

# Keegan Smith

## Education:

- M.S. Student (expected graduation: June 2019), Soil Science, University of Kentucky. Committee: Dr. Christopher J. Matocha, Dr. Dave McNear, and Dr. Ole Wendroth. Thesis topic: *The Impact of Ryegrass on a Fragipan Soil*.
- B.S. (May 2017) Natural Resources and Environmental Science (Major), Plant and Soil Sciences (Minor), University of Kentucky.
- A.S. (May 2015) Associate in Science, Bluegrass Community and Technical College.

## Professional Experience:

- (August 2017-Present) Graduate Research Assistant, Plant and Soil Sciences Department, University of Kentucky:
  - Conduct research on a weekly basis towards thesis topic.
    - Slurry method microcosm, graphic furnace (Al), FAAS (Fe), IC and UV-VIS for quantifying compounds, microplate auto-reader (Si).
- (July 2016-May 2017) Soil Lab Internship, Plant and Soil Sciences Department, University of Kentucky:
  - Weekly sampling of water at multiple rain garden sections (inlet, lysimeters, and outlet).
    - Experience with: ion chromatography, graphite furnace atomic absorption spectroscopy, pH meter, EC meter, UV-VIS spectrophotometer, Lachat autosampler
  - Compiled and prepared a year's worth of data to assist in reporting results.
  - Presented research on a poster at Tracy Farmer Institute for Sustainability and the Environment Research Showcase and Soil Science Society of America meeting.
- (January 2016-June 2016) Urban Forest Initiative Internship, Forestry Department, University of Kentucky:
  - Designed an individual research project to understand the causes of chlorosis on willow oak trees by taking multiple soil samples to run tests on.
  - Worked with various environmentally- and sustainability- minded student organizations on campus to raise awareness about the benefits of urban trees.

## Presentations/Posters:

Keegan Smith, Ole Wendroth, Dave McNear, and Chris Matocha. 2019. "The Impact of Ryegrass on a Fragipan Soil." Presented at the 2019 Soil Science Society of America Conference, January 8, San Diego, California.

Keegan Smith and Chris Matocha. 2018. "Remediation of the Fragipan". Presented at the UK Research and Education Center Fragipan Field Day, October 5, Princeton, KY.

Keegan Smith, Chris Matocha, Martin Vandiviere, Brad Lee, and Alan Fryer. 2017. "Fate of Heavy Metals at the CATchment." Presented at the 2017 Tri-Societies Annual Meeting, October 24, Tampa, Florida.

Keegan Smith, Sara Stewart, and Michaela Lambert. 2017. "Pollution and Human Impacts: Assessment and Remediation of a Site at Coldstream Park." Presented at the NRES Capstone seminar, April 21, Lexington, KY.

Keegan Smith, Chris Matocha, Martin Vandiviere, Brad Lee, and Alan Fryer. 2017. "Fate of Heavy Metals at the CATchment." Presented at the TFISE Research Showcase, November 17, Lexington, KY.

Keegan Smith. 2016. "Urban Forest Initiative – Willow Oak Chlorosis." Presented at NRES Internship Conference, September 21, Lexington, KY.

### **Relevant Coursework:**

- Soil Use and Management
- Wetland Delineation
  - Soil judging
- Principles of Plant Pathology
  - Amateur level pathogen identification
- Methods in Soil Microbiology
  - Enzyme assays using UV-VIS and gas chromatography using thermal conductivity and electron capture detectors
- Chemical Analysis of Soils and Plants
  - Elemental analysis through atomic spectroscopy, ion chromatography, and colorimetry
  - Organic chemical analysis by HPLC
- Soil Chemistry
  - X-Ray Diffraction, Flame Atomic Absorption Spectrometry, Fourier-transform infrared spectrometer, ion chromatography, and colorimetry
- Spatial and Temporal Statistics
  - Excel and RStudio