





# **Innovating for organics**

Organic agriculture in EIP-AGRI Operational Groups

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## Introduction

EIP-AGRI, or the European Innovation Partnership for Agricultural Productivity and Sustainability, was launched by the European Commission in 2012 to foster a competitive and sustainable agricultural (and forestry) sector. EIP-AGRI takes into account the complex nature of innovation, which depends not only on the solidity of a creative idea, but also on its practical application and the willingness of farmers and practitioners to take it up. In this way, EIP-AGRI defines a real innovation as "an idea put into practice with success". Therefore, EIP-AGRI brings together actors with complementary knowledge (farmers, advisors, researchers, businesses, NGOs, etc.) to devise innovative responses to concrete problems and to develop academic findings into practical applications.

EIP-AGRI has a EU level component and a national component. The EU level component is funded through Horizon 2020, the EU's framework programme for research and innovation.

This brochure focuses on the national component, which are the Operational Groups funded by the Rural Development Programmes of Member States and regions. Operational Groups are innovation projects that tackle specific practical issues and opportunities according to the needs of the agricultural (or forestry) sector.

The composition of Operational Groups should be tailored to the objectives of the specific project and may vary from project to project. They can be made up of - for instance - farmers, farmers' organisations, advisers, researchers, NGOs, businesses or anyone else who is well placed to help realise the project's goals. Operational Groups are funded in all Member States, except for Denmark, Estonia and Luxembourg. In total 3218 groups are expected to be funded in the period 2014-2020. With only around 300 started yet, the bulk of them still needs to be selected and approved by national or regional authorities.



## Introduction

Organic farming offers a good basis for engagement in interactive innovation projects such as Operational Groups. Traditionally, organic farmers have actively had to seek new ways of innovating, because the mainstream system of agricultural research and advice did not cover the needs of the organic sector. This encouraged close collaboration between farmers and scientists in participatory research. Organic farmers thus have a natural interest to take part in Operational Groups. This is also clear from the numbers. More than 10% of Operational Groups that started so far - 40 out of 300 - are dealing with organic farming. This brochure highlights four examples, from four different countries. Three of the Operational Groups do engage both organic and conventional farmers. All Groups produce outcomes that are relevant beyond organics, for the whole agri-food sector.

While this brochure only has space for four Operational Groups, descriptions of many more Operational Groups are available on the Innovation Arena of TP Organics. As new Operational Groups start on a rolling basis, the Innovation Arena is continuously being updated. The Innovation Arena is meant as a source of inspiration for other farmers and scientists, as well as Managing Authorities of Rural Development Programmes that yet need to select Operational Groups.

The brochure ends with concluding remarks highlighting the need to prrioritise organic agriculture in Operational Groups. In annex, a list of all National Rural Networks is available for those who want to find out more about the specific implementation of Operational Groups in their country or region. General information about setting-up Operational Groups can be found in this brochure, published by the EIP-AGRI Service Point.



# Alternative weeding methods in vegetable production

**Location:** Languedoc-Roussillon, France **Project duration:** 2 years **Total budget (€):** 87 942

### **Objectives of the Operational Group**

- Identifying and testing new, more efficient and more environmentally friendly solutions for weed control in asparagus, onion, carrots and artichokes
- Testing new strategies and alternative methods to reduce use of chemical herbicides
- Validating for each weed community the best control strategy among the available measures: mulching, false seedbed, solarisation, biological weed control products, mechanical weeding ...
- Adapting crop management (irrigation, fertilization ...) to limit the impact of weeds on the crop

### **Benefits for farmers**

Farmers will learn about more environmentally friendly weed control strategies. Outcomes of the project will be shared through field visits, technical publications and articles in the press.

### Benefits for organic and sustainable agriculture

The work of the Operational Group will encourage farmers to adapt their weed control strategy and reduce use of chemical herbicides.

