



# 2022-2023

## Technical Skills Assessment

### Ornamental Horticulture

## Results by Standard

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

Assessment: Ornamental Horticulture	% Correct	% Correct	% Correct
Number tested: 28	20-21	21-22	22-23
<b>CONTENT STANDARD 1.0: SAFETY IN THE ORNAMENTAL HORTICULTURE INDUSTRY</b>	78.02%	62.14%	73.47%
<b>Performance Standard 1.1: Safe Work Practices</b>	78.02%	62.14%	73.47%
1.1.1 Identify and properly use personal protection equipment.	92.31%	75.00%	77.14%
1.1.2 Read, understand and follow label directions and SDS (safety data sheet).	80.77%	62.50%	72.86%
1.1.3 Properly identify common hand tools and power equipment.	57.69%	45.00%	64.29%
1.1.4 Safely use common hand tools and power equipment.	84.62%	70.00%	85.71%
<b>CONTENT STANDARD 2.0: PLANT ANATOMY</b>	59.49%	53.67%	53.71%
<b>Performance Standard 2.1: Plant Cells</b>	19.23%	22.50%	22.86%
2.1.1 Label the parts of a plant cell.	19.23%	22.50%	22.86%
<b>Performance Standard 2.2: Root Anatomy</b>	92.31%	85.00%	82.86%
2.2.1 Investigate the functions of roots in plants.	92.31%	85.00%	82.86%
<b>Performance Standard 2.3: Stem Anatomy</b>	57.69%	40.00%	40.00%
2.3.1 List the functions of a stem.	53.85%	40.00%	25.71%
2.3.2 Recognize the external structures of a stem.	61.54%	40.00%	54.29%
<b>Performance Standard 2.4: Leaf Anatomy</b>	69.23%	63.75%	57.86%
2.4.1 Name the main parts of a leaf.	84.62%	77.50%	67.14%
2.4.3 List three functions of a leaf, including photosynthetic energy conversion.	100.00%	80.00%	82.86%
2.4.4 Differentiate major leaf arrangements.	7.69%	20.00%	14.29%
<b>Performance Standard 2.5: Flower Anatomy</b>	61.54%	57.50%	60.71%
2.5.2 Summarize the purpose of a flower.	100.00%	100.00%	94.29%
2.5.3 Distinguish between different types of flowers.	46.15%	32.50%	44.29%
2.5.5 Diagram the process of plant pollination and fertilization.	53.85%	65.00%	60.00%
<b>Performance Standard 2.6: Fruit Anatomy</b>	61.54%	55.00%	61.43%

