4F CROPS
Future Crops for Food, Feed, Fiber and Fuel

Efi Alexopoulou
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Lisbon, 19/11/2010
4F CROPS Project coordinates

- The 4FCROPS project is being funded by 7th Framework Programme (DG Research, KBBE)
- 4FCROPS is a coordination and support action project (Grant Agreement no 212811)
- The project started in the beginning of June 2008 and will last 30 months.
- The total budget is 998.520 euros
- The consortium is consisted by 12 partners (six Universities and six research organizations or institutes)
- The project website is www.4fcrops.eu
## The Consortium

<table>
<thead>
<tr>
<th>Partners</th>
<th>Country</th>
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<tbody>
<tr>
<td>Center for Renewable Energy Sources - CRES (coordinator)</td>
<td>Greece</td>
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<td>University of Catania - UNI.CT</td>
<td>Italy</td>
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<td>Agricultural University if Athens - AUA</td>
<td>Greece</td>
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<tr>
<td>Institute for Energy and Environmental Research - IFEU</td>
<td>Germany</td>
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<tr>
<td>Wageningen UR Food &amp; Biobased Research - WUR</td>
<td>Netherlands</td>
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<td>University of Bologna - UNIBO</td>
<td>Italy</td>
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<td>National Institute for Agricultural Research - INIA</td>
<td>Spain</td>
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<td>University of Lisbon - UniNOVA</td>
<td>Portugal</td>
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<td>Institute of Natural Fibres and Medicinal Plants - INF</td>
<td>Poland</td>
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<td>University of Agricultural Science in Bucharest - UASB</td>
<td>Romania</td>
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<td>National Agricultural Research Foundation - NAGREF</td>
<td>Greece</td>
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<td>Baltic Renewable Energy Centre - EC BREC</td>
<td>Poland</td>
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The **main aim** of the 4F CROPS project is to survey and analyze all the parameters that will play an important role in successful non-food cropping systems in the agriculture of EU27 alongside the existing food crop systems.

The **expected impact** of the 4F CROPS project through its main objective is to prove that a competitive bioeconomy though the production of biofuels and biobased products is a viable option for Europe.
The project 4FCROPS provide answers for the need to cultivate the non-food crops (fiber and fuel crops)

The need for the cultivation of the non-food crops is supported by the following facts:

- The reform of CAP is going to lead to the release of agricultural arable land
- There is an increasing need for fibers crops (to cover the needs for biobased products)
- There is a need for biofuels that will be produced from dedicated crops (for 2020 the target for biofuels is 10%)
- The climate change is going to force especially the south Europe to shift to other cultivations that will need less water, nitrogen that will have salt tolerance, in other words crops that will not need intensive cultivation
Specific project objectives and corresponding work packages

- To review of the current situation of the Land Use in EU 27 (now, 2020 and 2030) and to assess the land availability for non-food cropping systems
- To assess the cropping possibilities of the non-food crops in the existing agricultural systems
- To carry out a comparative cost analysis of the food and non-food crops in short and long term consideration and to evaluate the most critical socio-economic parameters
- To evaluate of the most important environmental by means of an Environmental Impact Assessment (EIA) and a Life Cycle Analysis (LCA) and to indentify the best options (WP4 - Environmental analysis).

WORK PACKAGES:

WP1 - Land Use in EU27 (EC BREC)
WP2 - Cropping possibilities (University of Catania)
WP3 - Economic analysis (University of Athens)
WP3 - Environmental analysis (ifeu)
Specific objectives

- To record the **existing policies**, the **driving forces** for the future crops and to make recommendations for measures that should be taken for the co-existence of food and non-food crops.

- Development of **scenarios for promising non-food cropping alongside food cropping systems**, be defining systems’ boundaries and evaluating the priorities and trends, in short and long time frameworks.

- To disseminate the project findings through the web-site development, the projects workshops, articles, presentations, fact sheets, leaflets, links with previous and on-going activities, etc.

WP5 - Regulatory framework (CRES)

WP6 - Best practices scenarios (WUR)

WP7 - Dissemination and Support actions (CRES)
The concept

Apart from food and feed crops, there is need for growing non-food crops (fibre and fuel crops)

The “4F CROPS” project will
Survey and analyze all the parameters that will play an important role in a successful non-food cropping systems alongside the existing food crop system

The output of the project will be:
Formation of scenarios for successful food and non-food cropping systems taking under consideration the technical parameters (which crops, in which rotation systems, logistics, the role of biotechnology), socio-economics aspects (cost analysis, public acceptance, rural development, farmers income etc), environmental aspects (sustainability), regulatory aspects (co-existence and safety measures when crops using for both food and non-food uses).
5 targeted workshops organized
www.4fcrops.eu

24/3/09 Madrid
“Future non-food crops (fibre and fuel) in EU27”

4/5/10 Lyon
“Towards a successful establishment of the non-food crops in EU27 agriculture”

17/9/08 Bologna
“Market needs of non-food crops and available land use in EU27”

17/11/09 Poznan
“Can the production of non-food crops be environmentally friendly and economically viable”

19/11/10 Lisbon
“Successful scenarios for the establishment of non-food crops in EU27”
A Steering Committee (SC) was nominated made up of Work Packages Leaders and the Coordinator.

