

## Our role at ORC

ORC is leading work to develop a list of agronomic, environmental and economic indicators to evaluate the sustainability of IFNS. We will later be using these to develop the existing Public Goods sustainability assessment tool to fully integrate the non-food component.

We are also contributing to the network of IFNS study sites. We have two case study farms, Elm Farm, Newbury, and Wakelyns Agroforestry, Suffolk, featuring two IFNS each: a) traditional boundary hedgerows with livestock, and an innovative alley cropping silvopastoral system with short rotation coppice and livestock; and b) traditional boundary hedgerows with arable and vegetable crops, and an innovative alley cropping silvoarable system with SRC and arable and vegetable crops. These case studies will provide data for modelling environmental and economic performance, as well as trial sites for investigating the management and production of multiple non-food products, such as woodfuel (including torrefied pellets), woodchip compost and animal bedding

Finally, ORC will coordinate the formation of the stakeholder platforms linked to each study site.



Institute of Soil Science  
and Plant Cultivation  
State Research Institute



Faculty of Science, University  
of Copenhagen (UCPH)

THE ORGANIC  
RESEARCH  
CENTRE



UNIVERSIDAD DE CORDOBA



Consiglio  
Nazionale delle  
Ricerche



Philipps  
Universität  
Marburg

### The Organic Research Centre

Elm Farm  
Hamstead Marshall  
Newbury  
Berkshire  
RG20 0HR

Phone: +44 (0)1488 658298  
Fax: +44 (0)1488 658503  
E-mail: [elmfarm@organicresearchcentre.com](mailto:elmfarm@organicresearchcentre.com)



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## Innovative and sustainable intensification of integrated food and non-food systems in Europe

SustainFARM is a new European project that aims to enhance agronomic, environmental and economic performance of traditional and innovative farming systems that integrate food and non-food production (IFNS). To do this it has adopted an innovative case-study approach, consisting of a network of locally relevant existing IFNS sites across Europe, working in close collaboration with the local end-users of the technology such as farmers, advisory services and policy makers.



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[www.sustainfarm.eu](http://www.sustainfarm.eu)



## Project background

SustainFARM looks at integrated food and non-food systems (IFNS): systems where trees, crops and livestock are integrated in different ways at different scales (plot-field-farm). They include traditional systems, where the main focus is food production but incidental natural vegetation (e.g. hedges) or crop residues/by-products can be harvested to produce an additional product, and innovative systems, where food production is fully integrated with specific production of biomass for non-food use (i.e. agroforestry).

Such systems provide a way to maximise return from land, making use of products currently unexploited and providing environmental benefits that positively feedback on biomass production. They thus have the potential to be a critical element of a more sustainable food and energy production system.

## Optimising productivity and valorising woody components, residual waste and co-products

SustainFARM will investigate the performance of a range of IFNS across several agri-climatic zones of Europe, to design innovative IFNS systems that are resilient and climate-smart. To improve the cost-effectiveness, different means of valorising the residual and co-products (e.g. woody components, residual wet olive cake) for multiple uses (bedding material, compost, bioenergy etc.), will be demonstrated. Value chains and life cycle analysis of the new bio-products (torrefied pellets, bio-energy and food supplements etc.) will be carried out to assess the environmental footprint of the valorization and the best practices and innovative methods will be synthesised into a decision support tool to enable informed decision making by farmers, advisory services and policy makers.

## Case study sites

*Demark:* short rotation coppice (SRC) with willow, alder and hazel, integrated with cereals and fodder crops.

*Poland:* SRC with willow, integrated with cereals

*Italy:* oil mill/farmer consortium managing olive orchards integrated with grassland and using the olive pulp by-product for novel foodstuffs.



*UK:* SRC with willow and alder in alley cropping with organic livestock

*UK:* 85ha organic livestock farm with SRC silvopastoral trial site

*Romania:* Livestock farm with hedges and woody vegetation combined with grassland and pasture.



*Poland:* 8ha organic farm with fruit orchard integrated with pasture

*UK:* Hedgerow network combined with organic cereals and vegetables.

*UK:* SRC in alley cropping system with willow and hazel, intercropped with organic crops and vegetables.