SOIL ACADEMY 2012

Date: September 5, 2012
Location: Mason Technology Center, 474 S. Onondaga Road, Mason MI 48854
Time: 9:30 am to 5:00 pm

This program is a refresher course in soil science for farmers and industry professionals. It will discuss scientific vocabulary and on-farm practices needed to understand more advanced topics in soil fertility and nutrient management. Beginning farmers are especially encouraged to attend.

The event will begin at the Mason Technology Center.

The morning session will feature the following:
- USDA Soil Survey maps
- Michigan soil types
- Chemical and physical properties
- Diagnostic and problem solving skills
- Soil and water quality
- Soil fertility and nutrient management basics
- CCA and MAEAP 1 credits.

Lunch will be provided.

In the afternoon, we will board a bus and visit
- Muck farm agriculture
- MSU soil fertility trials, East Lansing
- Soil testing laboratory, East Lansing

Speakers:
- Gaylynn Minter - USDA Soil Scientist
- Kurt Steinke – MSU Extension Specialist
- Darryl Warncke – MSU Extension Specialist
- Jon Dahl – MSU Soil Testing Laboratory
- Mike Staton – Senior Extension Educator
- George Silva – Senior Extension Educator
- Steve Gower – Monsanto Agronomist
- Others
Some highlights include:
How are soils formed?
Soils develop as a result of the interactions of five factors: climate, organisms, relief, parent material and time, e.g. \( \text{soil} = f(\text{cl}, \text{o}, \text{r}, \text{pm}, \text{t}) \). Differences in climate, organisms, relief, and parent material from one location to another as well as the amount of time have produced a wide variety of soils. In Michigan, glacial activities had a major influence in soil development and have resulted in a complex mixture of soils. As farmers well know, several soil types can exist within a relatively small field.

What do the USDA Soil Survey maps tell us?
The USDA Soil Survey contains information that can be applied in managing croplands and woodlots; and for selecting sites for roads, ponds, buildings and other structures. Some people are unaware that great differences in soil properties can occur even within a short distance. Soils may be seasonally wet or subject to flooding. They may be shallow to bedrock. Soil may be unstable as a foundation for buildings or roads. Heavy clay or wet soil is poorly suited to septic tank absorption fields. A high water table makes soils poorly suited for basements or underground installations. Web based Soil Survey (WSS) will be introduced as a valuable on-line tool to access soil survey maps and data.

What is the ideal soil composition for plant growth?
The ideal composition by volume for plant growth is considered to be:
- 45% Mineral Matter (from rocks)
- 5% Organic Matter (dead & living plant/animal material)
- 25% Air
- 25% Water

How do we achieve this composition?

What are the important physical and chemical properties of soils that are important to soil health and plant agriculture?

How does texture and structure influence soil characteristics and nutrient availability?

What is the role of microorganisms on soil health?

What are the most important plant nutrients?

How does soil testing relate to fertilizer recommendations for crops?

This phase 1 session will serve as a primer to a comprehensive and cross commodity phase 2 session in soil fertility and nutrient management planned for January 2013.

Click here for the 2012 soil academy 2012 program brochure