

Soil, erosion, food and agriculture, pesticides:.

- How (generally) will climate change likely affect agriculture (eg. regions will not all be impacted in the same way, and food production may go down in regions that are already struggling)
- What causes erosion?
- How can a farmer minimize erosion?
- Know that food distribution, not total amount of food is currently a major cause of hunger in the world.
- What is soil?
- Know what top soil and parent material are
- Know what soil porosity and permeability are
- Know what factors contribute to soil quality (eg the two points above plus texture etc.)
- Know what some negative effects of inorganic fertilizers are on the environment (eg. they can cause excessive nutrients to flow into the water system causing algae blooms and choking waterways)
- Know the benefits of crop rotation and especially nitrogen rich plants such as legumes (with their nitrogen fixing bacteria symbionts)
- Know what nitrogen fixing bacteria are.
- What was the green revolution? What have been some problems associated with it? Benefits?
- Know the difference between industrial agriculture, Traditional ag (both intensive and subsistence) and plantation agriculture
- What are some global concerns around food production? Eg. food production keeping up with population growth, regional differences (some regions can't grow enough food), topsoil loss, climate change, soil fertility degradation, monocultures of crops, genetic engineering, pesticide resistance etc..!
- What are some advances we are making in agriculture production?
- How do most plants get nitrogen 'naturally': the nitrogen cycle and bacteria!
- How do we give it to them in most intensive agriculture?: Augmenting soil with inorganic and chemical fertilizers
- Know what integrated pest management is