

Press article long

Improving soils in Portuguese Montado ecosystems

Portuguese Operational Group applies landscaping technique to Montado ecosystem for soil improvement

Many Montado ecosystems in Portugal are suffering from climate change. More frequent droughts and higher temperatures may result in loss of soil organic matter, which makes soils more prone to drought and erosion. This leads to loss of fertility and increases the risks of forest fires. An Operational Group from Portugal is developing a novel forest management practice to restore vitality and productivity.

The Montado is a cultural agroforestry landscape in Portugal and Spain characterised by cork oak and holm oak forests and pastures. The ECOMONTADO XXI Operational Group from Portugal identified loss of soil organic matter due to climate change in about 120 ha of the Montado in Portugal.

Ana Fonseca from the University of Évora is involved in the Operational Group: "The project is coordinated by the Agricultural Society of Freixo do Meio, with farmer Alfredo Cunhal Sendim in the lead. He came up with the idea to apply the Keyline design, which is an Australian landscaping technique. The technique is applied by a special plough and creates a water flow system to move water from wet areas to dry areas. The aim is to maximise rainwater infiltration in the soil and the decrease of erosion due to runoff. There is a higher level of humidity in the soil when infiltration increases and this will lead to a significant improvement of the fertility and structure of the ground. As the climate in Portugal is similar to the climate in Australia, this method is interesting to apply on our soils."

The University of Évora is monitoring different areas in 5 plots to understand if the Keyline approach is an advantage for the soil and the farms. An extensive monitoring plan for tree growth and soil has been set up. Every month, soil moisture, composition and texture are measured at different depths.

In addition to this monitoring, the University is also in charge of the dissemination of the results. The project partners realised that they needed an additional communication tool besides the website and Facebook page to better reach farmers. Ana: "We found out that the information that we disseminated was too abstract. Therefore, we decided to create a portable 3D Model that visualises how the Keyline method works. We showed this model to farmers during two real life meetings on a farm. Farmers were very enthusiastic and some of them immediately started using the technique on their land."

By the end of 2021, the OG will finish the project. Ana: "A delay in the definition and implementation of the monitoring parcels and in marking the Keylines, led to an extension of the data collection period until October 2021. The 2 participating farmers started using Keyline last summer, so it is too early for results. But what I can see, when measuring the soil moisture in the plots is that it responds very well to periods of rain. So, we are looking forward to confirming the first results!"

Press article short

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The Operational Group identified the problem of loss of vitality and productivity in about 120 ha of the Montado in Portugal. The Montado is a cultural agroforestry landscape in Portugal and Spain characterised by cork oak and holm oak forests and pastures. Ana Fonseca is involved in the Operational Group, on behalf of the University of Évora.

The University is monitoring different areas in 5 plots to understand if the Keyline approach is an advantage for the soil and the farms. An extensive monitoring plan for tree growth and soil has been set up. Besides, they are in charge of the dissemination of the results. But, the information on Keyline was too abstract, so that farmers didn't understand it well.

Ana: "We decided to create a portable 3D Model that visualises how the Keyline method works. We showed this model to farmers during two real life meetings on a farm. Farmers were very enthusiastic and some of them immediately started using the technique on their land."

By the end of 2021, the project hopes to confirm the first results regarding soil moisture, composition and texture of the Montado soils.

Background information

Project information

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EIP-AGRI Project factsheet: <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/ecomontado-xxi-agroecologia-aplicada-ao-design-do>

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Pictures

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Farmer Alfredo Cunhal Sendim came up with the idea to apply the Keyline design. The technique is applied by a special plough and creates a water flow system to move water from wet areas to dry areas.

More information on soil

On 13-14 April 2021, the EIP- AGRI Seminar 'Healthy soils for Europe: sustainable management through knowledge and practice' will take place online. This interactive event is dedicated to exchanging practical solutions to soil health problems and discussing what needs to be done for farms to take them up. [More information at the event's webpage.](#)

The EIP-AGRI regularly highlights important themes from European farming and forestry. **Soil has been brought to the spotlight through many EIP-AGRI activities, publications, videos and inspirational ideas.** The **dedicated thematic newsletters and social media campaigns #EIPagriSoil** offer more inspiration for the EIP-AGRI network. Find out more on [soil at EIP-AGRI](#).

EU mission 'Caring for soil is caring for life'

The proposed Horizon Europe mission 'Caring for soil is caring for life' is key for meeting the ambitions of the **Green Deal**, notably the **Farm to Fork** and **Biodiversity Strategy**. It aims to make 75% of European soils healthy by 2030. This mission will help to unlock the potential of soils to mitigate climate change, support biodiversity, ecosystem services and agricultural yields. To reach this ambition, the mission wants to combine research and innovation, training and advice, as well as demonstrate good practices through "living labs" and "lighthouse farms".

To know more about the mission, you can read a [report](#) written by the members of the Mission Board, watch the [Futuris episode](#) (euronews) On a mission to save our soils - the EU's plan to rebuild the land, watch a [presentation](#) of the mission from the R&I days or visit the [mission's webpage](#).

