



# 2020-2021

## Technical Skills Assessment

### Ornamental Horticulture

### Results by Standard

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Ornamental Horticulture	% Correct	% Correct	% Correct
Number tested: 11	17-18	18-19	20-21
<b>CONTENT STANDARD 1.0: SAFETY IN THE ORNAMENTAL HORTICULTURE INDUSTRY</b>	34.69%	90.48%	78.02%
<b>Performance Standard 1.1: Safe Work Practices</b>	34.69%	90.48%	78.02%
1.1.1 Identify and properly use personal protection equipment.	28.57%	100.00%	92.31%
1.1.2 Read, understand and follow label directions and SDS (safety data sheet).	28.57%	100.00%	80.77%
1.1.3 Properly identify common hand tools and power equipment.	28.57%	66.67%	57.69%
1.1.4 Safely use common hand tools and power equipment.	71.43%	100.00%	84.62%
<b>CONTENT STANDARD 2.0: PLANT ANATOMY</b>	36.19%	62.22%	59.49%
<b>Performance Standard 2.1: Plant Cells</b>	14.29%	16.67%	19.23%
2.1.1 Label the parts of a plant cell.	14.29%	16.67%	19.23%
<b>Performance Standard 2.2: Root Anatomy</b>	71.43%	100.00%	92.31%
2.2.1 Investigate the functions of roots in plants.	71.43%	100.00%	92.31%
<b>Performance Standard 2.3: Stem Anatomy</b>	7.14%	50.00%	57.69%
2.3.1 List the functions of a stem.	0.00%	66.67%	53.85%
2.3.2 Recognize the external structures of a stem.	14.29%	33.33%	61.54%
<b>Performance Standard 2.4: Leaf Anatomy</b>	50.00%	75.00%	69.23%
2.4.1 Name the main parts of a leaf.	50.00%	83.33%	84.62%
2.4.3 List three functions of a leaf, including photosynthetic energy conversion.	57.14%	100.00%	100.00%
2.4.4 Differentiate major leaf arrangements.	42.86%	33.33%	7.69%
<b>Performance Standard 2.5: Flower Anatomy</b>	39.29%	75.00%	61.54%
2.5.2 Summarize the purpose of a flower.	57.14%	100.00%	100.00%
2.5.3 Distinguish between different types of flowers.	28.57%	50.00%	46.15%
2.5.5 Diagram the process of plant pollination and fertilization.	42.86%	100.00%	53.85%
<b>Performance Standard 2.6: Fruit Anatomy</b>	35.71%	50.00%	61.54%
2.6.1 Label and describe the parts of a fruit.	14.29%	100.00%	69.23%

