

# TRAINING REGULATIONS



## MILKING OPERATION NC II

AGRICULTURE, FORESTRY AND FISHERY  
SECTOR

**TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY**

East Service Road, South Luzon Expressway(SLEX), Taguig City, Metro Manila

*Technical Education and Skills Development Act of 1994  
(Republic Act No. 7796)*

**Section 22, “Establishment and Administration of the National Trade Skills Standards” of the RA 7796 known as the TESDA Act mandates TESDA to establish national occupational skill standards. The Authority shall develop and implement a certification and accreditation program in which private industry group and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority.**

The Training Regulations (TR) serve as basis for the:

1. Competency assessment and certification;
2. Registration and delivery of training programs; and
3. Development of curriculum and assessment instruments.

Each TR has four sections:

- Section 1 **Definition of Qualification** - refers to the group of competencies that describes the different functions of the qualification.
- Section 2 **The Competency Standards** - gives the specifications of competencies required for effective work performance.
- Section 3 **Training Arrangements** - contains information and requirements in designing training program for certain Qualification. It includes curriculum design; training delivery; trainee entry requirements; tools, equipment and materials; training facilities; trainer's qualification; and institutional assessment.
- Section 4 **Assessment and Certification Arrangements** - describes the policies governing assessment and certification procedure.

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## TRAINING REGULATIONS FOR MILKING OPERATION NC II

### Section 1 MILKING OPERATION NC II QUALIFICATION

The **MILKING OPERATION NC II** Qualification consists of competencies that a person must achieve to conduct pre-milking activities, perform milking operation and carry-out post milking operation.

This Qualification is packaged from the competency map of the Agriculture, Forestry and Fishery Sector as shown in Annex A.

The units of competency comprising this qualification includes the following:

<b>Code</b>	<b>BASIC COMPETENCIES</b>
500311105	Participate in workplace communication
500311106	Work in a team environment
500311107	Practice career professionalism
500311108	Practice occupational health and safety procedures

<b>Code</b>	<b>COMMON COMPETENCIES</b>
AFF321201	Apply safety measures in farm operations
AFF321202	Use farm tools and equipment
AFF321203	Perform estimation and calculations
AFF 321206	Process farm wastes
SOC 413206	Perform record-keeping

<b>Code</b>	<b>CORE COMPETENCIES</b>
AFF751301	Conduct pre-milking activities
AFF751302	Perform milking operation
AFF751303	Carry-out post-milking operation

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

- Milker

## SECTION 2 COMPETENCY STANDARDS

This section gives the details and contents of the units of competency required in **MILKING OPERATION NC II**. These units of competency are categorized into basic, common and core competencies.

### BASIC COMPETENCIES

**UNIT OF COMPETENCY :** PARTICIPATE IN WORKPLACE COMMUNICATION

**UNIT CODE :** 500311105

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from <b>appropriate sources</b> 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information 1.3 Appropriate <b>medium</b> is used to transfer information and ideas 1.4 Appropriate non-verbal communication is used 1.5 Appropriate lines of communication with supervisors and colleagues	<ul style="list-style-type: none"> <li>• Procedure of gathering workplace information</li> <li>• Techniques in gathering information</li> <li>• Effective methods of conveying information</li> <li>• Written communication methods</li> <li>• Techniques in conveying communication</li> <li>• Different modes of communication</li> <li>• Organizational policies</li> <li>• Communication procedures and systems</li> <li>• Technology relevant to the enterprise and the individual's work responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Gathering of workplace information skills</li> <li>• Sourcing of information skills</li> <li>• Sorting of information skills</li> <li>• Obtaining workplace information skills</li> <li>• Conveying workplace information skills</li> <li>• Gathering and providing information in response to workplace Requirements</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>are identified and followed</p> <p>1.6 Defined workplace procedures for the location and <b>storage</b> of information are used</p> <p>1.7 Personal interaction is carried out clearly and concisely</p>		
2. Participate in workplace meetings and discussions	<p>2.1 Team meetings are attended on time</p> <p>2.2 Own opinions are clearly expressed and those of others are listened to without interruption</p> <p>2.3 Meeting inputs are consistent with the meeting purpose and established <b>protocols</b></p> <p>2.4 <b>Workplace interactions</b> are conducted in a courteous manner</p> <p>2.5 Questions about simple routine workplace procedures and matters concerning working conditions of employment are asked and responded to</p>	<ul style="list-style-type: none"> <li>• Effective communication</li> <li>• Different modes of communication</li> <li>• Written communication</li> <li>• Organizational policies</li> <li>• Communication procedures and systems</li> <li>• Decorum in participating workplace meetings and discussions</li> </ul>	<ul style="list-style-type: none"> <li>• Participating skills in workplace meetings and discussions</li> <li>• Following simple spoken language</li> <li>• Completing work related documents</li> <li>• Estimating, calculating and recording routine workplace measures</li> <li>• Relating to people of social range in the workplace</li> <li>• Gathering and providing information in response to workplace Requirements</li> </ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
	2.6 Meetings outcomes are interpreted and implemented		
3. Complete relevant work related documents	3.1 Range of <b>forms</b> relating to conditions of employment are completed accurately and legibly 3.2 Workplace data is recorded on standard workplace forms and documents 3.3 Basic mathematical processes are used for routine calculations 3.4 Errors in recording information on forms/ documents are identified and properly acted upon 3.5 Reporting requirements to supervisor are completed according to organizational guidelines	<ul style="list-style-type: none"> <li>• Methods of making/completing work related documents</li> <li>• Company standards and procedures in making work related documents</li> <li>• Effective communication</li> <li>• Different modes of communication</li> <li>• Written communication</li> <li>• Organizational policies</li> <li>• Communication procedures and systems</li> <li>• Technology relevant to the enterprise and the individual's work responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Documenting skills</li> <li>• Report writing skills</li> <li>• Making/developing work related documents</li> <li>• Perform routine workplace duties following simple written notices</li> <li>• Completing work related documents</li> <li>• Estimating, calculating and recording routine workplace measures</li> <li>• Ability to relate to people of social range in the workplace</li> </ul>



## RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	Appropriate sources may include: 1.1. Team members 1.2. Suppliers 1.3. Trade personnel 1.4. Local government 1.5. Industry bodies
2. Medium	Medium may include: 2.1 Memorandum 2.2 Circular 2.3 Notice 2.4 Information discussion 2.5 Follow-up or verbal instructions 2.6 Face to face communication
3. Storage	Storage may include: 3.1. Manual filing system 3.2. Computer-based filing system
4. Forms	Forms may include: 4.1. Personnel forms 4.2. Telephone message forms 4.3. Safety reports
5. Workplace interactions	Workplace interactions may include: 5.1 Face to face 5.2 Telephone 5.3 Electronic and two-way radio 5.4 Written including electronic, memos, instruction and forms, non-verbal including gestures, signals, signs and diagrams
6. Protocols	Protocols may include: 6.1. Observing meeting 6.2. Compliance with meeting decisions 6.3. Obeying meeting instructions

## EVIDENCE GUIDE

1. Critical aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1. Prepared written communication following standard format of the organization 1.2. Accessed information using communication equipment 1.3. Made use of relevant terms as an aid to transfer information effectively 1.4. Conveyed information effectively adopting the formal or informal communication
2. Resource Implications	<b>The following resources should be provided:</b> 2.1. Fax machine 2.2. Telephone 2.3. Writing materials 2.4. Internet
3. Methods of Assessment	<b>Competency in this unit may be assessed through:</b> 3.1. Direct Observation 3.2. Oral interview and written test
4. Context for Assessment	4.1. Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center.

**UNIT OF COMPETENCY: WORK IN TEAM ENVIRONMENT****UNIT CODE : 500311106****UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Describe team role and scope	1.1 The <b><i>role and objective of the team</i></b> is identified from available <b><i>sources of information</i></b> 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources	<ul style="list-style-type: none"> <li>• Company vision/mission statements</li> <li>• Company policies and employee code of conduct</li> <li>• Communication process</li> <li>• Team structure</li> <li>• Team roles</li> <li>• Group planning and decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Communicating skills appropriately and consistent with the culture of the workplace</li> <li>• Adopting skills to team role and scope of responsibilities</li> </ul>
2. Identify own role and responsibility within team	2.1 Individual role and responsibilities within the team environment are identified 2.2 Roles and responsibility of other team members are identified and recognized 2.3 Reporting relationships within team and external to team are identified	<ul style="list-style-type: none"> <li>• Company vision/mission statements</li> <li>• Company policies and employee code of conduct</li> <li>• Communication process</li> <li>• Team structure</li> <li>• Team roles</li> <li>• Group planning and decision making</li> <li>• Methods and techniques of role and responsibility identification with a team</li> </ul>	<ul style="list-style-type: none"> <li>• Communicating skills appropriately and consistent with the culture of the workplace</li> <li>• Role and responsibility identification skills</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Work as a team member	<p>3.1 Effective and appropriate forms of communications are used and interactions undertaken with team members who contribute to known team activities and objectives</p> <p>3.2 Effective and appropriate contributions are made to complement team activities and objectives, based on individual skills and competencies and <b>workplace context</b></p> <p>3.3 SOP/Protocols in reporting are observed</p> <p>3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives and individual competencies of the members</p>	<ul style="list-style-type: none"> <li>• Approaches of interacting with team members</li> <li>• Types of communications used in effective interaction with team members</li> <li>• Methods of working as a team</li> <li>• Techniques in working as a team</li> </ul>	<ul style="list-style-type: none"> <li>• Team working skills</li> <li>• Communicating skills appropriately and consistent with the culture of the workplace</li> <li>• Skills in observing protocols when making reports</li> <li>• Using standard procedures when making reports</li> <li>• Developing teamwork plans based on team's role and objectives</li> </ul>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	Role and objective of team may include: <ol style="list-style-type: none"> <li>1.1. Work activities in a team environment with enterprise or specific sector</li> <li>1.2. Limited discretion, initiative and judgment maybe demonstrated on the job, either individually or in a team environment</li> </ol>
2. Sources of information	Sources of information may include: <ol style="list-style-type: none"> <li>2.1. Standard operating and/or other workplace procedures</li> <li>2.2. Job procedures</li> <li>2.3. Machine/equipment manufacturer's specifications and instructions</li> <li>2.4. Organizational or external personnel</li> <li>2.5. Client/supplier instructions</li> <li>2.6. Quality standards</li> <li>2.7. OSH and environmental standards</li> </ol>
3. Workplace context	Workplace context may include: <ol style="list-style-type: none"> <li>3.1. Work procedures and practices</li> <li>3.2. Conditions of work environments</li> <li>3.3. Legislation and industrial agreements</li> <li>3.4. Standard work practice including the storage, safe handling and disposal of chemicals</li> <li>3.5. Safety, environmental, housekeeping and quality guidelines</li> </ol>

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1. Operated in a team to complete workplace activity</li> <li>1.2. Worked effectively with others</li> <li>1.3. Conveyed information in written or oral form</li> <li>1.4. Selected and used appropriate workplace language</li> <li>1.5. Followed designated work plan for the job</li> <li>1.6. Reported outcomes</li> </ul>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1. Access to relevant workplace or appropriately simulated environment where assessment can take place</li> <li>2.2. Materials relevant to the proposed activity or tasks</li> </ul>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1. Observation of the individual member in relation to the work activities of the group</li> <li>3.2. Observation of simulation and or role play involving the participation of individual member to the attainment of organizational goal</li> <li>3.3. Case studies and scenarios as a basis for discussion of issues and strategies in teamwork</li> </ul>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> <li>4.1. Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center.</li> </ul>

