Soils do’s and don’ts
James Cassidy – OSU Soil Science

- Don’t over till - use a fork, it doesn’t need to be dust! Remember, soil is habitat and tilling destroys structure and homogenizes the environment leading to low diversity of soil organisms

- Only “work” soil when conditions are “right” - not too wet, not too dry, the soil should rupture easily when crushed in the hand

- Don’t compact soil - compacted soil has less air for plant roots and lowers organism diversity

- Don’t over water - just water to the bottom of the root zone (get a shovel and have a look!) about 6 inches

- Replenish soil nutrients - ADD ORGANIC MATTER i.e. COMPOST

- Avoid chemical fertilizers, pesticides, and herbicides - kills soil organisms, disrupts the natural cycle

- Do use organic fertilizers - Feed the herd!

- Leave habitat over winter - cover crops, leave garden plant roots (remember the rhizosphere) - that’s where the organisms are...

- Be a “dirt farmer” - Feed the soil and the soil will feed the plants

The secret to organic management of soil is to think of your soil as habitat, a living thing, not just dirt or a chemical sponge - what you want to strive for is diversity of habitat for as wide a diversity of organisms as possible. If the system is divers, no one thing can take over and become a pest. Remember, soil health is measured by the number and diversity of organisms that live there.

Bottom line:
What’s the answer? - ADD ORGANIC MATTER!!!
What’s the question? - WHO CARES
Plan for next year’s garden NOW! - ALWAYS BE GARDENING

- Garden shut down
  - Cut plants, don’t pull
  - Weed and cover
- Rotation plan - make one
- Mulching options for next year’s garden
  - Clean straw (for earliest use next year)
  - Compost (for early use next year)
  - Newspaper/cardboard/straw
- Cover crops (for late use next year)
  - Cut, sit 2-weeks, incorporate in spring = time

Rotate crops - section-out your garden into categories of similar plants and rotate them every year to reduce disease and nutrient problems

6-year rotation

1) LEGUMES
   peas, beans, favas
2) BRASSICAS
   broccoli, brussel sprouts, cabbage, kale, poc choy, etc.
3) HEAVY FEEDERS
   corn, pumpkins, summer/ winter squash, melons, sunflowers
4) LIGHT FEEDERS
   carrots/ all carrot family, lettuce, greens, herbs, etc.
5) SOLANACEOUS
   tomatoes, peppers, eggplant, potatoes, and okra (similar diseases)
6) ALLIUMS
   onions, garlic, leeks, shallots, etc.