Soil Amendments:
Manure and Organic Fertilizers

Segment 1: Function and Purposes of Soil Amendments

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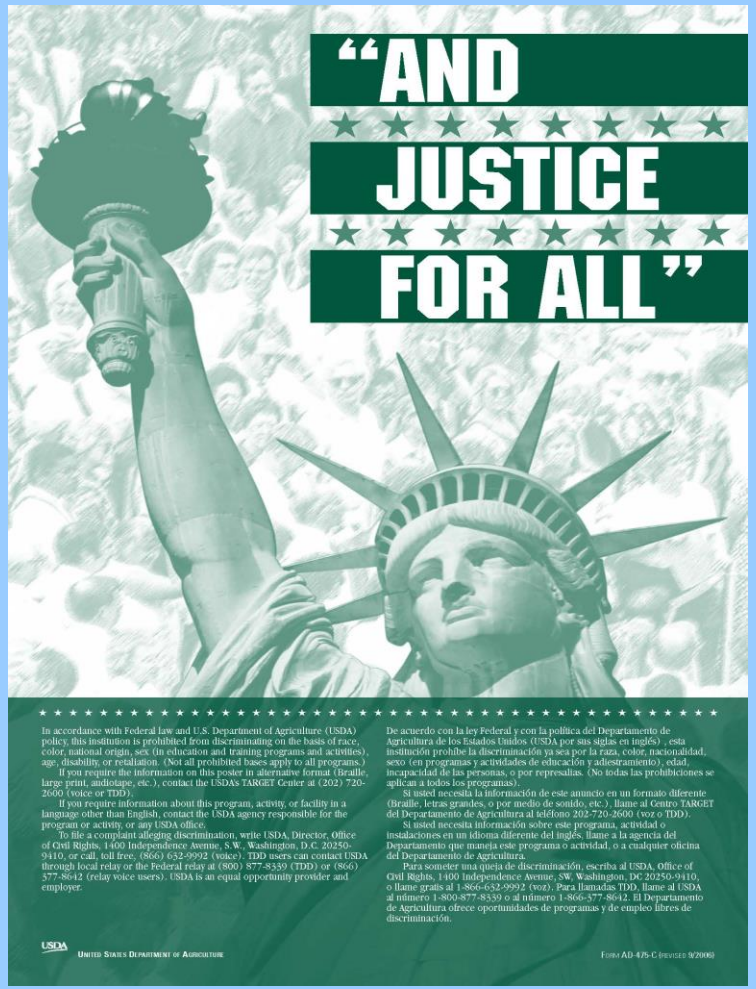

Module Overview

- Manure, compost and biosolids, and plant and animal byproducts
  - Description
  - Storage
  - Handling and application
  - Food safety considerations
  - Record keeping
- Review
- Buyer Demand

Photo credit: Dann Bolinger

Manure pile on a Michigan dairy farm.

What are soil amendments?

- Soil amendments are organic and inorganic materials applied on and mixed into agricultural soils to change the physical and chemical characteristics of the soils.

Photo credit: Charles Gould

Colters slice a furrow into the sod for liquid manure application.

Impact of soil amendments in a cropping system

- Improve physical properties (texture/tilth/structure)
- Improve aeration
- Increase water holding capacity (in light soil)
- Increase nutrient-holding capacity
- Improve water infiltration (in heavy soils)
- Add nutrient/mineral values for plant growth
- Improve cation exchange capacity (CEC)
- Adjust pH
- Suppress soil microbes that could harm plants
- Increase the soil microbe community that helps plants grow

Environmental and management effects on nutrient release in a cropping system

- Soil moisture
- Soil temperature
- Cover crops
- Soil organic matter
- Crop rotation
- Soil pH

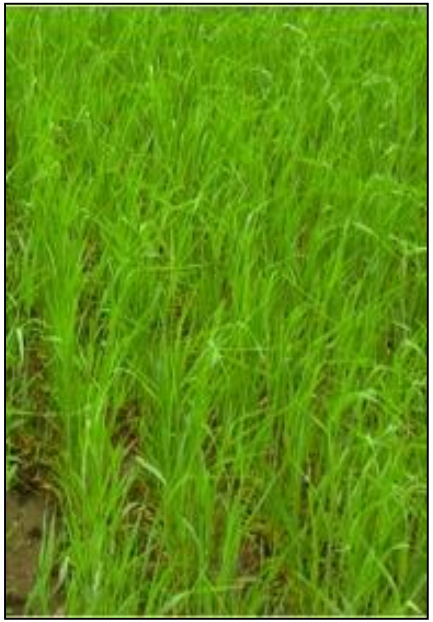

Photo credit: Christina Curell

Grass Cover Crop

Key Point

- Soil amendments are used in cropping systems to achieve specific outcomes.

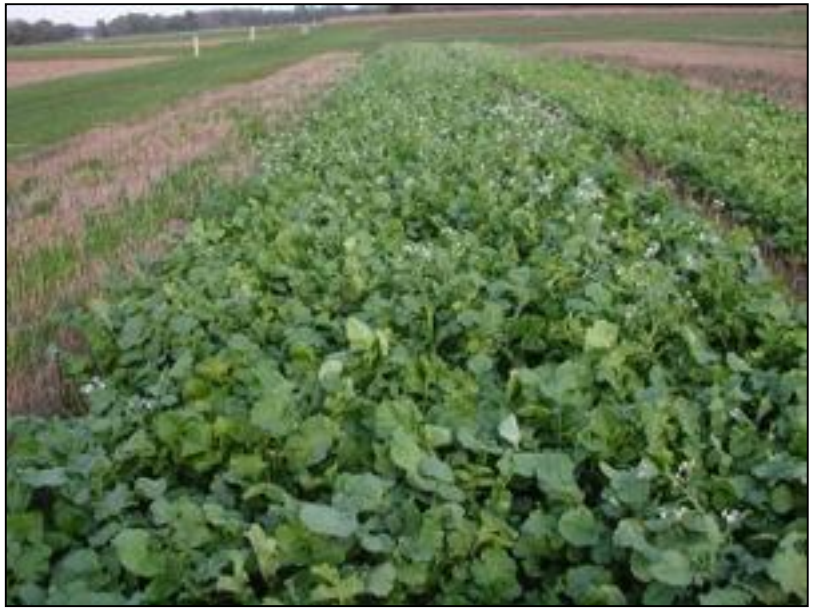

Photo credit: Christina Curell

Oilseed radish cover crop in Michigan.

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