**UNIT OF COMPETENCY: PRACTICE CAREER PROFESSIONALISM**

**UNIT CODE : 500311107**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes in promoting career growth and advancement.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Integrate personal objectives with organizational goals	1.1 Personal growth and work plans are pursued towards improving the qualifications set for the profession 1.2 Intra- and interpersonal relationships are maintained in the course of managing oneself based on performance <b>evaluation</b> 1.3 Commitment to the organization and its goal is demonstrated in the performance of duties	<ul style="list-style-type: none"> <li>• Work values and ethics (Code of Conduct, Code of Ethics, etc.)</li> <li>• Company policies</li> <li>• Company operations, procedures and standards</li> <li>• Company mission/vision statements</li> <li>• Ways of integrating personal objectives with organizational goals</li> </ul>	<ul style="list-style-type: none"> <li>• Integrating skills of personal objectives with organizational goals</li> <li>• Pursuing personal growth and work plans</li> <li>• Demonstrating commitment to the organization and its goals</li> <li>• Intra and Interpersonal skills</li> </ul>
2. Set and meet work priorities	2.1 Competing demands are prioritized to achieve personal, team and organizational goals and objectives. 2.2 <b>Resources</b> are utilized efficiently and effectively to manage work priorities and commitments 2.3 Practices along economic use and maintenance of equipment and facilities are followed as per established	<ul style="list-style-type: none"> <li>• Company policies</li> <li>• procedures and standards</li> <li>• Company and departmental goals and priorities</li> <li>• Managing priorities and commitments</li> <li>• Economic use and maintenance of equipment and facilities</li> <li>• Ways and means of practicing economic use and maintenance of</li> </ul>	<ul style="list-style-type: none"> <li>• Setting skills of work priorities</li> <li>• Meeting with work priorities</li> <li>• Intra and Interpersonal skills</li> <li>• Communication skills</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	procedures	equipment and facilities	
3. Maintain professional growth and development	<p>3.1 <b><i>Trainings and career opportunities</i></b> are identified and availed of based on job requirements</p> <p>3.2 <b><i>Recognitions</i></b> are sought/received and demonstrated as proof of career advancement</p> <p>3.3 <b><i>Licenses and/or certifications</i></b> relevant to job and career are obtained and renewed</p>	<ul style="list-style-type: none"> <li>• Ways of identifying trainings and career opportunities</li> <li>• Techniques of seeking and receiving recognitions</li> <li>• Procedures of obtaining licenses and/or certifications relevant to the job</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying trainings and career opportunities</li> <li>• Seeking recognitions are sought/received and demonstrated as proof of career advancement</li> <li>• Obtaining and renewing Licenses and/or certifications relevant to job and career</li> </ul>



## RANGE OF VARIABLES

VARIABLE	RANGE
1. Evaluation	Evaluation may include: 1.2 Performance Appraisal 1.2 Psychological Profile 1.3 Aptitude Tests
2. Resources	Resources may include: 2.1 Human 2.2 Financial 2.3 Technology 2.3.1 Hardware 2.3.1 Software
3. Trainings and career opportunities	Trainings and career opportunities may include: 3.1 Participation in training programs 3.1.1 Technical 3.1.2 Supervisory 3.1.3 Managerial 3.1.4 Continuing Education 3.2 Serving as Resource Persons in conferences and workshops
4. Recognitions	Recognitions may include: 4.1 Recommendations 4.2 Citations 4.3 Certificate of Appreciations Commendations 4.6 Awards 4.7 Tangible and Intangible Rewards
5. Licenses and/or certifications	Licenses and/or certifications may include: 5.1 National Certificates 5.2 Certificate of Competency 5.3 Support Level Licenses 5.4 Professional Licenses

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <p>1.1 Attained job targets within key result areas (KRAs)</p> <p>1.2 Maintained intra - and interpersonal relationship in the course of managing oneself based on performance evaluation</p> <p>1.3 Completed trainings and career opportunities which are based on the requirements of the industries</p> <p>1.4 Acquired and maintained licenses and/or certifications according to the requirement of the qualification</p>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <p>2.1 Workplace or assessment location</p> <p>2.2 Case studies/scenarios</p>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <p>3.1 Portfolio Assessment</p> <p>3.2 Interview</p> <p>3.3 Simulation/Role-plays</p> <p>3.4 Observation</p> <p>3.5 Third Party Reports</p> <p>3.6 Exams and Tests</p>
<p>4. Context for Assessment</p>	<p>4.2. Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center.</p>

**UNIT OF COMPETENCY :** PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURES

**UNIT CODE :** 500311108

**UNIT DESCRIPTOR :** This unit covers the outcomes required to comply with regulatory and organizational requirements for occupational health and safety.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify hazards and risks	1.1 <b>Safety regulations</b> and workplace safety and hazard control practices and procedures are clarified and explained based on organization procedures 1.2 <b>Hazards/risks</b> in the workplace and their corresponding indicators are identified to minimize or eliminate risk to co-workers, workplace and environment in accordance with organization procedures 1.3 <b>Contingency measures</b> during workplace accidents, fire and other emergencies are recognized and established in accordance with organization procedures	<ul style="list-style-type: none"> <li>• Company workplace safety regulations</li> <li>• Industry hazard control practices and procedures</li> <li>• Internationally recognized OSH procedures and practices and regulations</li> <li>• PPE types and uses</li> <li>• Personal hygiene practices</li> <li>• Hazards/risks identification and control</li> <li>• Threshold Limit Value -TLV</li> <li>• OSH indicators</li> <li>• Organization safety and health protocol</li> <li>• Safety consciousness</li> <li>• Health consciousness</li> </ul>	<ul style="list-style-type: none"> <li>• Clarifying and explaining safety regulations and workplace safety and hazard control</li> <li>• Identifying hazards/risks in the workplace and their corresponding indicators</li> <li>• Recognizing contingency measures during workplace accidents, fire and other emergencies</li> <li>• Practice of personal hygiene</li> <li>• Interpersonal skills</li> <li>• Communication skills</li> </ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
2. Evaluate hazards and risks	2.1 Terms of maximum tolerable limits which when exceeded will result in harm or damage are identified based on threshold limit values (TLV) 2.2 Effects of the hazards are determined 2.3 OSH issues and/or concerns and identified safety hazards are reported to designated personnel in accordance with workplace requirements and relevant workplace OSH legislation	<ul style="list-style-type: none"> <li>• Methods of identifying terms of maximum tolerable limits</li> <li>• Hazard effects</li> <li>• Reporting methods on OSH issues/concerns</li> <li>• OSH procedures and practices and regulations</li> <li>• PPE types and uses</li> <li>• Hazards/risks identification and control</li> <li>• Threshold Limit Value -TLV</li> <li>• OSH indicators</li> <li>• Organization safety and health protocol</li> <li>• Safety consciousness</li> <li>• Health consciousness</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying terms of maximum tolerable limits</li> <li>• Determining effects of hazards and risks</li> <li>• Reporting OSH issues and/or concerns</li> <li>• Identifying safety hazards</li> <li>• Hazards/risks identification and control skills</li> <li>• Interpersonal skills</li> <li>• Communication skills</li> </ul>
3. Control hazards and risks	3.1 Occupational Safety and Health (OSH) procedures for controlling hazards/risks in workplace are consistently followed 3.2 Procedures for dealing with workplace accidents, fire and emergencies are followed in accordance with organization OSH policies	<ul style="list-style-type: none"> <li>• Ways of following Occupational Safety and Health (OSH) procedures for controlling hazards/risks in workplace</li> <li>• Ways of following procedures for dealing with workplace accidents, fire and emergencies</li> </ul>	<ul style="list-style-type: none"> <li>• Following occupational health and safety (OSH) procedures for controlling hazards/risks in workplace</li> <li>• Following procedures for dealing with workplace accidents, fire and emergencies</li> <li>• Using correctly personal</li> </ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
	<p>3.3 <b>Personal protective equipment (PPE)</b> is correctly used in accordance with organization OSH procedures and practices</p> <p>3.4 Appropriate assistance is provided in the event of a workplace emergency in accordance with established organization protocol</p>	<ul style="list-style-type: none"> <li>• Types and use of personal protective equipment (PPE)</li> <li>• OSH procedures and practices and regulations</li> <li>• Methods and techniques in providing appropriate assistance in the event of a workplace emergency</li> <li>• Hazards/risks identification and control</li> </ul>	<ul style="list-style-type: none"> <li>• protective equipment (PPE)</li> <li>• Providing assistance in the event of a workplace emergency in accordance with established organization protocol</li> </ul>
4. Maintain OSH awareness	<p>4.1 <b>Emergency-related drills and trainings</b> are participated in as per established organization guidelines and procedures</p> <p>4.2 <b>OSH personal records</b> are completed and updated in accordance with workplace requirements</p>	<ul style="list-style-type: none"> <li>• Participation procedures in emergency-related drills and trainings</li> <li>• Ways of completing and updating OSH personal records</li> <li>• OSH procedures and practices and regulations</li> <li>• OSH indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Participating in emergency-related drills and trainings</li> <li>• Completing and updating OSH personal records</li> </ul>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Safety regulations	Safety regulations may include: <ul style="list-style-type: none"> <li>1.1 Clean Air Act</li> <li>1.2 Building code</li> <li>1.3 National Electrical and Fire Safety Codes</li> <li>1.4 Waste management statutes and rules</li> <li>1.5 Philippine Occupational Safety and Health Standards</li> <li>1.6 DOLE regulations on safety legal requirements</li> <li>1.7 ECC regulations</li> </ul>
2. Hazards/Risks	Hazards/risks may include: <ul style="list-style-type: none"> <li>2.1 Physical hazards – impact, illumination, pressure, noise, vibration, temperature, radiation</li> <li>2.2 Biological hazards - bacteria, viruses, plants, parasites, mites, molds, fungi, insects</li> <li>2.3 Chemical hazards – dusts, fibers, mists, fumes, smoke, gasses, vapors</li> <li>2.4 Ergonomics               <ul style="list-style-type: none"> <li>2.4.1 Psychological factors – over exertion/ excessive force, awkward/static positions, fatigue, direct pressure, varying metabolic cycles</li> <li>2.4.2 Physiological factors – monotony, personal relationship, work out cycle</li> </ul> </li> </ul>
3. Contingency measures	Contingency measures may include: <ul style="list-style-type: none"> <li>3.1 Evacuation</li> <li>3.2 Isolation</li> <li>3.3 Decontamination</li> <li>3.4 (Calling designed) emergency personnel</li> </ul>
4. PPE	PPEs may include: <ul style="list-style-type: none"> <li>4.1 Mask</li> <li>4.2 Gloves</li> <li>4.3 Goggles</li> <li>4.4 Hair Net/cap/bonnet</li> <li>4.5 Face mask/shield</li> <li>4.6 Ear muffs</li> <li>4.7 Apron/Gown/coverall/jump suit</li> <li>4.8 Anti-static suits</li> </ul>
5. Emergency-related drills and training	Emergency-related drills training may include: <ul style="list-style-type: none"> <li>5.1 Fire drill</li> <li>5.2 Earthquake drill</li> <li>5.3 Basic life support/CPR</li> <li>5.4 First aid</li> <li>5.5 Spillage control</li> <li>5.6 Decontamination of chemical and toxic</li> <li>5.7 Disaster preparedness/management</li> </ul>

<b>VARIABLE</b>	<b>RANGE</b>
6. OSH personal records	OSH personal records may include: 6.1 Medical/Health records 6.2 Incident reports 6.3 Accident reports 6.4 OSH -related training completed

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <p>1.1 Explained clearly established workplace safety and hazard control practices and procedures</p> <p>1.2 Identified hazards/risks in the workplace and its corresponding indicators in accordance with company procedures</p> <p>1.3 Recognized contingency measures during workplace accidents, fire and other emergencies</p> <p>1.4 Identified terms of maximum tolerable limits based on threshold limit value- TLV</p> <p>1.5 Followed Occupational Health and Safety (OSH) procedures for controlling hazards/risks in workplace</p> <p>1.6 Used Personal Protective Equipment (PPE) in accordance with company OSH procedures and practices</p> <p>1.7 Completed and updated OSH personal records in accordance with workplace requirements</p>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <p>2.1 Workplace or assessment location</p> <p>2.2 OSH personal records</p> <p>2.3 PPE</p> <p>2.4 Health records</p>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <p>3.1 Portfolio Assessment</p> <p>3.2 Interview</p> <p>3.3 Case Study/Situation</p>
<p>4. Context for Assessment</p>	<p>4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.</p>