# **Exchange between organic and conventional** farmers

Many results can directly be used by organic farmers. Conventional farmers can reduce use of chemical herbicides and replace or combine them by alternative weed control measures.



# Alternative weeding methods in vegetable production

### Use of outcomes in other countries

Most of the results can be used in other countries, depending on the climatic conditions

### **Building the Operational Group**

The Operational Groups was initiated by the Experimental Centre for Fruits and Vegetables in Roussillon (SICA CENTREX). The other partners are a regional organic farmer association, the regional chamber of agriculture and another regional experimental station specialized in vegetable productions.

### **Support of the Operational Group**

The Rural Development programme covers 50% of the budget for field trials and 80% of the budget for dissemination of results. The rest of budget is provided by own funds of the experimental stations.

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More info on the Innovation Arena here.





# Better baking with less protein

**Location:** Lower Saxony, Germany **Project duration:** 3 years **Total budget (€):** 562 995

### **Objectives of the Operational Group**

- Detecting and developing wheat varieties and breeding lines adapted to low nitrogen availability, with high baking performance yet medium or low protein contents.
- Developing a direct quality assessment of wheat according to its true potential, not based on wet-gluten levels.
- Optimising a micro-baking test for winter wheat that works with 20g of flour

### **Benefits for farmers**

Farmers contribute to and learn about the selection of new wheat varieties adapted to organic farming and local conditions in Lower Saxony, which are characterized by poor, sandy soils and limited nutrient availability.

### Benefits for organic and sustainable agriculture

Use of adapted wheat varieties and new quality criteria can raise the profitability of organic wheat production in Lower Saxony for farmers, mills and bakers, hence stimulating new and more sustainable value chains.

# Exchange between organic and conventional farmers

This Operational Group is only composed of organic farmers and other operators in the organic value chain, but outcomes are relevant for all cereal farmers that want to reduce inputs and be rewarded for this in the value chain.



# Better baking with less protein

#### Use of outcomes in other countries

The micro-baking test can be applied by anybody interested. Criteria for wheat breeding and quality assessment can be modified for other countries, which will lead to more profitable cultivation and processing of organic wheat.

### **Building the Operational Group**

The Operational Group was built by a plant breeder at the "Cereal Breeding Research Centre Darzau" in Lower Saxony. Apart from that research centre, the Group is composed of four organic farmers, two organic farm associations and two processing companies.

### **Support of the Operational Group**

The EU Rural Development Programme covers 80% of the costs. The Ministry of Food, Agriculture and Consumer Protection of Lower Saxony covers the remaining 20%.

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More info on the Innovation Arena here.





# CTF - Controlled Traffic Farming

**Location:** Flanders, Belgium **Project duration:** 16 months **Total budget (€):** 33 250

### **Objectives of the Operational Group**

- Supporting farmers to implement Controlled Traffic Farming (CTF). Controlled traffic lanes prevent damage to soil structure and soil compaction between the wheel tracks.
- Improving feasibility of CTF in medium-sized farms.

### **Benefits for farmers**

Three medium sized organic farms and one conventional farm will be accompanied in the implementation of CTF. For each farm, a SWOT-analysis and a CTF-implementation plan will be made. To support this, available knowledge in literature as well as existing experiences will be explored together with the farmers. Activities also include a study trip to learn about CTF-implementation abroad.

### Benefits for organic and sustainable agriculture

The project should make CTF more accessible and common in Flemish (organic) agriculture. CTF is a technical innovation with proven benefits for soil structure, plant roots and soil life. It can be well combined with reduced tillage and mechanical weeding and reduces labour intensity of organic farming.

# **Exchange between organic and conventional** farmers

Both organic and conventional farmers take part in the Operational Group. Awareness of the importance of soil quality and crop performance and interest in technical innovations are common interests of these farmers.



