"ENRD THEMATIC GROUP ON EUROPEAN GREEN DEAL IN RURAL AREAS"

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THE *OLIVARE* PROJECT

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THE MAIN GOALS OF THE PROJECT

- **The project was funded under measure 124 of the 2007-2013 psr.**
- **it concerns the enhancement of olive pomace and vegetation water deriving from the olives process through an innovative intermediate treatment that reduces the polluting power and phytotoxicity of the oil by-products.**

- **the main by-product of olive processing is given by the olive pomace and the vegetation water.**
- **vegetation waters have been considered one of the most polluting wastes:**
  - ✓ **because of their high organic load and their low biodegradability caused by the presence of polyphenols**
  - ✓ **polyphenols slow down the transformation and biodegradation of the vegetation water.**

- **our project realized a process that produces valuable natural substances and bio-energy that can represent an added value for olive-oil companies.**

EVERYTHING STARTED FROM HERE

FIG. 1: These are the Peccianti's olive trees: today the company has got **120,000 trees** and in the next two years it will have **200,000 olive trees**

Three companies joined the *Olivare* project:

- - **Azienda Agricola Peccianti** which today has got 120,000 olive trees, and is the leader of the project. The Peccianti's company owns an oil mill with three great processing lines and produces wet olive pomace.
- - **The Ginori Lisci** agricultural company which built a biogas plant with an electrical power of 700 kwh in 2010.
- - **CNR National Research Center of Florence** which took care of the analyzes and technical support.

THE OIL MILL

The image represents the **oil mill** that contains **three great lines of oil processing**.

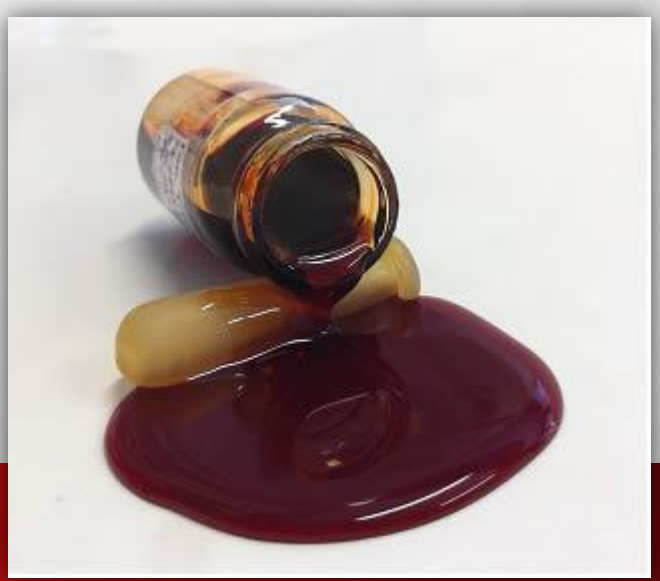
Thanks to this machine, **olive oil**, **vegetation water** and **olive pomace** are produced.

THE OLIVE POMACE

OLIVE POMACE is the **residue** remained after the olive oil has been extracted from the olive paste.

The wet olive pomace produced by the peccianti's company is taken to the **biodigester** in order to obtain **methane** and the consequent **production of electricity**.

From the **pomace waters**, the Peccianti's company extracts **polyphenols:** they are **natural antioxidants** useful for cosmetic, food, pharmaceutical and veterinary industries.



THE BIODIGESTER

EFFECTS OF THE PROJECT

Results showed that the production of biogas, after introducing the wet pomace into the biodigester, is the same as silage.

A waste product (wet olive pomace) was replaced with some valuable plant material that is currently subtracted from the food chain.

In this way, we obtained a“residue 0” and a total recovery of waste substances from olives which may monetize the entire olive growing chain.

THE BIODIGESTER

EFFECTS OF THE PROJECT:

1) a favourable economic effect = electrical and biothermal energy is produced with the olive pomace;

2) positive impact on the environment = it contributes to the increase of energy production from renewable sources, and reduces the production of energy from fossil fuels and helps reduce significant emissions of CO2;

3) a good way of fertilizing: the residues left in the biodigester after the production of electricity are an excellent organic fertilizer.

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THANK YOU FOR YOUR ATTENTION

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