

# TRAINING REGULATIONS



## FOOD PROCESSING NC I

PROCESSED FOOD AND BEVERAGES SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

East Service Road, South Superhighway, Taguig City, Metro Manila

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# TRAINING REGULATIONS FOR FOOD PROCESSING NC I

## Section 1 FOOD PROCESSING NC I QUALIFICATION

The **Food Processing NC I** Qualification consists of competencies that a person must achieve to conduct initial activities related to processing, operate basic processing equipment and undertake cleaning functions.

Workers at this level would not require previous experience. Work would be routine and carried out under close supervision.

This Qualification is packaged from the competency map of the Processed Food and Beverage Sector as shown in Annex A.

The units of competency comprising this qualification include the following:

| <b>Code</b> | <b>BASIC COMPETENCIES</b>                      |
|-------------|--|
| 500311101   | Receive and respond to workplace communication |
| 500311102   | Work with others                               |
| 500311103   | Demonstrate work values                        |
| 500311104   | Practice housekeeping procedures               |

  

| <b>Code</b> | <b>COMMON COMPETENCIES</b>                                     |
|-------------|--|
| AGR741201   | Apply Food Safety and Sanitation                               |
| AGR741202   | Use Standard Measuring Devices / Instruments                   |
| AGR741203   | Use Food Processing Tools, Equipment and Utensils              |
| AGR741207   | Follow Work Procedures to Maintain Good Manufacturing Practice |

  

| <b>Code</b> | <b>CORE COMPETENCIES</b>                                   |
|-------------|--|
| AGR741305   | Implement sampling procedures                              |
| AGR741306   | Inspect and sort materials and product                     |
| AGR741307   | Dispense non-bulk ingredients                              |
| AGR741308   | Prepare raw/packaging materials for processing             |
| AGR741309   | Operate basic equipment                                    |
| AGR741310   | Clean and sanitize equipment and processing/packaging area |
| AGR741311   | Load and unload raw materials, products and supplies       |

A person who has achieved this Qualification is competent to be:

- Food Processing personnel
- Food Factory worker
- Food Production / Warehouse helper

## SECTION 2

## COMPETENCY STANDARDS

These guidelines are set to provide the Technical Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **FOOD PROCESSING NC I**. These units of competency are categorized into basic, common and core competencies.

### BASIC COMPETENCIES

#### UNIT OF COMPETENCY: RECEIVE AND RESPOND TO WORKPLACE COMMUNICATION

UNIT CODE : 500311101

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to receive, respond and act on verbal and written communication.

| ELEMENT   | PERFORMANCE CRITERIA<br><i>Bold italicized</i> terms are elaborated in the Range of Variables   |
|---|---|
| 1. Follow routine spoken messages                     | 1.1 Required information is gathered by listening attentively and correctly interpreting or understanding information/instructions.<br>1.2 Instructions/information are properly recorded.<br>1.3 Instructions are acted upon immediately in accordance with information received.<br>1.4 Clarification is sought from workplace supervisor on all occasions when any instruction/information is not clear. |
| 2. Perform workplace duties following written notices | 2.1 <b><i>Written notices and instructions</i></b> are read and interpreted correctly in accordance with <b><i>organizational guidelines</i></b><br>2.2 Routine written instruction are followed in sequence<br>2.3 Feedback is given to workplace supervisor based on the instructions/information received  |

## RANGE OF VARIABLES

| VARIABLE                            | RANGE  |
|-------------------------------------|--|
| 1. Written notices and instructions | It refers to:<br>1.1. Handwritten and printed material<br>1.2. Internal memos<br>1.3. External communications<br>1.4. Electronic mail<br>1.5. Briefing notes<br>1.6. General correspondence<br>1.7. Marketing materials<br>1.8. Journal articles |
| 2. Organizational Guidelines        | It may include:<br>2.1. Information documentation procedures<br>2.2. Company policies and procedures<br>2.3. Organization manuals<br>2.4. Service manual   |

## EVIDENCE GUIDE

|  |  |
|--|--|
| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <p>1.1 Demonstrated knowledge of organizational procedures for handling verbal and written communications</p> <p>1.2 Received and acted on verbal messages and instructions</p> <p>1.3 Demonstrated competency in recording instructions/information</p> |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>2.1 Knowledge of organizational policies/guidelines in regard to processing internal/external information</p> <p>2.2 Ethical work practices in handling communications</p> <p>2.3 Communication process</p>   |
| <p>3. Underpinning Skills</p>                  | <p>3.1 Conciseness in receiving and clarifying messages/information/communication</p> <p>3.2 Accuracy in recording messages/information</p>  |
| <p>4. Resource Implications</p>                | <p>The following resources must be provided:</p> <p>4.1. Pens</p> <p>4.2. Note pads</p>  |
| <p>5. Methods of Assessment</p>                | <p>Competency must be assessed through:</p> <p>5.1. Direct Observation</p> <p>5.2. Oral interview</p> <p>5.3. Written Evaluation</p> <p>5.4. Third Party Report</p>  |
| <p>6. Context of Assessment</p>                | <p>6.1. Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions</p>   |

**UNIT OF COMPETENCY : WORK WITH OTHERS**

**UNIT CODE : 500311102**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes required to develop workplace relationship and contribute in workplace activities.

| <b>ELEMENT</b>                              | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables  |
|---|---|
| 1. Develop effective workplace relationship | 1.1 <b><i>Duties and responsibilities</i></b> are done in a positive manner to promote cooperation and good relationship<br>1.2 Assistance is sought from <b><i>workgroup</i></b> when difficulties arise and addressed through discussions<br>1.3 <b><i>Feedback</i></b> provided by others in the team is encouraged, acknowledged and acted upon<br>1.4 Differences in personal values and beliefs are respected and acknowledged in the development |
| 2. Contribute to work group activities      | 2.1 <b><i>Support is provided to team members</i></b> to ensure workgroup goals are met<br>2.2 Constructive contributions to workgroup goals and tasks are made according to <b><i>organizational requirements</i></b><br>2.3 Information relevant to work is shared with team members to ensure designated goals are met   |

## RANGE OF VARIABLES

| VARIABLE                             | RANGE  |
|--------------------------------------|--|
| 1. Duties and responsibilities       | 1.1 Job description and employment arrangements<br>1.2 Organization's policy relevant to work role<br>1.3 Organizational structures<br>1.4 Supervision and accountability requirements including OHS<br>1.5 Code of conduct  |
| 2. Work group                        | 2.1 Supervisor or manager<br>2.2 Peers/work colleagues<br>2.3 Other members of the organization  |
| 3. Feedback on performance           | 3.1 Formal/Informal performance appraisal<br>3.2 Obtaining feedback from supervisors and colleagues and clients<br>3.3 Personal, reflective behavior strategies<br>3.4 Routine organizational methods for monitoring service delivery  |
| 4. Providing support to team members | 4.1 Explaining/clarifying<br>4.2 Helping colleagues<br>4.3 Providing encouragement<br>4.4 Providing feedback to another team member<br>4.5 Undertaking extra tasks if necessary  |
| 5. Organizational requirements       | 5.1 Goals, objectives, plans, system and processes<br>5.2 Legal and organization policy/guidelines<br>5.3 OHS policies, procedures and programs<br>5.4 Ethical standards<br>5.5 Defined resources parameters<br>5.6 Quality and continuous improvement processes and standards |

## EVIDENCE GUIDE

|  |  |
|--|--|
| <p>1. Critical aspects of competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. Provided support to team members to ensure goals are met</li> <li>1.2. Acted on feedback from clients and colleagues</li> <li>1.3. Accessed learning opportunities to extend own personal work competencies to enhance team goals and outcomes</li> </ul>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <ul style="list-style-type: none"> <li>2.1. The relevant legislation that affects operations, especially with regards to safety</li> <li>2.2. Reasons why cooperation and good relationships are important</li> <li>2.3. Knowledge of the organization's policies, plans and procedures</li> <li>2.4. Understanding how to elicit and interpret feedback</li> <li>2.5. Knowledge of workgroup member's responsibilities and duties</li> <li>2.6. Importance of demonstrating respect and empathy in dealings with colleagues</li> <li>2.7. Understanding of how to identify and prioritize personal development opportunities and options</li> </ul> |
| <p>3. Underpinning skills</p>                  | <ul style="list-style-type: none"> <li>3.1. Ability to read and understand the organization's policies and work procedures</li> <li>3.2. Write simple instructions for particular routine tasks</li> <li>3.3. Interpret information gained from correspondence</li> <li>3.4. Communication skills to request advice, receive feedback and work with a team</li> <li>3.5. Planning skills to organized work priorities and arrangement</li> <li>3.6. Technology skills including the ability to select and use technology appropriate to a task</li> </ul>  |

|                           |  |
|---------------------------|--|
|                           | 3.7. Ability to relate to people from a range of social, cultural and ethnic backgrounds.  |
| 4. Resource implications  | The following resources MUST be provided:<br>4.1. Access to relevant workplace or appropriately simulated environment where assessment can take place<br>4.2. Materials relevant to the proposed activity or task  |
| 5. Methods of assessment  | Competency may be assessed through:<br>5.1. Direct observations of work activities of the individual member in relation to the work activities of the group<br>5.2. Observation of simulation and/or role play involving the participation of individual member to the attainment of organizational goal<br>5.3. Case studies and scenarios as a basis for discussion of issues and strategies |
| 6. Context for assessment | 6.1. Competency assessment may occur in workplace or any appropriately simulated environment<br>6.2. Assessment shall be observed while task are being undertaken whether individually or in group   |

**UNIT OF COMPETENCY :** DEMONSTRATE WORK VALUES

**UNIT CODE :** 500311103

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills, and attitudes in demonstrating proper work values.

| <b>ELEMENT</b>                                    | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized</i> terms are elaborated in the Range of Variables   |
|---|--|
| 1. Define the purpose of work                     | 1.1 One's unique sense of purpose for working and the why's of work are identified, reflected on and clearly defined for one's development as a person and as a member of society.<br>1.2 Personal mission is in harmony with company's values   |
| 2. Apply work values/ethics                       | 2.1 <b>Work values/ethics/concepts</b> are classified and reaffirmed in accordance with the transparent company ethical standards, policies and guidelines.<br>2.2 <b>Work practices</b> are undertaken in compliance with industry work ethical standards, organizational policy and guidelines<br>2.3 Personal behavior and relationships with co-workers and/or clients are conducted in accordance with ethical standards, policy and guidelines.<br>2.4 <b>Company resources</b> are used in accordance with transparent company ethical standard, policies and guidelines. |
| 3. Deal with ethical problems                     | 3.1 Company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct are accessed and applied in accordance with transparent company ethical standard, policies and guidelines.<br>3.2 <b>Work incidents/situations</b> are reported and/or resolved in accordance with company protocol/guidelines.<br>3.3 Resolution and/or referral of ethical problems identified are used as learning opportunities.  |
| 4. Maintain integrity of conduct in the workplace | 4.1 Personal work practices and values are demonstrated consistently with acceptable ethical conduct and company's core values.<br>4.2 <b>Instructions</b> to co-workers are provided based on ethical, lawful and reasonable directives.<br>4.3 Company values/practices are shared with co-workers using appropriate behavior and language.  |

## RANGE OF VARIABLES

| VARIABLE                           | RANGE   |
|------------------------------------|---|
| 1. Work values/ethics/<br>concepts | May include but are not limited to:<br>1.1 Commitment/ Dedication<br>1.2 Sense of urgency<br>1.3 Sense of purpose<br>1.4 Love for work<br>1.5 High motivation<br>1.6 Orderliness<br>1.7 Reliability<br>1.8 Competence<br>1.9 Dependability<br>1.10 Goal-oriented<br>1.11 Sense of responsibility<br>1.12 Being knowledgeable<br>1.13 Loyalty to work/company<br>1.14 Sensitivity to others<br>1.15 Compassion/Caring attitude<br>1.16 Balancing between family and work<br>1.17 Pakikisama<br>1.18 Bayanihan spirit/teamwork<br>1.19 Sense of nationalism |
| 2. Work practices                  | 2.1 Quality of work<br>2.2 Punctuality<br>2.3 Efficiency<br>2.4 Effectiveness<br>2.5 Productivity<br>2.6 Resourcefulness<br>2.7 Innovativeness/Creativity<br>2.8 Cost conciousness<br>2.9 5S<br>2.10 Attention to details   |
| 3. Incidents/situations            | 3.1 Violent/intensed dispute or argument<br>3.2 Gambling<br>3.3 Use of prohibited substances<br>3.4 Pilferages<br>3.5 Damage to person or property<br>3.6 Vandalism<br>3.7 Falsification<br>3.8 Bribery<br>3.9 Sexual Harassment<br>3.10 Blackmail  |

| <b>VARIABLE</b>      | <b>RANGE</b>  |
|----------------------|---|
| 4. Company resources | 4.1 Consumable materials<br>4.2 Equipment/Machineries<br>4.3 Human<br>4.4 Time<br>4.5 Financial resources |
| 5. Instructions      | 5.1 Verbal<br>5.2 Written   |

## EVIDENCE GUIDE

|  |   |
|--|---|
| <p>1. Critical aspects of competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Defined one's unique sense of purpose for working</li> <li>1.2 Clarified and affirmed work values/ethics/concepts consistently in the workplace</li> <li>1.3 Demonstrated work practices satisfactorily and consistently in compliance with industry work ethical standards, organizational policy and guidelines</li> <li>1.4 Demonstrated personal behavior and relationships with co-workers and/or clients consistent with ethical standards, policy and guidelines</li> <li>1.5 Used company resources in accordance with company ethical standard, policies and guidelines.</li> <li>1.6 Followed company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior</li> </ul> |
| <p>2. Underpinning Knowledge and Attitudes</p> | <ul style="list-style-type: none"> <li>2.1 Occupational health and safety</li> <li>2.2 Work values and ethics</li> <li>2.3 Company performance and ethical standards</li> <li>2.4 Company policies and guidelines</li> <li>2.5 Fundamental rights at work including gender sensitivity</li> <li>2.6 Work responsibilities/job functions</li> <li>2.7 Corporate social responsibilities</li> <li>2.8 Company code of conduct/values</li> <li>2.9 Balancing work and family responsibilities</li> </ul>   |
| <p>3. Underpinning skills</p>                  | <ul style="list-style-type: none"> <li>3.1. Interpersonal skills</li> <li>3.2. Communication skills</li> <li>3.3. Self awareness, understanding and acceptance</li> <li>3.4. Application of good manners and right conduct</li> </ul>   |
| <p>4. Resource implications</p>                | <p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace or assessment location</li> <li>4.2 Case studies/Scenarios</li> </ul>   |
| <p>5. Methods of assessment</p>                | <p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Portfolio Assessment</li> <li>5.2 Interview</li> <li>5.3 Third Party Reports</li> </ul>   |
| <p>6. Context for assessment</p>               | <ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the work place or in a simulated work place setting</li> </ul>   |