# CTF - Controlled Traffic Farming

### Use of outcomes in other countries

The outcomes of the project will be synthesised in a report to inspire other farmers. Outcomes will also be shared through an open field day, networking meetings and publications in the agricultural press. Lock-ins preventing the implementation of CTF will be discussed with machine manufacturers and researchers to inspire further research and development.

### **Building the Operational Group**

Inagro, a research and advisory centre in the West of Flanders, took the initiative for the Operational Group. Advisers from INAGRO have had several talks about CTF with individual farmers and machinery suppliers in recent years. In 2016, INAGRO implemented CTF on its own organic research farm. The formation of an Operational Group was the natural next step for the group to make.

### **Support of the Operational Group**

The Operational group is supported by the EU Rural Development Programme and the Flemish government. Participants also pay a small contribution themselves.

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More info on the Innovation Arena here.



# Differentiated grassland management

**Location:** Upper-Austria, Styria (Austria) **Project duration:** 3 years **Total budget (€):** 156 000

### **Objectives of the Operational Group**

- Helping farmers to implement the concept of differentiated grassland management
- Finding practicable solutions for cultivation and fertilisation of grassland

#### **Benefits for farmers**

Together with the researchers in the Operational Group, the farmers develop solutions adapted to their grasslands. The project also offers opportunities for learning and exchange of experiences among the participating farmers.

### Benefits for organic and sustainable agriculture

In today's practice, grasslands are often uniformly cultivated. While uniform and frequent mowing may be economically efficient, it generates problems in terms of nutrition supply and grassland condition.

This Operational Group helps farmers to differentiate and optimise grassland management, mowing and fertilisation. Differentiated grassland management has the potential to increase biodiversity on farms while at the same time maintaining the grassland in good condition. The project explores practicable solutions by intensifying the use of good meadows while at the same time extensifying the use of other fields.

# Exchange between organic and conventional farmers

Differentiated grassland management is both relevant for organic and conventional farmers. Both type of farmers need optimal grassland conditions fitting to their management structure and environmental conditions. The Operational Group has a good mixture of farmers with more and less experience with differentiated grassland management, enabling a high level of knowledge exchange.

# Differentiated grassland management

### Use of outcomes in other countries

At the end of the project, after three years, farmers should still implement or be ready to implement differentiated grassland management. To this end an implementation manual will be produced. This can be used by other interested farmers and advisers, including from other countries. It is however important to consider local conditions and adapt the guidelines accordingly.

### **Building the Operational Group**

The organic research and advisory centre "Biokompetenzzentrum Schlägl" and the Research Institute of Organic Agriculture (FiBL) Austria initiated the project following talks with farmers that showed the urgent need for new solutions in grassland management. The partnership of farmers and institutions is made to effectively combine the existing knowledge and know-how.

### **Support of the Operational Group**

The Operational Group is funded by the EU Rural Development Programme, the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, and the Austrian federal states of Upper-Austria and Styria.

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More info on the Innovation Arena here.



## Operational Groups in the Innovation Arena

Only four Operational Groups are showcased in this brochure, but many more are listed in the Innovation Arena of TP Organics' website. TP Organics is collecting descriptions of Operational Groups dealing with organic farming on a rolling basis. Write to <a href="mailto:info@tporganics.eu">info@tporganics.eu</a> if you want your Operational Group to be included in the Innovation Arena.

Operational Groups in the Innovation Arena (as of August 2017):

<u>4AGEPROD – Hay and silage cutting and grass</u> <u>pasture as alternative for soya import</u>

<u>Agroecological Cover – Cover crops to increase</u> soil organic matter and reduce weeds

<u>Alternative weeding methods in vegetable</u> production

Animal welfare for organic laying hens

Better baking with less protein

Control of Rhizoctonia solani in organic potato farming

**CTF - Controlled Traffic Farming** 

<u>Development and cultivation of locally adapted</u> <u>cereal populations</u>

<u>Differentiated grassland management</u>

Establsing value chains of domestic soya

Increasing yield and soil organic matter through reduced soil cultivation and organic fertilization

