SECTION HEADING

AGRI 2203: Soil Fertility and Fertilizer

Description

Soil Fertility and Fertilizer explores the chemical elements in the soil and plants. Soil testing, tissue testing, fertilizer nutrients, fertilizer products, and fertility recommendations are studied.

Credits

3

Prerequisite

None

Corequisite

None

Topics to be Covered

1. Characteristics of Soil
2. Plant Nutrients
3. Characteristics of Clay
4. Macro Nutrients – Nitrogen, Phosphorus, & Potassium
5. Secondary Nutrients – Sulfur, Calcium, Magnesium
6. Micro Nutrients
7. Soil pH and Salinity
8. Soil Organisms
9. Organic Matter
10. Soil & Plant Tissue Testing
11. Reading a Soil Test
12. Fertility and Lime Recommendations
13. Fertilizer Products
14. Manure as Fertilizer
15. Site Specific Applications

Learning Outcomes

1. Describe soil origin and physical properties of soil.
2. Classify essential elements required by plants.
3. Describe how plants absorb nutrients.
4. Describe the interaction of plant nutrients and soil.
5. Differentiate the effects of fertilizer elements on plant growth and development.
6. Identify nutrient deficiencies
7. Analyze a soil test report.
8. Calculate fertilizer and lime recommendations with costs.
9. Describe major fertilizer products and their analysis.
10. Describe the effects of pH on nutrient interaction and plant uptake.
11. Explain the benefits of organic amendments and manure for soil fertility and plant nutrition.
12. Collect soil samples on a grid

Credit Details

Lecture: 2

Lab: 1

OJT: 0

MnTC Goal Area(s): None