EIP-AGRI Workshop Cropping for the future

4-5 June 2019 – Almere, the Netherlands

eip-agri
AGRICULTURE & INNOVATION

funded by European Commission

Programme

#EIPAgri
#croprotation
#cropdiversification

TUESDAY 4 JUNE

08:00-09:00 Registration

Introduction to the workshop

09:00-09:15 Welcome by the host and by DG AGRI

- *Martijn Weijtens, Ministry of Agriculture, Nature and Food Quality, the Netherlands*
- *Anikó Seregélyi, Unit B2 – Research and Innovation, DG AGRI, European Commission*

09:15-10:30 Getting to know each other & setting the scene

Introduction of the programme and getting to know each other (Impromptu Networking)

- *Niels Rump, EIP-AGRI Service Point*

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TUESDAY 4 JUNE

Setting the scene and preparing interaction

- *Edoardo Costantini, EIP-AGRI Service Point*
- ***Bhim B. Ghaley, ERA-NET 'FACCE SURPLUS' project 'SustainFARM'***
- *Paolo Mantovi, Operational Group 'Agroecological Cover'*
- *Roberto Garcia-Ruiz, PRIMA project 'SUSTAINOLIVE'*
- *Judith Treis, Operational Group 'Organic vegetables'*

Networking for crop rotation & crop diversification

10:30 – 11:15 **Discovering diversity** – getting familiar with projects represented at the workshop

Sharing projects with a cup of coffee – interactive session (Project Mesclun)

11:15 – 12:30 **Building common ground**

Looking for shared challenges and opportunities – interactive session (World Café)

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SustainFARM

Innovative and sustainable intensification of integrated food and non-food systems to develop climate-resilient agroecosystems in Europe and beyond (SustainFARM)

Bhim B. Ghaley (project co-ordinator)
University of Copenhagen, Denmark

FACCE SURPLUS
SUSTAINABLE AND RESILIENT AGRICULTURE FOR FOOD AND NON-FOOD SYSTEMS

Objectives

- Assessment of productivity in Integrated Food and Non-food System (IFNS)
- Develop metrics for agronomic productivity and environmental performance assessments in IFNS
- Valorization of woody components, co-products and residual wastes
- Total budget: 1.905 K (7 countries)
- Duration: March, 2016 – August, 2019

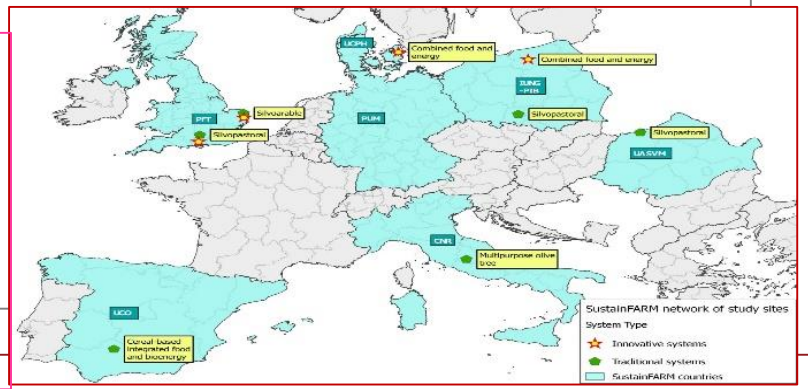
FACCEJPI

FACCE-JPI
Call for proposals

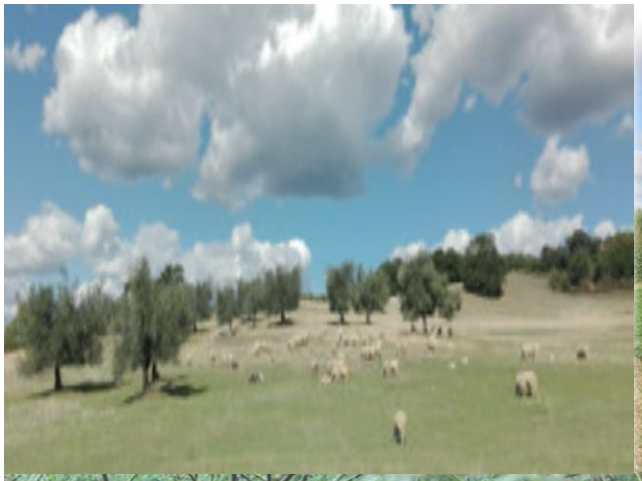
FACCE SURPLUS
Sustainable and Resilient agriculture for food and non-food systems
Call Announcement

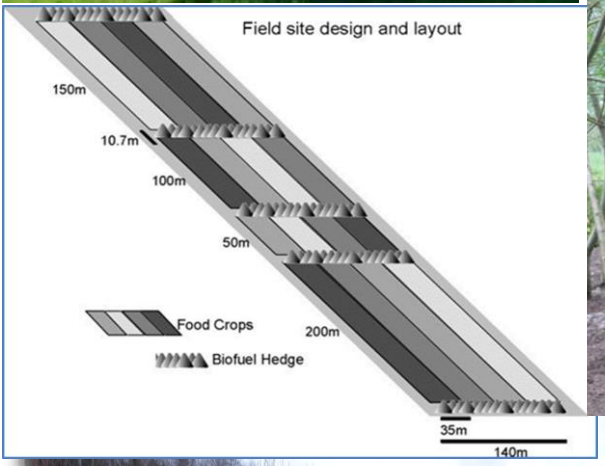
Submission of the pre-proposal on
www.submission-faccejpi.com
Deadline: 04.03.2015, 14:00 CET

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652615



Integrated food and non-food systems (IFNS)