<u>Innobrotics - Control of western corn rootworm in organic farming</u>

**Innovative compost systems** 

Marketing of laying hens at the end of the laying period and males

<u>OPTIMAGRI - Optimization of conservation</u> <u>agricultural systems</u>

Organic dock control

Population management of local animal breeds



# Operational Groups in the Innovation Arena

<u>PROGRAILIVE – Increasing the production of pulses</u>

QUINOVATION - Quinoa, a profitable and sustainable alternative choice for gluten-free flour

Smart grazing - Optimized pasture management

<u>Strengthening artisanal meat processing and regional meat marketing</u>

<u>Sustainable yield increase in organic cash</u> cropping

Use of composts in organic potato production

<u>VINECO</u> - <u>Increasing irrigation efficiency in</u> <u>conventional and organic vineyards</u>

Winter Harvest - Innovative solutions for producing organic winter vegetables in Austria

Zero herbicides in Mediterranean perennial crops





# Concluding remarks

The examples of Operational Groups in this brochure show that there is big interest from farmers, advisers and researchers to develop new, sustainable and more environmental friendly farm practices. Based on key organic principles such as protecting soil life and biodiversity, using adapted varieties, reducing inputs and adopting a whole-value chain approach - innovations are developed that are critically relevant for the whole agri-food sector.

The examples highlight the relevance of the organic sector to address key sustainability challenges and prove that organic and conventional farmers can collaborate to their mutual benefit.

Thus, it is a good sign that more than 10% of Operational Groups started so far – 40 out of 300 - are dealing with organic farming. Organic farming has in particular been prioritised for Operational Groups in Germany, Austria and some regions in Spain (Catalonia, Basque Country, Extremadura) and Italy (Emilia-Romagna). Agroecology, the principles of which are closely linked to those of organics, is a priority for Operational Groups in France.



# Concluding remarks

EIP-AGRI, with its Operational Groups, is one of the few measures in the Rural Development Regulation that guide and direct investments towards sustainable agriculture. Its stated aim is to "promote a resource efficient, economically viable, productive, competitive, low emission, climate friendly and resilient agricultural and forestry sector, working towards agro-ecological production systems and working in harmony with the essential natural resources on which farming and forestry depend". Despite this, most of the budget for national and regional Rural Development Programmes is still devoted to policy goals not linked to sustainability and so fails to provide opportunities for the EU to transition towards more sustainable agri-food systems and to support farmers who would like to make those moves.

Europe needs an agri-food system that produces healthy food for consumers, provides public goods for society and protects the environment. Innovation, farm advice and extension services, supply chain development, knowledge exchange and infrastructural investments are crucial to achieve this. All of these measures can funded by Rural Development Programmes and be linked to Operational Groups.





# Concluding remarks

By adopting a wide understanding of innovation — considering technological, social and organisational aspects- organic farmers are pioneers in developing sustainable solutions for the challenges facing Europe's agri-food sector. Because of the stringent rule on the use of external inputs — many of which are associated with negative side effects of conventional agriculture- organic farming can open up new avenues.

Increased cooperation between the organic and conventional food and farming sector has much to offer, not only in terms of designing more sustainable production systems, but also for the design of new and resilient business models and cooperation among stakeholders across the value chain.

This brochure ends with two conclusions. First, managing authorities of Rural Development Programmes should know that investing in organic farming generates innovative solutions that will improve the sustainability of the whole agriculture sector. With the majority of the expected 3218 Operational Groups still having to take a start, Member States and regions should prioritise Operational Groups that work on the basis of organic principles and stimulate exchange between the organic and conventional farming sector.

Secondly, organic farmers should know that Operational Group funding is also there for them. The examples in this brochure show that organic farmers have already successfully applied for funding. In all of them, organic farmers had a strong stake in building the Operational Group, which is essential for their success.



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**Estonia: no implementation of Operational Groups** 



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