OFERTA DE PROYECTO DE TESIS DOCTORAL, AYUDAS PARA LA FORMACIÓN DE PROFESORADO UNIVERSITARIO (FPU 2019)

Información General

Área de Investigación
AGRICULTURA/MEDIO AMBIENTE
Centro/Instituto
CEBAS-CSIC
Grupo de Investigación
Grupo de Enzimología y Biorremediación de Suelos y Residuos Orgánicos
Tema de investigación del grupo:
Grupo de Enzimología y Biorremediación de Suelos y Residuos Orgánicos
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Página Web de referencia
https://waste2agriculture.wordpress.com/

Detalles Sobre la Oferta

Referencia proyecto
Optimization of the redox properties of biochar to mitigate greenhouse gas emissions and to assist in the degradation of emerging pollutants
Tema de Investigación:
Impacto y mitigación de la agricultura en el cambio climático
Ámbito (dentro del área de investigación):
Suelos agrícolas, nuevos materiales
Palabras Clave
gases de efecto invernadero, suelos, mitigación del cambio climático, secuestro de C, biochar, N2O

Resumen del Proyecto (100-3000 palabras)

Agriculture is responsible for 66% of global anthropogenic N2O emissions, which are largely generated in fertilized soils. Intensive agricultural practices are also responsible of the loss of soil organic matter in cultivated soils, declining soil fertility and resilience. However, improved management practices can rebuild C stocks in soil and help mitigate N2O emissions. One of the main challenges of the next decades will be to produce more food with less environmental impact. It will be therefore necessary to reduce the N2O emissions associated to intensive farming systems and reduce soil C losses. South-East Spain is the area in Spain with the highest production of vegetables (lettuce, broccoli, peppers) mainly under very intensive agronomic practices (high fertilization and irrigation). Soils in this area are threatened by a continuous loss of soil organic carbon, which increases their vulnerability to erosion. The candidate will be able to participate in ongoing projects for mitigating N2O emissions and increasing C stocks in these systems, decreasing their negative impact on climate change. He/she will participate in field experiments where greenhouse gas fluxes are regularly monitored and different fertilization and management strategies are compared. The candidate will also become acquainted with scientific literature databases and sophisticated laboratory equipment, using innovative techniques to follow C and N transformations in soil and in the soil-atmosphere interface. He/she will take part in a dynamic research team with PhD students and postdoctoral fellows working on related topics.