**UNIT OF COMPETENCY: PRACTICE BASIC HOUSEKEEPING PROCEDURES**

**UNIT CODE** : 500311104

**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes required to apply the basic housekeeping procedures.

| <b>ELEMENT</b>                                     | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized</i> terms are elaborated in the Range of Variables   |
|--|--|
| 1. Sort and remove unnecessary items               | 1.1 Reusable, recyclable materials are sorted in accordance with company/office procedures<br>1.2 <b>Unnecessary items</b> are removed and disposed of in accordance with company or office procedures   |
| 2. Arrange items                                   | 2.1 Items are arranged in accordance with company/office housekeeping procedures<br>2.2 Work area is arranged according to job requirements<br>2.3 Activities are prioritized based on instructions.<br>2.4 Items are provided with clear and visible <b>identification marks</b> based on procedure<br>2.5 Safety equipment and evacuation passages are kept clear and accessible based on instructions |
| 3. Maintain work area, tools and equipment         | 3.1 Cleanliness and orderliness of work area is maintained in accordance with company/office procedures<br>3.2 Tools and equipment are cleaned in accordance with manufacturer's instructions/manual<br>3.3 <b>Minor repairs</b> are performed on tools and equipment in accordance with manufacturer's instruction/manual<br>3.4 Defective tools and equipment are reported to immediate supervisor     |
| 4. Follow standardized work process and procedures | 4.1 Materials for common use are maintained in designated area based on procedures<br>4.2 Work is performed according to standard work procedures<br>4.3 Abnormal incidents are reported to immediate supervisor   |
| 5. Perform work spontaneously                      | 5.1 Work is performed as per instruction<br>5.2 Company and office <b>decorum</b> are followed and complied with<br>5.3 Work is performed in accordance with occupational health and safety (OHS) requirements   |

## RANGE OF VARIABLES

| VARIABLE                | RANGE   |
|-------------------------|---|
| 1. Unnecessary items    | May include but are not limited to:<br>1.1 Non-recyclable materials<br>1.2 Unserviceable tools and equipment<br>1.3 Pictures, posters and other materials not related to work activity<br>1.4 Waste materials |
| 2. Identification marks | 2.1 Labels<br>2.2 Tags<br>2.3 Color coding  |
| 3. Decorum              | 3.1 Company/ office rules and regulations<br>3.2 Company/ office uniform<br>3.3 Behavior  |
| 4. Minor repair         | Minor repair include but not limited to:<br>4.1 Replacement of parts<br>4.2 Application of lubricants<br>4.3 Sharpening of tools<br>4.4 Tightening of nuts, bolts and screws                                  |

## EVIDENCE GUIDE

|   |  |
|---|--|
| 1. Critical aspects of competency       | Assessment requires evidence that the candidate:<br>1.1 Practiced the basic procedures of 5S   |
| 2. Underpinning Knowledge and Attitudes | 2.1 Principles of 5S<br>2.2 Work process and procedures<br>2.3 Safety signs and symbols<br>2.4 General OH&S principles and legislation<br>2.5 Environmental requirements relative to work safety<br>2.6 Accident/Hazard reporting procedures |
| 3. Underpinning skills                  | 3.1 Basic communication skills<br>3.2 Interpersonal skills<br>3.3 Reading skills required to interpret instructions<br>3.4 Reporting/recording accidents and potential hazards   |
| 4. Resource implications                | The following resources MUST be provided:<br>4.1 Facilities, materials tools and equipment necessary for the activity  |
| 5. Methods of assessment                | Competency must be assessed through:<br>5.1. Third party report<br>5.2. Interview<br>5.3. Demonstration with questioning   |
| 6. Context for assessment               | 6.1 Competency may be assessed in the work place or in a simulated work place setting  |

## COMMON COMPETENCIES

**UNIT OF COMPETENCY: APPLY FOOD SAFETY AND SANITATION**

**UNIT CODE : AGR741201**

**UNIT DESCRIPTOR:** This unit deals with the skills, knowledge and attitudes required to apply food safety and sanitation in the workplace

| <b>ELEMENTS</b>                                    | <b>PERFORMANCE CRITERIA</b>   |
|--|---|
|  | <i>Italicized</i> terms are elaborated in the Range of Variables  |
| 1. Wear Personal Protective Equipment              | 1.1 Personal protective equipment are checked according to <b>manufacturer's specifications</b><br>1.2 <b>Personal protective equipment</b> are worn according to the job requirement   |
| 2. Observe Personal Hygiene and Good Grooming      | 2.1 Personal hygiene and good grooming is practiced in line with <b>workplace health and safety requirements</b>  |
| 3. Implement Food Sanitation Practices             | 3.1 Sanitary food handling practices are implemented in line with workplace sanitation regulations<br>3.2 Safety measures are observed in line with workplace safety practices.   |
| 4. Render Safety Measures and First Aid Procedures | 4.1 <b>Safety measures</b> are applied according to workplace rules and regulations<br>4.2 <b>First aid procedures</b> are applied and coordinated with concerned personnel according to workplace standard operating procedures.   |
| 5. Implement housekeeping activities               | 5.1 Work area and surroundings are cleaned in accordance with workplace health and safety regulations<br>5.2 Waste is disposed according to organization's waste disposal system<br>5.3 <b>Hazards</b> in the work area are recognized and reported to designated personnel according to workplace procedures |

## RANGE OF VARIABLES

| VARIABLES                                   | RANGE  |
|---|--|
| 1. Manufacturer's Specifications            | <p>Manufacturer's specifications may include but not limited to:</p> <ul style="list-style-type: none"> <li>1.1 Handling</li> <li>1.2 Operating</li> <li>1.3 Discharge Label</li> <li>1.4 Reporting</li> <li>1.5 Testing</li> <li>1.6 Positioning</li> <li>1.7 Refilling</li> </ul>  |
| 2. Personal Protective Equipment            | <p>Personal Protective Equipment may include but not limited to:</p> <ul style="list-style-type: none"> <li>2.1 Apron/laboratory gown</li> <li>2.2 Mouth masks</li> <li>2.3 Gloves</li> <li>2.4 Rubber boots/safety shoes</li> <li>2.5 Head gears such as caps, hair nets, ear plug</li> </ul>   |
| 3. Workplace Health and Safety Requirements | <p>Workplace and Safety Requirements may include:</p> <ul style="list-style-type: none"> <li>3.1 Health/Medical Certificate</li> <li>3.2 DOLE requirements</li> <li>3.3 BFAD requirements</li> <li>3.4 Personal Hygiene and good grooming</li> <li>3.5 Plant Sanitation and waste management</li> </ul>  |
| 4. Safety Measures                          | <p>Safety measures may include but not limited to:</p> <ul style="list-style-type: none"> <li>4.1 Labeling of chemicals and other sanitizing agents</li> <li>4.2 Installation of fire fighting equipment in the work area</li> <li>4.3 Installation of safety signages and symbols</li> <li>4.4 Implementation of 5S in the work area</li> <li>4.5 Removal of combustible material in the work area</li> </ul> |

|                         |  |
|-------------------------|--|
| 5. First Aid Procedures | First Aid Procedures may include but not limited to:<br><br>5.1 Mouth to mouth resuscitation<br>5.2 CPR<br>5.3 Application of tourniquet<br>5.4 Applying pressure to bleeding wounds or cuts<br>5.5 First aid treatment for burned victims |
| 6. Hazards              | Hazards in the workplace may include but not limited to:<br><br>6.1 Physical<br>6.2 Biological<br>6.3 Chemical   |

## EVIDENCE GUIDE

|  |  |
|--|--|
| <p>1. Critical Aspects of Competency</p> | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Cleaned, checked and sanitized personal protective equipment</li> <li>1.2 Practiced proper personal hygiene and good grooming</li> <li>1.3 Implemented workplace food safety practices</li> <li>1.4 Applied first aid measures to victims</li> <li>1.5 Implemented good housekeeping activities in the work area</li> </ul>   |
| <p>2. Underpinning Knowledge</p>         | <ul style="list-style-type: none"> <li>2.1 Safety Practices               <ul style="list-style-type: none"> <li>2.1.1 Proper waste disposal</li> <li>2.1.2 Environmental protection and concerns</li> <li>2.1.3 Food safety principles and practices</li> <li>2.1.4 Good grooming and personal hygiene</li> </ul> </li> <li>2.2 Codes and Regulations               <ul style="list-style-type: none"> <li>2.2.1 TQM and other food quality system principles</li> <li>2.2.2 ISO, HACCP, EMS, 5S</li> <li>2.2.3 Good Food Manufacturing Practices</li> </ul> </li> <li>2.3 Equipment: Uses and Specifications               <ul style="list-style-type: none"> <li>2.3.1 Parts and functions of personal protective equipment</li> <li>2.3.2 First Aid Kit</li> <li>2.3.3 Sanitizing equipment</li> </ul> </li> </ul> |
| <p>3. Underpinning Skills</p>            | <ul style="list-style-type: none"> <li>3.1 Sanitary food handling practices</li> <li>3.2 Implementing housekeeping activities</li> <li>3.3 Applying first aid treatment</li> <li>3.4 Coordination skills</li> </ul>  |
| <p>4. Methods of Assessment</p>          | <p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1 A combination of direct observation and questioning of a candidate processing foods.</li> </ul>  |
| <p>5. Resource Implications</p>          | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Work area/station</li> <li>5.2 First Aid kit</li> <li>5.3 PPE relevant to the activities</li> <li>5.4 Fire extinguisher</li> <li>5.5 Stretcher</li> <li>5.6 Materials, tools and equipment relevant to the unit of competency</li> </ul>   |
| <p>6. Context of Assessment</p>          | <ul style="list-style-type: none"> <li>6.1 Assessment should occur on the job or in a simulated workplace</li> </ul>   |

**UNIT OF COMPETENCY** : **USE STANDARD MEASURING DEVICES AND INSTRUMENTS**

**UNIT CODE** : **AGR741202**

**UNIT DESCRIPTOR** : This unit deals with the knowledge, skills and attitudes required to use standard measuring devices, instruments in the workplace

| <b>ELEMENT</b>   | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized</i> terms are elaborated in the Range of Variables   |
|--|--|
| 1. Identify Standard Measuring Devices and Instruments                       | 1.1 <b><i>Standard measuring devices and instruments</i></b> are identified according to manufacturer's specifications<br>1.2 Devices and instruments for measuring are properly checked, sanitized and calibrated prior to use  |
| 2. Review the Procedures in Using Standard Measuring Devices and Instruments | 2.1 Procedures in using the <b><i>standard measuring devices</i></b> and instruments are recalled according to manufacturer's specifications<br>2.2 Printed procedures/brochures/catalogues are consulted according to specified <b><i>food processing methods</i></b>                             |
| 3. Follow Procedures of Using Measuring Devices and Instruments              | 3.1 Methods/practices of using measuring devices and instruments are strictly observed according to manufacturer's specifications and workplace requirements<br>3.2 Measuring devices and instruments are cleaned, wiped dry and stowed after use to ensure conformity with workplace requirements |

## RANGE OF VARIABLES

| VARIABLES                         | RANGE  |
|-----------------------------------|--|
| 1. Standard Measuring Devices     | <p>Standard Measuring Devices may include but not limited to the following:</p> <ul style="list-style-type: none"> <li>1.1 Weighing scales and balances of various capacities and sensitivities</li> <li>1.2 Measuring cups of varying capacities for dry ingredients</li> <li>1.3 Measuring cups of varying capacities for liquid ingredients</li> </ul>  |
| 2. Standard Measuring Instruments | <p>Standard Measuring Instruments may include but not limited to the following:</p> <ul style="list-style-type: none"> <li>2.1 Salinometer</li> <li>2.2 Thermometers of varying temperature ranges (0-300 C )</li> <li>2.3 Refractometer of varying range ( 0 – 90 B)</li> <li>2.4 Glasswares like cylinders, beakers, flasks of varying graduations</li> </ul>  |
| 3. Food Processing Methods        | <p>Food Processing Methods may include but not limited to the following:</p> <ul style="list-style-type: none"> <li>3.1. Process foods by Salting, Curing and Smoking</li> <li>3.2. Process foods by Fermentation and Pickling</li> <li>3.3. Process foods by Canning and Bottling</li> <li>3.4. Process foods by Sugar Concentration</li> <li>3.5. Process foods by Drying and Dehydration</li> </ul> |

## EVIDENCE GUIDE

|  |   |
|--|---|
| <p>1. Critical Aspects of Competency</p> | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified, prepared and calibrated standard measuring devices and instruments</li> <li>1.2 Followed correctly the procedures in using standard measuring devices and instruments</li> <li>1.3 Followed proper cleaning and sanitizing and stowing procedures of measuring devices and equipment before and after use</li> </ul> |
| <p>2. Underpinning Knowledge</p>         | <ul style="list-style-type: none"> <li>2.1 Safe handling of measuring devices and instruments</li> <li>2.2 Specifications and functions of measuring devices and instruments</li> <li>2.3 Defects and breakages of measuring devices and instruments</li> <li>2.4 Procedures in cleaning, sanitizing and calibrating and stowing equipment and instruments</li> </ul>   |
| <p>3. Underpinning Skills</p>            | <ul style="list-style-type: none"> <li>3.1 Communication skills</li> <li>3.2 Calibrating skills</li> <li>3.3 Sanitary handling of devices and instruments</li> <li>3.4 Measuring devices and instruments</li> <li>3.5 Stowing measuring devices and instruments</li> </ul>  |
| <p>4. Methods of Assessment</p>          | <p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1 Direct observation and questioning of a candidate using measuring devices and instruments</li> </ul>  |
| <p>5. Resource Implications</p>          | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Work area/station</li> <li>5.2 Materials, tools and equipment relevant to the Unit of Competency</li> </ul>   |
| <p>6. Context of Assessment</p>          | <ul style="list-style-type: none"> <li>6.1 Assessment should occur on the job or in a simulated workplace</li> </ul>  |

**UNIT OF COMPETENCY :**        **USE FOOD PROCESSING TOOLS, EQUIPMENT AND UTENSILS**

**UNIT CODE :**                        **AGR741203**

**UNIT DESCRIPTOR :**            This unit deals with the skills, knowledge and attitudes required to operate food processing tools, equipment and instruments in the workplace.

| <b>ELEMENT</b>                       | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized</i> terms are elaborated in the Range of Variables  |
|--------------------------------------|---|
| 1. Perform Pre-Operation Activities  | 1.1. Appropriate tools and equipment/utensils are assembled according to <b><i>food processing methods</i></b><br>1.2. <b><i>Food processing tools and equipment/utensils</i></b> are inspected and checked according to manufacturer's specifications<br>1.3. Food processing equipment is set up, adjusted and readied according to job requirements  |
| 2. Operate Food processing Equipment | 2.1. Food processing equipment is switched on according to <b><i>manufacturer's specifications</i></b><br>2.2. <b><i>Performance of food processing equipment is checked to ensure conformity with specified output</i></b><br>2.3. Operation of food processing equipment is managed to achieve planned outcomes<br>2.4. Minor trouble shooting on food processing tools, equipment and utensils is performed when necessary   |
| 3. Perform Post-Operation Activities | 3.2 Food processing equipment is switched off and unplugged after operation in accordance with manufacturer's specifications<br>3.3 Food processing tools, equipment and instruments are cleaned, sanitized and stowed as required according to manufacturer's specifications and workplace policies and regulations<br>3.4 <b><i>Minor preventive maintenance</i></b> on equipment is performed in line with organization's maintenance system<br>3.5 Main machine parts are inspected and checked in line with organization's policy<br>3.6 <b><i>Condition of machine</i></b> is monitored to ensure serviceability in accordance with workplace rules and regulations |

