



## Ashley Hammac



*BS Environmental, Soil, and Water Science  
(University of Arkansas)*

*MS Soil Science (Auburn University)*

*PhD student in Soil Science (Washington  
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The NSPIRE IGERT Program is a multidisciplinary student doctoral training program designed to create a new generation of scientists with broad and rigorous training in nitrogen cycling who seamlessly integrate nitrogen cycle science for effective communication with public policy makers.

### **Research title: Nitrogen cycling in biodiesel feedstock production systems**

Ashley is studying nitrogen fertility of canola biodiesel feedstock production. He will determine the soil nitrogen availability effect on canola grain and oil yield to develop efficient practices in a conventional canola production system. He will measure nitrogen uptake to the plant, residual nitrogen that remains in soil, and nitrogen loss via ammonia volatilization and leaching out of the root zone. Emphasis will be placed on quantifying nitrogen carry-forward and loss as a result of canola leaf litter decomposition. Yield optimization and nitrogen dynamics information will be utilized to balance economic benefit and environmental risk for these production systems. Results from the study will be used in canola biodiesel feedstock energy-balance evaluation, cost/benefit analysis, and lead to well informed bioenergy policy decision making.

#### ***Contact information:***

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