

Press article long

Sustainable Spanish papayas

Spanish Operational Group tested cultivation of papayas in subtropical and Mediterranean climate

On the Spanish Canary Islands and south-eastern part of Spain, Operational Group Carismed has been working on papaya cultivation. The proximity to European markets allows these papayas to be harvested at a perfect degree of ripeness and the carbon footprint is limited. Therefore, the cultivation of tropical crops in the outermost regions of the European Union can be an interesting option to promote more sustainable and resilient production systems.

Papaya is the third most produced tropical fruit in the world after mango and pineapple. Spain is the only country in Europe which produces this tropical crop. The cultivation is concentrated in the Canary Islands and also in the south-east of Spain (Almería, Málaga, Granada and Murcia).

"The proximity to European markets allows harvesting at the optimum maturation stage, with fruits ripening on the tree, giving consumers an excellent product. The aim of Operational Group Carismed was to study the sustainable cultivation of papayas in a subtropical and Mediterranean climate", says Juan José Hueso. He is involved in the project on behalf of the Cajamar Foundation. The OG is coordinated by ANECOOP (the largest export-import company of fruits and vegetables in Spain) and involves 3 local companies, an association of fruit producers (Coexphal) and 3 research institutes.

Carismed is working towards sustainable and resilient production systems. One way they are doing so, is by growing papaya in greenhouses. Cultivating papaya in a greenhouse, instead of in the open air, can save up to 40% of water for irrigation purposes, because of a lower evapotranspiration. The Canary Islands are the major producers of papaya, due to the perfect climatic conditions for the fruit crop. Many farmers have decided to replace their tomato crops with papaya, taking advantage of the existing greenhouses.

Juan: "What is more, greenhouses can help to protect the crop against intense rain, wind or hail, which occur more frequently due to climate change. Climate control in the greenhouse also allows us to adapt conditions to the optimum. Natural ventilation, shading and misting systems help to withstand high temperatures outside. On the other hand, the use of tools such as tensiometers and suction probes, have allowed us to adjust irrigation and fertilisation to make more efficient use of these resources and reduce losses. In greenhouse cultivation, pest pressure is lower and with proper climate management and biological control, phytosanitary treatments are not necessary."

The project selected four commercial varieties (*Intenza*, *Caballero*, *Sweet Sense* and *Iuve*) and studied their behaviour in four different greenhouses: two in Almería and the other two in the Canary Islands. This helped to identify the best papaya varieties for each cultivation area. Strategies to improve the climate within the greenhouses were established, but also ideal dates for transplanting, plant spacing, irrigation needs, adjustment to fertilisation and biological methods for pest control. Juan: "The project also helped the three companies to jointly start marketing from the Canary Islands and mainland and to start exporting to other European countries. The project demonstrated that papaya is an economically viable and competitive crop that can be successfully exported to the European market."

Press article short

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Background information

In the Canary Islands, fruit and vegetables are the main types of agricultural production. The three main crops are bananas (exported to continental Europe), vineyards and potatoes. A large part of fruit and vegetable production is exported, mainly tomatoes and cucumbers (exported directly to Rotterdam/Southampton), sweet fruit, citrus fruit and tropical fruit such as avocado, papaya, mango and pineapple.

Whereas banana and cherimoya are exported to the mainland, papaya, passion fruit and pitaya are destined for Island consumption but are beginning to be exported experimentally to the European mainland. Operational Group Carismed proved that it is economically viable to successfully export papayas to the European market.

Project information

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EIP-AGRI Project factsheet: <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/carismed-producci%C3%B3n-sostenible-de-papaya-en-zonas>

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Pictures

Click on the pictures to download the high resolution versions. The pictures are free for use, please mention copy right: Operational Group Carismed



Papayas ready for export to the European market.



Cultivation of papayas in greenhouses.

