

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



**LIFE10 ENV/GR/594**

Project co-funded by EC LIFE+ Environment Policy & Governance



**Project duration: 01/09/2011–31/08/2015**

**Website: [www.wastereuse.eu](http://www.wastereuse.eu)**

**Total budget: 1,384,799 €**

**EC funding: 679,399 €**

**Beneficiaries contribution: 705,400 €**

# 6th Newsletter February 2015



## WASTEREUSE main objectives are:

- **to evaluate innovative and traditional technologies for agricultural waste (AW) treatment regarding their suitability for crop cultivation**
- **to develop alternative cultivation practices for the most widely cultivated crops in the Mediterranean region**
- **to protect soil quality from the disposal of AW, reduce carbon footprint and increase competitiveness of Mediterranean agricultural products**

## Coordinating Beneficiary

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## Associated Beneficiaries

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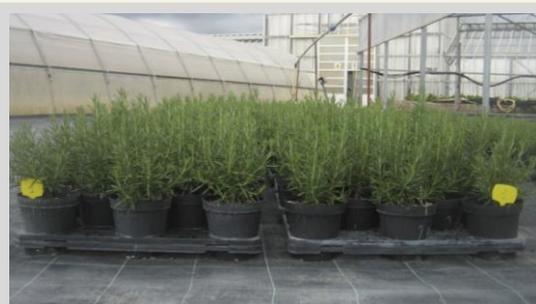
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## Activities so far

Initial assessment of existing AW treatment technologies (Action 2) has been successfully implemented during the first 10 months of the project. All available data regarding funded projects focused on the development/implementation of technologies for the treatment of AW produced in the Mediterranean region have been collected, aiming to assist the selection of the most suitable, environment friendly, low cost technologies to be used for the development of alternative cultivation practices for the main water-nutrient consuming crops in Spain and Italy.

Actions 3 and 4 aiming to evaluate untreated and treated wastes produced using different technologies, as well as to assess their suitability for crop production and quality improvement and their potential effects on soil properties have been successfully implemented between October 2011 and March 2013.

Around 35 different soils and 60 treated and untreated AW (compost from plant residues and organic fraction of urban solid waste, pig slurry treated with fly larvae, biochar from vegetal wastes, olive mill wastewaters, alperujo, sheep manure, etc.), have been collected from Spanish and Italian areas and characterized.



Rosemary cultivation at CERSAA premises



Basil cultivation at CERSAA premises



Lettuce cultivation at CERSAA premises



Lettuce cultivation at CEBAS premises



Harvesting of cereal at CEBAS premises

Demonstration actions (5 and 6) have started on April 2013 in Spain and Italy (after the completion of Actions 3 and 4, respectively) to demonstrate the feasibility of the application of treated AW in open field and greenhouse cultivations.

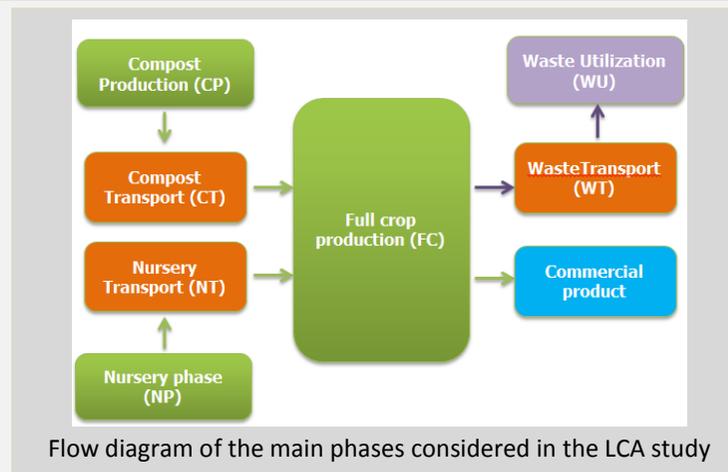
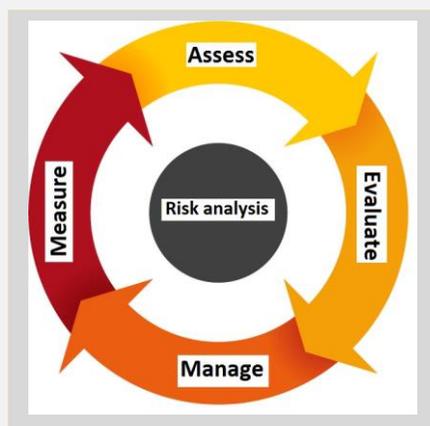
Two demonstration areas have been defined in Spain:

