explained above. The eligible cash crops are specified according to national provisions. A farm that has undertaken a commitment to convert the arable land to organic production must, in the fourth and fifth year of the commitment, have at minimum 30% of the area covered by the commitment, under a cash crop.

The “Palopuro symbiosis” idea was implemented through these four steps:

1. Creating an energy and nutrient self-sufficient food production system that is locally based and transparent to the community and the consumers of the products;
2. Increasing the economic profitability through the integration of different but connected operations in production and processing. This integration will minimise the need to purchase inputs of energy, feeds and fertilisers. In addition, the cooperative will be making additional income by selling excess bioenergy through establish routes;
3. Increasing energy self-sufficiency by reducing the greenhouse gas emissions per unit of product. In addition, there will be an effort to increase the nutrient cycling in organic materials and processes, while reducing nutrient loss to the environment; and
4. Strengthening the local community by reconnecting the consumers with the source of their food. This project brings consumers and producers together and allows for a transparent and understandable production process.

Main Results

Knehtilä Farm has developed a network of several organic producers and processors. In the integrated system the grain from the fields is milled in Knehtilä and baked to make bread by Samsara, an organic bakery which has established its operations on the farm. The residues from milling and baking have the potential to be used as feed for the hens in the neighbouring henhouse. They can also be utilised as an energy source for biogas production. The farm has just opened a service station where cars can be refuelled with organic biogas.

Anaerobic digestion is used to process biomass from green manuring in Knehtilä's organic crop rotation, combined with hen manure and manure from the local horse stables. The result is biogas, used mainly for drying grain, heating the bakery's ovens, running the farm's machinery and selling as fuel for cars. The nutrient-rich digestion residue from the biogas production is used as an organic fertiliser and soil conditioner in the farm's fields.

Key lessons

With the "Palopuro symbiosis" system the biomass loops are closed and the cooperative is able to operate in a sustainable manner. The aim is for this model to be replicated by other farms across Finland. Cooperation in this manner could be one of the answers to a sustainable and vibrant organic sector in Finland.

"Looking for better farm profitability has taken us on this adventurous journey that seems almost never-ending! It has also taught us about the potential of transnational networks and cooperation: for example at the moment we are part of Wageningen University Lighthouse project, paving the way towards future food production together with ten other model producers."

Additional sources of information

www.youtube.com/watch?v=ISJWpSc4o04&feature=emb_title