Pre Conference Workshop AM

9:00 AM to 12:30 PM

How To Test Your Composts for Persistent Herbicides

Compost producers need a low-cost test for persistent herbicides (PH) for finished composts. Laboratory testing of these active ingredients in compost is very costly due to the need to separate and detect PH at extremely low concentrations (less than 2.5 parts per billion (ppb)). In this half day workshop, students will learn how to use a simple bioassay kit that can test multiple compost samples for PH within 10-14 days. The bioassay kit uses garden peas, LED grow lights and includes spiked positive control and clean negative control media. It can be used in any room temperature environment. The kit has a small footprint, is highly sensitive to PH, and is low cost.

The workshop will include an overview of the PH problem, a review of existing bioassay methods, and training students in the assembly and use of the PH bioassay kit. They will learn how to test composts for soluble salts, PH and other properties that may lead to invalid results. Plants grown in contaminated and uncontaminated media in the kit will be shown and used to teach students how to assess plant damage symptoms, and how to identify and rate persistent herbicide symptoms. Students will also be trained in how to sample and screen composts for persistent herbicides. Students will be able to bring a 1 kg sample of compost to the workshop for testing. Ways to mitigate PH contaminated compost will also be presented. Results of this testing will be shared subsequent to the workshop. Complete bioassay kits will be able to be ordered at the meeting. Students will be able to consult with the teachers on the results of tests of their own composts using the kit and be asked to share results to help inform our community on the prevalence of this problem.

The workshop will include didactic, participative and learner centric teaching methods. Overview and background information will be presented to students in the form of a lecture. This will be followed by participative education on protocols used to measure PH and the assembly, use and management of the bioassay kit. After the workshop, learner centric methods will be used to collect data on the testing of students samples and the use of the kits and results from their own facilities.

Instructors: Dr. Fred Michel

Fee: $260 for USCC members, $292 for nonmembers
Duration: 9:00 AM to 12:30 PM
Date: February 6th 2024

CCOM™/CCP™ PDHs: 3.5

Agenda Details Coming

About the instructors:

Dr. Michel's *group conducts research in three areas: (1) Composting, focused on the recycling of food scraps, yard trimmings and manure, understanding and mitigating the impacts of contaminants such as herbicides, plastics and pathogens and understanding the effects of composts on the microbial ecology of soils and plant growing media, (2) Pretreatments to improve bioethanol production from corn and cellulosic feed stocks and biogas production during anaerobic digestion, (3) Bioprocessing for the extraction and purification of natural rubber and inulin from the roots of Taraxacum kok Sagyhz (TK), the Russian dandelion. He serves as the editor of Compost Science and Utilization journal, is a board member of the Organics Recycling Association of Ohio, serves on the USCC Persistent Herbicide Task Force, is the President of the Wayne County Sustainable Energy Network and is the Chair of the OSU Wooster Sustainability Committee. He teaches the Ohio Compost Operator Education Course, Solar Energy Systems and FABE courses related to biomass conversion. He has published more than seventy peer reviewed scientific papers and in 2011 received the Rufus Chaney award for Research Excellence from the USCC.*