

About the Project

A network of farms and stakeholders has been created to collect biological and socio-economic data and parameters with the aim to assess the functionality of the systems, in terms of environmental, social and economic sustainability.

Objectives

- Improve farmer awareness about agroforestry management;
- Increase the resilience of olive orchards;
- Implement innovative value chains from olive processing residues (olive pomace, vegetation water, husk).



Factsheet

Multifunctional olive tree system in Italy, Umbria Region



Multifunctional olive tree systems

Multifunctional olive trees systems comprise olive orchards with different management schemes: organic, conventional, abandoned, with pasture, with natural weed.



Olive oil in Umbria

The olive oil chain in Umbria region, Italy, involves about 30,000 farms growing olive trees in about 27,000 ha and 270 oil mills to produce 9,000 tons (1.5% of the national value) of which 800 tons are DOP, Protected Designation of Origin, (7% of the national DOP value).



Strengths and weaknesses

The main strength points of olive oil value chain in Umbria are: elevate landscape value of olive orchards as well as cultural and traditionally value; high quality of the extra-virgin olive oil; great awareness and expertise of farmers and oil mill managers.

The main weak points of the olive oil chain in Umbria are: high productive costs; low intensive management practices; small-scale farm dimension.

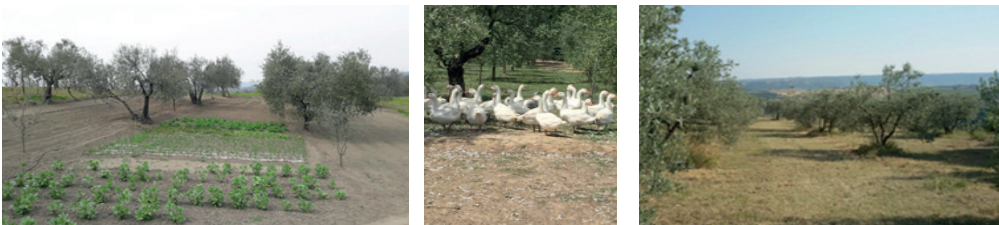
Tree Density	Olive Yield	Oil Yield
300/ha	3.5t/ha	12-15% of the olive yield

Phases of the supply chain

The olive oil supply chain involves the **agricultural phase** and the **olive oil production phase**.

The agricultural phase includes the cultivation of olive trees. Olive orchard management requires appropriate treatments such as soil management, fertilizations, pest treatments, pruning and harvesting. Cultivation can be conventional, integrated or organic. Pruning and harvesting are usually manual. After the harvest, olives must be brought to the oil mill within 24 hours in order to avoid fermentation process.

Olive orchards can be managed in agroforestry systems in several ways: intercropped with cereals, fodder legumes, horticultural crops or combined with pasture (sheep, cows, poultry).



The **olive oil production phase** comprises the extraction of the oil from the olives and the process produces additional by-products (water, pomace and husk) that require to be properly managed.



Olive husk can be used to produce bioenergy



Wet pomace can be used to produce olive paste



Olive pomace can be used to produce biogas



Wastewater can be used to fertilize fields or in phytotherapy recovering polyphenols