West Virginia DEPARTMENT OF EDUCATION

NOCTI
Partner Credential Blueprint

Plant Systems (WV)

Code: 8994 / Version: 01

General Assessment Information

Blueprint Contents

Test Type: The Plant Systems assessment was developed based standards used in the State of West Virginia and contains a knowledge-based component. This assessment is meant to measure technical skills at the occupational level and includes items which gauge factual and theoretical knowledge.

Revision Team: The assessment content is based on input from West Virginia educators who teach in career and technical education programs.

CIP Code

01.1101
Plant Sciences, General

Learning that works for America
CTE™

Career Cluster 1 - Agriculture, Food & Natural Resources

O*NET™ in*it

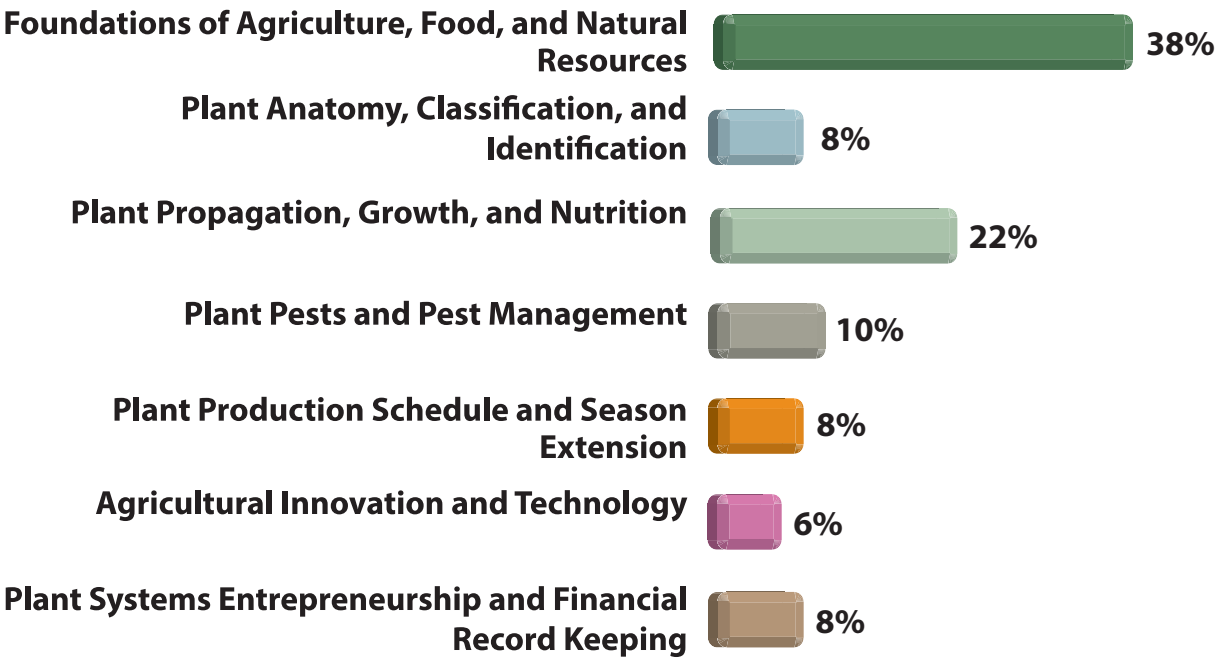
45-2092.00 Farmworkers and Laborers, Crop, Nursery, and Greenhouse

Written Assessment

This written assessment consists of questions to measure an individual's factual theoretical knowledge.

Administration Time: 2 hours
Number of Questions: 107
Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered



Specific Standards and Competencies Included in this Assessment

Foundations of Agriculture, Food, and Natural Resources

- Demonstrate understanding of agribusiness (e.g., SAE, expenses)
- Demonstrate understanding of animal systems (e.g., breeds of livestock, anatomy)
- Demonstrate understanding of agriculture innovation and technology
- Demonstrate understanding of food products and processing (e.g., protein sources, food preservation)
- Demonstrate understanding of natural resources (e.g., renewable resources)
- Demonstrate understanding of plant systems (e.g., plant parts, processes, soil)
- Demonstrate understanding of power, structural, and technical systems (e.g., measurement)
- Demonstrate knowledge of leadership development through FFA (e.g., motto, parliamentary procedure, official dress)

Plant Anatomy, Classification, and Identification

- Identify and classify plants (e.g., nomenclature, monocots)
- Identify major plant parts and functions (e.g., root systems, phloem, node)
- Demonstrate understanding of plant life cycles (e.g., pollination, seed vigor, perennial)

Plant Propagation, Growth, and Nutrition

- Demonstrate understanding of photosynthesis and respiration (e.g., transpiration, functions of leaves)
- Demonstrate understanding of naturally occurring plant hormones and synthetic plant growth regulators (e.g., ethylene, PGR)
- Identify essential nutrients for plant growth and development (e.g., macro/micronutrients, phosphorous, nitrogen)
- Identify soil types, properties, and pH and the impact on horticultural plant production (e.g., soil triangle, aeration, pH)
- Demonstrate understanding of synthetic fertilizer formulations and application (e.g., amounts to apply, inorganic)
- Demonstrate understanding of organic matter and its role in nutrient storage and plant nutrition (e.g., manure, organic)
- Demonstrate understanding of propagation techniques (e.g., sexual and asexual, seed germination)

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Standards and Competencies (continued)

Plant Pests and Pest Management

- Identify plant pests, disorders, and diseases (e.g., aphids, crop scouting, damping off, leaf disease)
- Identify pest control strategies associated with integrated pest management (e.g., lady bug, selective, post-emergent, days to harvest)

Plant Production Schedule and Season Extension

- Identify crops that can be produced in high tunnels
- Describe low-cost season extension practices and systems (e.g., cold frames, hoop houses)
- Demonstrate understanding of planning and scheduling various crops based on hardiness zone (e.g., hardiness zone map, soil test)

Agricultural Innovation and Technology

- Identify emerging technology in the various plant systems industries (e.g., hybrids, biotechnology)
- Identify career opportunities in technology, innovation, and entrepreneurship in plant systems industries (e.g., floriculture, landscape, propagator)

Plant Systems Entrepreneurship and Financial Record Keeping

- Demonstrate understanding of entrepreneurship and financial record keeping (e.g., calculate profit, crop insurance)
- Demonstrate understanding of value-added agriculture and direct marketing (e.g., supply vs. demand, business plan)
- Demonstrate understanding of sustainability (e.g., economic and environmental future)

Sample Questions

Agricultural innovations have allowed farmers to

A. eliminate the use of chemical fertilizers
B. increase the use of chemical fertilizers
C. produce more crops on less land
D. produce fewer crops on more land

FFA business meetings are run using an established set of rules known as

A. Business Rules
B. Meeting Rules
C. Parliamentary Procedures
D. Business Procedures

Garden soil should be subjected to a chemical soil test to determine

A. how well water drains off the surface
B. what fertilizer and other amendments to add
C. the correct depth for plowing
D. whether the soil is too wet to plow

The nursery landscape industry involves the growth, installation, and maintenance of

A. grasses, plants, trees, and shrubs
B. grasses, plants, trees, and fruits
C. grasses, plants, trees, and vegetables
D. shrubs, grain crops, vegetables, and fruits

The amount of an agriculture commodity available for sale at a given time is the

A. elasticity
B. demand
C. cycle
D. supply