## COMMON COMPETENCIES

**UNIT OF COMPETENCY : APPLY SAFETY MEASURES IN FARM OPERATIONS**

**UNIT CODE : AFF321201**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to perform safety measures effectively and efficiently. It includes identifying areas, tools, materials, time and place in performing safety measures.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Determine areas of concern for safety measures	1.1 <b>Work tasks</b> are identified in line with farm operations 1.2 <b>Place</b> for safety measures are determined in line with farm operations 1.3 <b>Time</b> for safety measures are determined in line with farm operations 1.4 Appropriate <b>tools, materials and outfits</b> are prepared in line with job requirements	<ul style="list-style-type: none"> <li>• Different work tasks in farm operations</li> <li>• Place and time for implementation of safety measures</li> <li>• Different hazards in the workplace</li> <li>• Types of tools, materials and outfits</li> <li>• Preparation of tools, materials and outfits</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying work tasks in farm operations</li> <li>• Determining place and time for implementation of safety measures</li> <li>• Reading labels, manuals and other basic safety information</li> <li>• Identifying effective/functional tools, materials and outfit</li> <li>• Preparing tools, materials and outfits</li> <li>• Discarding defective tools, and materials</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1 Apply appropriate safety measures	2.1 Tools and materials are used according to specifications and procedures 2.2 Outfits are worn according to farm requirements 2.3 Effectivity/shelf life/expiration of materials are strictly observed 2.4 <b>Emergency procedures</b> are known and followed to ensure a safe work requirement 2.5 Hazards in the workplace are identified and reported in line with farm guidelines	<ul style="list-style-type: none"> <li>• Uses and functions of tools</li> <li>• Outfits and how to wear it.</li> <li>• Expiration/shelf life of materials</li> <li>• Proper disposal of expired materials</li> <li>• Environmental rules and regulations</li> <li>• Emergency procedures</li> <li>• Hazards identification and reporting</li> <li>• Communication skills</li> <li>• OSHS</li> </ul>	<ul style="list-style-type: none"> <li>• Using tools and materials in the workplace</li> <li>• Wearing of outfits</li> <li>• Observing expiration/shelf life of materials</li> <li>• Disposing of expired materials</li> <li>• Following emergency procedures</li> <li>• Identifying and reporting of hazards in workplace area.</li> </ul>
2 Safe keep /dispose tools, materials and outfit	3.1 Used tools and outfit are cleaned after use and stored in designated areas 3.2 Unused materials are properly labeled and stored according to manufacturers recommendation and farm requirements 3.3 Waste materials are disposed according to manufacturers, government and farm requirements	<ul style="list-style-type: none"> <li>• Procedures of cleaning used tools and outfits</li> <li>• Label and storage unused materials</li> <li>• Disposal of wastes materials</li> <li>• Manufacturers recommendation on keeping materials</li> <li>• Environmental rules and regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning used tools and outfit</li> <li>• Labelling and storing unused materials</li> <li>• Disposing waste materials</li> </ul>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work tasks	Work task may be selected from any of the subsectors: 1.1 Crop Production 1.2 Post-harvest 1.3 Agri-marketing 1.4 Farm Equipment
2. Place	Place includes: 2.1 Stock room/storage areas/warehouse 2.2 Field/farm/orchard
3. Time	Time includes: 3.1 Fertilizer and pesticides application 3.2 Feed mixing and feeding 3.3 Harvesting and hauling
4. Tools, materials and outfits	Tools, materials and outfits may include: 4.1 Tools 4.1.1 Wrenches 4.1.2 Screw driver 4.1.3 Pliers 4.2 Outfit 4.2.1 Masks 4.2.2 Gloves 4.2.3 Boots 4.2.4 Overall coats 4.2.5 Hat 4.2.6 Eye goggles
5. Emergency procedures	Emergency procedures include: 5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Hazards	Hazards include: 6.1 Chemical 6.2 Electrical 6.3 Falls

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1 Determined areas of concern for safety measures 1.2 Applied appropriate safety measures according to industry requirements 1.3 Prepared tools, materials and outfit needed 1.4 Performed proper disposal of used materials 1.5 Cleaned and stored tools, materials and outfit in designated facilities
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Farm location 2.2 Tools, equipment and outfits appropriate in applying safety measures
3. Method of Assessment	<b>Competency in this unit must be assessed through:</b> 3.1 Practical demonstration 3.2 Third Party Report
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.

**UNIT OF COMPETENCY : USE FARM TOOLS AND EQUIPMENT**

**UNIT CODE : AFF321202**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to use farm tools and equipment. It includes selection, operation and preventive maintenance of farm tools and equipment.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Select and use farm tools	1.1 Appropriate farm tools are identified according to requirement/use 1.2 Farm tools are checked for faults and defective tools reported in accordance with farm procedures 1.3 Appropriate tools are safely used according to job requirements and manufacturers conditions	<ul style="list-style-type: none"> <li>• Types and uses of farm tools</li> <li>• Characteristics of functional tools</li> <li>• Checking tools for defects/faults</li> <li>• Segregation and reporting defective tools</li> <li>• Uses of tools and equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying farm tools for the work</li> <li>• Checking the conditions of tools</li> <li>• Reporting defective tools</li> <li>• Using tools</li> </ul>
2. Select and operate farm equipment	2.1 Identify appropriate <b>farm equipment</b> 2.2 Instructional manual of the farm tools and equipment are carefully read prior to operation	<ul style="list-style-type: none"> <li>• Types and operations of farm equipment</li> <li>• Standards operating procedures of farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying appropriate farm equipment for the work</li> <li>• Reading instructional manual.</li> <li>• Conducting pre-operation check-up</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3 <b><i>Pre-operation check-up</i></b> is conducted in line with manufacturers manual 2.4 Faults in farm equipment are identified and reported in line with farm procedures 2.5 Farm equipment used according to its function 2.6 Safety procedures are followed.	<ul style="list-style-type: none"> <li>• Instructional manual of equipment</li> <li>• Pre-operation check-up</li> <li>• Equipment Specification</li> <li>• Procedures in calibrating and use of equipment</li> <li>• Equipment faults identification and reporting</li> <li>• Operation of equipment</li> <li>• Codes and Regulations on environmental protection</li> <li>• Safety and keeping of equipment every after use</li> <li>• Safety measures</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying faults/defects of farm equipment</li> <li>• Reporting on defective farm equipment</li> <li>• Operating farm equipment</li> <li>• Following safety procedures.</li> </ul>
3. Perform preventive maintenance	3.1 Tools and equipment are cleaned immediately after use in line with farm procedures 3.2 Routine check-up and maintenance are performed	<ul style="list-style-type: none"> <li>• Cleaning procedures of tools and equipment</li> <li>• Maintenance procedures of farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning tools and equipment</li> <li>• Performing routinary check-up of tools and equipment</li> <li>• Maintaining farm equipment</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.3 Tools and equipment are stored in designated areas in line with farm procedures	<ul style="list-style-type: none"> <li>• Storage of tools and equipment</li> <li>• Designated storage areas</li> </ul>	<ul style="list-style-type: none"> <li>• Storing tools and equipment</li> </ul>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Farm equipment	Farm equipment include: 1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	Farm tools includes: 2.1 Sickle 2.2 Cutters 2.3 Weighing scales 2.4 Hand tools 2.5 Measuring tools 2.6 Garden tools
3. Pre-operation check-up	Pre-operation check –up includes: 3.1 Tires 3.2 Brake fluid 3.3 Fuel 3.4 Water 3.5 Oil 3.6 Lubricants 3.7 Battery

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1 Correctly identified appropriate farm tools and equipment 1.2 Operated farm equipment according to manual specification 1.3 Performed preventive maintenance
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Service/operational manual of farm tools and equipment 2.2 Tools and equipment 2.3 Farm implements
3. Method of Assessment	<b>Competency in this unit must be assessed through:</b> 3.1 Direct observation 3.2 Practical demonstration 3.3 Third Party Report
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.



**UNIT OF COMPETENCY : PERFORM ESTIMATION AND BASIC CALCULATION**

**UNIT CODE : AFF321203**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform basic workplace calculations.**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform estimation	1.1 Job requirements are identified from written or oral communications 1.2 Quantities of materials and resources required to complete a work task are estimated 1.3 The time needed to complete a work activity is estimated 1.4 Accurate estimate for work completion are made 1.5 Estimate of materials and resources are reported to appropriate person	<ul style="list-style-type: none"> <li>• Job requirements/labor needs</li> <li>• Calculation of quantities of materials and resources required</li> <li>• Calculation of time for job completion</li> <li>• Preparation of estimate report</li> <li>• Basic mathematical operations</li> <li>• Percentage and ratios</li> <li>• Unit Conversion</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying job requirements/labor</li> <li>• Estimating quantities of materials and resources required</li> <li>• Estimating time for job completion</li> <li>• Performing basic calculation</li> <li>• Compute percentage</li> <li>• Convert English to metric systems of measurement</li> <li>• Preparing estimate report</li> </ul>
2. Perform basic workplace calculation	2.1 <b>System and units of measurement</b> to be followed are ascertained 2.2 Calculation needed to complete work tasks are performed using the <b>four basic</b>	<ul style="list-style-type: none"> <li>• Four basic mathematical operation System and units of measurement</li> <li>• Fraction, percentage and ratio</li> </ul>	<ul style="list-style-type: none"> <li>• Compute bill of materials</li> <li>• Compute project cost</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p><b><i>mathematical operation</i></b></p> <p>2.3 Calculate whole fraction, percentage and mixed when are used to complete the instructions</p> <p>2.4 Number computed is checked following work requirements</p>	<ul style="list-style-type: none"> <li>• Material takeoff</li> <li>• Materials costing</li> </ul>	

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Four basic mathematical operation	Four basic mathematical operation includes: 1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. System of measurement	System of measurement includes: 2.1 English 2.2 Metric
3. Units of measurement	Units of measurement includes: 3.1 Area 3.2 Volume 3.3 Weight 3.4 Length

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1 Performed estimation 1.2 Performed basic workplace calculation 1.3 Applied corrective measures as maybe necessary
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Relevant tools and equipment for basic calculation 2.2 Recommended data
3. Method of Assessment	<b>Competency in this unit must be assessed through:</b> 3.1 Practical demonstration 3.2 Written examination
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.

