

# Greenhouse 101

## Learning Objectives

*The learner will:*

- Understand the purpose, types, and needs of various greenhouse systems.
- Examine various pest and disease control issues related to greenhouse use.

## Purpose

- Propagation of plants to be transplanted
- Raising crop from seed to harvest
- Perennials

## Types

- Fully enclosed, automated air, heat, and water systems
- Hoophouses
- Cold frames

## Needs

- Heating/cooling – provides optimal temp range for germination and growth
  - Active vs. passive heat
  - Heating to aid germination
  - Temperature ranges – cool crops 50 – 70, hot crops 60 – 85
  - Shade cloth
- Air circulation – strengthens plants, reduces chance for fungi and disease
  - Automated vents and fans
  - Opening doors or roll-up sides
- Light – in winter, supplemental light could be used to speed growth
- Growing infrastructure
  - Beds – in ground or raised – mostly used for crops to be harvested in greenhouse or perennials
  - Flats and pots – used for crops to be transplanted
- Water – ranges from hose to fully automated sprinkler/mister systems

### **Pests and disease control**

- Healthy plants are most resistant
- Sanitary conditions – wash flats, pots, tools, do annual cleanout
- Regular monitoring – remove diseased plants immediately
- Mechanical – pick or spray off insects
- Biological – use of predatory insects
- Seed source – seeds can carry disease

### **Assessment/Review**

- Discuss various types of greenhouses.
- What are the basic needs to be provided for in any greenhouse?