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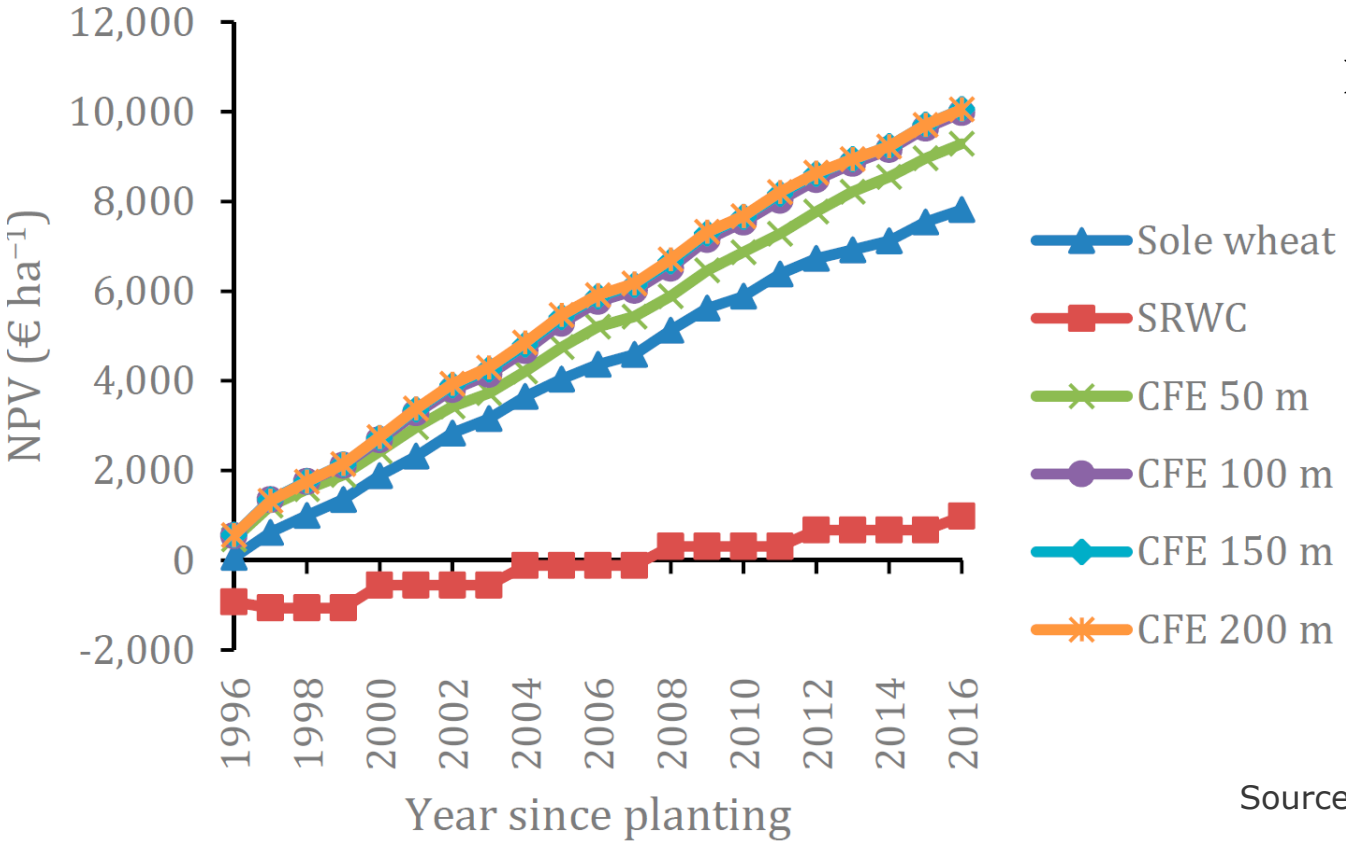
Economic viability of agroforestry compared to sole crops in Denmark



$$NPV = \sum_{t=0}^{t=T} \frac{R_t - V_t - A_t}{(1+i)^t}$$

NPV = net present value (€ ha^{-1})
R_t = revenue in year t (€ ha^{-1})
V_t = variable costs in year t (€ ha^{-1}),
A_t = fixed costs in year t (€ ha^{-1})
T = time in years, and i = discount rate

Source: Xu et al., 2019

Figure Net present value (NPV) for sole winter wheat, sole short rotation woody crop (SRWC) and four SRWC-winter wheat combined food and energy (CFE) agroforestry scenarios over 21 years.

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Benefits of crop rotation and crop diversification

- Agroforestry systems
  - productive and economically viable compared with monocultures
  - produce stable yields compared to monocultures
  - enhances carbon sequestration, soil and water conservation, above and below-ground biodiversity for sustainable food and non-food production
  - Provision of a suite of ecosystem services (microclimate, reduced soil erosion, control of pests and diseases)
  - provides diversity of food products for balanced nutrition
  - preserve cultural heritage, traditions and landscape aesthetics

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Lessons learnt

- Balance between tree population, spatial distance and cropped area are necessary to achieve optimal complementarity between the species
- Natural unmanaged agroforestry systems can be improved for enhanced productivity with management
- Agroforestry systems are conducive for recycling and reusing the waste between different enterprises within agroforestry (e.g animal waste for manuring pasture & grassland)
- Choice of agroforestry systems need to take account of the local demand and market for the produce
- Need for on-farm demonstrations and robust field-based evidence on IFNS under diverse socio-economic contexts

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Perspectives on crop rotation and crop diversification

- ✓ Explore additional enterprises like mushroom, berries and honey production for increased income in IFNS
- ✓ Aboveground and below ground simulation of agroforestry systems for identification of productive systems
- ✓ Agroforestry systems are source for biomass to contribute to bio-energy, food, fodder and fiber production


Cover-crops of grass, clover & chikori


Pea-barley intercropping