**UNIT OF COMPETENCY : PROCESS FARM WASTES**

**UNIT CODE : AFF 321206**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to process farm wastes. It comprises functions such as collecting farm wastes, conducting waste identification and segregation, treating and processing farm wastes and performing housekeeping duties.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Collect farm wastes	<p>1.1 <b>Tools and materials</b> are prepared for collection of farm wastes.</p> <p>1.2 <b>Wastes</b> are collected following OSHS and waste collection requirements and plan.</p> <p>1.3 <b>Dangerous and hazardous wastes</b> are collected following the HAZMAT(hazardous material) protocol.</p> <p>1.4 Appropriate personal protective equipment (PPE) are worn as prescribed by Occupational Safety and Health Standards (OSHS).</p>	<ul style="list-style-type: none"> <li>• Types of tools and materials</li> <li>• Uses of tools and materials</li> <li>• Farm wastes collection</li> <li>• Dangerous and hazardous wastes</li> <li>• Waste collection requirements and plan</li> <li>• PPE</li> <li>• OSHS</li> <li>• HAZMAT protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Preparing tools and materials</li> <li>• Collecting wastes</li> <li>• Collecting dangerous and hazardous wastes</li> <li>• Wearing PPEs</li> <li>• Following HAZMAT protocol and OSHS</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2 Identify and segregate wastes	<p>2.2 Wastes are identified by <b>categories</b> according to industry standards and environmental legislation.</p> <p>2.3 Wastes are segregated according to organizational requirements and relevant legislation.</p> <p>2.4 Sorted waste is placed into labelled container to avoid littering and prevent cross-contamination.</p> <p>2.5 Information on waste is obtained by asking authority to ensure correct identification.</p>	<ul style="list-style-type: none"> <li>• Types and categories of wastes</li> <li>• Procedure of waste identification and segregation</li> <li>• Labelling of waste containers</li> <li>• Avoidance of littering and cross-contamination</li> <li>• Information sourcing on waste identification</li> <li>• Environmental Standards for waste management</li> <li>• OSHS</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying wastes</li> <li>• Segregating wastes</li> <li>• Placing sorted waste to labeled container</li> <li>• Obtaining information on waste</li> <li>• Practicing OSHS</li> </ul>
3 Treat and process farm wastes	<p>3.2 Dangerous and hazardous wastes are handled according to organizational requirements and relevant legislation following OSHS procedures.</p> <p>3.3 <b>Processing of farm wastes</b> is done following environmental</p>	<ul style="list-style-type: none"> <li>• Handling of dangerous wastes</li> <li>• Processing of farm wastes</li> <li>• Application of 3 Rs</li> <li>• Disposal of farm wastes</li> <li>• OSHS</li> </ul>	<ul style="list-style-type: none"> <li>• Handling of dangerous and hazardous wastes</li> <li>• Processing of farm wastes</li> <li>• Applying principles of 3Rs</li> <li>• Disposing farm wastes</li> <li>• Practicing and applying OSHS and environmental</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>legislation and codes.</p> <p>3.4 Principles of 3Rs (reduce, reuse and recycle) are applied accordingly.</p> <p>3.5 Farm wastes are disposed of according to environmental legislation and codes.</p>	<ul style="list-style-type: none"> <li>• Environmental Legislation and Codes</li> </ul>	<p>legislation and codes</p>
4 Perform housekeeping	<p>4.1 Appropriate warning signs and labels are displayed in conspicuous places around the workplace.</p> <p>4.2 Work area is cleaned according to 5S principles.</p> <p>4.3 Tools are checked, cleaned and stowed according to established industry procedures and following user's manual.</p> <p>4.4 Materials are stored following industry standard procedures and manufacturer's specifications.</p> <p>4.5 PPE is checked for damage prior to ensuring that clean and undamaged</p>	<ul style="list-style-type: none"> <li>• Types of warning signs and labels</li> <li>• Placing warning signs and labels on conspicuous areas</li> <li>• Checking, cleaning and stowing procedure of tools</li> <li>• Storage of materials</li> <li>• Checking of PPE</li> <li>• Checking of storage facility</li> <li>• Record keeping procedure</li> <li>• 5S of Good Housekeeping</li> <li>• OSHS</li> <li>• PPE</li> </ul>	<ul style="list-style-type: none"> <li>• Displaying appropriate warning signs and labels</li> <li>• Cleaning work area</li> <li>• Checking, cleaning and stowing tools</li> <li>• Storing materials</li> <li>• Checking damaged PPEs</li> <li>• Checking storage facilities</li> <li>• Conducting record keeping</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	<p>equipment is stored.</p> <p>4.6 Storage facility is checked to ensure no contamination in the area according to organizational requirements and legislation and codes.</p> <p>4.7 <b>Record</b> keeping is done according to industry requirements.</p>		

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools and materials	Tools and materials include: 1.1. Tools 1.1.1 Spade 1.1.2 Wheel borrow 1.1.3 Broomstick 1.1.4 Sprayer or pressurized pump 1.2. Materials 1.2.1 Sacks 1.2.2 Containers 1.2.3 Disinfectants 1.2.4 Detergents 1.2.5 First-aid kit 1.2.6 Chemical spill kit 1.2.7 Personal Protective Equipment <ul style="list-style-type: none"> <li>○ Goggles</li> <li>○ Disposal gloves</li> <li>○ Face mask</li> <li>○ Rubber boots</li> <li>○ Overall</li> </ul>
2. Agricultural wastes	Agricultural wastes may include: 2.1. Plant materials 2.2. Hay 2.3. Weeds 2.4. Twigs 2.5. Twines 2.6. Empty wooden crates 2.7. Animal manure 2.8. Feed refuse 2.9. Spoiled feeds (Forage and feed supplements) 2.10. Spent bedding materials 2.11. Empty sacks 2.12. Trash fish 2.13. Fish meal 2.14. Effluent
3. Dangerous and hazardous wastes	Dangerous and hazardous wastes may include: 3.1 Pesticides 3.2 Syringes 3.3 Expired biologics 3.4 Expired veterinary drugs 3.5 Spoiled milk 3.6 Diseased plant and plant parts 3.7 Empty veterinary bottles/syringes
4. Categories	Categories may include: 4.1 Re-usable 4.2 Recyclable



VARIABLE	RANGE
	4.3 Solid 4.4 Liquid
5. Processing of wastes	Processing of wastes may include: 5.1. Composting 5.2. Compacting 5.3. Liquefying 5.4. Shredding 5.5. Carbonizing 5.6. Charcoaling
6. Record	Record includes: 6.1. Record of farm wastes generated and disposed 6.2. Record of incidence of infection and accidents 6.3. Record of chemical spillage 6.4. Record of destroyed carcasses 6.5. Inventory of tools, materials and equipment

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1. Collected farm wastes 1.2. Identified and segregated farm wastes 1.3. Processed farm wastes 1.4. Performed housekeeping
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Farm area 2.2 Different farm wastes 2.3 Farm-waste processing area 2.4 Tools, supplies and materials use in farm wastes collection, segregation and processing 2.5 Housekeeping tools and supplies 2.6 PPE
3. Method of Assessment	<b>Competency in this unit may be assessed through:</b> 3.1 Observation and questioning 3.2 Third-Party Report 3.3 Demonstration and oral questioning
4. Context of Assessment	4.1 Competency maybe assessed individually in the actual workplace or in accredited farms or institution

**UNIT OF COMPETENCY : PERFORM RECORD-KEEPING**

**UNIT CODE : SOC 413206**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitude required to carry-out inventory activities, maintain production record and prepare financial records.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Carry out inventory activities	1.1 <b>Inventory inputs</b> are determined according enterprise requirements. 1.2 Defective tools and equipment are determined according to operation manuals 1.3 Facilities are inspected according to standard codes and laws.	<ul style="list-style-type: none"> <li>• Inventory inputs</li> <li>• Inventory procedures</li> <li>• Types of tools and equipment defects</li> <li>• Inspection of facilities</li> <li>• Industry rules and laws</li> </ul>	<ul style="list-style-type: none"> <li>• Determining inventory inputs</li> <li>• Determining defective tools and equipment</li> <li>• Inspecting facilities</li> <li>• Communication skills</li> </ul>
2. Maintain production record	2.1 Production plan are prepared according to enterprise requirements. 2.2 Schedule for <b>production activities</b> are prepared based from enterprise requirements and plan. 2.3 <b>Production report</b> are prepared in accordance with enterprise reporting procedures 2.4 <b>Input</b> and <b>production</b> are monitored using monitoring chart.	<ul style="list-style-type: none"> <li>• Preparation of production plan</li> <li>• Preparation of schedule for production activities</li> <li>• Preparation of production report procedure</li> <li>• Monitoring of input and production</li> </ul>	<ul style="list-style-type: none"> <li>• Preparing production plan</li> <li>• Preparing schedule for production activities</li> <li>• Preparing production report</li> <li>• Monitoring input and production</li> <li>• Communication skills</li> </ul>

<p>3. Prepare financial records</p>	<p>3.1. <b>Production cost</b> are computed using established computation procedures.</p> <p>3.2. Revenue is computed using established computation procedures.</p>	<ul style="list-style-type: none"> <li>• Production costing plan</li> <li>• Computation of production cost and revenue</li> <li>• Four fundamental operation</li> </ul>	<ul style="list-style-type: none"> <li>• Computing production cost</li> <li>• Computing revenue</li> <li>• Basic mathematics skills</li> <li>• Communication skills</li> </ul>
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## RANGE OF VARIABLES

VARIABLE	SCOPE
1. Inventory inputs	Inventory inputs include: 1.1 Plant <ul style="list-style-type: none"> <li>1.1.1. Planting materials</li> <li>1.1.2. Fertilizer</li> <li>1.1.3. Concoctions (Pesticides and insecticides)</li> <li>1.1.4. Beneficial microorganisms</li> </ul> 1.2 Animals <ul style="list-style-type: none"> <li>1.2.1. Stocks</li> <li>1.2.2. Feeds</li> <li>1.2.3. Concoctions</li> <li>1.2.4. Medications</li> <li>1.2.5. Beneficial microorganisms</li> </ul> 1.3 Miscellaneous materials
2. Production activities	Production activities include: 2.1. Plant <ul style="list-style-type: none"> <li>2.1.1 Planting</li> <li>2.1.2 Fertilizer application</li> <li>2.1.3 Pesticides application</li> <li>2.1.4 Implementation of bio-security measures</li> <li>2.1.5 Irrigation/watering</li> <li>2.1.6 Weeding</li> <li>2.1.7 Harvesting</li> <li>2.1.8 Post-harvesting</li> </ul> 2.2. Animal <ul style="list-style-type: none"> <li>2.2.1 Feeding</li> <li>2.2.2 Cleaning and Sanitization</li> <li>2.2.3 Implementation of bio-security measures</li> <li>2.2.4 Growth and health condition</li> <li>2.2.5 Harvesting</li> <li>2.2.6 Post harvesting</li> <li>2.2.7 Miscellaneous activities</li> </ul>
3. Production report	Production report includes: 3.1. Categorize and record quality of harvest 3.2. Volume /quantity of products harvested
4. Input	Input includes: 4.1. Input(plant) <ul style="list-style-type: none"> <li>4.1.1 Fertilizer</li> <li>4.1.2 Concoctions (Pesticides and insecticides)</li> <li>4.1.3 Beneficial microorganisms</li> </ul> 4.2. Input(animal) <ul style="list-style-type: none"> <li>4.2.1 Feeds</li> <li>4.2.2 Concoctions</li> <li>4.2.3 Medications</li> <li>4.2.4 Beneficial microorganisms</li> <li>4.2.5 Miscellaneous inputs</li> </ul>

5. Production	Production includes: 5.1 Growth rate 5.2 Survival rate
6. Production cost	Production cost includes: 6.1. Labor 6.2. Inputs 6.3. Tools, equipment and facility depreciation cost 6.4. Administrative cost 6.5. Miscellaneous

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1. Determined inventory inputs according enterprise requirements</li> <li>1.2. Determined defective tools and equipment according to operation manuals.</li> <li>1.3. Inspected facilities according to standard codes and laws.</li> <li>1.4. Prepared production plan and report according to enterprise requirements and reporting procedures.</li> </ul>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 All supplies, materials and farm implements needed during farm operations should be readily available at the farm site: <ul style="list-style-type: none"> <li>2.1.1 Farm site</li> <li>2.2.1 Office supplies, materials, tools and farm equipment</li> </ul> </li> <li>2.2 Protective clothing equipment and materials. All workers involved in different activities must be fully oriented and cautioned on the different specific work activities of the farm.</li> <li>2.3 Technical supervisors should have skills and ability in the successful implementation of work program activities.</li> </ul>
<p>3. Method of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1 Demonstration with oral questioning</li> <li>3.2 Written examination</li> </ul>
<p>4. Context of Assessment</p>	<ul style="list-style-type: none"> <li>4.1. Assessment may occur in an appropriately simulated environment through TESDA accredited assessment centers</li> </ul>

