



# 2022-2023

## Technical Skills Assessment

### Food Science and Processing Technology

### Results by Standard

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

Assessment: Food Science and Processing Technology	% Correct	% Correct
Number tested: 13	21-22	22-23
<b>Program 1: CONTENT STANDARD 1.0: FOOD INDUSTRY AND HISTORICAL DEVELOPMENT</b>	48.00%	61.03%
<b>Duty 1: Performance Standard 1.1: Evaluate the Significance and Implications of Changes and Trends in the Food Products and Processing Industry</b>	52.00%	57.69%
Standard 3: 1.1.3 Identify consumer concerns related to food quality and safety (such as allergens, antibiotic use, genetically modified organisms (GMOs), pesticide use, and food borne illnesses).	50.00%	53.85%
Standard 4: 1.1.4 Discuss the economic implications when low-quality and unsafe foods enter the market.	63.33%	64.10%
Standard 8: 1.1.8 Identify and explain environmental and safety concerns about the food supply.	45.00%	55.77%
<b>Duty 2: Performance Standard 1.2: Investigate Industry Organizations, Groups, and Regulatory Agencies Affecting the</b>	40.00%	67.69%
Standard 1: 1.2.1 Explain the purposes of organizations that are part of and/or regulate the food products and processing industry.	40.00%	53.85%
Standard 2: 1.2.2 Determine the relationship between regulatory agencies (i.e., FDA, USDA, CDC, WHO) and the food products and processing industry.	40.00%	76.92%
<b>Program 2: CONTENT STANDARD 2.0: FOOD SAFETY AND SANITATION</b>	61.63%	69.70%
<b>Duty 1: Performance Standard 2.1: Create Sanitation Standard Operating Procedures and Master Sanitation Schedules</b>	56.67%	65.81%
Standard 1: 2.1.1 Create Sanitation Standard Operating Procedures (SSOP) for a food processing company.	36.67%	53.85%
Standard 2: 2.1.2 Understand Good Manufacturing Practices (GMP) and how they relate to a food processing company	73.33%	79.49%
Standard 3: 2.1.3 Create Master Sanitation Schedule (MSS) for a food processing company.	60.00%	64.10%
<b>Duty 2: Performance Standard 2.2: Create a Food Safety Plan, Understand the Biological, Chemical, and Physical</b>	69.05%	63.00%
Standard 1: 2.2.1 Understand and evaluate the different biological hazards (prions, bacteria, viruses, protozoans, etc.) that could be present in the raw ingredient through processing and distribution of a food product.	60.00%	51.92%