## RANGE OF VARIABLES

| VARIABLE   | RANGE   |
|--|---|
| 1. Food Processing Methods                       | Food Processing Methods include but not limited to: <ul style="list-style-type: none"> <li>1.1 Salting</li> <li>1.2 Curing</li> <li>1.3 Smoking</li> <li>1.4 Fermentation</li> <li>1.5 Pickling</li> <li>1.6 Canning</li> <li>1.7 Bottling</li> <li>1.8 Sugar concentration</li> <li>1.9 Drying</li> <li>1.10 Dehydration</li> </ul>  |
| 2. Food Processing Tools, Equipment and Utensils | Tools, Equipment and Utensils used for but not limited to the following food processing methods: <ul style="list-style-type: none"> <li>2.1. Salting</li> <li>2.2. Curing</li> <li>2.3. Smoking</li> <li>2.4. Fermentation</li> <li>2.5. Pickling</li> <li>2.6. Canning</li> <li>2.7. Bottling</li> <li>2.8. Sugar concentration</li> <li>2.9. Drying</li> <li>2.10. Dehydration</li> </ul> |
| 3. Manufacturer's Specifications                 | Manufacturer's specifications may include but not limited to: <ul style="list-style-type: none"> <li>3.1. Handling requirements</li> <li>3.2. Operating requirements</li> <li>3.3. Discharge Label</li> <li>3.4. Reporting</li> <li>3.5. Testing</li> <li>3.6. Positioning</li> <li>3.7. Refilling</li> </ul>   |

|   |  |
|---|--|
| 4. Minor Preventive Machine Maintenance | <p>Minor Preventive Machine Maintenance may include but not limited to checking of the following:</p> <ul style="list-style-type: none"> <li>4.1. Machine temperature</li> <li>4.2. Hydraulic fluid</li> <li>4.3. Wear and surface condition</li> <li>4.4. Crack</li> <li>4.5. Leak detection</li> <li>4.6. Vibration</li> <li>4.7. Corrosion/erosion</li> <li>4.8. Electric insulation</li> </ul> |
| 5. Condition of Machine                 | <ul style="list-style-type: none"> <li>5.1 Serviceable</li> <li>5.2 Repairable</li> <li>5.3 Defective</li> </ul>   |

## EVIDENCE GUIDE

|                                   |   |
|-----------------------------------|---|
| 1. Critical Aspects of Competency | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Assembled, inspected, checked and sanitized appropriate tools and equipment/instruments</li> <li>1.2 Set-up, adjusted and readied tools and equipment and instruments according to requirements</li> <li>1.3 Operated and monitored performance of equipment to ensure specified output</li> <li>1.4 Performed post operation activities</li> <li>1.5 Performed minor trouble shooting on food processing tools, equipment and utensils</li> </ul> |
| 2. Underpinning Knowledge         | <ul style="list-style-type: none"> <li>2.1. Equipment, tools and instruments: Uses and Specifications</li> <li>2.2. Equipment, tools and instruments: Parts and Functions</li> <li>2.3. Sanitizing agents: Uses and Specification</li> <li>2.4. Minor preventive maintenance</li> <li>2.5. Proper stowing of tools and equipment/instruments</li> <li>2.6. Minor trouble shooting</li> <li>2.7. Interpreting manufacturer's specifications</li> <li>2.8. Equipment/machine wear and tear process</li> </ul>   |
| 3. Underpinning Skills            | <ul style="list-style-type: none"> <li>3.1 Equipment/machine parts tear down and assembly</li> <li>3.2 Inspecting and checking condition of equipment/machines before, during and after operation</li> <li>3.3 Performing minor trouble shooting</li> <li>3.4 Performing minor preventive maintenance</li> <li>3.5 Reporting equipment/machine, tools, instruments breakdown and recording same in standard forms</li> </ul>  |
| 4. Methods of Assessment          | <p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1. Direct observation and questioning of a candidate operating food processing tools and equipment/instruments</li> <li>4.2. Submission of written report on the performance and condition of equipment/machine, tools, instruments used.</li> </ul>  |
| 5. Resource Implications          | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1. Work area/station</li> <li>5.2. Materials, tools and equipment relevant to the Unit of Competency</li> </ul>   |
| 6. Context of Assessment          | <ul style="list-style-type: none"> <li>6.1 Assessment should occur on the job or in a simulated workplace</li> </ul>  |

**UNIT OF COMPETENCY: FOLLOW WORK PROCEDURES TO MAINTAIN GOOD MANUFACTURING PRACTICE**

**UNIT CODE : AGR741207**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes required to comply with Good Manufacturing Practice (GMP) requirements and workplace quality standards.

| <b>ELEMENTS</b>  | <b>PERFORMANCE CRITERIA</b><br><i>italicized terms</i> are elaborated in the Range of Variables   |
|--|---|
| 1. Identify requirements for GMP related to own work             | 1.1. <b>Sources of information</b> on GMP requirements are located according to <b>workplace procedures</b><br>1.2. <b>GMP requirements</b> and responsibilities related to own work are identified according to workplace procedures   |
| 2. Observe personal hygiene and conduct to meet GMP requirements | 2.1. <b>Personal hygiene</b> is observed in line with GMP requirements<br>2.2. Appropriate clothing and footwear is prepared, used, stored and disposed of according to GMP and workplace procedures<br>2.3. Personal movement around the workplace is made in line with area entry and exit procedures   |
| 3. Follow GMP requirements when carrying out work activities     | 3.1. Raw materials, product and packaging components are handled according to GMP and workplace procedures<br>3.2. Work area, materials, equipment and product are routinely monitored to ensure compliance with GMP requirements<br>3.3. Contamination is identified and appropriate control measures relating to work responsibilities are followed in accordance with GMP requirements<br>3.4. Processes, practices or conditions which are not consistent with GMP are identified and reported according to workplace reporting procedures<br>3.5. The workplace is kept clean and tidy in line with GMP housekeeping standards |
| 4. Complete workplace documentation to support GMP               | 4.1. Documentation and recording requirements are identified according to workplace procedures and GMP requirements<br>4.2. Information is recorded according to workplace reporting procedures to meet GMP requirements  |

## RANGE OF VARIABLES

| VARIABLES                 | RANGE  |
|---------------------------|--|
| 1. Sources of information | 1.1. GMP manuals<br>1.2. Standard Operating Procedures (SOPs)<br>1.3. Workplace procedures and policies<br>1.4. Quality assurance procedures<br>1.5. Standard forms and reports<br>1.6. Relevant legislations/regulations<br>1.6.1. Food processing and food safety regulations<br>1.6.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (PD 586)<br>1.6.3. Department of Environment and Natural Resources – Environmental Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control |
| 2. Workplace procedures   | 2.1. Standard operating procedures (SOPs)<br>2.2. Production and cleaning schedules and instructions<br>2.3. Materials Safety Data Sheets (MSDS)<br>2.4. Manufacturers' advice<br>2.5. Written or verbal instructions<br>2.6. Standard forms and reports   |
| 3. GMP requirements       | May relate to:<br>3.1. Own work<br>3.2. Personal hygiene<br>3.3. Use, storage and disposal of personal protective equipment<br>3.4. Personal movement<br>3.5. Work area, including materials, equipment and utensils<br>3.6. Product handling and monitoring<br>3.7. Contamination<br>3.8. Pest management (e.g. flies, ants, roaches, rodents)<br>3.9. Recording and reporting systems  |
| 4. Personal hygiene       | Health practices that include but not limited to:<br>4.1. Cleaning the body (e.g. daily bath, etc.)<br>4.2. Hand care (e.g. washing, maintaining nails, etc.)<br>4.3. Feet care<br>4.4. Hair care<br>4.5. Use of clean clothing<br>4.6. Personal habits (e.g. smoking, touching of mouth, nose, etc.)  |

## EVIDENCE GUIDE

|  |  |
|--|--|
| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. identified GMP requirements related to work</li> <li>1.2. observed personal hygiene and conduct to meet GMP requirements</li> <li>1.3. followed GMP requirements when carrying out work activities</li> <li>1.4. completed workplace documentation to support GMP</li> </ol> <p>The skills and knowledge required to follow work procedures to maintain GMP must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. The role and importance of GMP</li> <li>2.2. The relationship between the Code of Good Manufacturing Practice and workplace procedures, systems and processes</li> <li>2.3. GMP personnel and their respective responsibilities</li> <li>2.4. Personal role, responsibility and accountability for implementing GMP</li> <li>2.5. Sources of advice on GMP requirements for own work</li> <li>2.6. Personal clothing and footwear requirements for working in and/or moving between work areas</li> <li>2.7. Personal clothing use, storage and disposal requirements</li> <li>2.8. Common types and sources of contamination that occurs in the work area</li> <li>2.9. Common control methods and procedures used in the work area to maintain GMP</li> <li>2.10. Monitoring, inspection and checking procedures relevant to own work</li> <li>2.11. Standards for materials, equipment and utensils used in the work area</li> </ol> |

|                        |  |
|------------------------|--|
|                        | <p>2.12. Evidence of out-of-standard or unacceptable performance relating to work responsibilities</p> <p>2.13. Action required in the event of non-compliance within area of responsibility</p> <p>2.14. Storage and handling requirements for raw materials, packaging components and products relevant to work role</p> <p>2.15. Housekeeping requirements and responsibilities relating to own work.</p> <p>2.16. Waste collection, recycling and handling procedures relevant to own work responsibilities</p> <p>2.17. Responsibilities for reporting and recording information</p> <p><u>Attitudes</u></p> <p>2.18. Maintain work area in a clean and tidy state</p> <p>2.19. Obedience</p> <p>2.20. Accuracy</p> <p>2.21. Environment-conscious</p> <p>2.22. Positive work values</p> <p>2.23. Work ethics</p> <p>2.24. Cost consciousness</p> <p>2.25. Safety consciousness</p> <p>2.26. Personal hygiene</p> |
| 3. Underpinning Skills | <p>3.1. Locate and follow workplace information relating to GMP responsibilities</p> <p>3.2. Use, store and dispose of appropriate clothing / footwear as required by work tasks and consistent with GMP</p> <p>3.3. Carry out relevant checks and inspections as required</p> <p>3.4. Identify and respond to out-of-specification or unacceptable conditions or performance within area of responsibility</p> <p>3.5. Identify and report situations that do or could compromise GMP</p> <p>3.6. Handle and/or dispose of out-of-specification or contaminated materials, packaging components/consumables and product, waste and recyclable material according to GMP as required by work responsibilities</p>  |

|                          |  |
|--------------------------|--|
|                          | <ul style="list-style-type: none"> <li>3.7. Identify and report signs of pest infestation</li> <li>3.8. Follow relevant GMP and work procedures</li> <li>3.9. Oral and written communication skills</li> <li>3.10. Recording and reporting skills</li> </ul>         |
| 4. Methods of Assessment | <p>Competency must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1. Direct observation with oral questioning</li> <li>4.2. Demonstration with oral questioning</li> </ul>  |
| 5. Resource Implications | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1. Specific work area/station</li> <li>5.2. Equipment and tools related to following GMP requirements</li> <li>5.3. Materials relevant to the proposed activity</li> </ul> |
| 6. Context of Assessment | <ul style="list-style-type: none"> <li>6.1. Assessment should occur on the job or in a simulated workplace</li> <li>6.2. Ability to apply competency over time and on a number of occasions.</li> </ul>  |

## CORE COMPETENCIES

**UNIT OF COMPETENCY: IMPLEMENT SAMPLING PROCEDURES**

**UNIT CODE : AGR741305**

**UNIT DESCRIPTOR:** This unit deals with the skills, knowledge and attitudes required to implement sampling procedures. It involves understanding the requirements of sampling plans, collecting and transferring samples while retaining sample integrity.

| <b>ELEMENT</b>          | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables   |
|-------------------------|--|
| 1. Prepare for sampling | 1.1. <b>Sampling requirements</b> are identified in accordance with the sampling plan<br>1.2. Sampling equipment, containers and labels are prepared according to sampling requirements  |
| 2. Collect samples      | 2.1. <b>Samples</b> are collected according to sampling procedures and sampling plan<br>2.2. Samples are handled and prepared to preserve sample and source integrity according to sampling requirements and <b>OHS requirements</b><br>2.3. Defects or abnormalities in source material and/or sample are identified and reported according to <b>workplace requirements</b><br>2.4. <b>Sample information</b> is recorded according to workplace procedures<br>2.5. The workplace is cleaned and maintained according to workplace standards |

## RANGE OF VARIABLES

| VARIABLE                  | RANGE   |
|---------------------------|---|
| 1. Sampling requirements  | May involve collection and transfer of samples: <ul style="list-style-type: none"> <li>1.1 under controlled conditions               <ul style="list-style-type: none"> <li>1.1.1 Time</li> <li>1.1.2 Temperature</li> <li>1.1.3 Light</li> <li>1.1.4 Humidity</li> <li>1.1.5 Sanitary conditions</li> </ul> </li> <li>1.2 after processes are adjusted in response to variation or non-conformance</li> </ul>  |
| 2. Samples                | Samples may include any one but not limited to: <ul style="list-style-type: none"> <li>2.1. Raw materials</li> <li>2.2. Goods in process</li> <li>2.3. Finished products</li> <li>2.4. Packaging materials and supplies</li> </ul>  |
| 3. OHS requirements       | Occupational Health and Safety requirements may include but not limited to: <ul style="list-style-type: none"> <li>3.1 Health/medical certificate</li> <li>3.2 DOLE requirements</li> <li>3.3 Personal hygiene and good grooming</li> <li>3.4 Plant sanitation and waste management</li> <li>3.5 BFAD requirements</li> <li>3.6 PPE requirements               <ul style="list-style-type: none"> <li>3.6.1 apron/laboratory gown</li> <li>3.6.2 mouth masks</li> <li>3.6.3 gloves</li> <li>3.6.4 rubber boots</li> <li>3.6.5 head gears such as caps, hairnets, ear plugs</li> </ul> </li> </ul> |
| 4. Workplace requirements | May include but not limited to: <ul style="list-style-type: none"> <li>4.1. company policies and procedures</li> <li>4.2. standard operating procedures</li> <li>4.3. work instructions</li> <li>4.4. production schedules</li> <li>4.5. forms and reports</li> </ul>   |

|                       |   |
|-----------------------|---|
| 5. Sample information | May include but not limited to:<br>5.1. date of sampling<br>5.2. location of sampling<br>5.3. source of sample<br>5.4. characteristics of source<br>5.5. amount of sample / sample size<br>5.6. characteristics of sample<br>5.7. preparation, handling, preservation, and storage requirements<br>5.8. label |
|-----------------------|---|

## EVIDENCE GUIDE

|  |   |
|--|---|
| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. identified sampling requirements</li> <li>1.2. collected, handled and prepared samples</li> <li>1.3. followed work procedures</li> <li>1.4. recorded sample information</li> </ol> <p>The skills and knowledge required to implement sampling procedures must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Sampling plan</li> <li>2.2. Basic sampling principles, with emphasis on sampling which is random and representative of the lot</li> <li>2.3. Sampling techniques</li> <li>2.4. Basic characteristics of samples to be handled</li> <li>2.5. Preparation, handling, preservation and storage requirements for samples</li> <li>2.6. Awareness of Codes or Regulations such as HACCP and GMP</li> </ol> <p><u>Attitudes:</u></p> <ol style="list-style-type: none"> <li>2.7. Accurate</li> <li>2.8. Environment-conscious</li> <li>2.9. Positive work values</li> <li>2.10. Cost conscious</li> <li>2.11. Safety conscious</li> <li>2.12. Honest</li> <li>2.13. Cooperative</li> </ol> |
| <p>3. Underpinning Skills</p>                  | <ol style="list-style-type: none"> <li>3.1 Select and use appropriate personal protective equipment</li> <li>3.2 Follow work procedures</li> <li>3.3 Oral and written communication skills</li> <li>3.4 Working with others and in teams</li> <li>3.5 Basic mathematical skills (percentage)</li> </ol>   |

|                          |   |
|--------------------------|---|
|                          | <p>3.6 Recording and reporting skills</p> <p>3.7 Time management</p>  |
| 4. Methods of Assessment | <p>Competency must be assessed through:</p> <p>4.1. Direct observation with oral questioning</p> <p>4.2. Demonstration with oral questioning</p> <p>4.3. Portfolio</p>  |
| 5. Resource Implications | <p>The following resources must be provided:</p> <p>5.1 Specific work area/station</p> <p>5.2 Equipment and tools for sampling</p> <p>5.3 Materials relevant to the proposed activity</p> <p>5.4 Relevant workplace procedures, schedules and records</p> |
| 6. Context of Assessment | <p>6.1 Assessment should occur on the job or in a simulated workplace</p> <p>6.2 Ability to apply competency over time and on a number of occasions.</p>  |

