

# Soil in Agriculture

Catalogue Number	77-3102-0002
Category	Agriculture
Duration	15 Hours

## Lesson 1: Soil

- Development of Soil Science
- Soil Composition and Texture
- Example: Using the Soil Texture Triangle
- Soil Structure
- Task 1: Demonstrating Benefits of Good Soil Structure
- Soil and Microorganisms
- Plant Nutrients and the Soil
- Task 2: Experimentation with Salination
- Review Test 1 Quiz

## Lesson 2: Organic and Green Fertilizers

- The Plant as a Factory
- Organic Fertilizers (Manures)
- Chemical Fertilizers
- Fertilizer Classification by Nutrient Content
- Fertilizer Analysis and Ratio
- Forms of Fertilizer
- Fertilizer Characteristics
- Task 1: Fertilizers
- Review Test 2 Quiz

### **Lesson 3: Nutrients**

The 16 Essential Elements

Task 1: Carbon

Task 2: Oxygen

Nutrients from the Air and Soil Water

Primary Nutrients

Secondary Nutrients

Calcium (Ca)

Magnesium

Sulfur

Review Test 3 Quiz

### **Lesson 4: Macronutrients (N-P-K)**

The Three Macronutrients: N-P-K

Nitrogen (N)

Nitrogen Cycle in Nature

Task 1: Study of Nitrogen Fixing Bacteria

Task 2: The Role of Nitrogen

Phosphorous (P)

Potassium (K)

Review Test 4 Quiz

## **Lesson 5: Commercial Fertilizers**

What are Fertilizers?

Sources of Fertilizers

Finished Fertilizers

Review of Analysis and Ratio

Quiz

Primary Nutrient Fertilizers

Nitrogen Fertilizer

Task 1: Nitrogen

Phosphorous Fertilizers

Potassium Fertilizers

Granular and Blended Mixed Fertilizers

Calculation of Fertilizer Requirement

Exercise: Fertilizer Requirement Calculations

Review Test 5 Quiz

## **Post-test: Soil in Agriculture**