



REFERTIL INTERNATIONAL CONFERENCE



**We invite all interested to our conference of the
EU FP7 REFERTIL project:**

***Advanced COMPOST and BIOCHAR Processing: Solution
for Economical PHOSPHORUS Recovery***

17 -18th September 2015.

E. S. de Gastronomía y Hostelería de Toledo

C/Río Cabriel 1. Polígono Sta M^a Benquerencia Toledo, Spain

Organized by **TERRA HUMANA Ltd.** and **BIOMASA del GUADALQUIVIR S.A.**



TO WHOM IS ADDRESSED: The Conference is aimed to representatives from state, regional and local administrations, research centers and universities, recycling and fertilisers companies, and representatives from farmers SMEs and farmers unions.

MAIN TOPICS:

- Compost and Biochar: applied science state of the art, progress from science into economical scale industrial applications.
- Advanced compost and biochar processing technologies: main results of the REFERTIL project. Converting science into economical industrial practice.
- Analytics and quality specifications of biochar and compost products.
- Current status of the EU law harmonization of organic fertilisers and soil improvers, REFERTIL EU policy support works.
- Phosphorus Recovery: needs, technologies and drivers.
- P and N natural solutions, efficiency and environmental protection.

REGISTRATION: The conference is free of charge to all EU Member State stakeholders. **Registration is mandatory which is valid only after confirmation from the organizers.**

**We request all participants to register via the registration link:
<http://www.refertil.info/refertil-conference-registration-2015>**

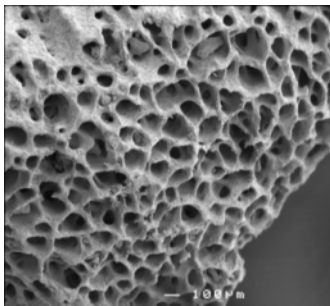


REFERTIL (Grant 289785) project is co-funded by the European Commission Directorate General for Research, within the 7th Framework Programme RTD/theme 2 KBBE.

Purpose of the REFERTIL Project

REFERTIL provides EU-28 standardized, advanced, and comprehensive bio-waste treatment and nutrient recovery process improvements towards zero emission performance with eco-safe output compost and biochar products. The REFERTIL development works cover fields from applied science to economical industrial scale ups, including industrial technology engineering for the benefits and interest of the SME farmers. The improved output products will be safe, economical and standardized compost and biochar products containing phosphorous and nitrogen that can be economically and beneficially used by SME farmers. As a result, both food and environmental safety is improved, while a new bio-economy is generated.

What is biochar material and how is it made?



Biochar is plant and/or animal biomass by-product or organic waste based stable carboniferous substance for conservation agriculture applications. Biochar is produced under reductive thermal conditions. The biochar must be well defined and controlled quality. Biochar is applied to improve the soil physical and/or chemical and/or biological properties or the soil activity. A wide range of organic feed materials can be used for biochar production, subject to sustainability requirements, such as not to compete with human food, animal feed and plant nutrition production and supply; and originating from environmental and climate protection sustainable supplies. **Plant Based**

Biochar (PBC) is a soil improver, while Animal Bone bioChar (ABC) is an organic P-fertilizer or both. Properly produced biochar has the potential to restore the soil natural balance and benefits crop production economics by improved water and nutrient retention, leading to drought tolerance and soil fertility for food crop production with economical importance.

What is compost material and the composting process?

Compost is a humified solid particulate material, which has been sanitised and stabilised; and which confers beneficial effects when it is added to soil, used as growing media constituent, or used in another way in conjunction with plants. Composting is a process of controlled decomposition and humification of biodegradable materials under managed conditions, which are aerobic and which allow the development of temperatures suitable for mesophilic and thermophilic microorganism as a result of biologically produced heat.