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<b>Number tested:</b> 28	<b>20-21</b>	<b>21-22</b>	<b>22-23</b>
2.6.1 Label and describe the parts of a fruit.	69.23%	60.00%	54.29%
2.6.2 Identify and distinguish between basic types of fruits.	53.85%	50.00%	68.57%
<b>CONTENT STANDARD 3.0 PLANT PHYSIOLOGY</b>	46.15%	36.25%	48.57%
<b>Performance Standard 3.3: Environmental Requirements for Plant Growth</b>	46.15%	36.25%	48.57%
3.3.1 Examine the effects of light quality on plant growth (i.e., spectrum, light measurement).	53.85%	30.00%	57.14%
3.3.2 Examine the effects of water quality on plant growth (i.e., pH, hardness).	30.77%	20.00%	34.29%
3.3.3 Examine the effects of temperature on plant growth.	50.00%	47.50%	51.43%
<b>CONTENT STANDARD 4.0: PLANT IDENTIFICATION SKILLS</b>	53.85%	56.67%	58.10%
<b>Performance Standard 4.1: Categorize Plants</b>	53.85%	56.67%	58.10%
4.1.3 Correctly categorize common plants by life cycle (i.e., annuals, perennials, etc.).	69.23%	75.00%	62.86%
4.1.4 Correctly categorize plants by growth habits (i.e., mounding, trailing, etc.).	65.38%	67.50%	67.14%
4.1.5 Utilize resources to establish plant suitability for a selected site (i.e., Hardiness Zone Maps, Heat Zone Maps).	46.15%	40.00%	41.43%
4.1.6 Identify common plants by botanical and common names.	30.77%	50.00%	68.57%
<b>CONTENT STANDARD 5.0: GROWING MEDIA</b>	56.04%	38.57%	49.80%
<b>Performance Standard 5.1: Soil Texture and Structure</b>	65.38%	48.75%	55.00%
5.1.2 Describe the concept of soil texture and its importance.	56.41%	40.00%	44.76%
5.1.3 Classify the texture of a soil sample.	92.31%	75.00%	85.71%
<b>Performance Standard 5.2: Soilless Growing Media</b>	46.15%	40.00%	42.86%
5.2.1 Identify the components and source of soilless growing media.	46.15%	40.00%	42.86%
<b>Performance Standard 5.3: Chemical Characteristics of Growing Media</b>	42.31%	17.50%	42.86%
5.3.2 Interpret pH test results of a growing media sample.	61.54%	35.00%	51.43%
5.3.5 Interpret soil test results and make recommendation accordingly.	23.08%	0.00%	34.29%
<b>CONTENT STANDARD 6.0: PLANT NUTRITION</b>	50.00%	42.50%	43.71%
<b>Performance Standards 6.1:Fertilizer Formulation</b>	54.81%	44.38%	47.50%
6.1.1 Differentiate between macronutrients and micronutrients.	15.38%	20.00%	22.86%
6.1.2 Measure pH and describe how it is modified.	23.08%	25.00%	31.43%
6.1.4 Interpret a fertilizer label.	66.67%	48.33%	55.24%
6.1.6 Evaluate application methods to ornamental crops.	66.67%	55.00%	53.33%
<b>Performance Standards 6.2: Plant Nutrients</b>	30.77%	35.00%	28.57%
6.2.1 Correlate plant symptoms to the appropriate nutritional deficiency.	46.15%	35.00%	31.43%
6.2.2 Correlate plant symptoms to the appropriate plant toxicity.	15.38%	35.00%	25.71%