More information on Tropical Crops

The experts from the [EIP-AGRI Focus Group Climate-smart \(sub\)tropical food crops in the EU](#) covered the question 'How to promote (sub)tropical crop diversification and integrated crop-livestock production systems to make them economically viable and more resilient to climate-change?'. The Focus Group report - including a state of play, recommendations, ideas for Operational Groups and research needs on the topic - will be published in Spring 2021.

Tropical Crops and the Farm to Fork Strategy

The experts of the EIP-AGRI Focus Group on Climate-smart (sub)tropical food crops in the EU suggest that these crops can play an important role in the [EU Farm to Fork Strategy](#), part of the European Green Deal. The [European Green Deal](#) aims to transform the EU into a resource-efficient and competitive economy where there are no net greenhouse gas emissions by 2050, where economic growth is decoupled from resource use and where no person and no place is left behind.

The Farm to Fork Strategy considers in particular 'the ongoing transformation of food systems worldwide and the goal of making Europe's food system the gold standard for sustainability'. The Strategy aims at building a food chain that works for producers, consumers, climate and the environment. It recognises in particular the urgent need to reduce farming dependency on inputs, improve animal welfare, and reverse biodiversity loss, and to strengthen farmers' efforts to tackle climate change, protect the environment and preserve biodiversity.

Therefore, (sub)tropical crops, both in outermost regions and in continental Europe, can be interesting options to promote more sustainable and resilient production systems (other than mono-cropping systems), that are better adapted to the challenges posed by climate change.

EIP-AGRI projects on Tropical Crops

Operational Group projects

- **Bioferm** - Management of conservatory of biomasses, nutrients and soil fertility in small family farms in OGMayotte island and the transfer of information - Mayotte (France)
- **ITICan** - Innovative Technical Cultivation in Sugar Cane: Installation of Intercrop Service Plants (Fallow) - Martinique (France)
- **PATATASS** - Evaluation of technical and economic potential for the integration of sweet potato crop in agrobiological and vegetable systems - Normandy (France – continental EU)
- **VALAB** - Integrated Ecosystemic value enhancement of the Guadeloupe Forest Agrobiodiversity - Guadeloupe (France) – [Read the press article](#)
- **+BDMIRA** - Sustainable and competitive sweet-potato at Mira irrigation zone: innovative practices and organizational dynamic - Mira (Portugal- continental EU)
- **Sweet potatoes** (Ipomea batatas) in a strategy of agricultural diversification in the Languedoc-Roussillon region - Continental EU France Languedoc-Roussillon
- **Avocado Innovation** - Spain

Horizon 2020 projects

- **MUSA** - Microbial Uptakes for Sustainable management of major banana pests and diseases - Italy/Spain/Belgium
- **BREEDCAFS** - BREEDing Coffee for AgroForestry System – Italy (and Worldwide)
- **TROPICSAFE** - Insect-borne prokaryote-associated diseases in tropical and subtropical perennial crops - Spain / Italy (and worldwide)
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Other European projects on Tropical Crops

- **Europapaya** - Develop a productive model for papaya production in Spain
- **PARADE-HLB (on Citrus)**, PRODIMAD (yam and taro), INTENSECOPLANTAIN (Plata banana), AgroEcoTOM (Tomato and other solanaceous crops), PAD (Pineapple), RESYMAR (mainly tomato) - Guadeloupe

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)

EIPAGRI 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.

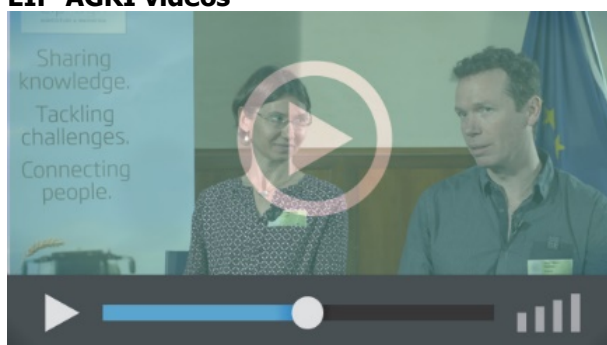
Find out more in the [EIP-AGRI brochure on Operational Groups](#). The brochure on Operational Groups is available in English, Bulgarian, Czech, French, German, Greek, Hungarian, Portuguese, Romanian, Slovak, Slovenian and Spanish.