i) *Las Tiasas area in Barrax, Albacete*, where open-field cereal (barley and soft wheat) cultivations are implemented, ii) *Tres Caminos area in La Matanza, Santomera*, where the cultivation of tomato and lettuce in greenhouse is implemented.

The Italian demonstration area is located in Albenga, Province of Savona, Liguria region. Greenhouse cultivations of basil, rocket and lamb's lettuce as well as open-field cultivations of rosemary, lettuce and cabbage are carried out at CERSAA premises. Open-field cultivation of cabbage is also carried out at a private farm at Loano, Savona, Italy.

In the line of Action 5 (Spain), the effect of different fertilization treatments (organic, mineral fertilizer and their combination) as well as irrigation with wastewater (pig slurry liquid fraction) of tomato and lettuce in greenhouse is considered. The effect of combined organic and inorganic fertilization on cereal growth (barley and wheat) in open field is also evaluated.

In Action 6 (Italy), cultivation of different vegetables and aromatic plants (lettuce, rocket, lamb's lettuce, basil, rosemary and cabbage) is implemented in greenhouse and in open field. Data collected from cultivation tests are considered to define the effect of different factors (compost application rate, addition of zeolite or fertilizer) on biomass production of vegetables and aromatic plants.



A complete Life Cycle Analysis (LCA) for all processes considered in Italy and Spain, in terms of raw materials consumption, energy use and emissions is carried out by TUC. LCA study is in progress by collecting data regarding Spanish and Italian study areas from partners as well as through detailed literature survey. The structure of the LCA framework includes all life cycle stages and integrates typical inputs and outputs, using GaBi 6 software. Five environmental impact potentials were assessed in the LCA study: global warming potential, acidification potential, eutrophication potential, ozone layer depletion, photochemical ozone creation potential and cumulative energy demand as an energy flow indicator.

Risk Analysis (mapping and modelling) by considering the use of a well-established risk assessment methodology (DRASTIC approach) is also carried out. Parameters such as geology, permeability, land use, precipitation-evaporation, depth of water table and potential pollutants in the studied areas, are taken into consideration.

- The project website [www.wastereuse.eu](http://www.wastereuse.eu) in 5 languages (English, Greek, Spanish, Italian and French) as well as the Facebook (<https://www.facebook.com/WasteReuseProject?fref=ts>) and Twitter (@WasteReuse) fan pages are continuously updated.
- The project publishes newsletters with the most important news and results, on a six-month basis.
- The Italian workshop was successfully organized in the afternoon of December 10, 2014 at CERSAA premises, Albenga, Savona, Italy. Three more workshops will be organized in Greece, Spain and Belgium.
- In the line of Action 9, visits of farmers and stakeholders at demonstration areas in Spain and Italy (project deliverables), are organized.
- Wastereuse partners will participate at the 3<sup>rd</sup> International Symposium on Organic Matter Management and Compost Use in Horticulture <http://www.verticesur.es/congresos/CFH2015/> to be held in Murcia (Spain) on 20-24 April 2015.
- So far, three papers have been published in scientific journals and six papers/posters have been presented in international conferences.
- A booklet introducing the project has been prepared by SIGNOSIS in cooperation with all partners ([http://www.wastereuse.eu/wp-content/uploads/2013/09/WasteReuse\\_Booklet.pdf](http://www.wastereuse.eu/wp-content/uploads/2013/09/WasteReuse_Booklet.pdf)).

For more information, please visit our website ([www.wastereuse.eu](http://www.wastereuse.eu)) or contact us  
This newsletter was prepared by TUC with the contribution from all partners