The revision of the Fertiliser Regulation - REFERTIL Policy support

Only mineral fertilisers have been regulated at the EU 28 level. The current Fertilisers Regulation (EC. No. 2003/2003) covers only a part of the inorganic (mineral) fertilisers i.e. 'EC fertilisers' that meet the requirements of the Regulation. The Commission intends to revise Regulation (EC) No 2003/2003 to extend its scope to other fertilisers and fertilising materials including organic fertilisers (possible including animal bone biochar), growing media, soil improvers (possible including compost and biochar) and possibly biostimulants.

The REFERTIL project provides continuous policy support works for the European Commission (DG GROW and other DGs) related to the revision of the Fertiliser Regulation (Reg. (EC) No 2003/2003), and the possible regulation inclusion of compost and biochar, such as organic P fertilizer (ABC) and soil additive (PBC).

1st day Thursday, 17 September 2015

- 08:30 - 09:00 Registration
- 09:00 - 09:30 Welcome address and opening of the REFERTIL International Conference
Massimo Burioni, European Commission DG RESEARCH
Edward Someus, TERRA HUMANA, Coordinator REFERTIL project
Inmaculada González, BGuadalquivir, Spain

Session 1 The REFERTIL project: Compost and biochar from bio-waste, Product evaluation and agronomical results

- Chair: Edward Someus
- 09:30 - 10:00 ABC-Animal Bone bioChar, a high grade recovered P-fertiliser
Edward Someus, TERRA HUMANA Ltd., Hungary
- 10:00 - 10:30 Biochar quality and safety
Gabor Bordos, Wessling Hungary Ltd., Hungary
- 10:30 - 11:15 Compost and biochar: REFERTIL agronomical evaluation and field results
Massimo Pugliese, UNITO-Agroinnova, Italy
Annette V. Vestergaard, SEGES, Denmark
- 11:15 - 11:45 Poster presentation and coffee break
- 11:45 - 12:15 Nutrient (N and P) recovery optimisation through composting process
José María Gómez BGuadalquivir, Spain & Laszlo Alexa Profikomp, Hungary
- 12.15 - 13:00 Microbiological strategy to improve compost and biochar
Joeke Postma, DLO Plant Research International, Netherlands
Henning von Alten, Leibniz University Hannover, Germany

Session 2 P and N Natural solutions efficiency and nature protection

- Chair: Massimo Pugliese
- 13:00 - 13:30 Struvite production for Madrid Sur WWTP
Joaquín Suescun, VEOLIA Water Technologies, Spain
- 13:30 - 14:30 Lunch
- 14:30 - 15:00 PHoRwater Seelective strategy for P recovery from WWTPs
Sofía Grau, DAM, Spain
- 15:00 - 15:15 Recycling P and N from municipal wastewater by biofilm-microalgae
Björn Podola, University of Cologne, Germany
- 15:15 - 15:30 Microalgae for nutrient recovery in decentralized sanitation
Bastian Piltz, University of Cologne, Germany
- 15:30 - 16:00 Poster presentation and coffee break
- 16:00 - 16:30 Production and marketing of biochar products
Gerald Dunst, Sonnenerde, Austria — VIDEO CONFERENCE
- 16:30 - 17:00 Flash pyrolysis or sublimation - from biomass to gas and biochar
Jørgen Krabbe, Frichs AS, Denmark
- 17:00 - 17:30 Engineered biochar: tool for mitigation of phosphorus losses?
Vladimír Frišták, AIT Austrian Institute of Technology GmbH, Austria

ONLINE REGISTRATION:

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2nd day Friday, 18 September 2015