<b>Assessment:</b> Food Science and Processing Technology	<b>% Correct</b>	<b>% Correct</b>
<b>Number tested:</b> 13	<b>21-22</b>	<b>22-23</b>
Standard 2: 2.2.2 Understand and evaluate the different chemical hazards (pesticides, herbicides, allergens, paints, heavy metals, dioxins, PCBs, etc.) that could be present in the raw ingredient through processing and distribution of a food product.	66.67%	71.79%
Standard 3: 2.2.3 Understand and evaluate the different physical hazards (metal, plastic, rubber, etc.) that could be present in the raw ingredient through processing and distribution of a food product.	86.67%	69.23%
Standard 4: 2.2.4 Identify potential sources of contamination.	67.50%	53.85%
Standard 5: 2.2.5 Develop strategies to eliminate or reduce contamination to an acceptable level.	73.33%	79.49%
Standard 6: 2.2.6 Discuss current regulatory food safety programs, including HACCP (Hazard Analysis Critical Control Point), FSP (Food Safety Plan), and Food Defense.	65.00%	59.62%
<b>Duty 3: Performance Standard 2.3: Apply Sanitation Procedures in the Handling, Processing, and Storing of Food</b>	55.79%	78.95%
Standard 1: 2.3.1 Evaluate food product handling procedures.	57.50%	61.54%
Standard 2: 2.3.2 Explain the importance of microbiological tests (e.g., ATP, equipment swabs, Environmental swab,	40.00%	74.36%
Standard 3: 2.3.3 Explain the importance of allergen cross-contact and how sanitation affects allergen management.	65.00%	90.38%
Standard 4: 2.3.4 Discuss documentation procedures and their importance in a food processing and distribution system.	65.00%	88.46%
Standard 5: 2.3.5 Understand how Clean in Place (CIP) and Clean Out of Place (COP) affects overall sanitation of a facility.	53.33%	89.74%
Standard 6: 2.3.6 Understand the use of chemical types and applications and how it affects plant sanitation procedures.	53.33%	74.36%
<b>Program 3: CONTENT STANDARD 3.0: PERSONAL SAFETY</b>	51.82%	63.64%
<b>Duty 1: Performance Standard 3.1: Understand Worker Safety Principles in a Manufacturing Facility</b>	51.82%	63.64%
Standard 1: 3.1.1 Outline guidelines for personnel safety in the food products and processing industry (e.g., lockout-tagout, personal protective equipment, permit required confined space, machine guarding, walking working surfaces, motorized vehicles).	37.50%	44.23%
Standard 2: 3.1.2 Perform a safety risk analysis of a manufacturing facility, including behavior based accident preventions.	70.00%	69.23%
Standard 4: 3.1.4 Demonstrate the ability to follow safety and operational procedures in a lab setting and satisfactorily	52.50%	78.85%
<b>Program 4: CONTENT STANDARD 4.0: THE SCIENCE OF FOOD PRODUCTS</b>	61.67%	55.13%
<b>Duty 2: Performance Standard 4.2: Evaluate, Grade, and Classify Processed Food Products</b>	76.67%	53.85%
Standard 5: 4.2.5 Interpret and evaluate results of quality assurance tests on food products and examine steps to	76.67%	53.85%
<b>Duty 3: Performance Standard 4.3: Understand the Constituents of Food (e.g., Lipids, Proteins, Carbohydrates, Water,</b>	50.00%	69.23%
Standard 2: 4.3.2 Compare and contrast food constituents and their relative value to product taste, appearance, and so forth.	50.00%	69.23%
<b>Duty 4: Performance Standard 4.4: Understand and Recognize the Different Additives in Food and Purposes of Use in</b>	45.00%	50.00%
Standard 2: 4.4.2 Describe the purpose of common food additives (CFA).	80.00%	92.31%
Standard 3: 4.4.3 Describe how CFAs influence the chemistry of food.	10.00%	7.69%
<b>Program 5: CONTENT STANDARD 5.0: FOOD PROCESSING OPERATIONS AND TECHNOLOGY</b>	58.75%	73.08%

<b>Assessment:</b> Food Science and Processing Technology	<b>% Correct</b>	<b>% Correct</b>
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<b>Duty 1: Performance Standard 5.1: Process Food and Food Products for Sale and Distribution</b>	45.00%	69.23%
Standard 1: 5.1.1 Understand principles of raw material/ingredient receiving.	50.00%	53.85%
Standard 2: 5.1.2 Create a flow diagram for food production process steps.	40.00%	84.62%
<b>Duty 2: Performance Standard 5.2: Preserve Food and Food Products for Sale and Distribution</b>	72.50%	76.92%
Standard 1: 5.2.1 Describe factors related to food preservation.	80.00%	89.74%
Standard 3: 5.2.3 Preserve foods using various methods and techniques.	50.00%	38.46%
<b>Program 6: CONTENT STANDARD 6.0: EXPLORE CAREER OPPORTUNITIES</b>	68.33%	71.79%
<b>Duty 1: Performance Standard 6.1: Understand Employment Fields in the Food Science Technology Industry</b>	68.33%	71.79%
Standard 1: 6.1.1 Identify potential careers in the food science and processing industry.	56.67%	64.10%
Standard 3: 6.1.3 Demonstrate employability skills for a career in the food science and processing industry (e.g., create a resume and cover letter, participate in job interviews).	80.00%	79.49%
<b>Program 7: CONTENT STANDARD 7.0: LEADERSHIP TRAINING THROUGH AGRICULTURAL EDUCATION</b>	76.00%	67.69%
<b>Duty 1: Performance Standard 7.1: Recognize the Traits of Effective Leaders and Participate in Leadership Training</b>	83.33%	71.79%
Standard 5: 7.1.5 Participate in a speech or presentation activity.	83.33%	71.79%
<b>Duty 2: Performance Standard 7.2: Understand the Importance of School and Community Awareness</b>	65.00%	61.54%
Standard 1: 7.2.1 Participate in a school improvement or community development project.	65.00%	61.54%