Assessment: Ornamental Horticulture Number tested: 11	% Correct 17-18	% Correct 18-19	% Correct 20-21
2.6.2 Identify and distinguish between basic types of fruits.	57.14%	0.00%	53.85%
<b>CONTENT STANDARD 3.0 PLANT PHYSIOLOGY</b>	21.43%	83.33%	46.15%
<b>Performance Standard 3.3: Environmental Requirements for Plant Growth</b>	21.43%	83.33%	46.15%
3.3.1 Examine the effects of light quality on plant growth (i.e., spectrum, light measurement).	28.57%	33.33%	53.85%
3.3.2 Examine the effects of water quality on plant growth (i.e., pH, hardness).	28.57%	100.00%	30.77%
3.3.3 Examine the effects of temperature on plant growth.	14.29%	100.00%	50.00%
<b>CONTENT STANDARD 4.0: PLANT IDENTIFICATION SKILLS</b>	26.19%	61.11%	53.85%
<b>Performance Standard 4.1: Categorize Plants</b>	26.19%	61.11%	53.85%
4.1.3 Correctly categorize common plants by life cycle (i.e., annuals, perennials, etc.).	42.86%	100.00%	69.23%
4.1.4 Correctly categorize plants by growth habits (i.e., mounding, trailing, etc.).	28.57%	66.67%	65.38%
4.1.5 Utilize resources to establish plant suitability for a selected site (i.e., Hardiness Zone Maps, Heat Zone Maps).	28.57%	50.00%	46.15%
4.1.6 Identify common plants by botanical and common names.	0.00%	33.33%	30.77%
<b>CONTENT STANDARD 5.0: GROWING MEDIA</b>	34.69%	71.43%	56.04%
<b>Performance Standard 5.1: Soil Texture and Structure</b>	42.86%	75.00%	65.38%
5.1.2 Describe the concept of soil texture and its importance.	42.86%	66.67%	56.41%
5.1.3 Classify the texture of a soil sample.	42.86%	100.00%	92.31%
<b>Performance Standard 5.2: Soilless Growing Media</b>	28.57%	66.67%	46.15%
5.2.1 Identify the components and source of soilless growing media.	28.57%	66.67%	46.15%
<b>Performance Standard 5.3: Chemical Characteristics of Growing Media</b>	21.43%	66.67%	42.31%
5.3.2 Interpret pH test results of a growing media sample.	28.57%	66.67%	61.54%
5.3.5 Interpret soil test results and make recommendation accordingly.	14.29%	66.67%	23.08%
<b>CONTENT STANDARD 6.0: PLANT NUTRITION</b>	28.57%	53.33%	50.00%
<b>Performance Standards 6.1:Fertilizer Formulation</b>	30.36%	58.33%	54.81%
6.1.1 Differentiate between macronutrients and micronutrients.	57.14%	0.00%	15.38%
6.1.2 Measure pH and describe how it is modified.	28.57%	66.67%	23.08%
6.1.4 Interpret a fertilizer label.	14.29%	55.56%	66.67%
6.1.6 Evaluate application methods to ornamental crops.	38.10%	77.78%	66.67%
<b>Performance Standards 6.2: Plant Nutrients</b>	21.43%	33.33%	30.77%
6.2.1 Correlate plant symptoms to the appropriate nutritional deficiency.	28.57%	0.00%	46.15%
6.2.2 Correlate plant symptoms to the appropriate plant toxicity.	14.29%	66.67%	15.38%
<b>CONTENT STANDARD 7.0: INTEGRATED PEST MANAGEMENT (IPM)</b>	42.24%	75.36%	69.90%
<b>Performance Standard 7.1: Integrated Pest Management</b>	33.33%	77.78%	87.18%