**UNIT OF COMPETENCY: INSPECT AND SORT RAW MATERIALS AND PRODUCT**

**UNIT CODE : AGR741306**

**UNIT DESCRIPTOR:** This unit deals with the skills, knowledge and attitudes required to inspect and sort materials and product.

| <b>ELEMENT</b>                                | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables  |
|---|---|
| 1. Prepare Equipment and Tools                | <p>1.1 <b>Equipment and tools</b> for <b>inspection and sorting</b> are prepared in accordance with <b>manufacturer’s specifications</b> and <b>workplace requirements</b></p> <p>1.2 Equipment and tools are checked, cleaned and sanitized in accordance with manufacturer’s specifications and workplace requirements</p> <p>1.3 <b>Office equipment and materials/supplies</b> needed are prepared in accordance with approved specifications</p>   |
| 2. Inspect and Sort the Materials and Product | <p>2.1 <b>Raw materials and product</b> are received and handled according to standard operating procedures.</p> <p>2.2 Inspection and sorting is done according to required specifications, <b>OHS requirements</b> and workplace procedures</p> <p>2.3 Grading is undertaken, as necessary, according to raw material or product requirements</p> <p>2.4 Raw materials and products are inspected for visible signs of <b>defects</b> according to set processing and purchasing specifications.</p> <p>2.5 Raw materials and products are sorted in accordance with <b>physical property</b> specifications</p> <p>2.6 Inspected and sorted raw materials and products are weighed and kept in accordance with standard operating procedures</p> <p>2.7 Rejected/sub-standard raw materials and products are reported to appropriate person and/or disposed according to organizational guidelines</p> |

|   |   |
|---|---|
| 3. Complete Inspection and Sorting Activity | 3.1 Equipment and tools are cleaned and kept according to manufacturers' specifications and workplace procedures<br>3.2 <b>Records</b> are completed and <b>reported</b> according to workplace procedures. |
|---|---|

## RANGE OF VARIABLES

| VARIABLE                                   | RANGE  |
|--|--|
| 1. Equipment and Tools                     | May include any one but not limited to:<br>1.1 Weighing scales<br>1.2 Jack lifts, trolleys and wheelers<br>1.3 Carts<br>1.4 Stainless steel tables / Receiving tables<br>1.5 Belt and roller sorter<br>1.6 Screens<br>1.7 Image processing   |
| 2. Inspection and sorting                  | 2.1 Manual<br>2.2 Mechanical   |
| 3. Manufacturer's specifications           | May include but not limited to:<br>3.1 Handling requirements<br>3.2 Operating requirements<br>3.3 Work-in-progress tags/labels<br>3.4 Testing<br>3.5 Positioning<br>3.6 Refilling  |
| 4. Workplace requirements                  | May include but not limited to:<br>4.1 Company policies and procedures<br>4.2 Standard operating procedures<br>4.3 Work instructions<br>4.4 Production schedules<br>4.5 Forms and Reports  |
| 5. Office equipment and materials/supplies | May include but not limited to:<br>5.1 Calculator<br>5.2 Bond papers<br>5.3 Reporting and recording forms/logbooks<br>5.4 Pencils/ball pen<br>5.5 Desk   |
| 6. Raw Materials and Product               | May include any one but not limited to:<br>6.1. Fruits and vegetables<br>6.2. Livestock meat and products<br>6.3. Poultry and poultry products<br>6.4. Fish and other marine products<br>6.5. Cereals and starches<br>6.6. Sugar and sweeteners<br>6.7. Fats and oils<br>6.8. Processing supplies<br>6.8.1. Salt<br>6.8.2. Sugar |

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|                     | <ul style="list-style-type: none"> <li>6.8.3. Condiments</li> <li>6.8.4. Spices</li> <li>6.8.5. Herbs</li> <li>6.8.6. Sauces</li> </ul>  |
| 7. OHS requirements | <p>Occupational Health and Safety requirements may include but not limited to:</p> <ul style="list-style-type: none"> <li>7.1 Health/medical certificate</li> <li>7.2 DOLE requirements</li> <li>7.3 Personal hygiene and good grooming</li> <li>7.4 Plant sanitation and waste management</li> <li>7.5 BFAD requirements</li> <li>7.6 Relevant permits (e.g. City Hall)</li> <li>7.7 PPE requirements <ul style="list-style-type: none"> <li>7.7.1 apron/laboratory gown</li> <li>7.7.2 mouth masks</li> <li>7.7.3 gloves</li> <li>7.7.4 rubber boots</li> <li>7.7.5 head gears such as caps, hairnets, ear plugs</li> </ul> </li> </ul>  |
| 8. Defects          | <p>Defects refer to deviations from the required specifications.</p> <ul style="list-style-type: none"> <li>8.1 For raw materials, defects may include but not limited to: <ul style="list-style-type: none"> <li>8.1.1. blemishes</li> <li>8.1.2. spoilage</li> <li>8.1.3. off color</li> <li>8.1.4. irregular size and shape</li> <li>8.1.5. off-odor</li> <li>8.1.6. stale</li> <li>8.1.7. insect/disease damage</li> <li>8.1.8. presence of insects and other contaminants, molds, etc.</li> </ul> </li> <li>8.2 For semi-processed/finished products, defects may include but not limited to: : <ul style="list-style-type: none"> <li>8.2.1. damaged packaging</li> <li>8.2.2. contaminated contents</li> <li>8.2.3. packaging materials(off-color, deformed, cracked)</li> <li>8.2.4. off-odor</li> <li>8.2.5. thawed (for frozen foods)</li> </ul> </li> </ul> |

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| <p>9. Physical Property</p> | <p>The main physical properties to sort and grade foods are:</p> <ul style="list-style-type: none"> <li>9.1. Size</li> <li>9.2. Shape</li> <li>9.3. Weight</li> <li>9.4. Color</li> <li>9.5. Variety</li> <li>9.6. Maturity</li> <li>9.7. Freshness</li> </ul> <p>The acceptable ranges of values for these physical properties are defined in accordance with the required specifications.</p> |
| <p>10. Records</p>          | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>10.1. Items inspected / sorted</li> <li>10.2. Inspector's name</li> <li>10.3. Date and place of inspection</li> <li>10.4. Spoilage and rejects</li> <li>10.5. Yields and recoveries</li> <li>10.6. Supplier details</li> </ul>  |
| <p>11. Reports</p>          | <ul style="list-style-type: none"> <li>11.1. Oral</li> <li>11.2. Written</li> </ul>   |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1 Prepared and checked equipment, tools and materials for inspection and sorting</li> <li>1.2 Cleaned and sanitized equipment and tools</li> <li>1.3 Followed the procedures and techniques in inspection and sorting</li> <li>1.4 Operated equipment</li> <li>1.5 Cleaned and stored equipment and tools after use</li> <li>1.6 Completed records in line with workplace requirements</li> </ol> <p>The skills and knowledge required in inspecting and sorting raw materials and product must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Principles and procedures for inspection and sorting</li> <li>2.2. Basic characteristics of materials and products for inspection and sorting</li> <li>2.3. Preparation and handling of materials and products for inspection and sorting</li> <li>2.4. Identification of out-of-specification materials and products, and required action</li> <li>2.5. Recording and reporting procedures relevant to inspection and sorting</li> <li>2.6. Types, operation, and routine maintenance of equipment, tools and instruments for inspection and sorting</li> <li>2.7. Cleaning and sanitation procedures</li> <li>2.8. Food safety principles and practices</li> <li>2.9. Proper waste disposal</li> <li>2.10. Recycling/by-product utilization</li> <li>2.11. Environmental protection and concerns</li> <li>2.12. Awareness of Codes or Regulations such as Hazard Analysis Critical Control Point (HACCP) and Good Manufacturing Practice (GMP)</li> <li>2.13. Weights, measures, conversions, percentages, ratios and proportions</li> <li>2.14. Basic arithmetical operations like multiplication, division, addition and subtraction</li> </ol> |

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|                          | <p><u>Attitudes:</u></p> <p>2.15. Punctual/Time conscious</p> <p>2.16. Cost conscious</p> <p>2.17. Environmental and pollution conscious</p> <p>2.18. Flexible/adaptable</p> <p>2.19. Honest</p> <p>2.20. Socially responsible</p> <p>2.21. Dependable</p> <p>2.22. Innovative</p> <p>2.23. Alert</p> <p>2.24. Systematic and organized</p> <p>2.25. Good listener and fast learner</p> <p>2.26. Resourceful</p> <p>2.27. Morally responsible</p> <p>2.28. Personal hygiene</p> |
| 3. Underpinning Skills   | <p>3.1 Oral and written communication skills</p> <p>3.2 Ability to read and interpret instructions</p> <p>3.3 Basic mathematical skills (addition, subtraction, division, multiplication, percentage)</p> <p>3.4 Computation of spoilage, rejects, yields and recoveries</p> <p>3.5 Recording and reporting skills</p> <p>3.6 Sanitary food handling practices</p>  |
| 4. Methods of Assessment | <p>Competency must be assessed through:</p> <p>4.1. Direct observation with oral questioning</p> <p>4.2. Demonstration with oral questioning</p> <p>4.3. Portfolio</p>  |
| 5. Resource Implications | <p>The following resources must be provided:</p> <p>5.1 Specific work area/station</p> <p>5.2 Raw materials and products for inspection and sorting</p> <p>5.3 Equipment and tools for inspection and sorting</p> <p>5.4 Other materials relevant to the proposed activity</p> <p>5.5 Relevant workplace procedures, schedules and records</p>  |
| 6. Context of Assessment | <p>6.1 Assessment should occur on the job or in a simulated workplace.</p> <p>6.2 Ability to apply competency over time and on a number of occasions.</p>   |

**UNIT OF COMPETENCY: DISPENSE NON-BULK INGREDIENTS**

**UNIT CODE : AGR741307**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and Attitudes required to prepare, measure and/or weigh, and label non-bulk ingredients to meet production requirements.

| <b>ELEMENT</b>                      | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables  |
|-------------------------------------|---|
| 1. Prepare to dispense ingredients  | 1.1. <b>Materials</b> are inspected to confirm type, quality clearance, quantities and identify any obvious contamination or non-conformance with <b>workplace requirements</b><br><br>1.2. Appropriate <b>measuring/dispensing and weighing equipment</b> are selected according to dispensing requirements<br><br>1.3. Availability of containers/bags and labels are confirmed according to dispensing requirements<br><br>1.4. <b>Pre-start checks</b> are carried out according to <b>manufacturer's specifications</b> and workplace procedures<br><br>1.5. Appropriate <b>personal protective equipment (PPE)</b> is used according to workplace procedures and <b>occupational health and safety (OHS) requirements</b> |
| 2. Measure and/or weigh ingredients | 2.1. <b>Non-bulk ingredients and additives</b> are weighed/measured according to production requirements<br><br>2.2. Dispensed ingredients are <b>labeled</b> according to workplace procedures<br><br>2.3. Accurate of measuring/dispensing equipment is monitored to identify variation in operating conditions according to production requirements  |

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|   | <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. Workplace is maintained according to housekeeping standards</p>  |
| <p>3. Complete the dispensing process</p> | <p>3.1. Dispensing equipment is cleaned according to manufacturer's specifications and workplace procedures</p> <p>3.2. Maintenance requirements and unacceptable equipment/utensil conditions are identified and reported according to workplace procedures</p> <p>3.3. <b>Records</b> are completed according to workplace procedures</p> |

## RANGE OF VARIABLES

| VARIABLE                          | RANGE  |
|-----------------------------------|--|
| 1. Materials                      | Non-bulk ingredients / additives which may include but not limited to: <ul style="list-style-type: none"> <li>1.1 Colors</li> <li>1.2 Flavors</li> <li>1.3 Buffered acids</li> <li>1.4 Preservatives</li> <li>1.5 Processing aids</li> <li>1.6 Sanitizing agents</li> <li>1.7 GRAS (Generally Recognized As Safe) and E numbers</li> </ul>   |
| 2. Workplace requirements         | May include but not limited to: <ul style="list-style-type: none"> <li>2.1. company policies and procedures</li> <li>2.2. standard Operating Procedures (SOPs)</li> <li>2.3. specifications, production/dispensing schedules and instructions</li> <li>2.4. batch/recipe instructions</li> <li>2.5. manufacturers' advice</li> <li>2.6. standard forms and reports</li> </ul>  |
| 3. Measuring/Dispensing equipment | May include any one of the following: <ul style="list-style-type: none"> <li>3.1 Scales</li> <li>3.2 Pipettes</li> <li>3.3 Graduated cylinders (dry and liquid)</li> <li>3.4 Measuring cups</li> <li>3.5 Thermometer</li> <li>3.6 pH meter</li> <li>3.7 Refractometer</li> <li>3.8 Other dispensing instruments and adjuncts</li> </ul>  |
| 4. Pre-start checks               | May include but not limited to: <ul style="list-style-type: none"> <li>4.1 Inspecting equipment for calibration records and sticker</li> <li>4.2 Inspecting equipment condition for any signs of wear and tear</li> <li>4.3 Selecting appropriate settings</li> <li>4.4 Confirming that equipment is clean and correctly configured for dispensing</li> <li>4.5 Ensuring safety guards are in place</li> <li>4.6 Ensuring that sensors and controls are correctly positioned</li> <li>4.7 Canceling isolation or lockouts as required</li> </ul> |

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| 5. Manufacturer's specifications       | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>5.1. Handling requirements</li> <li>5.2. Operating requirements</li> <li>5.3. Calibration sticker</li> <li>5.4. Discharge label</li> <li>5.5. Reporting</li> <li>5.6. Testing</li> <li>5.7. Positioning</li> <li>5.8. Refilling</li> </ul>   |
| 6. Personal protective equipment (PPE) | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1. Apron/laboratory gown</li> <li>6.2. Face masks</li> <li>6.3. Gloves</li> <li>6.4. Rubber boots/safety shoes</li> <li>6.5. Head gears such as caps, hair nets, ear plug</li> </ul>   |
| 7. OHS requirements                    | <p>Occupational Health and Safety requirements may include but not limited to:</p> <ul style="list-style-type: none"> <li>7.1 Health/medical certificate</li> <li>7.2 DOLE requirements</li> <li>7.3 Personal hygiene and good grooming</li> <li>7.4 Plant sanitation and waste management</li> <li>7.5 Relevant permits (e.g. from City Hall)</li> <li>7.6 BFAD requirements</li> <li>7.7 PPE requirements</li> </ul> |
| 8. Label                               | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>8.1 Name of material</li> <li>8.2 Batch number</li> <li>8.3 Weight/Measure</li> <li>8.4 Date of preparation</li> <li>8.5 Operator/inspector/issuer</li> </ul>  |
| 9. Record                              | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>9.1 Materials used</li> <li>9.2 Equipment used</li> <li>9.3 Equipment faults, including repairs, servicing undertaken or recommended, preventive maintenance activities</li> <li>9.4 Operational details</li> <li>9.5 Labels</li> </ul>  |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. Prepared materials and equipment for dispensing</li> <li>1.2. Measured and/or weighed ingredients</li> <li>1.3. Dispensed ingredients</li> <li>1.4. Used, cleaned and maintained dispensing equipment</li> <li>1.5. Followed work procedures</li> <li>1.6. Completed required records</li> </ol> <p>The skills and knowledge required to dispense non-bulk ingredients must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Purpose and basic principles of the dispensing process</li> <li>2.2. Quality characteristics and related handling requirements of materials</li> <li>2.3. Storage requirements and shelf life of ingredients and additives</li> <li>2.4. Contamination and food safety issues related to dispensing</li> <li>2.5. Corrective action implementation</li> <li>2.6. Basic operating principles of equipment</li> <li>2.7. Typical equipment malfunctions and related causes</li> <li>2.8. Pre-start checks on equipment</li> <li>2.9. Cleaning, sanitizing, care and storage of equipment</li> <li>2.10. Environmental issues and controls relevant to the dispensing process</li> <li>2.11. OHS hazards and controls</li> <li>2.12. Product/process changeover procedures and responsibilities</li> <li>2.13. Awareness of Codes or Regulations such as HACCP and GMP</li> </ol> |