Additionally, to the Steering Committee a Scientific Committee was proposed in the kick-off meeting and is consisted from the members of the whole consortium and selected invited key players that play an important role to the development of the non-food crops in EU27. The invited key players plays a very important role in the key thematic workshops an in 4FCROPS success.
# 4FCROPS Scientific committee

<table>
<thead>
<tr>
<th>Steering Committee</th>
<th>Invited stakeholders</th>
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<tbody>
<tr>
<td>Dr. Efi Alexopoulou, CRES</td>
<td>Dr. Ralph Sims, IEA Bioenergy</td>
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<td>Dr. Ewa Ganko, EC BREC,</td>
<td>Dr. Uwe Fritche - OeKO</td>
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<tr>
<td>Prof. Luciano Cosentino, UNICT</td>
<td>Prof. Yiolanda Papatheohari, AUA</td>
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<td>Prof. Peter Soldatos, AUA.eco</td>
<td>Prof. Jesus Fernadez, UPM</td>
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<td>Dr. Guido Reinhardt, IFEU</td>
<td>Dr. Katri Pahkala, MTT</td>
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<td>Dr. Wolter Elbersen, A&amp;F</td>
<td>Prof. Melvyn Askew, Census-Bio</td>
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<td>Dr. Neil Harker, LACOMBE-CANADA</td>
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<td>Dr. Rainer Jannsen, WIP</td>
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<td>Prof. Spyros Kyritsis, AUA</td>
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<td>Dr. Eleftheria Athanasiadou, CHIMAR</td>
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<td>Dr. Luigi Pari, CRA-ING</td>
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<td>Prof. Anfrea Lazzeri, UNIPI</td>
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<td>Mr. Nikos Chatziyiannis, Pellets</td>
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<td>Dr. Massimo Veccheit, CETA</td>
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<td>Dr. Gail Taylor, SOTON</td>
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<td>Dr. Valerio Zuccini, KEFI ITALIA</td>
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<td>Dr. Efthimios Efthimiadis, Bios Agrosystems</td>
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<td>Dr. Alex Gablenz, Elaion Company</td>
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<td>Dr. Martin Knapp, KIT</td>
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<td>Dr. Juan Carrasco, CIEMAT</td>
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<td>Dr. Serge Braconnier, CIRAD</td>
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<td>Dr. Nicola di Virgilio, IBEMET</td>
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## Food

![Food Image](image1.png)

## Feed

![Feed Image](image2.png)

## Fiber

![Fiber Image](image3.png)

## Fuel

![Fuel Image](image4.png)
At the end of December 2008 4FCROPS was selected by DG Research for **twinning opportunities with Canada**. The first meeting took place in **Montreal** (February 2008) with the participation of European and Canadian projects and the second meeting took place in **Pisa** in June 2009.

In the third workshop that took place in **Saskatoon** (October 2010) the twinning including also Australia and New Zealand.

**The selected EU projects are:**
4FCROPS ([www.4fcrops.eu](http://www.4fcrops.eu))
AQUATERRE ([www.aquaterre.info](http://www.aquaterre.info)),
Global bio-pact ([www.globalbiopact.eu](http://www.globalbiopact.eu)),
Novel Tree ([www.noveltree.eu](http://www.noveltree.eu)),
FORBIOPLAST ([www.forbioplast.eu](http://www.forbioplast.eu)),
ENERGYPOPLAR ([www.energypoplar.eu](http://www.energypoplar.eu)),
AgFood Trade ([www.agfoodtrade.eu](http://www.agfoodtrade.eu)),
EU-Pearls ([www.eu-pearls.eu](http://www.eu-pearls.eu)),
ICON ([www.slu.se](http://www.slu.se)),
DISCO ([www.disco-project.eu](http://www.disco-project.eu)),
RENEWALL ([www.renewall.eu](http://www.renewall.eu)),
Lipoyeasts ([www.lipoyeasts.ugent.be](http://www.lipoyeasts.ugent.be)),
Oxygreen ([www.rug.nl/oxygreen](http://www.rug.nl/oxygreen)),
Crops2Industry ([www.crops2industry.eu](http://www.crops2industry.eu)),
AgroCos (new project)
Participation of 4FCROPS in the twinning between EU and Argentina / MERCOSUR projects

In the beginning of March 2009 4FCROPS was selected for twinning opportunities with Argentina and MERCOSUR projects.

The first meeting of this action took in Buenos Aires in May 2009, while the second in Athens (30/6 and 1/7/2010).

The selected EU projects are:
4FCROPS (www.4fcrops.eu)
SWEETFUEL (www.sweetfuel.eu)
MycoRed (www.mycored.com)
TriticeaeGenome (www.triticeaegenome.eu),
VALORAM (http://valoram.ucc.ie),
ENDURE (www.endure-network.eu),
LEGUMES FUTURES (new project)
AgroCos (new project)
FIBER

4FCROPS created the website for both twinning actions (Canada and Argentina)

www.ec-argentina.eu
4FCROPS created website for both twinning actions (Canada and Argentina)

www.ec-canada.eu
The website that had been created for EU-Canada twinning (www.ec-canada.eu) soon will be replace by www.ec-ca-au-nz.net in order to include the two new members in the twinning Australia and New Zealand.
Thank you very much for your attention.

Your active participation in the questions at the end of each session as well as in the round table discussion is very welcomed.

More information about the project can be found in the project website www.4fcrops.eu

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