## CORE COMPETENCIES

**UNIT OF COMPETENCY** : **CONDUCT PRE-MILKING ACTIVITIES**

**UNIT CODE** : **AFF751301**

**UNIT DESCRIPTOR** : This competency unit covers the knowledge, skills and attitude to prepare milker for operation, prepare milking parlor, prepare animal for milking and prepare tools, utensils, materials.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Prepare milking parlor and machinery	1.1 PPEs are worn according to GMP and OSH 1.2 Personal hygiene is practiced according to industry standards 1.3 <b>Cleaning solution</b> is prepared following Material Safety Data Sheet (MSDS) 1.4 Milking parlor are cleaned and disinfected according to GMP 1.5 <b>Milking machine</b> is cleaned and sanitized following <b>industry procedures</b>	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GMP on milking parlor preparation</li> <li>• OSHS on milking parlor preparation</li> <li>• Personal hygiene</li> <li>• Different cleaning solutions</li> <li>• Computation of concentration of cleaning solution</li> <li>• Preparation of cleaning and disinfectant solution</li> <li>• Awareness of Material Safety Data Sheet (MSDS)</li> <li>• Procedures in cleaning and disinfecting milking parlor</li> <li>• Familiarization on the different milking machine and its components</li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Practicing GMP, OSHS</li> <li>• Practicing personal hygiene</li> <li>• Computing concentration of cleaning solution</li> <li>• Preparing cleaning solution</li> <li>• Following procedures in MSDS</li> <li>• Cleaning and disinfecting milking parlor</li> <li>• Cleaning and sanitizing milking machine</li> <li>• Following procedures of CIP and COP</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		<ul style="list-style-type: none"> <li>• Procedures in cleaning and sanitizing milking machine</li> <li>• Industry procedures of cleaning (CIP and COP)</li> <li>• Operation and Control Procedure (OCP)</li> <li>• Hazard Risk Identification</li> <li>• Attitude: <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> <li>- Animal lover</li> </ul> </li> </ul>	
2. Prepare tools, utensils and materials	<p>2.1 Sanitizing solution is prepared following Material Safety Data Sheet (MSDS)</p> <p>2.2 <b>Tools and utensils</b> are checked and sanitized according to GMP</p> <p>2.3 <b>Materials</b> are acquired according to work requirement</p>	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GMP on tools, utensils and materials preparation</li> <li>• OSHS on tools, utensils and materials preparation</li> <li>• Personal hygiene</li> <li>• Different cleaning solutions</li> <li>• Computation of concentration of cleaning solution</li> <li>• Preparation of cleaning solution</li> <li>• Awareness of Material Safety Data Sheet (MSDS)</li> <li>• Follow Procedures of preparation of</li> </ul>	<ul style="list-style-type: none"> <li>• Wearing PPEs</li> <li>• Practicing GMP, OSHS</li> <li>• Practicing personal hygiene</li> <li>• Computing concentration of cleaning solution</li> <li>• Preparing cleaning solution</li> <li>• Following procedures of preparing tools, utensils and materials</li> </ul>



ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		tools, utensils & materials <ul style="list-style-type: none"> <li>• Operation and Control Procedure (OCP)</li> <li>• Hazard Risk Identification</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	
3. Prepare animal for milking	3.1 PPEs are worn according to GMP 3.2 Personal hygiene is practiced according to industry standards 3.3 Animal udders are cleaned and disinfected following Good Animal Husbandry Practices (GAHP) 3.4 Mastitis test is conducted following established industry procedure 3.5 Foremilking is performed to ensure quality milk 3.6 Teat dipping is done based standard dairy practices 3.7 Animal is <b>handled</b> for milking according to Animal Welfare Act	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• Animal Welfare Act</li> <li>• GMP on milking parlor preparation</li> <li>• GAHP on cleaning animal udders</li> <li>• OSHS on milking parlor preparation</li> <li>• Personal hygiene</li> <li>• Procedures in workplace instruction</li> <li>• Operation and Control Procedure (OCP)</li> <li>• Hazard Risk Identification</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>-Patient</li> <li>-Time-conscious</li> <li>-Diligent</li> <li>-Animal lover</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Practicing GMP, OSHS, GAHP</li> <li>• Practicing personal hygiene</li> <li>• Following workplace instruction</li> <li>• Practicing Animal Welfare Act</li> <li>• Performing Mastitis Testing</li> <li>• Performing foremilking</li> <li>• Performing teats dipping</li> <li>• Practicing animal handling</li> </ul>

## RANGE OF VARIABLES

VARIABLE	SCOPE
1. Cleaning solution	Cleaning solution may include: <ol style="list-style-type: none"> <li>1.1. Sodium hydroxide (caustic soda) solution (0.5-1% solution)</li> <li>1.2. Nitric acid (0.5-1% solution)</li> <li>1.3. Sodium hypochlorite (chlorox)</li> <li>1.4. Phosphoric acid</li> </ol>
2. Milking machine	Milking machine includes: <ol style="list-style-type: none"> <li>2.1 Herringbone type</li> <li>2.2 Bucket type</li> </ol>
3. Industry procedures	Industry procedures include: <ol style="list-style-type: none"> <li>3.1 CIP (clean in place)</li> <li>3.2 COP (clean out place)</li> </ol>
4. Tools and utensils	Tools and utensils may include: <ol style="list-style-type: none"> <li>4.1 Tools:               <ol style="list-style-type: none"> <li>4.1.1 Hands spray</li> <li>4.1.2 "Teat dipper"</li> <li>4.1.3 Thermometer</li> <li>4.1.4 Mastitis test kit</li> </ol> </li> <li>4.2 Utensils:               <ol style="list-style-type: none"> <li>4.2.1 Milk Bucket</li> <li>4.2.2 Milk can</li> <li>4.2.3 Measuring cup</li> <li>4.2.4 Strip cup</li> </ol> </li> </ol>
5. Materials	Materials may include: <ol style="list-style-type: none"> <li>5.1 Mild liquid detergent</li> <li>5.2 Face towel</li> <li>5.3 Paper towel</li> <li>5.4 Push brush</li> <li>5.5 Scrubbing pads</li> <li>5.6 Chlorine</li> <li>5.7 Iodine</li> </ol>
6. Handling of animal	Handling of animals Includes: <ol style="list-style-type: none"> <li>6.1 Feeding the animal with concentrates</li> <li>6.2 Providing calm environment (away from disturbances)</li> <li>6.3 Positioning and placing in the animal chute</li> <li>6.4 Avoid hitting</li> </ol>

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p><b>Assessment requires evidence that the candidate:</b></p> <ol style="list-style-type: none"> <li>1. Prepared milking parlor and machinery</li> <li>2. Prepared tools, utensils and materials</li> <li>3. Prepared animal for milking</li> <li>4. Practiced of GMP, HACCP, GAHP and OSHS</li> </ol>
2. Resource Implications	<p><b>The following resources should be provided:</b></p> <ol style="list-style-type: none"> <li>2.1 Dairy animal</li> <li>2.2 Milking Parlor</li> <li>2.3 Milking machine</li> <li>2.4 Tools, utensils and materials to demonstrate the tasks required</li> <li>2.5 PPE</li> <li>2.6 References and Manual</li> </ol>
3. Method of Assessment	<p><b>Competency in this unit must be assessed through:</b></p> <ol style="list-style-type: none"> <li>3.1 Written exam</li> <li>3.2 Demonstration with oral questioning</li> </ol>
4. Context of Assessment	<p>4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.</p>

**UNIT OF COMPETENCY : PERFORM MILKING OPERATION**

**UNIT CODE : AFF751302**

**UNIT DESCRIPTOR :** This competency unit covers the knowledge, skills and attitude to operate milking machine, conduct manual milking, check milk quality and monitor milking operation

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Operate milking machine	1.1 Milking units are attached to animal teats and udders following manuals 1.2 Milking units are adjusted as necessary according to instructional manuals 1.3 Vacuum is shut off before removing units according to standard work procedures 1.4 Perform teats dipping and spraying according to GAHP	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GMP on milking machine</li> <li>• GAHP on teats dipping and spraying</li> <li>• OSHS on milking machine</li> <li>• Procedure on milking parlor operation</li> <li>• Operational Control Procedure (OCP)</li> <li>• Hazard Risk Identification</li> <li>• Vacuum pressure</li> <li>• Components and functions of milking unit</li> <li>• Procedures in attaching milking unit</li> <li>• Procedures of milking unit and its importance</li> <li>• Shutting off procedures and its importance</li> <li>• Methods of teats dipping</li> <li>• OSHS on operating milking machine</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Practicing GMP, GAHP, OSHS</li> <li>• Operating milking units</li> <li>• Following written instruction and apply procedures</li> <li>• Performing teats dipping and spraying</li> <li>• Literacy skills to read</li> <li>• Oral communication skills/language to fulfill the job role</li> <li>• Attaching milking units to teats and udders</li> <li>• Adjusting milking units</li> <li>• Shutting off vacuum before removing units</li> <li>• Performing of teats dipping</li> <li>• Practicing OSHS</li> <li>• Reading instructional manuals</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Monitor milking operation	2.1 Performance of milking machine is monitored following instructional manual 2.2 <i>Milk quality</i> is determined according to industry standards and enterprise requirements 2.3 Milk yield per cow is recorded according to workplace procedures 2.4 Condition of animal is checked following Animal Welfare Act and GAHP	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GMP on milking machine</li> <li>• OSHS on milking machine</li> <li>• Workplace procedure</li> <li>• Manuals on milking operation</li> <li>• HACCP awareness</li> <li>• Determine machines for maintenance</li> <li>• Animal Welfare Act</li> <li>• Performance of milking machine</li> <li>• Characteristics of good and rejected milk</li> <li>• Monitoring procedures of milk quality</li> <li>• Record keeping of milk yield</li> <li>• Computation for milk yield per cow</li> <li>• OSHS on milking operation</li> <li>• PPE</li> <li>• HACCP and GMP on milking operation</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Practicing GMP, OSHS</li> <li>• Operate milking units</li> <li>• Follows written instruction and apply procedure</li> <li>• Identify Hazards and implement safe operating procedure</li> <li>• Maintain quality milk</li> <li>• Use literacy skills to read</li> <li>• Record accurately and legible</li> <li>• Monitor animal health condition</li> <li>• Monitoring performance of milking machine</li> <li>• Monitoring milk quality</li> <li>• Recording milk yield per cow</li> <li>• Computing milk yield</li> <li>• Practicing GMP, HACCP and OSHS</li> </ul>
3. Perform simple troubleshooting and repair	3.1 Signs of defects and malfunctions of machine are identified according to machine manual	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GMP on milking machine</li> <li>• OSHS on milking machine</li> <li>• Determine machines for maintenance</li> <li>• Machines troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Practicing GMP, OSHS</li> <li>• Operating milking units</li> <li>• Follows written instruction and apply procedure</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.2 Simple repair is undertaken following instructional manual 3.3 Malfunctions of milking machine are reported to immediate supervisor according to workplace procedures	<ul style="list-style-type: none"> <li>• Record keeping and report writing</li> <li>• Interpersonal skills</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Conducting minor troubleshooting and repair of milking machines</li> <li>• Literacy skills to read</li> <li>• Recording accurately and legible</li> <li>• Oral communication skills/language competence</li> <li>• Anticipating emergencies and remove hazards in the workplace</li> </ul>

## RANGE OF VARIABLES

VARIABLE	SCOPE
1. Cleaning solution	Cleaning solution may include: <ul style="list-style-type: none"> <li>1.1 Sodium hydroxide (caustic soda) solution (0.5-1% solution)</li> <li>1.2 Nitric acid (0.5-1% solution)</li> <li>1.3 Sodium hypochlorite (chlorox)</li> <li>1.4 Phosphoric acid</li> </ul>
2. Monitoring of performance of milking machine	May include but not limited to: <ul style="list-style-type: none"> <li>2.1 Attachment of milk cluster</li> <li>2.2 Vacuum gauge</li> <li>2.3 Flow of milk in milk line</li> <li>2.4 Milk meter</li> </ul>
3. Milk quality	May include but not limited to: <ul style="list-style-type: none"> <li>3.1 Good milk               <ul style="list-style-type: none"> <li>3.1.1 White in color</li> <li>3.1.2 Pleasant smell</li> </ul> </li> <li>3.2 Rejected milk               <ul style="list-style-type: none"> <li>3.2.1 Presence of coagulation</li> <li>3.2.2 Blood</li> <li>3.2.3 Pus</li> <li>3.2.4 Foul smell</li> </ul> </li> </ul>

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1 Operated milking machine 1.2 Monitored milking operation 1.3 Performed simple troubleshooting and repair 1.4 Practiced GMP, HACCP, GAHP and OSHS
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Dairy animal 2.2 Milking parlor 2.3 Milking Machine 2.4 Tools, materials and equipment to demonstrate required tasks 2.5 PPE 2.6 References and Manuals
3. Method of Assessment	<b>Competency in this unit must be assessed through:</b> 3.1 Written exam 3.2 Demonstration with oral questioning
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.