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|                          | <u>Attitudes:</u><br>2.14. Accurate<br>2.15. Honest<br>2.16. Environment-conscious<br>2.17. Positive work values<br>2.18. Cost conscious<br>2.19. Safety conscious<br>2.20. Personal hygiene   |
| 3. Underpinning Skills   | 3.1 Use of basic equipment to support dispensing process<br>3.2 Measure materials and additives within the specified accurate range<br>3.3 Conduct pre-start checks on equipment<br>3.4 Cleaning and sanitation procedures for work area and equipment<br>3.5 Follow work procedures<br>3.6 Oral and written communication skills<br>3.7 Working with others and in teams<br>3.8 Basic mathematical skills<br>3.9 Time management<br>3.10 Recording and reporting skills |
| 4. Methods of Assessment | Competency must be assessed through:<br>4.1. Direct observation with oral questioning<br>4.2. Demonstration with oral questioning<br>4.3. Portfolio  |
| 5. Resource Implications | The following resources must be provided:<br>5.1. Specific work area/station<br>5.2. Dispensing equipment and other tools and equipment relevant to the proposed activity<br>5.3. Materials relevant to the proposed activity<br>5.4. Relevant workplace procedures, schedules and records   |
| 6. Context of Assessment | 6.1. Assessment should occur on the job or in a simulated workplace<br>6.2. Ability to apply competency over time and on a number of occasions.  |

**UNIT OF COMPETENCY: PREPARE RAW / PACKAGING MATERIALS AND SUPPLIES FOR PROCESSING**

**UNIT CODE : AGR741308**

**UNIT DESCRIPTOR :** This unit deals with the skills, knowledge and attitudes required to prepare raw/packaging materials for processing.

| <b>ELEMENT</b>  | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables  |
|---|---|
| 1. Select raw/packaging materials and supplies for processing | 1.1. <b>Raw/Packaging materials and supplies</b> and their availability are confirmed according to production requirements<br>1.2. Raw/Packaging materials and supplies are received and handled according to <b>workplace and OHS requirements</b><br>1.3. Raw/Packaging materials are placed in the receiving bin according to <b>required specifications</b> . |
| 2. Prepare raw/packaging materials                            | 2.1. Raw/Packaging materials are <b>washed</b> or <b>cleaned</b> according to required specifications.<br>2.2. Raw materials are <b>prepared</b> according to specifications<br>2.3. <b>Records</b> are completed according to workplace requirements   |

## RANGE OF VARIABLES

| VARIABLE                                       | RANGE  |
|--|--|
| <p>1. Raw/Packaging Materials and Supplies</p> | <p>1.1 Raw materials and supplies in this Unit of Competency may include any one but not limited to:</p> <ul style="list-style-type: none"> <li>1.1.1 Fruits and vegetables</li> <li>1.1.2 Livestock meat and products</li> <li>1.1.3 Poultry and poultry products</li> <li>1.1.4 Fish and other marine products</li> <li>1.1.5 Cereals and starches</li> <li>1.1.6 Sugar and sweeteners</li> <li>1.1.7 Fats and oils</li> <li>1.1.8 Processing supplies               <ul style="list-style-type: none"> <li>1.1.8.1 Salt</li> <li>1.1.8.2 Sugar</li> <li>1.1.8.3 Condiments</li> <li>1.1.8.4 Spices</li> <li>1.1.8.5 Herbs</li> <li>1.1.8.6 Sauces</li> </ul> </li> </ul> <p>1.2 Packaging materials and supplies may include but not limited to:</p> <ul style="list-style-type: none"> <li>1.2.1. Containers / Bottles / Cans</li> <li>1.2.2. Caps</li> <li>1.2.3. Cap seals</li> <li>1.2.4. Labels</li> <li>1.2.5. Trays</li> </ul> |
| <p>2. Workplace requirements</p>               | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>2.1 Company policies and procedures</li> <li>2.2 Standard operating procedures</li> <li>2.3 Work instructions</li> <li>2.4 Production schedules</li> <li>2.5 Forms and Reports</li> </ul>  |
| <p>3. OHS requirements</p>                     | <p>Occupational Health and Safety requirements may include but not limited to:</p> <ul style="list-style-type: none"> <li>3.1 Health/medical certificate</li> <li>3.2 DOLE requirements</li> <li>3.3 Personal hygiene and good grooming</li> <li>3.4 Plant sanitation and waste management</li> <li>3.5 Relevant permits</li> <li>3.6 BFAD requirements</li> <li>3.7 PPE requirements</li> </ul>   |

|                   |  |
|-------------------|--|
|                   | <ul style="list-style-type: none"> <li>3.6.1 apron/laboratory gown</li> <li>3.6.2 mouth masks</li> <li>3.6.3 gloves</li> <li>3.6.4 rubber boots</li> <li>3.6.5 head gears such as caps, hairnets, ear plugs</li> </ul>   |
| 4. Specifications | <p>Specifications may include but not limited to requirements in terms of:</p> <ul style="list-style-type: none"> <li>4.1 Size</li> <li>4.2 Shape</li> <li>4.3 Weight</li> <li>4.4 Color</li> <li>4.5 Variety</li> <li>4.6 Maturity</li> <li>4.7 Freshness</li> </ul>            |
| 5. Washing        | <p>Washing may include:</p> <ul style="list-style-type: none"> <li>5.1 Automated washing</li> <li>5.2 Manual washing</li> </ul>  |
| 6. Cleaning       | <p>Cleaning may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 Washing</li> <li>6.2 Brushing</li> <li>6.3 Separation of foreign material such as dirt, hair, mud, etc.</li> <li>6.4 Filtering</li> </ul>   |
| 7. Preparation    | <p>For raw materials, preparation may include any one but not limited to:</p> <ul style="list-style-type: none"> <li>7.1 Cutting</li> <li>7.2 Chopping</li> <li>7.3 Grinding</li> <li>7.4 Crushing</li> <li>7.5 Mashing</li> <li>7.6 Draining</li> <li>7.7 Weighing</li> </ul>   |
| 8. Records        | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>8.1. Materials used</li> <li>8.2. Date of preparation</li> <li>8.3. Location</li> <li>8.4. Batch number</li> <li>8.5. Weight/measure</li> <li>8.6. Name of person who prepared material</li> </ul> |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Selected raw materials</li> <li>1.2 Prepared raw materials for processing</li> <li>1.3 Followed work procedures</li> <li>1.4 Completed records</li> </ul> <p>The skills and knowledge required to prepare raw/packaging materials for processing must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ul style="list-style-type: none"> <li>2.1. Principles and procedures for preparing raw materials</li> <li>2.2. Proper handling of raw materials</li> <li>2.3. Identification and proper use of cleaning/washing equipment, implements and utilities</li> <li>2.4. Proper cleaning and/or washing procedure</li> <li>2.5. Recording and reporting procedures</li> <li>2.6. Food safety principles and practices</li> <li>2.7. Proper waste disposal</li> <li>2.8. Environmental protection and concerns</li> <li>2.9. Awareness of Codes or Regulations such as HACCP and GMP</li> </ul> <p><u>Attitudes:</u></p> <ul style="list-style-type: none"> <li>2.10. Time conscious/punctual</li> <li>2.11. Cost conscious</li> <li>2.12. Environment and pollution conscious</li> <li>2.13. Flexible / adaptable</li> <li>2.14. Honest</li> <li>2.15. Socially responsible</li> <li>2.16. Dependable</li> <li>2.17. Alert</li> <li>2.18. Systematic and organized</li> <li>2.19. Good team worker</li> <li>2.20. Good listener and fast learner</li> <li>2.21. Creative</li> </ul> |

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| 3. Underpinning Skills   | 3.1 Communication skills (oral and written)<br>3.2 Working with others and in teams<br>3.3 Basic mathematical skills (weights and measurements, ratios and proportions)<br>3.4 Recording and reporting skills<br>3.5 Sanitary food handling practices           |
| 4. Methods of Assessment | Competency must be assessed through:<br>4.1. Direct observation with oral questioning<br>4.2. Demonstration with oral questioning<br>4.3. Portfolio   |
| 5. Resource Implications | The following resources must be provided:<br>5.1 Work area/ station<br>5.2 Equipment and tools to prepare raw/packaging materials for processing<br>5.3 Materials relevant to the proposed activity<br>5.4 Relevant workplace procedures, schedules and records |
| 6. Context of Assessment | 6.1 Assessment should occur on the job or in a simulated workplace.<br>6.2 Ability to apply competency over time and on a number of occasions.  |

**UNIT OF COMPETENCY: OPERATE BASIC EQUIPMENT**

**UNIT CODE : AGR741309**

**UNIT DESCRIPTOR :** This competency standard covers the skills, knowledge and attitudes required to select, prepare, operate and maintain basic equipment. It involves equipment requiring limited application of equipment and process knowledge and limited equipment adjustment. Competency also requires knowledge of the functions associated with operational equipment, including undertaking routine maintenance and reporting faults to appropriate persons. This unit is generic and should be customized for a given piece of equipment.

| <b>ELEMENT</b>                          | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables  |
|---|---|
| 1. Select and prepare equipment for use | 1.1. <b>Basic machine/equipment</b> required to complete tasks is identified and accessed in accordance with assignment instructions and <b>workplace requirements</b><br>1.2. Routine <b>pre-operational checks</b> are carried out according to <b>manufacturers' specifications</b> and workplace procedures<br>1.3. Faulty and damaged machine/equipment is identified and reported according to workplace procedures<br>1.4. Any training required to operate machine/equipment is identified and notified to appropriate person(s) according to supplier and workplace requirements |
| 2. Operate equipment                    | 2.1. Suitable <b>personal protective equipment</b> is selected, used and maintained in accordance with <b>occupational health and safety (OHS) requirements</b> , and manufacturers' specifications<br>2.2. Machine/Equipment is operated in a safe and controlled manner in accordance with OHS requirements and manufacturers' specifications<br>2.3. Out-of-specification product, process and equipment performance is identified and reported according to workplace procedures  |

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| <p>3. Maintain equipment and resources</p> | <p>3.1. Machine/Equipment is shut down according to workplace procedures and manufacturers' specifications</p> <p>3.2. Work area, tools and machine/equipment are cleaned, maintained and stored in accordance with workplace requirements and manufacturers' specifications</p> <p>3.3. Faulty or damaged machine/equipment is reported for repair or replacement in accordance with workplace procedures</p> <p>3.4. Waste generated by both the process and cleaning procedures is collected, treated, disposed of, or recycled, according to workplace procedures</p> <p>3.5. <b>Records and reports</b> are completed and maintained in accordance with industry, legislative and workplace requirements</p> |
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## RANGE OF VARIABLES

| VARIABLE                                | RANGE  |
|---|--|
| <p>1. Basic machine/equipment</p>       | <p>May include any one of the following:</p> <ul style="list-style-type: none"> <li>1.1. Mixer</li> <li>1.2. Blender</li> <li>1.3. Roaster</li> <li>1.4. Grinder</li> <li>1.5. Chopper</li> <li>1.6. Food processor</li> <li>1.7. Scales</li> <li>1.8. Washing equipment</li> <br/> <li>1.9. Frying equipment</li> <li>1.10. Oven</li> <li>1.11. Conveyor</li> <li>1.12. Freezer</li> <li>1.13. Cutter</li> <li>1.14. Molder</li> <br/> <li>1.15. Filling machine (bottle, can, pouch, fill and seal)</li> <li>1.16. Plastic sealer</li> <li>1.17. Vacuum sealer</li> <li>1.18. Packing equipment</li> <li>1.19. Labeling equipment</li> </ul> |
| <p>2. Workplace requirements</p>        | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>2.1. Company policies and procedures</li> <li>2.2. Standard Operating Procedures</li> <li>2.3. Production schedules</li> <li>2.4. Operator's manuals</li> <li>2.5. OHS procedures</li> <li>2.6. Supervisor's oral or written instructions</li> <li>2.7. Standard forms and reports</li> </ul>  |
| <p>3. Manufacturer's specifications</p> | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>3.1. Handling requirements</li> <li>3.2. Operating requirements</li> <li>3.3. Discharge label</li> <li>3.4. Reporting</li> <li>3.5. Testing</li> <li>3.6. Positioning</li> <li>3.7. Refilling</li> </ul>   |

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| <p>4. Pre-operational checks</p>              | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>4.1. Checking log books</li> <li>4.2. Reading manufacturer's instructions</li> <li>4.3. Observing and monitoring noise levels for correct operation</li> <li>4.4. Cleaning</li> <li>4.5. Priming</li> <li>4.6. Tightening</li> <li>4.7. Basic repairs and adjustments</li> <li>4.8. Routine maintenance</li> <li>4.9. Identification and segregation of unsafe or faulty equipment for repair or replacement</li> </ul> |
| <p>5. Personal protective equipment (PPE)</p> | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>5.1. Masks</li> <li>5.2. Safety boots</li> <li>5.3. Head protection</li> <li>5.4. Safety glasses</li> <li>5.5. Gloves</li> <li>5.6. Apron</li> </ul>  |
| <p>6. OHS requirements</p>                    | <p>Occupational Health and Safety requirements may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 Health/medical certificate</li> <li>6.2 DOLE requirements</li> <li>6.3 Personal hygiene and good grooming</li> <li>6.4 Plant sanitation and waste management</li> <li>6.5 Relevant permits</li> <li>6.6 BFAD requirements</li> <li>6.7 PPE requirements</li> </ul>  |
| <p>7. Records and reports</p>                 | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>7.1. Operational details</li> <li>7.2. Equipment faults</li> <li>7.3. Recommended repairs or disposal of equipment</li> <li>7.4. Materials used</li> </ul>  |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p> | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. selected and prepared equipment for use</li> <li>1.2. conducted pre-operational checks on equipment</li> <li>1.3. operated and shut-down equipment</li> <li>1.4. cleaned, maintained and stored equipment</li> <li>1.5. followed work procedures</li> <li>1.6. followed recording and reporting guidelines</li> </ol> <p>The skills and knowledge required to operate basic equipment must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge</p>         | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Types, characteristics and functions of basic equipment</li> <li>2.2. Equipment operation and shut-down</li> <li>2.3. Pre-operational checks and procedures</li> <li>2.4. Routine maintenance procedures</li> <li>2.5. Cleaning and sanitation procedures for work area and equipment</li> <li>2.6. Security and storage of equipment and materials</li> <li>2.7. Lock out and tag out procedures</li> <li>2.8. Safe workplace procedures</li> <li>2.9. Emergency procedures</li> <li>2.10. Environmental and waste disposal procedures</li> <li>2.11. Reporting and documentation requirements and processes</li> <li>2.12. Relevant legislative provisions including OHS requirements</li> <li>2.13. Awareness of Codes or Regulations such as HACCP and GMP</li> </ol> |

