

BIP: The Future of Agriculture in the Context of Global Change

1. Characteristics

- Target students: PhD. students and Master students
- Duration: 30 hours (3 ECTS)
- Modality: Online and in person
- Date (online): 20-22 May 2024
- Date (face to face): 27-31 May 2024
- Number of attenders: 25

2. Summary

The Blended Intensive Program (BIP) titled "The Future of Agriculture in the Context of Global Change" offers a comprehensive exploration of sustainable agricultural practices and their role in addressing the challenges posed by climate change and global shifts. The course is divided into an online component and a face-to-face component, held at the Technical School of Agricultural and Forestry Engineers and Biotechnology (ETSIAMB) of UCLM in Albacete, Spain.

Students will explore Sustainable Development Goal 15 (SDG 15), focusing on conserving and restoring ecosystems to sustain life on land. Through engaging discussions, they will examine the implications of land degradation, biodiversity loss, and deforestation, along with strategies to mitigate these issues.

The course also offers practical insights into organic horticulture, teaching students chemical-free cultivation methods, organic pest and disease management, and sustainable soil fertility techniques.

The face-to-face component delves into agroecological agronomy systems, emphasizing ecological principles, biodiversity promotion, and soil health enhancement. Additionally, students will gain a deep understanding of soil health and effective irrigation management, essential aspects of sustainable agriculture.

Examining the socioeconomic impacts of different cropping systems, students will analyze farming practices' effects on local communities, livelihoods, and income distribution. They will also explore innovative approaches to manage and valorize agricultural residues, transforming waste into value-added products while promoting sustainability.

Students will further explore the significance of genetic resources in the context of climate change, understanding the importance of preserving plant genetic diversity for crop resilience and adaptation.

Finally, the course delves into crop biotechnology's potential, offering insights into climate-resilient crops and improved agricultural productivity.

3. Topics

A. On-line component:

- I. Agriculture for the future in the context Climate change. **XXX**
This class delves into the critical role of agriculture in addressing the challenges posed by climate change. Students will explore sustainable farming practices, climate-resilient crop selection, and innovative agricultural technologies aimed at mitigating and adapting to climate fluctuations.
- II. Thinking around SDG 15: How can we sustain life on land. Teresa Fonseca (UTAD).
This session focuses on SDG 15 and its objective of sustaining life on land. Students will examine the challenges related to land degradation, biodiversity loss, and deforestation, and explore strategies for conserving and restoring ecosystems.
- III. Organic Horticulture. Johannes Balas (BOKU), Miroslav Lisjak (FAZOS).
This session introduces students to the principles and practices of organic horticulture. Students will learn about chemical-free cultivation methods, organic pest and disease management, and sustainable soil fertility techniques.

B. Face-to-face component:

- I. Agroecological agronomy systems. **XXX**
This class explores the principles and implementation of agroecological agronomy systems. Students will learn how to design and manage agricultural systems that integrate ecological principles, promote biodiversity, and enhance soil health.
- II. Soil health and irrigation. Alfonso Domínguez. Juan Campos (UCLM).
This class focuses on the essential aspects of soil health and effective irrigation management in agriculture.

III. Socioeconomic impacts of cropping systems. Guadalupe Arce, Adrián Rabadán (UCLM).

This class examines the socioeconomic impacts of different cropping systems in agriculture. Students will analyze the effects of various farming practices on local communities, livelihoods, and income distribution.

IV. Residues and agriculture. Alvaro Ramirez Vidal, Angel Alcazar Ruiz (UCLM).

This class delves into the management and valorization of agricultural residues. Students will explore innovative approaches to utilize agricultural by-products and waste for creating value-added products and sustainable practices.

V. Genetic Resources. Sonja Petrović (FAZOS), Alejandro Santiago (JBCLM).

This session explores the significance of genetic resources in the context of climate change. Students will learn about the importance of preserving plant genetic diversity for enhancing crop resilience and adaptation to changing environmental conditions.

VI. VII. Crop biotechnology. Lourdes Gómez, Ángela Rubio, Alberto López (UCLM).

Students will explore how biotechnological advancements can contribute to developing climate-resilient crops and improving agricultural productivity in the face of changing climate conditions.

4. Contact

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