

## Undergraduate Research Assistant Soil Health-Climate Resilient Agriculture

03/08/2022

The Nutrient Management Spear Program (NMSP) at Cornell University is recruiting an enthusiastic undergraduate research assistant and summer intern. The individual will join a research project in Soil Health-Climate Resilient Field Crop Management with a particular focus on field soil sampling and rainfall simulation studies to evaluate impact of field management practices on soil health parameters and nutrient cycling.

### Project Summary

Soil supports food production and impacts many broader ecosystem services like water quality and climate mitigation. Healthy soils (climate resilient soils) are less prone to soil erosion and nutrient loss, tend to be higher in soil carbon, reducing risk of economic loss for farmers while protecting the environment. Over the past years, we have worked with farmers to develop yield stability-based management zones. These maps reflect that some fields or areas within fields are consistently high yielding while others are low yielding or very variable in yield over time. Current research evaluates the ability of soils from different yield stability zones to capture nutrients from applied manures/fertilizers using rainfall simulation studies and field sampling.

### Job Description

The selected individual will be trained on designing experiments, field soil sampling, running the rainfall simulator, collecting runoff samples, sample preparation and laboratory analysis for  $\text{NH}_4^+$  and  $\text{NO}_3^-$ . The intern will work directly with a postdoctoral researcher in our team. The student is expected to perform soil sampling, run rainfall simulator, runoff sample collection and laboratory analysis for  $\text{NH}_4^+$  and  $\text{NO}_3^-$  and be involved in development of research protocols and extension materials related to climate resilient agriculture.

### Skillset Requirements

Currently pursuing a BS degree in Agricultural Sciences, Plant Science, Biological and Environmental Engineering, Animal Science, Environment and Sustainability, or other related majors. Previous experience with field and laboratory research is a plus but not required. Applicants should be highly motivated, detail-oriented, and have an interest in learning about Soil health and Climate Resilient Agriculture.

### Interested?

Email Dr. Quirine Ketterings at [qmk2@cornell.edu](mailto:qmk2@cornell.edu). Please include your resume and explain why you are interested in pursuing this opportunity. We are looking for a student to join us this summer with the possibility of working with us during spring/fall semesters as well.



Cornell University



Nutrient  
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