EIP-AGRI projects on soil

Operational Group projects

[272 operational Groups working on soil](#), are available in the EIP-AGRI operational Groups database (update 2 February 2021)

- [Austria](#): 8
- [Belgium](#): 1
- [Finland](#): 2
- [France](#): 26
- [Germany](#): 30
- [Ireland](#): 11
- [Italy](#): 68
- [Latvia](#): 2
- [Lithuania](#): 2
- [The Netherlands](#): 58
- [Portugal](#): 10
- [Slovenia](#): 8
- [Spain](#): 40
- [Sweden](#): 2
- [UK](#): 4

Horizon 2020 projects

- **iSQAPER** - Interactive Soil Quality Assessment in Europe and China for Agricultural Productivity and Environmental Resilience: [website](#) - [CORDIS](#)
- **LANDMARK** - LAND Management: Assessment, Research, Knowledge base: [website](#) - [CORDIS](#)
- **SOILCARE** - Soil Care for profitable and sustainable crop production in Europe: [website](#) - [CORDIS](#)
- **Diverfarming** - Crop diversification and low-input farming across Europe: from practitioners engagement and ecosystems services to increased revenues and chain organisation: [website](#) - [CORDIS](#)
- **DiverIMPACTS** - Diversification through Rotation, Intercropping, Multiple cropping, Promoted with Actors and value-Chains Towards Sustainability: [website](#) - [CORDIS](#)
- **FAirWAY** - Farm systems that produce good Water quality for drinking water supplies: [website](#) - [CORDIS](#)
- **WATERPROTECT** - Innovative tools enabling drinking WATER PROTECTION in rural and urban environments: [website](#) - [CORDIS](#)
- **BEST4SOILS** - Boosting 4 BEST practices for SOIL health in Europe: [website](#) [CORDIS](#) - [other info](#) (Thematic network)
- **EXCALIBUR** - Exploiting the multifunctional potential of belowground biodiversity in horticultural farming: [website](#) - [CORDIS](#)
- **SoildiverAgro** - Soil biodiversity enhancement in European agroecosystems to promote their stability and resilience by external inputs reduction and crop performance increase: [CORDIS](#)

More relevant multi-actor projects and thematic networks [here](#).

EIP-AGRI

The European Innovation Partnership 'Agricultural Productivity and Sustainability' (EIP-AGRI) has been launched by the European Commission in a bid to promote rapid modernisation of the sectors concerned, by stepping up innovation efforts. The EIP-AGRI aims to foster innovation in the agricultural and forestry sectors by bringing research and practice closer together – in research and innovation projects as well as via the EIP-AGRI network. Also grassroots ideas from farmers get developed into innovations through the so-called Operational Group innovation projects.

The EIP-AGRI aims to streamline, simplify and better coordinate existing instruments and initiatives, and complement them with actions where necessary. Two specific funding sources are particularly important for the EIP-AGRI: the EU Research and Innovation framework, Horizon 2020, as well as the EU Rural Development Policy.

[EIP-AGRI Brochure on the EIP-AGRI Network](#)

(EN – BG – DE – ES – FR – GR – HU – IT – PT – RO)

EIP-AGRI Operational Groups

- 98 Rural development programmes provide support to EIP Operational Group innovative projects *
- Over 3200 Operational Groups are planned to be established under the approved RDPs (2014 – 2020)
- Around 2000 Operational Groups projects have been selected for funding and are currently ongoing (or already finished)*. Member States will still start more Operational Group projects which may run until 2025 (under current transitional rules for EU rural development programmes).

* Information officially submitted to the European Commission by RDP managing authorities (November 2020)

EIP-AGRI Operational Groups **are groups of people who work together in an innovation project funded by rural development programmes** (RDPs). They bring together partners with complementary knowledge. The composition of the group will vary according to the theme and specific objectives of each project. Farmers, advisers, scientists, businesses or other relevant partners work together to find practical solutions for specific problems or opportunities for European farmers and foresters. Farmers and foresters need to be cooperating throughout the project to ensure that the innovative solutions are practical and likely to be quickly applied in the field. Read the [basic principles](#). [Innovation support services](#) (including advisers with a focus on innovation), and in particular innovation brokering, can therefore play a crucial role in getting worthwhile projects off the ground by facilitating contacts.

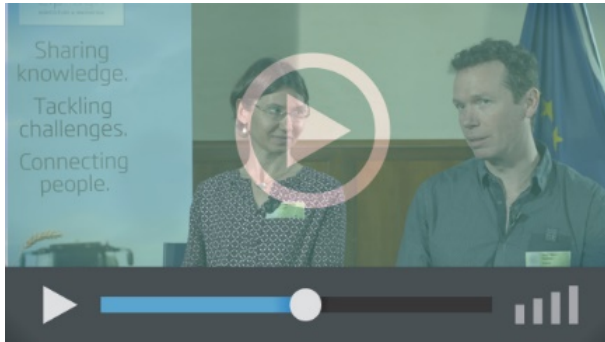
Find out more in the [EIP-AGRI brochure on Operational Groups](#). The brochure on Operational Groups is available in English, Bulgarian, Czech, French, German, Greek, Hungarian, Portuguese, Romanian, Slovak, Slovenian and Spanish.

