

Finland

Carbon conservation & sequestration

CAP funds help Finnish farmers better understand carbon sequestration best practices.

Summary

Agriculture can play a key role in addressing the carbon sequestration challenge and it is important to increase farmers' knowledge of how to bind carbon in the soil cost-effectively. This cooperation project on 10 pilot Finnish farms measured the carbon



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sequestration of fields and examined the economic benefits of carbon farming. The project tested the effectiveness of different carbon farming practices and organised awareness raising, training and dissemination activities aimed at farmers and consumers, championing the important role of agriculture in carbon sequestration.

Project Results

Research data from this project increased understanding of carbon sequestration and the effects of carbon farming on the soil's growth conditions and nutrient circulation. This data helps the agri-food sector plan effective targeted carbon farming practices.

Lessons & Recommendations

- Peer learning and farm demonstration events are proven capacity building techniques for promoting CAP policy priorities like carbon sequestration
- Old seabed areas can have high levels of acidic sulphate and their subsoil can have higher carbon reserves than conventional arable land.

Location

Nationwide

Programming period

2014 – 2020

Priority

P5 – Resource efficiency & climate

Measure

M16 - Cooperation

Funding

Total budget 326 970.00 (EUR)
EAFRD 109 861.92 (EUR)
National/Regional 151 714.08 (EUR)
Private 65 394.00 (EUR)

Project duration

2019 – 2020

Project promoter

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Context

Agriculture has a large potential to contribute to carbon sequestration challenges. It is estimated that one of the most important ways of mitigating climate change in agriculture is to exploit the potential of arable land to sequester carbon. Through soil respiration, carbon dioxide is released from the soil into the air, which is part of the normal carbon cycle of the environment. However, agricultural practices can speed up this release of carbon, thereby releasing more carbon into the atmosphere than it binds to the soil. At the same time as combating climate change by sequestering carbon in the soil, the soil's fertility and nutrient holding capacity of a field can be improved. This often increases the productivity of a field and its resilience against extreme weather phenomena.

Finland's Ilmastositurit project focused on farmland situated on old seabed areas, where there are high levels of acidic sulphate. Acidic sulphate soils play a key role in carbon sequestration, as their subsoil has higher carbon reserves compared to the subsoil of conventional arable land. However, carbon cannot be released into the atmosphere if the conditions in the subsoil are anoxic, so underwater drainage also acts as a mitigator of environmental damage. Therefore, it is particularly important to increase local farmers' knowledge of how to bind carbon in the soil and thus contribute to curbing global warming by identifying agricultural practices that are easy for farmers to apply cost-effectively to improve carbon sequestration.

Objectives

The Ilmastositurit project aimed to find farm-specific solutions for improving carbon sequestration through efficient use and recycling of nutrients and risk management. The project also had goals to increase the skills of farmers and project actors to respond to carbon sequestration challenges.

Activities

The project was implemented on 10 pilot farms by expertise from Finland's agri-food sector including research bodies.

Carbon sequestration measurement involved planning the project measures together with the pilot farms,

completing the actual measurements, and analysing the data. A baseline survey first determined previous agricultural practices implemented on the field, previous crops cultivated, and soil conditions. Tests then took place on situational grazing or versatile silage grass (livestock farms) as well as on a mixture of undersown crops and intermediate crops (plant production facilities).

Knowledge development for farmers increased the skills of project actors and pilot farms (as well as those of people and organisations outside of the project) concerning carbon sequestration practices and their various impacts. This project activity included organising demonstration days and field trips, seminars and webinars (on soil growth conditions and recycled nutrients, as well as undersown crops and intermediate crops).

Improving the agricultural brand raised positive awareness about climate impacts of agriculture and carbon sequestration solutions. It highlighted environmental impacts of Finnish agriculture and food production by communication activities such as publishing articles and producing seminars, podcasts, and a documentary.

Main Results

Research data from this project increased understanding of carbon sequestration and the effects of carbon farming on the soil's growth conditions and nutrient circulation. This data helps the agri-food sector plan effective targeted carbon farming practices. Farmers learned how to optimise carbon sequestration by plant selection, cultivation techniques and crop rotation.

Raising consumer awareness helped to influence the climate-friendly nature of agriculture.

Key lessons

Peer learning and demonstration events for farmers are popular and productive capacity building techniques that can help implement CAP policy priorities such as carbon sequestration. Old seabed areas, where there are high levels of acidic sulphate, can play a key role in carbon sequestration, as their subsoil can have higher carbon reserves compared to the subsoil of conventional arable land.