

Beneficiary: CEBAS-CSIC
Group of Soil Enzymology, Bioremediation and Organic Wastes.
Team CV.

Members:

Dr. Carlos García Izquierdo (Professor): Ph D. Chemistry
Dr. M^a Teresa Hernández Fernández (Professor): Ph. D. Chemistry
Dr. José Luis Moreno Ortego (Scientist): Ph. D. Chemistry
Dr. Miguel A. Sánchez-Monedero (Scientist): Ph. D. Chemistry
Dr. Margarita Ros Muñoz (Scientist): Ph. D. Chemistry

Research Topics

1. Development of strategies for improving the knowledge on the mechanisms conducting the processes of soil degradation and rehabilitation, and particularly those of C cycle.
2. Obtaining sensitive bioindicators of biological soil quality and functionality, based on its microbial activity, biochemistry (enzymology), and biodiversity.
3. Recycling in soil of organic amendments and their effect on C sequestration.
4. Composting of organic wastes for agricultural use.

Important Research Grants

1. Soil Protection in Mediterranean Areas through Cultivation of New Varieties of Almond Tree (PRO-SOIL). Funding: European Union (LIFE). Leading Scientist: D. Carlos García Izquierdo. Duration: 1/10/2005 to 30/09/2008
2. Land Farming: An effective technique for the low cost remediation of sewage sludge from oil refinery. Funding: REPSOL-YPF. Leading Scientist: Dr. Carlos García Izquierdo. Duration: 2005-2008.
3. Sustainable use of olive mill waste as organic soil amendment: Effect on the C sequestration and the crop yield and quality. Funding: Spanish Ministry of Science and Innovation (CICYT). Duration: 2005-2008. Leading Scientist: M.A. Sánchez Monedero
4. Utilization of organic wastes as an strategy for the remediation of degraded soil and reducing the green house effect in semiarid areas. Funding: Spanish Ministry of Science and Innovation CICYT. Duration: 2007-2010. Leading Scientist: M.T. Hernández Fernández
5. Bioremediation of oil polluted soil through low-cost processes (composting and vermin-composting) Funding: Regional Government of Galicia. Duration: 2007-2010. Leading Scientist: C. García and Domingo Perez.

Selected Publications.

1. Potential of olive mill wastes for soil C sequestration. Sanchez-Monedero, MA; Cayuela, ML; Mondini, C, et al. 2006. WASTE MANAGEMENT 28: 767-773.
2. An overview on olive mill wastes and their valorisation methods Author(s): Roig, A; Cayuela, ML; Sanchez-Monedero, MA. 2006. WASTE MANAGEMENT 26: 960-969.
3. Effect of hydrocarbon pollution on the microbial properties of a sandy and a clay soil Labud, V; Garcia, C; Hernandez, T. 2007. CHEMOSPHERE 66: 1863-1871
4. Soil bioremediation: Combination of earthworms and compost for the ecological remediation of a hydrocarbon polluted soil. Ceccanti, B; Masciandaro, G; Garcia, C, et al. 2006. WATER AIR AND SOIL POLLUTION 177: 383-397.
5. Bioremediation by composting of heavy oil refinery sludge in semiarid conditions. Marin, JA; Moreno, JL; Hernandez, T, et al. 2006. BIODEGRADATION 17: 251-261

Description of CEBAS-CSIC Institute (www.cebas.csic.es)

The mission of CEBAS-CSIC is, through its investigation, to contribute to generating the knowledge necessary to improve its competitiveness, developing strategies to attain the sustainability of the scant resources existing in semiarid areas through their correct management, and making possible a quality agriculture which produces healthy and safe plant food products. The increase in knowledge generated by the proposed research will contribute to facilitating the decision-taking process necessary for implementing the political action necessary in this respect. In addition, the research carried out will contribute to coping with specific problems, such as the scarcity of water, create a better environment and contribute to reducing the greenhouse effect through conserving the soil, vegetation and organic matter content. High quality sustainable agriculture producing high quality and healthy foods, will contribute to the socio-economic progress and to an environment safeguarded for future generations.

Description of CSIC organization (www.csic.es)

The CSIC (State Agency) is the Spanish National Research Council and Spain's largest and most important public research organization. With 126 centers and 145 associated units, it is present in all of Spain's Autonomous Regions. The CSIC's mission is to promote, coordinate, develop, and disseminate multidisciplinary scientific and technological research in order to contribute to economic, social, and cultural development and the progress of knowledge. Furthermore, it aims to train research personnel and provide advice to public and private institutions on subjects within its areas of expertise.

The CSIC is subdivided into eight science and technology areas:

- Humanities and Social Sciences.
- Biology and Biomedicine.
- Natural Resources.
- Agricultural Sciences.
- Physical Science and Technologies.
- Chemical Science and Technologies.
- Materials Science and Technology.
- Food Science and Technology.