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|                          | <u>Attitudes:</u><br>2.14. Accurate<br>2.15. Environment-conscious<br>2.16. Positive work values<br>2.17. Cost conscious<br>2.18. Safety conscious<br>2.19. Personal hygiene   |
| 3. Underpinning Skills   | 3.1. Operate basic equipment<br>3.2. Conduct pre-start checks on equipment<br>3.3. Apply safe workplace practices and procedures<br>3.4. Cleaning and sanitation procedures for work area and equipment<br>3.5. Locate emergency stop functions on equipment<br>3.6. Equipment shut-down procedures<br>3.7. Follow work procedures<br>3.8. Read and interpret written information<br>3.9. Oral and written communication skills<br>3.10. Working with others and in teams<br>3.11. Time management<br>3.12. Recording and reporting skills |
| 4. Methods of Assessment | Competency must be assessed through:<br>4.1. Direct observation with oral questioning<br>4.2. Demonstration with oral questioning<br>4.3. Portfolio  |
| 5. Resource Implications | The following resources must be provided:<br>5.1. Specific work area/station<br>5.2. Basic equipment<br>5.3. Materials relevant to the proposed activity<br>5.4. Relevant workplace procedures, schedules and records  |
| 6. Context of Assessment | 6.1. Assessment should occur on the job or in a simulated workplace<br>6.2. Ability to apply competency over time and on a number of occasions.  |

**UNIT OF COMPETENCY: CLEAN AND SANITIZE EQUIPMENT AND PROCESSING/PACKAGING AREA**

**UNIT CODE : AGR741310**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes required to clean and sanitize equipment and processing/packaging area. This does not include automated cleaning-in-place (CIP).

| <b>ELEMENT</b>   | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables   |
|--|--|
| 1. Prepare for cleaning  | 1.1. <b><i>Cleaning/sanitizing supplies and materials, and utilities</i></b> are identified and availability confirmed according to cleaning and sanitizing requirements<br>1.2. Prepare mixture of sanitizing solutions, as necessary, according to workplace requirements and application<br>1.3. Equipment and processing/packaging area are cleared in preparation for cleaning according to <b><i>workplace requirements</i></b> and <b><i>manufacturer's specifications</i></b><br>1.4. Equipment and processing/packaging area are rendered safe to clean according to workplace procedures and manufacturer's specifications   |
| 2. Clean and sanitize equipment and processing/packaging area to meet workplace requirements | 2.1. Equipment and processing/packaging area are <b><i>cleaned and sanitized</i></b> according to workplace procedures, <b><i>OHS requirements</i></b> , and manufacturer's specifications<br>2.2. Equipment and processing/packaging area are inspected according to required operating conditions and cleanliness<br>2.3. Unacceptable equipment and processing/packaging area conditions are identified and reported according to workplace procedures<br>2.4. Cleaning equipment and chemicals are stored according to workplace procedure<br>2.5. Waste from cleaning process is disposed of according to workplace and OHS requirements, and <b><i>regulatory/legislative requirements</i></b><br>2.6. Equipment and processing/packaging area are restored to operating order according to workplace procedures<br>2.7. Records are completed in line with workplace requirements |

## RANGE OF VARIABLES

| VARIABLE                                      | RANGE  |
|---|--|
| 1. Cleaning/Sanitation supplies and materials | May include but not limited to: <ol style="list-style-type: none"> <li>1.1. Chemicals (cleaners, sanitizers, etc.)</li> <li>1.2. Cleaning and scouring pads</li> <li>1.3. Washcloth</li> <li>1.4. Brush</li> <li>1.5. Pail</li> <li>1.6. Basin</li> <li>1.7. Dipper</li> <li>1.8. Hose</li> <li>1.9. Mop</li> <li>1.10. Mop wringer</li> <li>1.11. Squeegee</li> <li>1.12. pressure washer</li> <li>1.13. vacuum cleaner</li> <li>1.14. Garbage bin / Trash bag</li> <li>1.15. Sink</li> <li>1.16. Towel dispenser</li> <li>1.17. litmus paper (for testing effectiveness of cleaning)</li> <li>1.18. ATP (adenosine triphosphate) quick test</li> </ol> |
| 2. Utilities                                  | May include but not limited to: <ol style="list-style-type: none"> <li>2.1. Power</li> <li>2.2. Water</li> <li>2.3. Steam</li> <li>2.4. Compressed air</li> <li>2.5. Instrumentation air</li> </ol>  |
| 3. Workplace requirements                     | May include but not limited to: <ol style="list-style-type: none"> <li>3.1. Company policies and procedures</li> <li>3.2. Standard Operating Procedures</li> <li>3.3. Production and cleaning schedules and instructions</li> <li>3.4. Materials Safety Data Sheets</li> <li>3.5. Supervisor's oral and written instructions</li> <li>3.6. Manufacturer's advice</li> <li>3.7. Operator's manuals</li> <li>3.8. Standard forms and reports</li> </ol>  |

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| <p>4. Manufacturer's specifications</p>                     | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>4.1 Handling requirements</li> <li>4.2 Operating requirements</li> <li>4.3 Cleaning requirements</li> <li>4.4 Discharge label</li> <li>4.5 Calibration sticker</li> <li>4.6 Reporting</li> <li>4.7 Testing</li> <li>4.8 Positioning</li> <li>4.9 Refilling</li> </ul>   |
| <p>5. Cleaning and sanitation</p>                           | <p>5.1 Cleaning involves the removal of soil, a substance which is in the wrong place. Soil may include but not limited to the following:</p> <ul style="list-style-type: none"> <li>5.1.1. Organic - produced by cooking equipment and deposited on ceilings, walls, exhaust hood, food production equipment, utensils and tableware</li> <li>5.1.2 Inorganic – airborne (free floating) or bonded dust which adheres to surfaces</li> </ul> <p>5.2 Sanitation involves the destruction of pathogens that survive the cleaning process</p>   |
| <p>6. Occupational Health and Safety (OHS) requirements</p> | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 Health/medical certificate</li> <li>6.2 DOLE requirements</li> <li>6.3 Personal hygiene and good grooming</li> <li>6.4 Plant sanitation and waste management</li> <li>6.5 Relevant permits</li> <li>6.6 BFAD requirements</li> <li>6.7 PPE requirements <ul style="list-style-type: none"> <li>6.7.1 protective clothing (coverall, apron)</li> <li>6.7.2 head gears such as caps, hairnets, ear plugs</li> <li>6.7.3 safety glasses</li> <li>6.7.4 mouth masks</li> <li>6.7.5 gloves</li> <li>6.7.6 rubber boots / safety shoes</li> </ul> </li> </ul> |
| <p>7. Regulatory/ Legislative requirements</p>              | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>7.1. Licensing requirements</li> <li>7.2. DOLE regulations</li> <li>7.3. Dangerous Drugs Act</li> <li>7.4. DENR/EMB regulations</li> </ul>  |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. prepared for cleaning equipment and processing/packaging area</li> <li>1.2. prepared supplies, materials and utilities for cleaning and sanitation</li> <li>1.3. cleaned and sanitized equipment and processing/packaging area to meet workplace requirements</li> <li>1.4. restored equipment and processing/packaging area to operating order</li> <li>1.5. followed work procedures</li> <li>1.6. completed records and reports</li> </ol> <p>The skills and knowledge required to clean and sanitize equipment and processing/packaging area must be transferable to a different work environment.</p>   |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Purpose and basic principles of cleaning and sanitation</li> <li>2.2. Cleaning and sanitation requirements for equipment and processing/packaging area</li> <li>2.3. Methods used to render equipment and processing/packaging area safe to clean and sanitize</li> <li>2.4. Characteristics and functions of cleaning and sanitizing chemicals, including proper handling, use and storage</li> <li>2.5. Safe work procedures including appropriate signage of cleaning activities and safe handling and storage of cleaners and sanitizers used</li> <li>2.6. Purpose and limitations of protective clothing and equipment</li> </ol> |

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|                        | <p>2.7. Equipment settings required for cleaning and for operating, respectively</p> <p>2.8. Inspection points for cleaning and sanitation</p> <p>2.9. Conduct swab tests</p> <p>2.10. Possible corrective actions for out-of-specification results</p> <p>2.11. Consequences of contamination of process flows by cleaning solutions and related safeguards</p> <p>2.12. Environmental consequences of incorrect cleaning waste disposal procedures</p> <p>2.13. Reporting and recording systems</p> <p>2.14. Types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements</p> <p>2.15. Requirements to liaise/advise related work areas</p> <p>2.16. Conduct routine maintenance</p> <p>2.17. OHS hazards and risks</p> <p>2.18. Regulatory and legislative requirements</p> <p>2.19. Awareness of Codes or Regulations such as HACCP and GMP</p> <p>Attitudes:</p> <p>2.20. Accurate</p> <p>2.21. Systematic and organized</p> <p>2.22. Environment-conscious</p> <p>2.23. Positive work values</p> <p>2.24. Cost conscious</p> <p>2.25. Safety conscious</p> <p>2.26. Personal hygiene</p> |
| 3. Underpinning Skills | <p>3.1. Ability to access workplace information relevant to cleaning and sanitizing equipment and processing/packaging area</p> <p>3.2. Prepare equipment and processing/packaging area for cleaning and sanitizing</p> <p>3.3. Clean and sanitize equipment and processing/packaging area according to cleaning and sanitation process cycle and procedures</p> <p>3.4. Conduct relevant checks and inspections to confirm effectiveness of cleaning and sanitation</p> <p>3.5. Take corrective action for out-of-specification results</p> <p>3.6. Return equipment and processing/packaging area to operating order</p>   |

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|                          | <ul style="list-style-type: none"> <li>3.7. Follow work procedures</li> <li>3.8. Oral and written communication skills</li> <li>3.9. Recording and reporting skills</li> </ul>  |
| 4. Methods of Assessment | <p>Competency must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1. Direct observation with oral questioning</li> <li>4.2. Demonstration with oral questioning</li> <li>4.3. Portfolio</li> </ul>   |
| 5. Resource Implications | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1. Specific work area/station</li> <li>5.2. Equipment and tools relevant to cleaning and sanitizing equipment and processing/packaging area<br/>Materials relevant to the proposed activity</li> <li>5.3. Relevant workplace procedures, schedules and records</li> </ul> |
| 6. Context of Assessment | <ul style="list-style-type: none"> <li>6.1. Assessment should occur on the job or in a simulated workplace</li> <li>6.2. Ability to apply competency over time and on a number of occasions.</li> </ul>   |

**UNIT OF COMPETENCY: LOAD AND UNLOAD RAW MATERIALS, PRODUCTS AND/OR SUPPLIES**

**UNIT CODE : AGR741311**

**UNIT DESCRIPTOR :** This unit involves the skills, knowledge and attitudes required to load and unload raw materials, products and supplies. It includes loading and unloading activities, securing and protecting the load and completing all required documentation.

| <b>ELEMENT</b>   | <b>PERFORMANCE CRITERIA</b><br><i>Bold italicized terms</i> are elaborated in the Range of Variables   |
|--|--|
| 1. Load and unload raw materials, products and supplies. | 1.1 Loading and unloading procedures are selected according to <b><i>workplace and OHS requirements</i></b><br>1.2 Dangerous or hazardous raw materials, products and/or supplies are identified and handled in accordance with OHS, <b><i>regulatory and legislative requirements</i></b><br>1.3 Raw materials, products and/or supplies requiring special handling and/or documentation are identified and appropriate procedures followed according to workplace requirements<br>1.4 Raw materials, products and/or supplies are packed/unpacked according to workplace requirements<br>1.5 Raw materials, products and/or supplies are loaded in accordance with relevant material loading regulations and workplace procedures<br>1.6 Lifting aids and appliances are selected and used according to loading procedures in compliance with workplace requirements and legislation<br>1.7 Unloading activities are conducted safely and efficiently according to workplace requirements<br>1.8 <b><i>Hazards and risks</i></b> are identified and controls implemented according to OHS and workplace requirements |

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| <p>2 . Secure and protect load</p> | <p>2.1. Load distribution is checked to ensure that it is even, legal and within the working capacity according to workplace procedures</p> <p>2.2. Load is checked to ensure that dangerous goods and hazardous substances are appropriately segregated in accordance with regulatory and workplace requirements</p> <p>2.3. Load is secured using the correct load restraint and protection equipment, carrying and garage conditions according to workplace and OHS requirements</p> <p>2.4. The load is protected in accordance with legal and workplace safety requirements</p> |
| <p>3. Complete documentation</p>   | <p>3.1. Raw materials, products and/or supplies are selected and checked for ability to travel in accordance with relevant regulations/permit requirements</p> <p>3.2. All required <b>records</b> are completed in accordance with legislative and workplace requirements</p>   |

## RANGE OF VARIABLES

| VARIABLE  | RANGE  |
|---|--|
| <p>1. Workplace requirements</p>                            | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>1.1. Company policies and procedures</li> <li>1.2. Standard Operating Procedures</li> <li>1.3. Workplace operations manual</li> <li>1.4. Work instructions</li> <li>1.5. Production schedules</li> <li>1.6. Manufacturers' specifications</li> <li>1.7. Warehouse plan/layout</li> <li>1.8. Labels and codes</li> <li>1.9. Safety signs and symbols</li> <li>1.10. Standard forms and reports</li> </ul>   |
| <p>2. Occupational Health and Safety (OHS) requirements</p> | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>2.1. Health/medical certificate</li> <li>2.2. DOLE requirements</li> <li>2.3. Personal hygiene and good grooming</li> <li>2.4. Plant sanitation and waste management</li> <li>2.5. Relevant permits</li> <li>2.6. BFAD requirements</li> <li>2.7. PPE requirements               <ul style="list-style-type: none"> <li>2.1.1. high visibility clothing / coveralls</li> <li>2.1.2. head gears such as caps, hairnets, ear plugs</li> <li>2.1.3. safety glasses</li> <li>2.1.4. mouth masks</li> <li>2.1.5. gloves</li> <li>2.1.6. rubber boots</li> </ul> </li> </ul> |
| <p>3. Raw materials, products and supplies</p>              | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>5.1. Raw materials</li> <li>5.2. Goods in process</li> <li>5.3. Finished goods</li> <li>5.4. Packaging materials and supplies</li> <li>5.5. Tools and equipment</li> <li>5.6. Office and stationery supplies</li> <li>5.7. Forms, brochures and documents</li> </ul> <p>May also be:</p> <ul style="list-style-type: none"> <li>5.8. Irregularly shaped</li> <li>5.9. Packaged or unpackaged</li> <li>5.10. Labeled or unlabelled</li> <li>5.11. In palettes or not</li> </ul>   |

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| <p>4. Regulatory and legislative requirements</p> | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>4.2. Licensing requirements</li> <li>4.3. DOLE regulations</li> <li>4.4. Dangerous Drugs Act</li> <li>4.5. DENR/EMB regulations</li> </ul>  |
| <p>5. Hazards and risks</p>                       | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>5.1. Chemicals</li> <li>5.2. Dangerous or hazardous substances</li> <li>5.3. Movements of equipment, goods and materials</li> <li>5.4. Wet and iced operating surfaces</li> <li>5.5. Oil on operating surface</li> <li>5.6. Faulty brakes</li> <li>5.7. Workplace obstacles and other operational equipment and vehicles</li> <li>5.8. Damaged loads and pallets</li> <li>5.9. Other personnel in work area</li> </ul>  |
| <p>6. Records</p>                                 | <p>May include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1. Name of personnel (loader/unloader)</li> <li>6.2. Date and place of loading/unloading</li> <li>6.3. Type of raw materials, products and supplies</li> <li>6.4. Goods and container identification</li> <li>6.5. Quantity / Inventory count</li> <li>6.6. Quality specifications</li> <li>6.7. "Use by / best before" dates</li> <li>6.8. Picking slips</li> <li>6.9. Merchandise transfers</li> <li>6.10. Stock requisitions</li> <li>6.11. Operations and service record book or log</li> <li>6.12. Supplier and/or client instructions</li> <li>6.13. Warehouse/Container requirements (e.g. relative humidity, temperature, and ventilation)</li> <li>6.14. Traceability information</li> </ul> |