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.

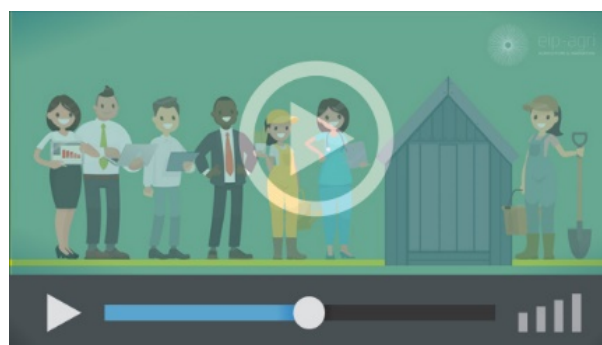
Check out the ['Operational Groups'](#) dedicated section on the EIP-AGRI website, including:

- 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](#)

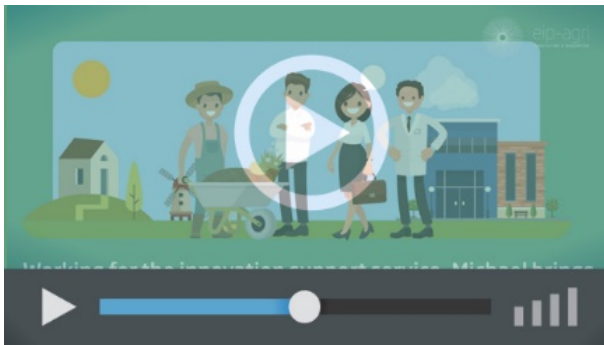
EIP-AGRI videos



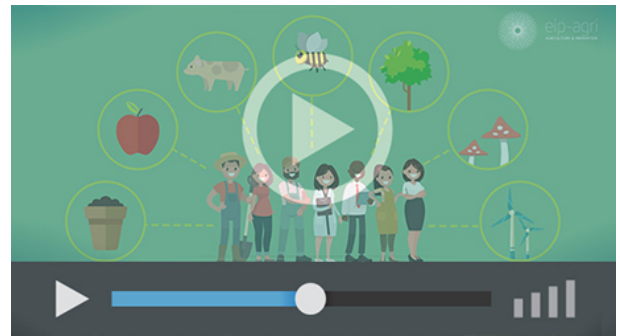
[Operational Groups – first experiences](#)



[Operational Groups – collaborate to innovate](#)

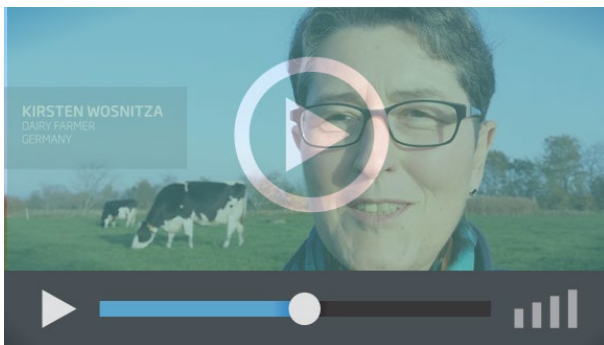


Innovation Support Services, supporting innovation in EU farming and forestry

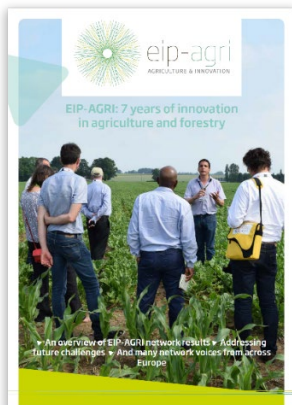


EIP-AGRI Focus Groups, sharing knowledge to inspire innovation

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](#)