

# Introduction to Irrigation

Catalogue Number	77- 3103-0002
Category	Agriculture
Duration	15 Hours

## Lesson 1: Introduction to Irrigation

- History of Irrigation
  - Ancient Irrigation Systems
  - Transportation Systems
  - Mechanical Systems
- Quiz
- Modern Irrigation Systems
- Task 1: Equipment Demonstration
- Introduction to Water Absorption in Plants
- Irrigation Concepts
- Task 2: Comparing Drip and Sprinkler Irrigation
- Review Test 1 Quiz

## Lesson 2: Water Motion and Absorption in Soil

- Soil Water Availability
- Water to Soil Adhesion
- Task 1: Hygroscopy
- Water Movement Types
- Task 2: Gravitational and Capillary Water Movement
- Soil Moisture States
- Task 3: Field Capacity Measurement
- Factors that Affect Irrigation Requirement
- Task 4: Comparing Irrigation Methods
- Review Test 2 Quiz

### **Lesson 3: Soil, Water and Atmosphere**

Interaction Between Soil and Water

Task 1: Measuring Field Capacity

Interaction Between Water and Air

Task 2: Soil Compaction and Plant Growth

Interaction Between Water and Plants

Task 3: Viewing Stomata by Using Leaf Casts

Interaction Between Plants and the Atmosphere

Review Test 3 Quiz

### **Lesson 4: Open Irrigation**

Review of Open Irrigation

Advantages

Disadvantages

Improving Open Irrigation

Task 1: Simulation of Open Irrigation and Leveling

Task 2: Simulate a Siphon

Water Flow Measurement In Open Irrigation

Maintaining an Open Irrigation System

Review Test 4 Quiz

### **Lesson 5: Pressurized Irrigation**

Overview of Pressurized Irrigation

The History of Modern Pressurized Irrigation

Principles of Pressurized Irrigation

Example 1: Irrigation Requirement Calculation

Example 2: Irrigation Requirement Calculation

Advantages of Pressurized Irrigation

Disadvantages of Pressurized Irrigation

Task 1: Demonstration of Sprinkler Problems

The Economics of Pressurized Irrigation

Review Test 5 Quiz

### **Post-test: Introduction to Irrigation**