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<b>CONTENT STANDARD 7.0: INTEGRATED PEST MANAGEMENT (IPM)</b>	69.90%	61.52%	68.20%
<b>Performance Standard 7.1: Integrated Pest Management</b>	87.18%	81.67%	81.90%
7.1.1 Define Integrated Pest Management (IPM).	87.18%	81.67%	81.90%
<b>Performance Standard 7.2: Common Pests and Diseases</b>	56.73%	52.50%	58.93%
7.2.1 Identify types of plant pests and diseases.	56.41%	63.33%	66.67%
7.2.2 Identify weed, insect, rodent, and fungi pests.	30.77%	30.00%	31.43%
7.2.3 Differentiate between infectious and noninfectious diseases.	88.46%	70.00%	80.00%
7.2.4 Identify abiotic plant injuries.	46.15%	30.00%	48.57%
<b>Performance Standard 7.3: Safe Handling, Use, and Storage of Pesticides</b>	74.36%	62.50%	70.95%
7.3.1 Identify and utilize appropriate safety measures when applying pesticides.	57.69%	47.50%	57.14%
7.3.2 Interpret pesticide labels.	87.18%	75.00%	85.71%
7.3.3 Explain procedures for storing and disposing of pesticides.	80.77%	77.50%	85.71%
7.3.4 Evaluate environmental and consumer concerns regarding pest management and biodiversity.	38.46%	35.00%	40.00%
7.3.5 Demonstrate how to mix pesticides according to label directions.	100.00%	65.00%	88.57%
7.3.6 Calibrate common application equipment and calculate application rate.	57.69%	62.50%	61.43%
7.3.7 Explore requirements for obtaining pesticide applicator licenses.	100.00%	50.00%	57.14%
<b>CONTENT STANDARD 8.0: PLANT PROPAGATION</b>	76.92%	65.00%	70.00%
<b>Performance Standard 8.1: Sexual Propagation of Ornamental Plants</b>	76.92%	65.00%	70.00%
8.1.3 Identify the conditions needed for seed germination.	69.23%	60.00%	62.86%
8.1.4 Compare the methods of seed preparation.	84.62%	70.00%	77.14%
<b>CONTENT STANDARD 9.0: ORNAMENTAL HORTICULTURE CROPS</b>	67.18%	56.00%	66.67%
<b>Performance Standard 9.1: Crop Production</b>	92.31%	80.00%	88.57%
9.1.1 Plan a growing schedule to maximize the production of a growing facility.	92.31%	80.00%	88.57%
<b>Performance Standard 9.2: Growth Maintenance Procedures</b>	64.84%	54.29%	63.27%
9.2.2 Pinch plants using best management practices.	100.00%	85.00%	88.57%
9.2.3 Examine proper pruning techniques.	30.77%	27.50%	47.14%
9.2.4 Demonstrate proper watering techniques.	73.08%	60.00%	65.00%
<b>Performance Standard 9.3: Transplanting</b>	75.38%	53.00%	67.43%
9.3.1 Identify the proper stage of plant growth for transplanting.	61.54%	30.00%	54.29%
9.3.2 Select appropriate plants for transplanting.	53.85%	80.00%	60.00%
9.3.3 Demonstrate transplanting procedures to industry standards.	87.18%	51.67%	74.29%
<b>Performance Standard 9.4: Production Standards</b>	42.31%	57.50%	65.71%
9.4.1 Compare hardening processes	38.46%	50.00%	57.14%

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9.4.2 Prepare plants for sale using best management practices.	46.15%	65.00%	74.29%
<b>CONTENT STANDARD 10.0:BUSINESS CONCEPTS</b>	57.69%	32.50%	51.43%
<b>Performance Standard 10.2:Principles of Sales</b>	57.69%	32.50%	51.43%
10.2.3 Complete a sales ticket.	76.92%	55.00%	71.43%
10.2.5 Determine cost of sales.	38.46%	10.00%	31.43%
<b>1 CONTENT STANDARD 11.0: PLANT TECHNOLOGIES</b>	0.00%	0.00%	2.86%
<b>Performance Standard 11.2: Genetic Engineering of Plants</b>	0.00%	0.00%	2.86%
11.2.2 Identify transgenic plants on the market.	0.00%	0.00%	2.86%
<b>1CONTENT STANDARD 12.0: ORNAMENTAL DESIGN STANDARDS</b>	65.38%	57.50%	63.57%
<b>Performance Standards 12.1:Principles and Elements of Design</b>	65.38%	57.50%	63.57%
12.1.1 Compare and contrast balance using symmetry, asymmetry, and massing.	96.15%	75.00%	75.71%
12.1.3 Determine appropriate proportion and scale in a design.	34.62%	40.00%	51.43%
<b>1CONTENT STANDARD 13.0: CAREER OPPORTUNITIES IN ORNAMENTAL HORTICULTURE</b>	92.31%	76.67%	81.90%
<b>Performance Standard 13.1: Careers in Ornamental Horticulture</b>	92.31%	76.67%	81.90%
13.1.1 Research potential careers in ornamental horticulture and plant science.	92.31%	76.67%	81.90%
<b>1CONTENT STANDARD 14.0: LEADERSHIP TRAINING THROUGH AGRICULTURAL EDUCATION</b>	92.31%	90.00%	82.86%
<b>Performance Standard 14.1: Effective Leadership and Leadership Training</b>	92.31%	90.00%	82.86%
14.1.2 Participate in a career development event at the local level or above.	92.31%	90.00%	82.86%