

**Participatory research on soil microbial diversity of Wisconsin potato fields:** With funding from the WPVGA, the research group of Dr. Richard Lankau in the Plant Pathology department at UW-Madison is seeking interested growers and crop consultants to participate in a survey of microbial diversity across potato fields in Wisconsin. We are learning more and more about the vital role that soil microorganisms play in sustainable, productive agricultural systems through their effects on disease suppression, nutrient cycling, and water relations. However, there are still many basic questions about the role of soil microbes in potato production systems, and how they respond to the variation in soil conditions, climates, and management decisions across the state. As a first step, we would like to obtain soil samples from as many fields across the state as possible. New technology allows us to obtain a snapshot of the entire microbial community from a soil or root sample using molecular biology methods at reasonably low cost. Therefore, the primary limitation on this research becomes the physical collection of samples from across wide areas.

*What we need:* We are looking for participants willing to collect ~2 cups of soil from one or more fields currently in potato, and ship them to our lab in Madison within 1 week of sampling. We can cover shipping expenses through UPS. Alternatively, we have set up a collection box at the Hancock Agricultural Experiment Station, if you prefer to hand deliver your samples there. Additionally, participants will be asked to fill out a short questionnaire about the history and management of the sampled field. All information, including the microbial data we collect, will be fully anonymized prior to any dissemination.

We are hoping to get samples from a large number of fields (up to 50) from around the state to provide the best chance of identifying patterns in microbial communities. For anyone particularly interested, we also need a larger collection of soil, ~2 gallons, to use in greenhouse experiments that will help us determine the functional relationships between microbial communities and potato health. We would like to get these larger samples from 15 fields around the state managed in divergent ways.

*What we can provide:* Although our research is at too early a stage to provide specific recommendations, we would be happy to provide a summary of the information we learn about the microbial communities in your field, and how these communities compare to other fields in the state. For those fields that we use in our greenhouse experiments, we will be able to provide more information on the disease suppressive and nutrient acquisition properties of the microbial communities, at least in the context of our experimental conditions. In time, with the data from this survey along with additional experimentation, our hope is to develop guidelines for management decisions that build healthy soil communities and best capitalize on the functions that these communities can provide for crops.

If you have any interest in participating in this research, please contact Richard Lanaku via email ([lankau@wisc.edu](mailto:lankau@wisc.edu)) or phone (608-262-3084) and we can discuss the logistical details and any questions you have about our work.