**UNIT OF COMPETENCY : CARRY-OUT POST-MILKING OPERATION**

**UNIT CODE : AFF751303**

**UNIT DESCRIPTOR :** This competency unit covers the knowledge, skills and attitude to shut-down milking parlor, clean and store tools, utensils and equipment and complete post-milking operation.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Shut down milking parlor	1.1 Teat disinfectant is prepared following standard procedures. 1.2 Post-dipping and spraying are performed according to GAHP and HACCP 1.3 Animals are released following GAHP 1.4 <b>Cleaning solution</b> is prepared following recommended concentration, temperature and time 1.5 <b>Milking machine</b> is cleaned and disinfected according to manual and industry procedures 1.6 Milking area is cleaned and disinfected according to GMP.	<ul style="list-style-type: none"> <li>• PPEs</li> <li>• GAHP on post dipping and spraying</li> <li>• OSHS on milking machine</li> <li>• Workplace procedure</li> <li>• Manuals on milking operation</li> <li>• HACCP awareness</li> <li>• Awareness of Material Safety Data Sheet (MSDS)</li> <li>• Animal Welfare Act</li> <li>• Procedures in releasing animals</li> <li>• GAHP in handling animals</li> <li>• Cleaning solutions</li> <li>• Procedure in preparing cleaning solution</li> <li>• Industry procedures (CIP and COP)</li> </ul>	<ul style="list-style-type: none"> <li>• Wearing of PPEs</li> <li>• Operate milking units</li> <li>• Following written instruction and apply procedure</li> <li>• Identifying Hazards and implement safe operating procedure</li> <li>• Computing concentration of cleaning solution</li> <li>• Following procedures in MSDS</li> <li>• Cleaning and disinfecting milking parlor</li> <li>• Cleaning and sanitizing milking machine</li> <li>• Following procedures of CIP</li> <li>• Releasing animals</li> <li>• Practicing Animal Welfare Act and GAHP</li> <li>• Preparing cleaning solutions</li> <li>• Practicing manual and CIP and COP methods in cleaning the milking machines</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		<ul style="list-style-type: none"> <li>• Cleaning and Sanitizing Procedures</li> <li>• Milking machine and procedures of cleaning the parts</li> <li>• Work instructions</li> <li>• Hygiene on premises</li> <li>• Good Manufacturing Practices (GMP) for milking machine and area</li> <li>• OSHS in shutting down milking parlor</li> <li>• Attitude: <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Practicing cleaning and disinfection premises</li> <li>• Practicing GMP, GAHP and OSHS</li> </ul>
2. Maintain tools, utensils materials and equipment	<p>2.1 Sanitizing solution is prepared following required concentration</p> <p>2.2 <b><i>Tools and utensils</i></b> are cleaned and sanitized according to GMP</p> <p>2.3 <b><i>Tools and utensils</i></b> are stored following workplace procedures.</p> <p>2.4 Tools, utensils, materials and milking machine are inventoried following workplace procedures</p>	<ul style="list-style-type: none"> <li>• Cleaning solutions</li> <li>• Procedure in preparing cleaning solutions</li> <li>• Procedures in cleaning and sanitizing tools and utensils</li> <li>• Storage of tools and utensils</li> <li>• Inventory of tools, utensils, materials and milking machine</li> <li>• Good Manufacturing Practices</li> </ul>	<ul style="list-style-type: none"> <li>• Preparing cleaning solutions</li> <li>• Cleaning and sanitizing tools</li> <li>• Storing tools and utensils</li> <li>• Performing inventory of tools, utensils, materials and milking machine</li> <li>• Following GMP</li> </ul>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Complete post-milking operations	3.1 Milk form sheet is accomplished following established farm procedures 3.2 Individual milk production data is collected following established farm procedures 3.3 Total milk production is computed following workplace procedures 3.4 Report on milk production is prepared according to workplace procedures 3.5 Wastes are managed following environmental rules and regulations	<ul style="list-style-type: none"> <li>• Accomplishment of milk form sheet</li> <li>• HACCP and GMP</li> <li>• PPEs</li> <li>• Personal Hygiene</li> <li>• OSHS</li> <li>• MSDS</li> <li>• Mathematical operation</li> <li>• Workplace procedure</li> <li>• Manuals on milking operation</li> <li>• EMS standards</li> <li>• Individual milk production data and collection procedures</li> <li>• Computation of total milk production</li> <li>• Record keeping</li> <li>• Preparation of milk production report</li> <li>• Waste management</li> <li>• Environmental rules and regulations</li> <li>• EMS 14001</li> <li>• Attitude:               <ul style="list-style-type: none"> <li>- Patient</li> <li>- Time-conscious</li> <li>- Diligent</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Recording accurately and legible</li> <li>• Literacy skills to read</li> <li>• Using simple mathematical operation</li> <li>• Preparing report on milk production according to workplace procedure</li> <li>• Computing concentration of cleaning solution</li> <li>• Preparing cleaning solution</li> <li>• Following procedures of preparing &amp; storing tools, utensils &amp; materials</li> <li>• Managing waste</li> <li>• Practicing Environmental management system (EMS) rules and regulations</li> <li>• Collecting individual milk production data</li> <li>• Computing for total milk production</li> <li>• Practicing accurate and practical record keeping</li> <li>• Preparing report on milk production</li> <li>• Managing wastes</li> <li>• Practicing environmental rules and regulations</li> </ul>

## RANGE OF VARIABLES

VARIABLE	SCOPE
1. Cleaning solution	Cleaning solution includes: 1.1 Alkaline solution (0.5-1% solution) 1.2 Acid solution (0.5-1% solution)
2. Milking machine	Milking machine includes: 2.1 Herringbone type 2.2 Bucket type 2.3 Chilling tank
3. Tools and utensils	Tools and utensils may include: 3.1 Milk Bucket 3.2 Milk can 3.3 Thermometer 3.4 Measuring cup
4. Materials	Materials may include: 4.1 Detergent 4.2 Face towel 4.3 Push brush 4.4 Scrubbing pads 4.5 Chlorine
5. Record keeping	Record keeping includes: 5.1 Logbooks 5.2 Calculators 5.3 Pens 5.4 Laptops

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1 Released animals</li> <li>1.2 Shutdown milking machine</li> <li>1.3 Cleaned milking parlor and chilling machine</li> <li>1.4 Cleaned and stored tools, utensils, materials and equipment</li> <li>1.5 Cleaned and dried milking area</li> <li>1.6 Conducted record keeping</li> <li>1.7 Disposed waste materials</li> </ul>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 Dairy animal</li> <li>2.2 Milking parlor</li> <li>2.3 Milking machine</li> <li>2.4 Tools, utensils and materials to demonstrate tasks required</li> <li>2.5 PPE</li> <li>2.6 References and Manuals</li> </ul>
<p>3. Method of Assessment</p>	<p><b>Competency in this unit must be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1 Written exam</li> <li>3.2 Demonstration with oral questioning</li> </ul>
<p>4. Context of Assessment</p>	<p>4.1 Competency maybe assessed in actual workplace or at the designated TESDA Accredited Assessment Center.</p>

### SECTION 3. TRAINING ARRANGEMENTS

These standards are set to provide Technical and Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing and delivering inclusive training programs for **MILKING OPERATION NC II**.

They include information on curriculum design; training delivery; trainee entry requirements; tools and equipment; training facilities; and trainer's qualification.

#### 3.3 CURRICULUM DESIGN

TESDA shall provide the training on the development of competency-based curricula to enable training providers develop their own curricula with the components mentioned below.

Delivery of knowledge requirements for the basic, common and core units of competency specifically in the areas of mathematics, science/technology, communication/language and other academic subjects shall be contextualized. To this end, TVET providers shall develop a Contextual Learning Matrix (CLM) to green technology, issues on health and drugs and cater person with disabilities (PWD's).

Course Title: **MILKING OPERATION**      NC Level    **NC II**

#### Nominal Training Duration:

20 hrs	<b>Basic Competencies</b>
72 hrs	<b>Common Competencies</b>
<u>68 hrs</u>	<b><u>Core Competencies</u></b>
<b>160 hrs</b>	<b>Total</b>

#### Course Description:

This course is designed to provide the students/learner with knowledge, desirable attitudes and skills required to perform the following competencies in accordance with industry standards: conduct pre-milking activities, perform milking operation and conduct post-milking operation.



Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Apply storage system in establishing workplace information</li> <li>• Demonstrate Telephone courtesy</li> </ul>			
	1.2 Complete relevant work related documents	<ul style="list-style-type: none"> <li>• Describe Communication procedures and systems</li> <li>• Read: <ul style="list-style-type: none"> <li>○ Meeting protocols</li> <li>○ Nature of workplace meetings</li> <li>○ Workplace interactions</li> <li>○ Barriers of communication</li> </ul> </li> <li>• Complete work related documents</li> <li>• Read instructions on work related forms/documents</li> <li>• Practice: <ul style="list-style-type: none"> <li>○ Estimate, calculate and record routine workplace measures</li> <li>○ Basic mathematical processes of addition, subtraction, division and multiplication</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li> <li>• Lecture</li> <li>• Demonstration</li> <li>• Lecture</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Written examination</li> <li>• Written examination</li> <li>• Observation</li> <li>• Written examination</li> <li>• Observation</li> </ul>	



Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Demonstrate office activities in:               <ul style="list-style-type: none"> <li>○ workplace meetings and discussions scenario</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Role play</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Observation</li> </ul>	
		<ul style="list-style-type: none"> <li>• Perform workplace duties scenario following simple written notices</li> <li>• Follow simple spoken language</li> <li>• Identify the different Non-verbal communication</li> <li>• Demonstrate ability to relate to people of social range in the workplace</li> <li>• Gather and provide information in response to workplace requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Role play</li> <li>• Demonstration</li> <li>• Lecture</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Observation</li> <li>• Observation</li> <li>• Written examination</li> <li>• Observation</li> </ul>	
	1.3 Participate in workplace meeting and discussion	<ul style="list-style-type: none"> <li>• Identify:               <ul style="list-style-type: none"> <li>○ types of workplace documents and forms</li> <li>○ kinds of workplace report</li> <li>○ Available technology relevant to the enterprise and the</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		individual's work responsibilities			
		<ul style="list-style-type: none"> <li>• Read and follow instructions in applying basic mathematical concepts</li> </ul>			
		<ul style="list-style-type: none"> <li>• Follow simple spoken language</li> <li>• Gather and provide information in response to workplace requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Observation</li> </ul>	
2. Work in a team environment	<p>2.1 Describe and identify team role and responsibility in a team.</p> <p>2.2 Describe work as a team</p>	<ul style="list-style-type: none"> <li>• Describe the team role and scope</li> <li>• Read <ul style="list-style-type: none"> <li>○ Definition of Team</li> <li>○ Difference between team and group</li> <li>○ Objectives and goals of team</li> </ul> </li> <li>• Identify different sources of information</li> <li>• Describe team goals and objectives</li> <li>• Perform in setting team goals and expectations scenario</li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li>   <li>• Group discussion</li> <li>• Role play</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Written examination</li>   <li>• Oral evaluation</li> <li>• Oral evaluation</li> <li>• Observation</li> </ul>	4 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Identify <ul style="list-style-type: none"> <li>○ individual role and responsibility</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> </ul>	
		<ul style="list-style-type: none"> <li>• Practice Interacting effectively with others</li> <li>• Read: <ul style="list-style-type: none"> <li>○ Fundamental rights at work including gender sensitivity</li> <li>○ Understanding individual competencies relative to teamwork</li> <li>○ Types of individuals</li> <li>○ Role of leaders</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Written examination</li> </ul>	
3. Practice career professionalism	3.1 Integrate personal objectives with organizational goals	<ul style="list-style-type: none"> <li>• Describe performance evaluation</li> <li>• Read: <ul style="list-style-type: none"> <li>○ Work values and ethics (Code of Conduct, Code of Ethics, etc.)</li> <li>○ Understanding personal objectives</li> <li>○ Understanding organizational goals</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Written examination</li> </ul>	6 Hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Demonstrate Intra and Interpersonal skills at work</li> <li>• Demonstrate personal commitment in work</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Observation</li> </ul>	
	3.2 Set and meet work priorities	<ul style="list-style-type: none"> <li>• Describe company policies, operations, procedures and standards</li> <li>• Read: <ul style="list-style-type: none"> <li>○ Time Management</li> <li>○ Basic strategic planning concepts</li> <li>○ Resource utilization and management</li> </ul> </li> <li>• Apply managing goals and time</li> <li>• Practice: <ul style="list-style-type: none"> <li>○ economic use of resources and facilities</li> <li>○ time management</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li> <li>• Demonstration</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Written examination</li> <li>• Observation</li> <li>• Observation</li> </ul>	
	3.3 Maintain professional growth and development	<ul style="list-style-type: none"> <li>• Describe company recognition and incentives</li> <li>• Read:</li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>○ Career development opportunities</li> <li>○ Information on relevant licenses and or certifications</li> </ul>		<ul style="list-style-type: none"> <li>● Written examination</li> </ul>	
		<ul style="list-style-type: none"> <li>○ personal career development needs</li> <li>● Determine personal career development needs</li> </ul>	<ul style="list-style-type: none"> <li>● Group discussion</li> </ul>	<ul style="list-style-type: none"> <li>● Oral evaluation</li> </ul>	
4. Practice occupational health and safety	4.1 Identify hazard and risks	<ul style="list-style-type: none"> <li>● Describe OHS procedures, practices and regulations</li> <li>● Read <ul style="list-style-type: none"> <li>○ OHS indicators</li> <li>○ Organizational contingency practices</li> </ul> </li> <li>● Practice hazards/risks identification and control</li> </ul>	<ul style="list-style-type: none"> <li>● Group discussion</li> <li>● Lecture</li> </ul>	<ul style="list-style-type: none"> <li>● Oral evaluation</li> <li>● Written examination</li> </ul>	6 Hours
	4.2 Evaluate hazard and risks	<ul style="list-style-type: none"> <li>● Describe effects of safety hazards</li> <li>● Read <ul style="list-style-type: none"> <li>○ Threshold Limit Value – TLV</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Group discussion</li> <li>● Lecture</li> </ul>	<ul style="list-style-type: none"> <li>● Oral evaluation</li> <li>● Written examination</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Practice reporting safety hazards</li> <li>• Demonstrate evaluating hazards and risks using communication equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Role play</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Observation</li> </ul>	
	4.3 Control hazards and risks	<ul style="list-style-type: none"> <li>• Describe : <ul style="list-style-type: none"> <li>○ Organization safety and health protocol</li> <li>○ Company emergency procedure practices</li> </ul> </li> <li>• Practice personal hygiene</li> <li>• Practice drills on responding to emergency</li> </ul>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Demonstration</li> <li>• Demonstration</li> <li>• Simulation</li> </ul>	<ul style="list-style-type: none"> <li>• Oral evaluation</li> <li>• Observation</li> <li>• Observation</li> </ul>	
	4.4 Maintain occupational health and safety awareness	<ul style="list-style-type: none"> <li>• Identify emergency-related drills information</li> <li>• Practice occupational safety and health standards on personal records in the workplace</li> <li>• Practice emergency related drills in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Role play</li> <li>• Demonstration</li> <li>• Simulation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Observation</li> <li>• Observation</li> </ul>	

**COMMON COMPETENCIES**  
**72 HRS**

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
1. Apply safety measures in farm operations	1.1 Determine areas of concern for safety measures	<ul style="list-style-type: none"> <li>• Identify work tasks in farm operations</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Incomplete worksheet</li> <li>• Power point presentation</li> <li>• Video presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	<b>15 hours</b>
		<ul style="list-style-type: none"> <li>• Discuss safety measures in a workplace during farm operations</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Incomplete worksheet</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Role playing</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Explain farm operations situations and period when to observe safety</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Incomplete worksheet</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Role playing</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• Identify appropriate tools, materials and outfits to be used</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Incomplete worksheet</li> <li>• Power point presentation</li> <li>• Video presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Prepare tools, materials and outfits for the farm operation</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
	1.2 Apply appropriate safety measures	<ul style="list-style-type: none"> <li>• Enumerate uses and functions of tools and materials</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Explain procedures of wearing personal protective equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	



Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• Discuss topics on effectivity, shelf life and expirations of materials to be used.</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Identify the emergency procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Identify hazards in a farm workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Use tools and materials</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• Wear personal protective equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Prepare report on hazards in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Report on hazards in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Role playing</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
	1.3 Safekeep/ dispose of tools, materials and outfit	<ul style="list-style-type: none"> <li>• Explain cleaning and storing procedures of the used tools and outfit</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• State labelling and storing procedures for unused materials</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Explain proper wastes disposal</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Clean and store used tools and outfit</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Label and store unused materials</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• Dispose waste materials</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
2.Use farm tools	2.1Select and use farm tools	<ul style="list-style-type: none"> <li>• Identify farm tools</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	<b>15 hours</b>
		<ul style="list-style-type: none"> <li>• Describe faults and defective tools</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>• Discuss using of tools and equipment relating to manufacturer's manual</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Check farm tools for faults and defects</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Use tools and equipment relating to manufacturer's manual</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

<b>Unit of Competency</b>	<b>Learning Outcomes</b>	<b>Learning Activities</b>	<b>Methodology</b>	<b>Assessment Method</b>	<b>Nominal Duration</b>
	2.2 Select and operate farm equipment	<ul style="list-style-type: none"> <li>• Identify farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Explain importance of reading manufacturer's manual</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Discuss pre-operation check and its importance</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Identify different types of faults in farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Enumerate reporting procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
			<ul style="list-style-type: none"> <li>• Incomplete worksheet</li> <li>• Role playing</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Enumerate procedures in using farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Discuss safety procedures for farm operation</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Read manufacturer's manual</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Conduct pre-operation check-up</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
			<ul style="list-style-type: none"> <li>• Hands-on</li> </ul>		
		<ul style="list-style-type: none"> <li>• Report identified faults</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Operate farm equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		<ul style="list-style-type: none"> <li>• Follow safety procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
	2.3 Perform preventive maintenance	<ul style="list-style-type: none"> <li>• Enumerate cleaning procedures for tools and equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> </ul>	



Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
			<ul style="list-style-type: none"> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		Discuss significance of routine check-up and maintenance	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		Explain procedures in storing tools and equipment	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	
		Clean tools and equipment	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		Perform routine check –up and maintenance	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
		Store tools and equipment	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Hands-on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	
3. Perform estimation and basic calculation	3.1 Perform estimation	<ul style="list-style-type: none"> <li>• Identify job requirements and work task/activity</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Written exam</li> <li>• Oral questioning</li> </ul>	<b>9 hours</b>
		<ul style="list-style-type: none"> <li>• Identify materials and resources of job requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Written exam</li> <li>• Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>• Estimate time to complete work task/activity</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demonstration</li> <li>• Video presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written exam</li> <li>• Oral questioning</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
		<ul style="list-style-type: none"> <li>Estimate quantities of materials and resources</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>Prepare and submit bill of materials</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> <li>Demonstration</li> </ul>	
	3.2 Perform basic workplace calculation	<ul style="list-style-type: none"> <li>Describe different types of calculation</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>Discuss different methods of calculation</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>Describe system and unit of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> </ul>	
		<ul style="list-style-type: none"> <li>Compute quantity of feeds, amount of fertilizer and amount of medicines using methods of calculation, system of measurement and units of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Written exam</li> <li>Oral questioning</li> </ul>	

<b>Unit of Competency</b>	<b>Learning Outcomes</b>	<b>Learning Activities</b>	<b>Methodology</b>	<b>Assessment Method</b>	<b>Nominal Duration</b>
4.Process farm wastes	4.1 Collect farm wastes	<ul style="list-style-type: none"> <li>• Identify tools and materials and its uses</li> <li>• Discuss types of wastes</li> <li>• Explain waste collection process</li> <li>• Discuss danger and hazard of waste collection</li> <li>• Discuss HAZMAT and OSHS</li> <li>• Explain proper wearing of PPEs</li> <li>• Collect farm wastes</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Direct Observation</li> <li>• Practical Demonstration</li> </ul>	<b>18 hours</b>
	4.2 Identify and segregate wastes	<ul style="list-style-type: none"> <li>• Identify type of wastes</li> <li>• Discuss categories of wastes</li> <li>• Discuss segregation procedures</li> <li>• Explain information on correct identification and labelling of container</li> <li>• Discuss OSHS on waste segregation</li> <li>• Segregate wastes</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Direct Observation</li> <li>• Practical Demonstration</li> </ul>	

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Method	Nominal Duration
	4.3 Treat and process farm wastes	<ul style="list-style-type: none"> <li>• Identify danger and hazards of wastes</li> <li>• Discuss procedures of processing of wastes</li> <li>• Explain 3Rs</li> <li>• Identify types of treatment</li> <li>• Discuss treatment procedure</li> <li>• Discuss disposal of farm wastes</li> <li>• Discuss OSHS</li> <li>• Treat and process farm wastes</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Direct Observation</li> <li>• Practical Demonstration</li> </ul>	
	4.4 Perform housekeeping	<ul style="list-style-type: none"> <li>• Identify warning signs and labels</li> <li>• Discuss cleaning procedures</li> <li>• Identify materials to be stored</li> <li>• Discuss storage procedures</li> <li>• Explain record keeping</li> <li>• Discuss OSHS</li> <li>• Perform housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Direct Observation</li> <li>• Practical Demonstration</li> </ul>	

<b>Unit of Competency</b>	<b>Learning Outcomes</b>	<b>Learning Activities</b>	<b>Methodology</b>	<b>Assessment Method</b>	<b>Nominal Duration</b>
5. Perform record keeping	5.1 Carry out inventory activities	<ul style="list-style-type: none"> <li>• Discuss inventory procedures</li> <li>• Discuss defects of tools and equipment</li> <li>• Explain inspection procedures</li> <li>• Carry out inventory activities</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Practical Demonstration</li> </ul>	<b>15 hours</b>
	5.2 Maintain production record	<ul style="list-style-type: none"> <li>• Explain production plan</li> <li>• Discuss production plan activities</li> <li>• Discuss production plan report</li> <li>• Explain monitoring procedures</li> <li>• Maintain production record</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Practical Demonstration</li> </ul>	
	5.3 Prepare financial records	<ul style="list-style-type: none"> <li>• Discuss basic computation</li> <li>• Explain production cost</li> <li>• Discuss revenue</li> <li>• Prepare financial records</li> </ul>	<ul style="list-style-type: none"> <li>• Self-paced/modular</li> <li>• Lecture/Discussion</li> <li>• Interaction</li> <li>• Practical Demonstration</li> <li>• Visit/tour</li> </ul>	<ul style="list-style-type: none"> <li>• Oral/Written Interviews</li> <li>• Practical Demonstration</li> </ul>	

