

# GRADUATE EXIT SEMINAR

**LUANNE HENDRICKS**

## Soil Bioavailability of Aminomethylphosphonic Acid: A Metabolite of Glyphosate



Aminomethylphosphonic acid (AMPA) is a microbial degradation product of glyphosate, the active ingredient in the widely used herbicide Roundup<sup>®</sup>. Previous research indicates that chronic exposure to AMPA may pose a human health risk. In addition, AMPA may negatively impact soil health by inhibiting microbial growth and altering soil microbial community composition. Due to strong soil adsorption, AMPA can have a longer half-life than glyphosate, making AMPA a possible long-term environmental contaminant. The effects of AMPA on soils, in isolation from glyphosate, have rarely been studied. The objectives of this research were to investigate the effects of AMPA on soil microorganisms, and determine how soil type affects AMPA bioavailability to microorganisms. An incubation study was conducted in which three AMPA concentrations were applied directly to three diverse soils. Soil samples were analyzed for chemically extractable AMPA. Microbial response was measured by phospholipid fatty acid analysis and soil respiration. Results are potentially relevant to remediation of soils contaminated by glyphosate.

Advisor: Dr. Richard P. Dick

**TUESDAY, APRIL 14, 2020  
9:00 A.M.**Join the seminar via Zoom: <https://osu.zoom.us/j/948522388>[senr.osu.edu](https://senr.osu.edu)**THE OHIO STATE UNIVERSITY**COLLEGE OF FOOD, AGRICULTURAL,  
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