USDA Fellows Classroom Lesson 3

Soil Texture Activity

- What was your group's soil texture ?
- Was it what you expected ?
- What clues did you see or feel from the dry soil that helped you guess right ?

The Development of Agriculture

How would humans get food in the past before agriculture ?

- **Hunter-gatherer (Foraging):** a member of a culture in which food is obtained by hunting, fishing, and gathering plants to eat rather than by growing crops and raising animals
- **Domestication:** to breed and select animals and plants so that they are adapted to living with human beings and serving their purposes
- **Technology:** the use of science and the application of knowledge to invent useful things or to solve problems
    - Tillage
    - Nutrients/pesticides
    - Irrigation

Branches of Agriculture

Agronomy: crops which occupy a large area and form the bases of the food production systems of the world, which are often mechanized (rice, wheat, corn, alfalfa, soybean, and forage crops).

Horticulture: production of plants for the restoration of a landscape, conservation of plants, management of soil, construction of landscape, maintenance.

Animal Husbandry: animals that are raised for meat, fiber, milk, eggs, or other product.

Hydroponics: a method of growing plants without soil, by instead using mineral nutrient solutions in a water solvent.

Different types of farms worldwide

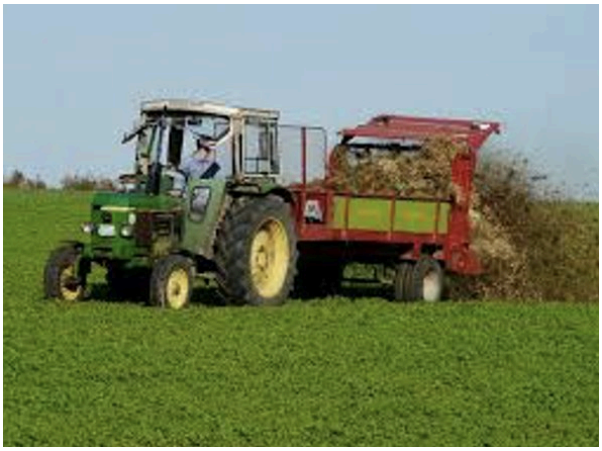
- Visit fascinating farms around the world
    - https://www.fbd.ie/CreativeContentHub/fascinating-farms-around-the-world/

Crop Practice

	Monoculture Intensification
	Subsistence Farming
	Polyculture Intercropping

Other Agriculture Practices

	Irrigation

	Tillage
	Fertilizing
	Pest Control

Steps of the Scientific Method

Problem: What are we testing

Research: Look at the past work of others to see if this problem has already been tested

Formulate a hypothesis: identify variables and explain the expected outcome using an if/then statement

Design the experiment: Detail the materials and procedures that will be used. Identify the control variables.

Test the hypothesis: Follow the experimental design. make observation and collect data

Organize / Summarize the data: Make charts and graphs that explain the collected data summarize all observation

Conclusions: Share what was learned by the experiment. state any potential improvements that could be made.

Rhizotron Project: Weekly Observations

1. Define our problem
2. Make a hypothesis
3. Measure the total growth of roots and above ground biomass
4. Sketch pictures of what you see
5. Write down any observations

Next Time...

Learn about the carbon cycle

Learn about other important plant nutrients

Continue collecting our observations from rhizotron project