

**Starting at 2:45pm**

- Setup pH lab, and pXRF lab
- ***pH, structure, organic matter intro talk***  
10 min, by Dawn Pettinelli
- Split back into 3 groups and move to 3 separate areas near Ratcliffe Hicks

**Using prepared soil profile trays, 40 minutes (3:00-3:40pm), each group gets 1 instructor**

**Jacob/Dawn/Krista**

- Brief the students on the Scenario

*UConn wants to establish a community garden, but where's a suitable place to grow delicious and healthy food?*

Students will use their newly gained knowledge of soil properties and soil measurement techniques to evaluate UConn's campus for potential community garden sites. Students will break into teams, each choosing a potential garden plot. Teams will evaluate soil properties significant to productivity and human health: soil texture, soil pH, and screen for lead (Pb). Teams will present their findings to the larger group at each site, and finally we'll use group debate to determine where the most suitable site is for the UConn community garden.

- Pass out the Community Garden soil health Scorecards
- Encourage students to divvy up the soil activities, like in Envirothon or a Bio-blitz
- Students will:
  - Analyze surface horizon using pXRF
  - Use handheld pH meter to measure pH (NRCS will supply pH meters and DI H2O)
  - Estimate surface soil texture using Texture by Feel method
  - Try to answer remaining questions to the best of their ability

**Set alarm for 3:40pm.** At that time, regroup, and have each team present a 5 minute presentation on each potential Gardening Site

*Which site is interpreted to be the most suitable?*

**NRCS Materials needed:**

- 3x Soil trays (2022 we used Woodbridge, Windsor, and Scitico soils)
- Tables (5 total, 1 for each team, and 2 for the pXRF and soil pH stations)
- Tarps
- Compasses (3x)

**Soil pH**

- pH meters (3x)
- Deionized water (3 containers)

- 3 beakers
- Soil pH fact sheet copies

### **Soil Pb (lead)**

- Nitrile Gloves
- pXRF
- Lead Interpretation Fact Sheet

### **Soil Texturing**






- Nitrile Gloves
- Texture-by-feel fact sheet
- Towels
- Jug of water

### **Soil Structure**

- Handout

### **Organic Matter**

- Color chart
- Handout with
  - Chart for interpreting pH
  - Chart for interpreting Pb content
  - Texture by feel chart
  - Community Garden Soil Health Questionnaire

ORGANIC MATTER		COLOR
Average	Range	(moist soil)
5%	3½ to 7%	
3½%	2½ to 4%	
2½%	2 to 3%	
2%	1½ to 2½%	
1½%	1 to 2%	

(Strong sunlight may eventually cause these colors to fade slightly.)