Operational Groups can benefit from networking and collaborating with organisations from outside their partnership and from other regions and countries, such as other Operational Groups, research projects, farmers' organisations or local authorities and European knowledge networks. Read the [EIP-AGRI Brochure 'Operational Groups – Collaborate to innovate'](#). It shows some examples of successful collaboration. It provides Operational Groups with inspiration and tools for further knowledge exchange within the EIP-AGRI network. This brochure is available in English, Latvian, Romanian and Slovenian.

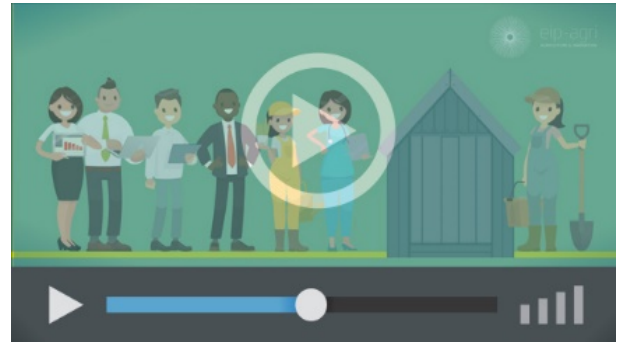
Check out the '[Operational Groups](#)' dedicated section on the EIP-AGRI website, including:

- Around 1700 Operational Groups available in the database
- detailed information on how to set up Operational Groups, on supporting networks and relevant EIP-AGRI seminars and workshops
- links to results and contact details of ongoing Operational Groups in the [EIP-AGRI database](#)
- a [list of all RDP Managing Authorities](#)

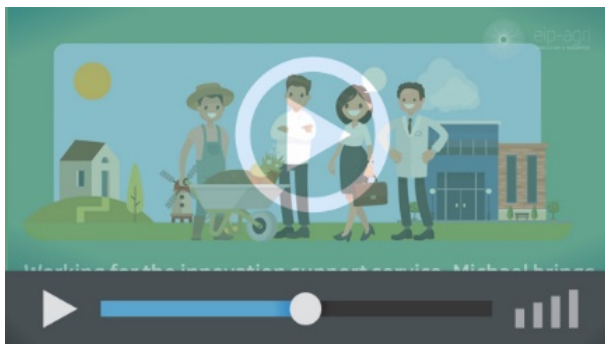
EIP-AGRI videos



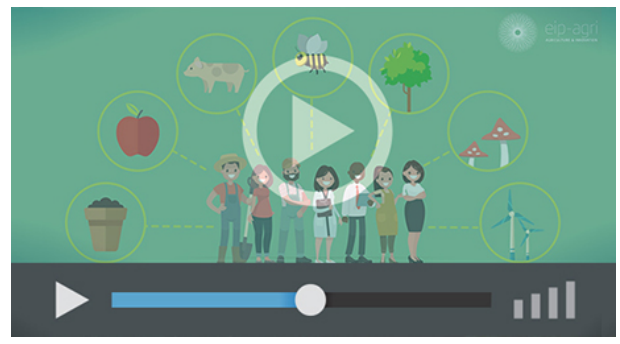
Operational Groups – first experiences



Operational Groups – collaborate to innovate

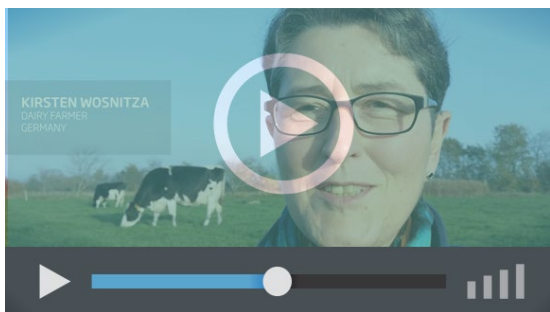


Innovation Support Services, supporting innovation in EU farming and forestry

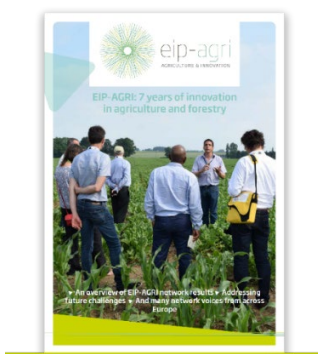


EIP-AGRI Focus Groups, sharing knowledge to inspire innovation

EIP-AGRI, 7 years of innovation



The enthusiasm of the EIP-AGRI network members is essential to the success of the EIP-AGRI, and in ensuring that everyone can benefit. **Watch this EIP-AGRI video** to hear researchers, farmers, advisers, managing authorities and national rural networks about how the EIP-AGRI has helped them over the past 7 years.



Since 2013, the EIP-AGRI has been promoting interactive innovation to make EU agriculture and forestry more sustainable, productive, and fit for the future. This report shows how the EIP-AGRI network has grown into a thriving network. **Read the report**