## EVIDENCE GUIDE

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| <p>1. Critical Aspects of Competency</p>       | <p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. Loaded and unloaded raw materials, products and supplies</li> <li>1.2. Handled properly dangerous goods and substances, and goods requiring special handling</li> <li>1.3. Identified hazards and risks and performed required action</li> <li>1.4. Selected and used lifting aids and appliances</li> <li>1.5. Secured and protected load</li> <li>1.6. Completed records and reports</li> <li>1.7. Followed work procedures</li> </ol> <p>The skills and knowledge required to load and unload raw materials, products and supplies must be transferable to a different work environment.</p>  |
| <p>2. Underpinning Knowledge and Attitudes</p> | <p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ol style="list-style-type: none"> <li>2.1. Basic characteristics of raw materials, products and supplies relevant to loading and unloading</li> <li>2.2. Basic principles and procedures for loading and unloading</li> <li>2.3. Proper distribution of load</li> <li>2.4. Methods of securing and protecting load</li> <li>2.5. Warehouse plan/Site layout and obstacles</li> <li>2.6. Workplace operating procedures</li> <li>2.7. Hazard and risk identification and control</li> <li>2.8. Emergency response procedures</li> <li>2.9. OHS requirements</li> <li>2.10. Regulatory requirements</li> <li>2.11. Awareness of Codes or regulations such as HACCP and GMP</li> </ol> <p><u>Attitudes:</u></p> <ol style="list-style-type: none"> <li>2.12. Honest</li> <li>2.13. Accurate</li> <li>2.14. Environment-conscious</li> </ol> |

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|                          | <ul style="list-style-type: none"> <li>2.15. Positive work values</li> <li>2.16. Cost conscious</li> <li>2.17. Safety conscious</li> <li>2.18. Personal hygiene</li> </ul>  |
| 3. Underpinning Skills   | <ul style="list-style-type: none"> <li>3.1. Identification of load characteristics</li> <li>3.2. Safe loading and unloading procedures</li> <li>3.3. Distributing, securing and protecting load</li> <li>3.4. Identification and use of appropriate equipment for loading/unloading</li> <li>3.5. Modification of activities according to risks and environments</li> <li>3.6. Identification of containers and goods coding</li> <li>3.7. Safe manual handling techniques</li> <li>3.8. Operate manual load shifting equipment</li> <li>3.9. Estimation of size, shape and special requirements of loads</li> <li>3.10. Locate, interpret and apply relevant information</li> <li>3.11. Follow work procedures</li> <li>3.12. Oral and written communication skills</li> <li>3.13. Recording and reporting skills</li> </ul> |
| 4. Methods of Assessment | <p>Competency must be assessed through:</p> <ul style="list-style-type: none"> <li>4.1. Direct observation with oral questioning</li> <li>4.2. Demonstration with oral questioning</li> <li>4.3. Portfolio</li> </ul>   |
| 5. Resource Implications | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1. Specific work area/station</li> <li>5.2. Equipment and tools relevant to loading/unloading raw materials, products and supplies</li> <li>5.3. Materials relevant to the proposed activity</li> <li>5.4. Workplace procedures, schedules and records</li> </ul>   |
| 6. Context of Assessment | <ul style="list-style-type: none"> <li>6.1 Assessment should occur on the job or in a simulated workplace</li> <li>6.2 Ability to apply competency over time and on a number of occasions.</li> </ul>   |

## SECTION 3 TRAINING STANDARDS

These guidelines are set to provide the Technical and Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for Food Processing NC I.

### 3.1. CURRICULUM DESIGN

Course Title: FOOD PROCESSING

NC Level: NC I

Nominal Training Duration: 28 hours (Basic)  
88 hours (Common)  
364 hours (Core)

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**480 hours (TOTAL)**

Course Description:

This course is designed to enhance the knowledge, desirable skills and attitudes Food Processing NC I in accordance with industry standards. It covers the basic, common and core competencies.

### **BASIC COMPETENCIES (28 hours)**

| <b>Unit of Competency</b>                 | <b>Learning Outcomes</b>   | <b>Methodology</b>  | <b>Assessment Approach</b>   |
|---|--|---|--|
| 1. Participate in workplace communication | 1.1 Obtain and convey workplace information<br>1.2 Complete relevant work related documents<br>1.3 Participate in workplace meeting and discussion | <ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Interaction</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/questioning</li> </ul> |
| 2. Work in a team environment             | 2.1 Describe and identify team role and responsibility in a team<br>2.2 Describe work as a team member   | <ul style="list-style-type: none"> <li>• Discussion</li> <li>• Interaction</li> </ul>       | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/questioning</li> </ul> |

|   |   |   |  |
|---|---|---|--|
| 3. Practice career professionalism                    | 3.1 Integrate personal objectives with organizational goals<br>3.2 Set and meet work priorities<br>3.3 Maintain professional growth and development | <ul style="list-style-type: none"> <li>• Discussion</li> <li>• Interaction</li> </ul>                     | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/questioning</li> </ul> |
| 4. Practice occupational health and safety procedures | 4.1 Evaluate hazard and risks<br>4.2 Control hazards and risks<br>4.3 Maintain occupational health and safety awareness                             | <ul style="list-style-type: none"> <li>• Discussion</li> <li>• Plant tour</li> <li>• Symposium</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Interview</li> </ul>                                       |

### COMMON COMPETENCIES (88 hours)

| Unit of Competency                            | Learning Outcomes   | Methodology   | Assessment Approach   |
|---|---|---|---|
| 1. Apply Food Safety and Sanitation           | 1.1 Wear personal protective equipment<br>1.2 Observe personal hygiene and good grooming<br>1.3 Implement food sanitation practices<br>1.4 Render safety measures and first aid procedures<br>1.5 Implement housekeeping activities | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Dual training</li> <li>• Individual Self-paced learning</li> <li>• Lecture</li> </ul> | <ul style="list-style-type: none"> <li>• Written examination</li> <li>• Demonstration of practical skills</li> <li>• Direct observation</li> <li>• Interview</li> </ul> |
| 2. Use Standard Measuring Devices/Instruments | 2.1 Identify standard measuring devices and instruments<br>2.2 Review the procedures in using standard measuring devices and instruments<br>2.3 Follow procedures of using measuring devices and instruments                        | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Dual training</li> <li>• Individual Self-paced Learning</li> <li>• Lecture</li> </ul> | <ul style="list-style-type: none"> <li>• Written examination</li> <li>• Demonstration of practical skills</li> <li>• Direct observation</li> <li>• Interview</li> </ul> |

|  |  |   |   |
|--|--|---|---|
| <p>3. Use Food Processing Tools, Equipment and Utensils</p>              | <p>3.1 Perform Pre-Operation Activities<br/>3.2 Operate, monitor and maintain Food processing Equipment<br/>3.3 Perform post operation activities</p>  | <ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Dual training</li> <li>• Individual Self-paced Learning</li> <li>• Lecture</li> </ul> | <ul style="list-style-type: none"> <li>• Written examination</li> <li>• Demonstration of practical skills</li> <li>• Direct observation</li> <li>• Interview</li> </ul> |
| <p>4. Perform Mathematical Computations</p>                              | <p>4.1 Gather, summarize and tabulate the recorded data<br/>4.2 Review the various formulations<br/>4.3 Calculate production input and output<br/>4.4 Compute production cost</p>  | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Practical exercise</li> </ul>   | <ul style="list-style-type: none"> <li>• Written examination</li> <li>• Practical exercise</li> <li>• Direct Observation</li> </ul>                                     |
| <p>5. Follow work procedures to maintain Good Manufacturing Practice</p> | <p>5.1 Identify requirements for GMP related to own work<br/>5.2 Observe personal hygiene and conduct to meet GMP requirements<br/>5.3 Follow GMP requirements when carrying out work activities<br/>5.4 Complete workplace documentation to support GMP</p> | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Practical exercise</li> </ul>   | <ul style="list-style-type: none"> <li>• Written examination</li> <li>• Demonstration of practical skills</li> <li>• Direct observation</li> <li>• Interview</li> </ul> |

**CORE COMPETENCIES**  
**(364 hours)**

| <b>Unit of Competency</b>                         | <b>Learning Outcomes</b>  | <b>Methodology</b>   | <b>Assessment Approach</b>  |
|---|---|--|---|
| 1. Implement sampling procedures                  | 1.1 Prepare for sampling<br>1.2 Collect samples   | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |
| 2. Inspect and sort raw materials and products    | 2.1 Prepare equipment and tools<br>2.2 Inspect and sort raw materials and product<br>2.3 Complete inspection and sorting activity | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |
| 3. Dispense non-bulk ingredients                  | 3.1 Prepare to dispense ingredients<br>3.2 Measure and/or weigh ingredients<br>3.3 Complete the dispensing process                | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |
| 4. Prepare raw/packaging materials for processing | 4.1 Select raw/packaging materials<br>4.2 Prepare raw/packaging materials   | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Discussion</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |

|   |  |  |   |
|---|--|--|---|
| 5. Operate basic equipment                                      | 5.1 Select and prepare equipment for use<br>5.2 Operate equipment<br>5.3 Maintain equipment and resources                    | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |
| 6. Clean and sanitize equipment and processing / packaging area | 6.1 Prepare for cleaning<br>6.2 Clean and sanitize equipment and processing / packaging area to meet workplace requirements  | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |
| 7. Load and unload raw materials, products and/or supplies      | 7.1 Load and unload raw materials, products and/or supplies<br>7.2 Secure and protect the load<br>7.3 Complete documentation | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> </ul> | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Demonstration</li> <li>• Questioning</li> </ul> |

### 3.2 TRAINING DELIVERY

The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of competency-based TVET.

- The training is based on curriculum developed from the competency standards;
- Learning is modular in its structure;
- Training delivery is individualized and self-paced;
- Training is based on work that must be performed;
- Training materials are directly related to the competency standards and the curriculum modules;
- Assessment is based in the collection of evidence of the performance of work to the industry required standard;
- Training is based both on and off-the-job components;
- Allows for recognition of prior learning (RPL) or current competencies;
- Training allows for multiple entry and exit; and
- Approved training programs are Nationally Accredited.

The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:

- The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations.
- Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer just facilitates the training delivery.
- Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners.
- Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations.
- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video or computer technologies.
- Project-based instruction is an authentic instructional model or strategy in which students plan, implement and evaluate projects that have real world applications.

### **3.3 TRAINEE ENTRY REQUIREMENTS**

Trainees or students wishing to gain entry into this course should possess the following requirements:

- can communicate both oral and written
- physically and mentally fit
- with good moral character
- can perform basic mathematical computation

### 3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

#### FOOD PROCESSING NC I

Recommended list of tools, equipment and materials for the training of 25 trainees for Food Processing NC I.

| TOOLS  |                                 | EQUIPMENT |   | MATERIALS      |  |
|--------|---------------------------------|-----------|---|----------------|--|
| QTY    | Description                     | QTY       | Description   | QTY            | Description  |
| 5 sets | • Measuring cups (dry)          | 5         | • Weighing scales (2 – 10 kg capacity)                | <b>A. FOOD</b> |  |
| 5 sets | • Measuring cups (liquid)       | 5         | • Dietetic scales (1-kg capacity)                     | 10 kg          | • Fresh fruits   |
| 5 sets | • Measuring spoons              | 2         | • Electronic scales                                   | 10 kg          | • Fresh vegetables   |
|        |                                 |           |   | 10 pcs         | • Dressed poultry  |
| 5 sets | • Mixing bowls, stainless steel | 1         | • Jacklift  | 20 kg          | • Fresh fish and other marine products (medium size)             |
| 1 set  | • Funnels, assorted sizes       | 1         | • Trolley   | 20 kg          | • Fresh fish and other marine products (medium size)             |
| 5      | • Jars (for liquid)             | 1         | • Wheeler   | 10 kg          | • Fresh meat   |
| 10     | • Colanders, stainless steel    | 1         | • Image processor                                     | 5 doz          | • Fresh eggs   |
| 10     | • Casseroles, stainless steel   | 5         | • Stoves (2-burner)                                   | 2 sets         | • Curing ingredients (for pork – ham and/or longanisa or tocino) |
| 10     | • Saucepan, stainless steel     | 1         | • Laboratory scale cabinet drier or forced draft oven | 3 kg           | • Salt   |
| 10     | • Roasting pans                 | 1         | • Oven  | 1 sack         | • Refined sugar  |
| 10     | • Stock pots                    | 1         | • Roller sorter                                       | 3 gal          | • Vinegar  |
| 5      | • Double boilers                | 1         | • Belt and roller sorter                              | 1 gal          | • Mother vinegar   |

|        |                                |       |                                    |                      |   |
|--------|--------------------------------|-------|------------------------------------|----------------------|---|
| 10     | • Hard plastic chopping boards | 1     | • Conveyor                         | 2 gal                | • All spice pickling solution   |
| 5      | • Wooden chopping boards       | 1 set | • Food processor                   | 1 kg                 | • Citric acid   |
| 10     | • Spoons, wooden               | 1     | • Washing equipment                | 1 kg                 | • Sodium benzoate   |
| 10     | • Spoons, basting              | 1     | • Stainless steel table            | 1 kg                 | • Firming agent   |
| 10     | • Spoons, slotted              | 5     | • Mixers                           | 2 gal                | • Pineapple juice   |
| 10     | • Skimmers                     |       |                                    | 1 can                | • Active dry yeast  |
| 5      | • Paddles, wooden              | 5     | • Blenders                         |                      |   |
| 5      | • Wire whips                   | 5     | • Roasters                         |                      |   |
| 10     | • Food tongs                   | 5     | • Grinders                         |                      |   |
| 5      | • Wire baskets                 | 5     | • Chopper                          |                      |   |
| 5      | • Soaking container            | 5     | • Graters                          | <b>B. NON - FOOD</b> |   |
| 5      | • Fermenting containers        | 5     | • Cutters                          | 5 sets               | • Packaging materials – can, paper, plastic, bottle, glass, carton, laminates         |
| 20     | • Ingredient bins              | 5     | • Molders                          |                      |   |
| 10     | • Storage containers           | 5     | • Frying equipment                 | 2 gal                | • Disinfectants/ sanitizers   |
| 20     | • Utility trays                | 1     | • Pressure cooker (5 – 10 gallons) | 5 pcs                | • Bar soaps/ detergents   |
| 5      | • Pipettes                     | 1     | • Pressure canner (10 liters)      | 2 sets               | • Various cleaning agents (e.g abrasives, degreasers, acid cleaners, organic solvent) |
| 5      | • Whisks                       | 1     | • Headspace gauge                  | 5 pcs                | • Cleaning and scouring pads  |
| 5      | • Scalars                      | 1     | • Chiller                          | 5 pcs                | • Washclothes   |
| 5      | • Kitchen shears               | 1     | • Refrigerator                     | 5 pcs                | • Brushes   |
| 10 pcs | • Paring knives                | 1     | • Freezer                          | 5 pcs                | • Pails   |

