

# Environmental Impacts of Crop-Livestock Agroecosystems

**HCS 5194: Group Studies****3 credits****TUESDAYS & THURSDAYS 1:50 PM. – 3:10 PM****Autumn 2021**

The goal of the course is to provide students with the understanding of processes underlying environmental impacts in crop-livestock agroecosystems. Initially, we will understand the processes that result in any type of environmental impact. Then, we will focus on specific types of environmental impacts, such as climate change and greenhouse gas emissions, nutrient losses (volatilization and leaching), and soil degradation. For each environmental impact type, we will discuss processes, assessment methods, and mitigation options. Environmental impacts will be approached considering the fundamental importance of food production and productivity. This course is focused on agroecosystems and agricultural processes.

**The main topics that will be covered are:**

- Environmental impacts in agroecosystems
- Systems view to environmental impacts
- Methods for assessment and mitigation options of the main environmental impacts: Nutrient losses, Greenhouse gas emissions, and Soil degradation and loss
- Balance between productivity and environmental impacts mitigation
- Environmental impacts assessment (LCA, meta-analysis, C-footprint)

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& Williams 212 (Wooster)**Class Numbers:** Undergrad Columbus: 35840, Graduate Columbus: 35839, Graduate Wooster: 35854**THE OHIO STATE UNIVERSITY**COLLEGE OF FOOD, AGRICULTURAL,  
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