

This week we started the lesson on Soils found on pgs 10 & 11 in our gardening manual. Since the freeze we have cleaned up the garden beds in preparation for our spring planting and also done some planting of radishes, lettuce, spinach, and turnips. When planting at this time of year, we need to take into account the temperature of the soil. When the soil temperature begins to warm up, our gardens and lawns begin to show new green growth and the hint of the beginning of a new spring. But we are still in our winter season so many of the seeds we might want to plant may not germinate until the soil is warmer. We are experiencing this in many of our recent plantings as they are slow and spotty. A bit earlier in the year we planted radishes and lettuce in Orchard beds O6 & 7, the result was slow germination and growth. Some of the lettuce we planted just a week later in the long bed in the Orchard (O2) haven't germinated yet, coincidentally we are experiencing cooler temperatures again. The message is patience, we need patience. We are getting ready to plant potatoes and the temperature of the ground is important because we like to plant the potatoes deep in the soil. Yesterday, I took the temperature of the soil in the long bed in the Annex (an area where we plant potatoes) and the soil temperature ranged from 47 degrees Fahrenheit to 53 degrees. As reported by University of Idaho, "There is an old rule of thumb that soil temperatures at seed piece depth should be above 45o F and climbing before starting to plant potato seed." (<https://www.uidaho.edu/-/media/UIDaho-Responsive/Files/cals/programs/potatoes/news-pubs/early-planting-risk-March-2011.pdf?la=en&hash=FE54E0F298AAA6E9F22EC816F641FB251E0996A6>). So what's the point? If getting plants into the garden as soon as possible is your goal, then you will need to start them in a greenhouse setting, for instance in your home with decent light and with regular watering in small pots. Not all veggies do well as transplants such as carrots or radishes. But the tomato growers are hard at it at this point getting their seeds planted in anticipation of a warm spring. The advantages of transplants are many, see if you can think of five reasons why you might want to start those veggies you desire early!

This time of year is ideal for maintenance as the temps during the day are great for working and the garden is limited in produce. If you look carefully at the main garden you may see that the last two beds M9 & M10 have been raised to two blocks high and have been filled with soil and are ready for spring planting.

Finally, in our classroom discussion of soils, we were introduced to the concept that soils are not compacted but have pores or spaces that allow for the storage of air, organic nutrients, and water. These spaces also allow for plant roots to penetrate the soil layer which is important for stability, drainage, and for reaching those nutrients the plant needs. Many times we will say this or that crop does best in a sandy-loam garden soil. What does that mean? So to answer the question of what type of soil are we growing our plants in we are carrying out a soil sedimentation test. This test will help us determine how much sand, silt, and clay that is in the soil. And we learned in class that soils that have 50% sand, 25% silt, and 25% clay offer the best conditions for pore sizes in the soil that are optimal for water, organic nutrient, and air retention. In class we shook our soil samples with water and antifoaming soap to allow for the soil particles to separate. When the mixtures are allowed to stand the most dense particles will settle to the bottom of the container first followed by the next most dense particles (silt) and finally the clay. The sand settles out pretty quickly within a couple of minutes, the silt is next in about an hour, and the clay needs all night to settle. These layers can be seen pretty clearly in the container. Once measured by a ruler you can approximate percentage wise how much sand, silt, and clay was in your soil sample. Comparing these values to a soil identification triangle you will be able to identify what the soil type is that you tested. There will probably be material floating in the water still, what do you think that might be??

Have fun with the sedimentation test,

Stay safe and hope to see you next time!