|        |                          |        |  |            |   |
|--------|--------------------------|--------|--|------------|---|
| 2      | • Carborundum            | 2      | • Steam jacketed kettle                                  | 5 pcs      | • Basins                                  |
| 10 pcs | • Peelers                | 5      | • Smoking trays  | 5 pcs      | • Dippers                                 |
| 5      | • Heavy duty can openers | 1      | • Fish smoker  | 5 pcs      | • Hoses                                   |
| 5      | • Scrapers               | 1      | • Meat grinder   | 5 pcs      | • Mops                                    |
| 5      | • Mortar and pestle      | 1      | • Stuffer/linker   | 2 pcs      | • Mop wringer                             |
| 2      | • Clocks / Timers        | 1      | • Filling machine  | 5 pcs      | • Squeegees                               |
|        |                          | 1      | • Sealing machine  | 10 sets    | • ATP (adenosine triphosphate) quick test |
|        |                          | 1      | • Capping machine  | 1 pack     | • Litmus paper                            |
|        |                          | 1      | • Packing equipment                                      | 10         | • Corrugated cartons                      |
|        |                          | 1      | • Labeling equipment                                     | 10 bundles | • Firewood                                |
|        |                          | 1      | • Vacuum cleaner / polisher                              | 5 pcs      | • Garbage cans/baskets                    |
|        |                          | 1      | • Pressure washer  | 1 pack     | • Trash bags                              |
|        |                          | 2      | • Steamers   | 5          | • Spray bottles                           |
|        |                          | 2      | • Brix refractometers (0-20° Brix)                       | 5 packs    | • Deodorizers                             |
|        |                          | 1      | • Salinometer  | 2 bottles  | • Glue                                    |
|        |                          | 2 sets | • Thermometers, varying temperature ranges (0 - 300° C ) | 1 pack     | • Tags/labels                             |
|        |                          | 5      | • Dial thermometers                                      | 2 sets     | • First aid kit                           |

|  |  |        |  |                              |   |
|--|--|--------|--|------------------------------|---|
|  |  | 5 sets | <ul style="list-style-type: none"> <li>Glasswares - cylinders, beakers, flasks, varying graduations</li> </ul> |                              |   |
|  |  | 5 sets | <ul style="list-style-type: none"> <li>Personal protective equipment*</li> </ul>                               | <b>C. TRAINING MATERIALS</b> |   |
|  |  | 2      | <ul style="list-style-type: none"> <li>Receiving tables</li> </ul>   |                              | <ul style="list-style-type: none"> <li>Books / References</li> </ul>                      |
|  |  | 1      | <ul style="list-style-type: none"> <li>Hand sink with drainboard</li> </ul>                                    |                              | <ul style="list-style-type: none"> <li>Manuals</li> </ul>                                 |
|  |  | 1      | <ul style="list-style-type: none"> <li>Towel dispenser</li> </ul>  |                              | <ul style="list-style-type: none"> <li>Audio visual materials</li> </ul>                  |
|  |  | 2      | <ul style="list-style-type: none"> <li>Shelves / Racks</li> </ul>  |                              | <ul style="list-style-type: none"> <li>Calculator</li> </ul>                              |
|  |  | 2      | <ul style="list-style-type: none"> <li>Utility carts</li> </ul>  |                              | <ul style="list-style-type: none"> <li>Bond paper</li> </ul>                              |
|  |  | 1      | <ul style="list-style-type: none"> <li>Kitchen hood</li> </ul>   |                              | <ul style="list-style-type: none"> <li>Pencils / Pens</li> </ul>                          |
|  |  | 1      | <ul style="list-style-type: none"> <li>Demonstration table with overhead mirror</li> </ul>                     |                              | <ul style="list-style-type: none"> <li>Reporting and recording forms/log books</li> </ul> |
|  |  | 2 sets | <ul style="list-style-type: none"> <li>Fire fighting equipment</li> </ul>                                      |                              |   |
|  |  |        |  |                              |   |

\* Apron/laboratory gown; Mouth masks; Gloves; Rubber boots/safety shoes; Head gears such as caps, hair nets, ear plugs

### 3.5 TRAINING FACILITIES

#### FOOD PROCESSING NC I

The food processing workshop must be of concrete structure. Based on a class size of 25 students/trainees, the space requirements for the teaching/learning and circulation areas are as follows:

| SPACE REQUIREMENT   | SIZE IN METERS | AREA IN SQ. METERS | TOTAL AREA IN SQ. METERS |
|---|----------------|--------------------|--------------------------|
| <b>A. Building (permanent)</b>                                    |                |                    |                          |
| Laboratory area   | 6 x 10         | 60                 | 60                       |
| Tool room & S/M storage area                                      | 4 x 5          | 20                 | 20                       |
| Learning resource area  | 5 x 6          | 30                 | 30                       |
| Wash area/comfort room (male & female)                            | 2.5 x 4        | 10                 | 10                       |
| <b>Total</b>  |                |                    | <b>120</b>               |
| Facilities/Equipment/ Circulation (30% of teaching accommodation) |                |                    | 40                       |
| <b>B. Experimental Land Area</b>                                  |                |                    | n/a                      |
| <b>Total workshop area</b>  |                |                    | <b>160</b>               |

Note: Size of experimental area may change according to availability of land.

### 3.6 TRAINER'S QUALIFICATIONS FOR FOOD PROCESSING NC I

#### TRAINER QUALIFICATION (TQ I)

- Must be a holder of Food Processing NC I or its equivalent
- Must have undergone training on Training Methodology I (TM I)
- Must be computer literate
- Must be physically and mentally fit
- \*Must have at least 2 years job/industry experience
- Must be a civil service eligible (for government position or appropriate professional license issued by the Professional Regulatory Commission)

\* Optional. Only when required by the hiring institution.

Reference: TESDA Board Resolution No. 2004 03

### **3.7 INSTITUTIONAL ASSESSMENT**

Institutional Assessment is to be undertaken by the learner who enrolled in a structured learning program to determine the achievement of competencies. It is administered by the trainer/assessor at end of each learning module.

The result of the institutional assessment may be considered as an evidence for national assessment.

## **SECTION 4. NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS**

- 4.1 To attain the National Qualification of **Food Processing NC I**, the candidate must demonstrate competence covering all the units listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.
- 4.2 The qualification of Food Processing, NC I may be attained through:
  - 4.2.1 Accumulation of Certificates of Competency (COCs) in the following areas:
    - 4.2.1.1 Implement sampling procedures
    - 4.2.1.2 Inspect and sort raw materials and products
    - 4.2.1.3 Dispense non-bulk ingredients
    - 4.2.1.4 Prepare raw/packaging materials for processing
    - 4.2.1.5 Operate basic equipment
    - 4.2.1.6 Clean and sanitize equipment and processing / packaging area
    - 4.2.1.7 Load and unload raw materials, products and/or supplies

Successful candidates shall be awarded Certificates of Competency (COCs).
- 4.3 Accumulation and submission of all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued the corresponding National Certificate
- 4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.
- 4.5 The following are qualified to apply for assessment and certification:
  - 4.5.1 Graduates of formal, non formal and informal including enterprise-based training programs.
  - 4.5.2 Experienced workers (wage employed or self-employed)
- 4.6 The guidelines on assessment and certification are discussed in detail in the Procedures manual on Assessment and Certification and Guidelines on the implementation of the Philippine TVET Qualification and Certification System (PTQCS).

**COMPETENCY MAP FOR PROCESSED FOOD AND BEVERAGES SECTOR**

**CORE UNITS OF COMPETENCY**

|  |   |  |  |  |
|--|---|--|--|--|
| Implement sampling procedures                              | Load and unload raw materials, products and/or supplies | Control and order stock  | Operate a packaging process  | Participate in sensory analysis  |
| Inspect and sort materials and product                     | Process Food by Salting, Curing and Smoking             | Apply product knowledge to complete work operations                    | Work in a freezer storage area                                     | Set up and operate processes in a production / packaging system        |
| Dispense non bulk ingredients                              | Process Food by Fermentation and Pickling               | Perform basic tests in raw materials, in process and finished products | Work with temperature controlled stock                             | Participate in an audit process  |
| Prepare raw/packaging materials for processing             | Process food by sugar concentration                     | Operate a boiler   | Handle dangerous goods/hazardous substances                        | Participate in a HACCP team  |
| Operate basic equipment                                    | Package Finished / Processed Food Products              | Operate pumping equipment  | Apply raw materials / ingredients and process knowledge            | Monitor workplace performance and participate in improvement processes |
| Clean and sanitize equipment and processing/packaging area | Receive and store stock                                 | Operate and monitor food processes and equipment                       | Maintain food safety when loading, unloading and transporting food |  |

**Continuation ..... Competency Map for Processed Food and Beverages Sector**

**COMMON UNITS OF COMPETENCY**

|  |   |  |   |                                  |
|--|---|--|---|----------------------------------|
| Apply Food Safety and Sanitation                 | Use Standard Measuring Devices / Instruments    | Use Food Processing Tools, Equipment and Utensils                    | Follow work procedures to maintain Good Manufacturing Practice      | Perform Mathematical Computation |
| Implement Good Manufacturing Practice Procedures | Implement Environmental Policies and Procedures | Monitor the Implementation of Good Manufacturing Practice Procedures | Monitor the Implementation of Environmental Policies and Procedures |                                  |

**BASIC UNITS OF COMPETENCY**

|  |  |   |   |   |
|--|--|---|---|---|
| Receive and Respond to Workplace Communication | Participate in Workplace Communication             | Lead Workplace Communication                        | Use relevant technologies                         | Collect, analyze and organize information |
| Work with Others                               | Work in a Team Environment                         | Lead Small Team                                     | Utilize specialized communication skills          | Plan and Organize Work                    |
| Demonstrate Work Values                        | Practice Career Professionalism                    | Develop and practice negotiation skills             | Develop Team and Individual                       |   |
| Practice Housekeeping Procedures               | Practice Occupational Health and Safety Procedures | Solve Workplace Problems Related to Work Activities | Apply Problem Solving Techniques in the Workplace |   |

**Food Processing NC I**

## DEFINITION OF TERMS

For the purpose of this competency standard, the following words are defined:

1. **Basic equipment** - equipment requiring limited application and process knowledge and limited equipment adjustment.
2. **Cleaning** - the process of removing the maximum amount of soil from an article in the most efficient way.
3. **Competency** – the application of knowledge, skills and attitudes to perform work activities to the standard expected in the workplace.
4. **Dispense** – distribute, administer or bestow, as in small portions.
5. **Element** – building blocks of a unit of competency. It describes in outcome terms the functions that a person who works in a particular area of work is able to perform.
6. **E numbers** - all numbers prefixed with E are food additives which are legal in the whole of the European Union. Those prefixed with (E) are licensed for use in the United Kingdom and possibly other countries but not throughout the EU generally (International Dictionary of Food and Cooking, 1998).
7. **Evidence Guide** – a guide for assessment that provides information on critical aspects of competency, underpinning knowledge, underpinning skills, resource implications, context of assessment and assessment methods.
8. **Food additives** - substances intentionally added to foods to achieve or retain desired characteristics
9. **Food processing** - the methods and techniques used to transform raw ingredients into finished food products
10. **Forklift** - a powered industrial **truck** used to lift and **transport** materials, normally by means of steel **forks** inserted under the load.
11. **Good Manufacturing Practice (GMP)** - a combination of manufacturing and quality control procedures aimed at ensuring that products are consistently manufactured to their specifications.
12. **Grading** – the process of classifying into groups according to a set of recognized criteria
13. **GRAS** - Generally Regarded As Safe

14. **Hazard Analysis Critical Control Point (HACCP)** - a food safety management system which concentrates prevention strategies on known hazards and the risks of them occurring at specific points in the food chain.
15. **Hazard** – the potential to cause harm which may include bacteria, virus, toxin, parasite, chemical or physical hazard. Operational malpractices or other operations/processes can also become hazards if they lead to unacceptable contamination or growth and survival of organisms and microorganisms.
16. **Packaging** – any container or material used in the packaging of a product which may include materials in direct contact with the product, printed packs including labeling, and other materials including outer cartons or delivery cases.
17. **Packing** - act of putting materials and/or products in a container
18. **Pallet** - low, portable platform made of wood or metal or in combination to facilitate handling, storage or transport of materials and products as a unit load using forklift.
19. **Performance Criteria** – evaluative statements that specify what is to be assessed and the required level of performance.
20. **pH meter** - an instrument used to measure the acidity of a sample
21. **Portfolio** - documentary evidence of a person's knowledge and skills
22. **Processing aid** – an additive which facilitates processing without significantly influencing the character or properties of the finished product (*Australian Institute of Food Science and Technology, and Association of Public Analysts*)
23. **Range of Variables** – describes the circumstances or context in which the work is to be performed.
24. **Raw materials** - consist of the main food material to be processed including minor food ingredients
25. **Refractometer** - instrument commonly used for measuring fluid concentrations such as sugar content ([Brix](#) level) of [carbonated beverages](#), [fruits](#), [juices](#), and/or [vegetables](#).

26. **Risk** - the probability that a particular adverse consequence results from a hazard within a stated time under stated conditions (*Australian Institute of Food Science and Technology, and Association of Public Analysts*)
27. **Salinometer** - instrument used to measure strength of brine
28. **Sampling** - the process of drawing or selecting product units from a lot to project the characteristics of a larger population.
29. **Sanitation** - the process of treating food contact and non-food contact surface with physical agents and chemicals to kill the residual microorganisms present after cleaning
30. **Sorting** - the process of classifying materials and/or products according to a set of criteria such as size, weight, color, variety, among others.
31. **Unit of Competency** – describes a work activity.

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- **PHILIPPINE CHAMBER OF AGRICULTURE AND FOOD, INC. (PCAFI)**
- **THE TECHNICAL AND INDUSTRY EXPERT PANEL**

**Mr. EDWARD F. DAVID**

Chair, PhilFoodEx  
Rm. 305, Bahay ng Alumni  
Pres. Ramon Magsaysay Ave.  
U.P. Campus, Diliman, Quezon City

**Ms. CECILIA DELA PAZ**

Nutrivina Phils.  
Unit 801, Manila Luxury Cond.  
Pearl Drive cor. Goldloop St., Ortigas  
Pasig City

**Mr. JOSE D. GONZALES, JR.**

Rizal Experimental Station and Pilot School  
of Cottage Industries  
Jenny's Avenue Extn.  
Maybunga, Pasig City

**Ms. AURORA C. SUBIDA**

Maya Kitchen  
8th Flr., Liberty Building, Pasay Road  
Makati City

**Mr. BOBBY C. PRADEL**

Mofel's Food International Corp  
20220 Arpilleda St., Makati City

**Mr. GEORGE LORENZANA**

Lorenzana Food Corp.  
551 M. Naval St., Navotas, Metro  
Manila

**MR. TONY TAN**

Technology Group Manager, Beverages  
Universal Robina Corporation  
3/F Britania Bldg.  
E. Rodriguez Jr. Avenue  
Bagong Ilog, Pasig City 1600

**MS. LOURDES LABRADOR**

President  
Castillejos Agri-Farms, Inc.  
#656 Boni Avenue Cor. Ligaya Alley  
1550 Mandaluyong City

**MR. ROMMEL S. GERODIAS**

General Manager  
Reinlab Corporation  
Block 22 Lots 3 and 4 Francisco Village  
Brgy. Pulong, Sta Cruz  
Santa Rosa City, Laguna 4026

### **The PARTICIPANTS in the National Validation of this Training Regulation**

- Castillejos Agri-Farms Inc.
- Department of Science and Technology – Industrial Technology Development Institute
- Food Development Center
- Goldilocks
- Marigold Commodities Corporation
- Monde Nissin Corporation
- Narigin Food Corporation
- Technology Resource Center (formerly the Technology and Livelihood Resource Center)
- Universal Robina Corporation

### **The Management and Staff of TESDA Secretariat**