

Horticulture Module

I. Greenhouse Management

A. Understand and apply principles of greenhouse management.

1. Understand greenhouse function, design, materials, and structure.

a. Explain the purposes of greenhouse production.

b. Compare and contrast structures, framework, and their applications.

c. Select glazing material based on physical properties and cost.

d. Recommend the best type of greenhouse structure and glazing material for different scenarios.

2. Understand selection of greenhouse environmental systems.

a. Identify the factors that are involved with the climate of a greenhouse (e.g., heating, cooling, humidity, and light).

b. Describe the purpose and use of common environmental controls (i.e., manual and automatic).

c. Recommend the best type of heating, cooling, and ventilation in different scenarios.

3. Understand selection of greenhouse irrigation systems.

a. Identify the types of irrigation systems used in greenhouse production.

b. Compare and contrast irrigation systems.

c. Recommend the best type of irrigation in different scenarios.

4. Understand the process for selection of greenhouse-growing media.

a. Describe properties and components of growing media.

b. Recommend the best type of growing media in different scenarios.

5. Understand and apply practices for greenhouse plant nutrition and growth.

a. Describe plant nutrition and the importance of nutrient management in a greenhouse setting.

b. Identify micro- and macronutrients.

c. Identify nutrient-deficiency symptoms and remediation by fertilization practices by using available plant nutrient sources (e.g., water soluble, slow release, and organic).

d. Calculate fertilization practices based on product labels and specifications (e.g., application methods, injection, and concentration).

6. Understand practices for greenhouse disease and pest management.

a. Identify major plant diseases and pests in greenhouse production.

b. Describe methods of control for major plant diseases and pests in greenhouse production.

Horticulture Module

7. Apply greenhouse operation practices.

- a. Demonstrate safety procedures when completing common greenhouse tasks.
- b. Identify common automated systems.

8. Understand the principles of propagation techniques.

- a. Identify reasons crops are sexually or asexually propagated.
- b. Compare and contrast sexual and asexual propagation.
- c. Identify proper sanitation techniques during asexual propagation.

9. Identify and describe different growth regulators used in plant systems.

- a. Identify growth regulators and their uses in production.
- b. Describe the impact of growth regulators on plant growth and development.

II. Turf and Landscape Management

A. Understand practices for establishing and maintaining turf and landscape areas.

1. Explain utilization of landscape drafting tools and equipment.

- a. Identify the uses of traditional landscaping design tools.
- b. Calculate dimensions to scale.

2. Explain landscape water use.

- a. Identify common types of irrigation systems and their components.
- b. Demonstrate how to set an irrigation timer and set irrigation zones to turn on at the proper time.
- c. Define xeriscaping and explain its benefits.
- d. Compare water usage between traditional and xeriscaped areas.

3. Understand the selection and utilization of turf grasses in the landscape.

- a. Identify common turf grasses and classify to growth type.
- b. Analyze turf grass species for specific uses or location.
- c. Calculate the amount of seed or sod needed for a specific area.

4. Understand the selection and placement of plant materials in the landscape.

- a. Interpret the USDA zone map.
- b. Select appropriate plant materials for specific landscape situations.

5. Perform identification and treatment of plant injuries and diseases.

- a. Identify common turf and landscape plant injuries caused by insects or the environment.
- b. Describe integrated pest management and how it can be applied to turf and landscape maintenance.

Horticulture Module

6. Understand practices for turf and landscape maintenance.

- a. Identify the steps for proper landscape, including pruning, mowing, aerating, and fertilization.
- b. Describe how to maintain equipment to ensure the proper health of the turf.
- c. Compare lawn mower types and their applications, advantages, and disadvantages.