WASTEREUSE

Best practices for Agricultural Wastes (AW) treatment and reuse in the Mediterranean countries

WASTEREUSE aims to evaluate innovative and traditional agricultural waste treatment technologies, develop alternative cultivation practices, protect soil quality, reduce carbon footprint and increase competitiveness of agriculture in the Mediterranean region

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WASTEREUSE addresses two significant environmental problems:

- the uncontrolled disposal of agricultural wastes (olive oil mill wastes, wastes from the wine industry, etc) as well as their uncontrolled use for crops/land fertilization
- the excessive use of nutrients and natural resources (water, phosphoric minerals used for the production of fertilizers) and the possibility to increase recycling of nutrients and water

The WASTEREUSE project Objectives

- Evaluation of innovative as well as, traditional technologies for agricultural wastes treatment regarding their suitability for crop cultivation (irrigation and fertilization)
- Development of Alternative Cultivation Practices for the most widely cultivated and water consuming crops (e.g. vegetables, cereals) in Mediterranean by recycling nutrients and water from AW via identification and development of Best Management Practices for waste application to main market crops aiming at maximizing yields and minimizing offsite environmental impacts
- Protection of soil quality from the disposal of processed and un-processed AW by developing and using cultivation practices which are suitable for representative Mediterranean soil types, including the degraded and the vulnerable ones
- Reduction of carbon footprint by recycling AW and minimizing the use of fertilizers. Conservation of natural resources (e.g. soil, water, phosphatic deposits) from excessive use and uncontrolled wastes disposal
- Increasing competiveness of Mediterranean agricultural products and profits via the reduction of external inputs (irrigation water and fertilizers)

Actions and means involved:

- Development of an inventory of the technologies related with AW treatment and applicability for crop production, developed so far through EC funding and other sources at European, national and regional level as well as, worldwide, based on development level (lab, pilot scale, full scale)
- Evaluation of the treated wastes derived from the above mentioned technologies regarding their suitability for irrigation and fertilization of the widely cultivated and water demanded crops in Med countries
- Collection of treated and untreated AW produced in Spain and Italy and identification of their physicochemical characteristics. Preliminary evaluation of their suitability to support plant growth
- Evaluation of application practices of the treated wastes (wastewater and composts) on crops after considering the crop input needs
- Potential modification of wastes physicochemical properties in order to conform with input demands of field and protected crops through laboratory studies

- Assessment of the impact of waste use and application on soil quality through experimentations using different soil types
- Development of new/alternative cultivation practices for the main water consuming and market crops with the use of processed (and potentially un-processed) wastes as source of water and nutrients

Expected Results

Create an inventory of alla available technologies for AW treatment

- Assess the effect of different AW applications on soil properties, plant tolerance and production using lab and field tests
- Assess the risk as well as the carbon footprint of the proposed methodologies through LCA studies
- Develop a Code of Waste Management Practice for Agriculture and provide decision-making tools for the most commonly cultivated crops in the Mediterranean region
- Provide suggestions to improve European legislation
- Develop a network involving research organizations, agricultural associations, SMEs, regional/national authorities and policy makers
- Develop an after Life Communication Plan to maximize dissemination of project results after the end of the project

Budget and Duration

The project *"Best practices for Agricultural Wastes (AW) treatment and reuse in the Mediterranean countries"* started on 1st September 2011 and will last four years, until 31st August 2015.

Total Budget	**1.384.799 €**
European Commission contribution	**679.399 €**
Beneficiaries' contribution	**705.400 €**