Session 3 PHOSPHORUS RECOVERY: Needs technologies, drivers and legal issues

Chair:	Edward Someus
09:00 - 9:30	REFERTIL policy support work and biochar permitting, case study Edward Someus, Terra Humana Ltd, Hungary
09:30 - 10:00	Biochar, present and future status under the Wastes and Fertilisers European and national regulations: current legal perspective Eric Liegeois, European Commission DG Grow — VIDEO CONFERENCE
10:00 - 10:30	COST BIOCHAR Biochar in Europe: Potential and constraints Bruno Glaser, University Halle, Germany — VIDEO CONFERENCE
	Biochar in Europe: a chance for surplus N management Claudia Kammann, Geisenheim University, Germany — VIDEO CONFERENCE
10:30 - 11:00	P balances and solutions in a European perspective, BioEcoSIM Jennifer Bilbao, Fraunhofer Institute, Germany
11:00 - 11:30	Poster presentation and coffee break
11:30 - 12:00	REFERTIL compost and digestate: the need for policy, technologies and good practices José María Gómez, BGuadalquivir, Spain & Laszlo Alexa Profikomp, Hungary
12:00 - 12:30	NewFert Nutrient recovery from biobased waste for fertiliser production Javier Brañas, Fertiberia, Spain
12.30 - 13:00	The compost in Catalonia Gloria Batllo, Waste Agency of Catalonia
13:00 - 13:30	Separate collection and modelling MSW organic fraction management at ESGH Toledo Jose M. Vallejo, ESGHT, Spain Rosa Puig More, NOVAMONT, Spain Jesús García, Biomassa, Biomasa Peninsular, Spain
13:30 - 14:30	Cold Lunch
14:30 - 15:00	Visit to the facilities of the ESGHT separate collection project and CLOSING by José María Gómez BGuadalquivir, Spain

Conference Venue:

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17.-18. September 2015

POSTER SESSION - LIST OF POSTERS

REFERTIL biochar EU policy support and law harmonization; biochar permitting case
Someus, E.

REFERTIL biochar analytical accreditation
Bordos, G., Someus, E., Palotai, Z., Hatosi Zs, Phd.

REFERTIL Biochar and compost behaviour in soil - leaching tests
Bordos, G.

REFERTIL biochar: Greenhouse gas emissions from biochar amended soil
Elsgaard, L.

REFERTIL biochar: Effects of biochar on potential nitrification in agricultural soil
Elsgaard, L.

REFERTIL nutrients (N and P) recovery optimisation through composting.
González, I.; Gómez, J.M.; Estrada, I.B.

REFERTIL Phosphorus mobilization and biocontrol of plant pathogens combined in one strain - results of a fungal and a bacterial inoculant
Postma, J.; Nijhuis Els

Recovery of N and P from the liquid fraction of pig slurry using microalgal cultures
Miñón, J.; Navas, L. M.; Pascual, A.; Marks, E.; Rad, C.

Nutrients and regenerated water recycling in WWTPs through twin-layer microalg culture for biofertilizers production
González, I.; Gómez, J.M.; Pareja, J.; Carrera, D.; Dios, M.; Podola, B.

Biofilm-based cultivation of microalgae for their integration into wastewater treatment and nutrient recovery cycles
Ekelhof, A.; Podola, B.; Melkonian, M.; Gómez, J.M.; González, I.; Carrera, D.; Dios, M.

MICROALGAE and BIOGAS: demonstration center for biogas digestate treatment with microalgae
Lavrič, L.; Žitnik, M.; Lazar, B.

Evaluating Alternatives for the Valorisation of Vegetable Wastes
Martínez, E. J.; Fernandez, C.; Rosas, R. J. G.; Gómez, X.

Preventing organic acid build-up when valorising carbohydrate rich substrates
Moreno, R.; Mateos, R.; Marcos, R.; Martínez, E. J.; Gómez, X.

Pre Nutrient recycling and potential uses of biochars produced using a farm-scale TLUD gasifier in Nicaragua
Marks, E.A.N.; Jara Muns, M.M.; Lanuza, O.R.; Rad, c.; Herrera, A.

Sustainable biochar production
Rosas, J.G.; Gómez, N.; Martínez, O.; Cara, J.; Sánchez, M. E.

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More information about the REFERTIL project

Edward Someus
Coordinator
Biochar S&T senior engineer

biochar@3ragrocarbon.com

<http://www.refertil.info>

<http://www.agrocarbon.com>

REFERTIL Consortium