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7.1.1 Define Integrated Pest Management (IPM).	33.33%	77.78%	87.18%
<b>Performance Standard 7.2: Common Pests and Diseases</b>	48.21%	79.17%	56.73%
7.2.1 Identify types of plant pests and diseases.	38.10%	77.78%	56.41%
7.2.2 Identify weed, insect, rodent, and fungi pests.	57.14%	66.67%	30.77%
7.2.3 Differentiate between infectious and noninfectious diseases.	64.29%	100.00%	88.46%
7.2.4 Identify abiotic plant injuries.	28.57%	66.67%	46.15%
<b>Performance Standard 7.3: Safe Handling, Use, and Storage of Pesticides</b>	40.48%	72.22%	74.36%
7.3.1 Identify and utilize appropriate safety measures when applying pesticides.	35.71%	50.00%	57.69%
7.3.2 Interpret pesticide labels.	42.86%	88.89%	87.18%
7.3.3 Explain procedures for storing and disposing of pesticides.	28.57%	66.67%	80.77%
7.3.4 Evaluate environmental and consumer concerns regarding pest management and biodiversity.	42.86%	66.67%	38.46%
7.3.5 Demonstrate how to mix pesticides according to label directions.	28.57%	66.67%	100.00%
7.3.6 Calibrate common application equipment and calculate application rate.	57.14%	66.67%	57.69%
7.3.7 Explore requirements for obtaining pesticide applicator licenses.	42.86%	100.00%	100.00%
<b>CONTENT STANDARD 8.0: PLANT PROPAGATION</b>	35.71%	100.00%	76.92%
<b>Performance Standard 8.1: Sexual Propagation of Ornamental Plants</b>	35.71%	100.00%	76.92%
8.1.3 Identify the conditions needed for seed germination.	42.86%	100.00%	69.23%
8.1.4 Compare the methods of seed preparation.	28.57%	100.00%	84.62%
<b>CONTENT STANDARD 9.0: ORNAMENTAL HORTICULTURE CROPS</b>	33.33%	75.56%	67.18%
<b>Performance Standard 9.1: Crop Production</b>	28.57%	100.00%	92.31%
9.1.1 Plan a growing schedule to maximize the production of a growing facility.	28.57%	100.00%	92.31%
<b>Performance Standard 9.2: Growth Maintenance Procedures</b>	40.82%	71.43%	64.84%
9.2.2 Pinch plants using best management practices.	71.43%	100.00%	100.00%
9.2.3 Examine proper pruning techniques.	21.43%	50.00%	30.77%
9.2.4 Demonstrate proper watering techniques.	42.86%	75.00%	73.08%
<b>Performance Standard 9.3: Transplanting</b>	22.86%	66.67%	75.38%
9.3.1 Identify the proper stage of plant growth for transplanting.	28.57%	100.00%	61.54%
9.3.2 Select appropriate plants for transplanting.	14.29%	66.67%	53.85%
9.3.3 Demonstrate transplanting procedures to industry standards.	23.81%	55.56%	87.18%
<b>Performance Standard 9.4: Production Standards</b>	35.71%	100.00%	42.31%
9.4.1 Compare hardening processes	42.86%	100.00%	38.46%
9.4.2 Prepare plants for sale using best management practices.	28.57%	100.00%	46.15%
<b>CONTENT STANDARD 10.0: BUSINESS CONCEPTS</b>	50.00%	33.33%	57.69%
<b>Performance Standard 10.2: Principles of Sales</b>	50.00%	33.33%	57.69%

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10.2.3 Complete a sales ticket.	42.86%	33.33%	76.92%
10.2.5 Determine cost of sales.	57.14%	33.33%	38.46%
<b>1 CONTENT STANDARD 11.0: PLANT TECHNOLOGIES</b>	0.00%	0.00%	0.00%
<b>Performance Standard 11.2: Genetic Engineering of Plants</b>	0.00%	0.00%	0.00%
11.2.2 Identify transgenic plants on the market.	0.00%	0.00%	0.00%
<b>1CONTENT STANDARD 12.0: ORNAMENTAL DESIGN STANDARDS</b>	39.29%	66.67%	65.38%
<b>Performance Standards 12.1:Principles and Elements of Design</b>	39.29%	66.67%	65.38%
12.1.1 Compare and contrast balance using symmetry, asymmetry, and massing.	50.00%	83.33%	96.15%
12.1.3 Determine appropriate proportion and scale in a design.	28.57%	50.00%	34.62%
<b>1CONTENT STANDARD 13.0: CAREER OPPORTUNITIES IN ORNAMENTAL HORTICULTURE</b>	23.81%	77.78%	92.31%
<b>Performance Standard 13.1: Careers in Ornamental Horticulture</b>	23.81%	77.78%	92.31%
13.1.1 Research potential careers in ornamental horticulture and plant science.	23.81%	77.78%	92.31%
<b>1CONTENT STANDARD 14.0: LEADERSHIP TRAINING THROUGH AGRICULTURAL EDUCATION</b>	42.86%	100.00%	92.31%
<b>Performance Standard 14.1: Effective Leadership and Leadership Training</b>	42.86%	100.00%	92.31%
14.1.2 Participate in a career development event at the local level or above.	42.86%	100.00%	92.31%