**CORE COMPETENCIES**  
**68 hours**

<b>Unit of Competency</b>	<b>Learning Outcomes</b>	<b>Learning Activities</b>	<b>Methodology</b>	<b>Assessment Approach</b>	<b>Nominal Duration</b>
1. Conduct pre-milking activities	1.1 Prepare milking parlor and machinery	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP and OSHS</li> <li>• Describe personal hygiene</li> <li>• Identify different cleaning solution</li> <li>• Explain procedure in preparing cleaning solution with reference to MSDS</li> <li>• Enumerate cleaning and disinfection procedures of milking parlor with reference to GMP</li> <li>• Describe parts of milking machine</li> <li>• Discuss cleaning and sanitation of milking machine using CIP</li> <li>• Explain cleaning procedures on herringbone and bucket type milking machine</li> <li>• Wear PPEs</li> <li>• Practice GMP and GMP</li> <li>• Employ personal hygiene</li> <li>• Compute for concentration of cleaning solution</li> <li>• Prepare cleaning solution</li> <li>• Clean and disinfect milking parlor</li> <li>• Clean and sanitize milking machine</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> <li>• Lecture</li> <li>• Hands on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	14 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
	1.2 Prepare tools, utensils, materials	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP and OSHS</li> <li>• Describe personal hygiene</li> <li>• Identify right cleaning solution</li> <li>• Explain procedure in preparing cleaning solution</li> <li>• Identify different materials, tools and utensils</li> <li>• Wear PPEs</li> <li>• Practice GMP and OSHS</li> <li>• Employ personal hygiene</li> <li>• Compute for concentration of cleaning solution</li> <li>• Prepare cleaning solution</li> <li>• Prepare materials, tools and utensils</li> <li>• Clean and sanitize tools, utensils and equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> <li>• Lecture</li> <li>• Hands on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	8 hours
	1.3 Prepare animal for milking	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP, GAHP and OSHS</li> <li>• Discuss the Animal Welfare Act</li> <li>• Discuss SOP relating to cleaning animal udders</li> <li>• Discuss SOP relating to foremilk</li> <li>• Describe personal hygiene</li> <li>• Explain workplace procedure</li> <li>• Enumerate the guidelines in positioning the animal for milking</li> <li>• Identify animals for milking &amp; mastitic animals</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> <li>• Lecture</li> <li>• Hands on</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	11 hours



Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Explain mastitis testing</li> <li>• Discuss the procedure in teats dipping and drying</li> <li>• Wear PPEs</li> <li>• Practice GMP and GAHP</li> <li>• Employ personal hygiene</li> <li>• Perform mastitis testing</li> <li>• Perform foremilk</li> <li>• Perform teats dipping</li> <li>• Handle animals according to Animal Welfare Act</li> <li>• Apply the guidelines in positioning the animal for milking</li> <li>• Clean animal udders</li> <li>• Identify and separate animals infected with mastitis</li> </ul>			
2. Perform milking operation	2.1 Operate milking machine	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP, GAHP and OSHS</li> <li>• Explain procedure in operating milking machine</li> <li>• Explain procedure in milking operation</li> <li>• Wear PPEs</li> <li>• Practice GMP and GAHP</li> <li>• Employ personal hygiene</li> <li>• Perform in milking operation</li> <li>• Perform in teat dipping and spraying</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	5 hours

<b>Unit of Competency</b>	<b>Learning Outcomes</b>	<b>Learning Activities</b>	<b>Methodology</b>	<b>Assessment Approach</b>	<b>Nominal Duration</b>
	2.2 Monitor milking operation	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP and OSHS</li> <li>• Explain in teat dipping and spraying</li> <li>• Explain procedure in monitoring milking machine</li> <li>• Describe the milk quality</li> <li>• Identify the milk performance</li> <li>• Explain milk recording</li> <li>• Identify animals with good health condition</li> <li>• Wear PPEs</li> <li>• Practice GMP</li> <li>• Performing mathematical operation</li> <li>• Perform in milking operation</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	6 hours
	2.3 Perform simple troubleshooting and repair	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP and OSHS</li> <li>• Explain procedure in monitoring milking machine</li> <li>• Identify the parts of malfunction milking machine</li> <li>• Perform simple troubleshooting &amp; repair</li> <li>• Report malfunction milking machines</li> <li>• Interpersonal skills</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	3 hours
3. Carry-out post-milking operation	3.1 Shut down milking parlor	<ul style="list-style-type: none"> <li>• Explain PPEs</li> <li>• Discuss GMP, GAHP and OSHS</li> <li>• Explain in teat dipping and spraying</li> <li>• Explain Animal Welfare Act</li> <li>• Explain MSDS</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> </ul>	7.5 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Describe personal hygiene</li> <li>• Identify right cleaning solution</li> <li>• Explain procedure in preparing cleaning and disinfectant solution</li> <li>• Discuss CIP</li> <li>• Performing post-dipping and spraying</li> <li>• Releasing animals</li> <li>• Preparing teat disinfectant</li> <li>• Cleaning and disinfecting of milking machine</li> </ul>	<ul style="list-style-type: none"> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> </ul>	
	3.2 Clean and store tools, utensils, materials and equipment	<ul style="list-style-type: none"> <li>• Discuss and explain the different cleaning and sanitizing solutions</li> <li>• Discuss GMP relating to cleaning and sanitation</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Hands on</li> <li>• Video ppt</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Demonstration</li> <li>• Oral questioning</li> </ul>	1.5 hours
	3.3 Complete post-milking operations	<ul style="list-style-type: none"> <li>• Explain HACCP and GMP</li> <li>• Describe personal hygiene</li> <li>• Explain OSHS</li> <li>• Explain MSDS</li> <li>• Computing of total milk production</li> <li>• Discuss workplace procedure</li> <li>• Explain manual on milking operation</li> <li>• Explain EMS standard</li> <li>• Explain procedure in preparing cleaning solution</li> <li>• Discuss accomplishing of milk form</li> <li>• Preparation of report using Log book</li> <li>• Wear PPEs</li> <li>• Practice GMP</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Power point presentation</li> <li>• Video presentation</li> <li>• Incomplete worksheet</li> <li>• Demonstration</li> <li>• Field visit</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> <li>• Oral questioning</li> <li>• Demonstration</li> </ul>	12 hours

Unit of Competency	Learning Outcomes	Learning Activities	Methodology	Assessment Approach	Nominal Duration
		<ul style="list-style-type: none"> <li>• Employ personal hygiene</li> <li>• Cleaning and sanitizing tools and utensils</li> <li>• Storing and inventorying of tools, utensils and materials</li> <li>• Managing of wastes</li> <li>• Practice EMS</li> <li>• Practice 7S of Good Housekeeping</li> </ul>			

### 3.2 TRAINING DELIVERY

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

- a. Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards)
- b. Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies;
- c. Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology (Video Conferencing, Webinar, etc).
- d. Assessment is based in the collection of evidence of the performance of work to the industry required standards;
- e. Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual performance of the competency as the primary source of evidence.
- f. Training program allows for recognition of prior learning (RPL) or current competencies;
- g. Training completion is based on satisfactory performance of all specified competencies.

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 and their variations/components may be adopted singly or in combination with other modalities when designing and delivering training programs:

#### **Institution- Based:**

- Dual Training System (DTS) / Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and regulations of the DTS Law and the TESDA Guidelines on the DTP:

#### **Enterprise-Based:**

Enterprise-based training may also be taken to mean a school or training center with one or more partner enterprise or an enterprise or group of enterprises setting up a common training facility or partnering with a school or training center.

- **Enterprise-based Training** - where training is implemented within the company in accordance with the requirements of the specific company.
- **Apprenticeship** – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation.

**Community-Based** –refers to a short program conducted or coordinated by NGOs, LGUs, training centers and other TVET providers which are intended to address the specific needs of a community. Such programs are usually conducted in informal settings such as barangay hall, basketball courts and other available venues in a community.

### 3.3 TRAINEE ENTRY REQUIREMENTS

Trainees or students who want to enroll in this course should possess the following requirements:

- Able to read and write;
- Able to communicate, both orally and in writing; and
- Basic mathematical skills
- No active pulmonary tuberculosis as certified by local physician

### 3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

#### MILKING OPERATION NC II

Recommended list of tools, equipment and materials for the training of 25 trainees for Milking Operation NC II

TOOLS		EQUIPMENT		MATERIALS	
QTY.		QTY		QTY.	
5 pcs	Milk can (40 liters)	2 units	Milking machine (Bucket type)	10 pcs	Cheesecloth
5 pcs	Milk can (20 liters)	1 unit	*Milking machine (Herringbone type)	5 pcs	Face towel
5 pcs	Milk can (10 liters)	1 unit	Weighing Scale	5 rolls	Paper towel
5 pcs	Bucket (10 L)	1 unit	Chilling tank	2 L	Chlorine
5 pcs	Milking stool	1 unit	laptop	5 pcs	Scouring Pads
5 pcs	Teat dipper	1 unit	Audio-visual system	5 pcs	Push Brush
5 units	calculator	1 unit	Washing machine with dryer	2 L	Mild liquid detergent
5 units	Thermometer			1 L	Teat dip solution (iodine-10%)
5 pcs	Hands spray			2 L	Nitric Acid
5 pcs	"Teat dipper"				
5 pcs	Mastitis test kit			25	Logbook
				25	Ballpen
5 sets	Measuring cup			2 L	Sodium hypochlorite (chlorox)
5 pcs	Strip cup			2 L	Phosphoric acid
				500 g	Caustic soda
				25 (or 50) for replacement	Milkers Training Clothes (cover all)
				25 pairs	Rubber Boots
				25 pcs	Head Cap

**NOTE: Access to and use of equipment /facilities can be provided through cooperative arrangements or MOA with other partner-farms/companies.**

### 3.5 TRAINING FACILITIES

#### MILKING MACHINERY OPERATION NC II

Based on a class size of 25 students/trainees

SPACE REQUIREMENT	SIZE IN METERS	AREA IN SQ. METERS	TOTAL AREA IN SQ. METERS	GRAND TOTAL AREA IN SQ. METERS
<b>A. Building (permanent)</b>				<b>215.00</b>
<ul style="list-style-type: none"> <li>• Student/Trainee Working Space</li> </ul>	2.00 x 1.00 per student/trainee	2.00 per student	50.00	
<ul style="list-style-type: none"> <li>• Comfort room</li> </ul>			12.00	
<ul style="list-style-type: none"> <li>• Learning Resource Center</li> </ul>	2x1	2	50	
<b>B. Milking Parlor and facilities</b>				<b>2,550.00</b>
<ul style="list-style-type: none"> <li>▪ Store room</li> </ul>				
<ul style="list-style-type: none"> <li>▪ CR and shower room</li> </ul>	3.00 x 4.00		12.00	
<ul style="list-style-type: none"> <li>▪ Locker room</li> </ul>	4.00 x 4.00		16.00	
<ul style="list-style-type: none"> <li>▪ Laundry room</li> </ul>	3.00 x 4.00		12.00	
<ul style="list-style-type: none"> <li>▪ Milking area</li> </ul>	3.00 x 4.00		12.00	
<ul style="list-style-type: none"> <li>▪ Waiting area</li> </ul>	10.00 x 7.00		70.00	

**NOTE:** Access to and use of equipment /facilities can be provided through cooperative arrangements or MOA with other partner-farms/companies.

### 3.6 TRAINER'S QUALIFICATIONS FOR AGRICULTURE, FORESTRY AND FISHERY SECTOR

Trainers who will deliver the training on **MILKING OPERATION NC II** should have the following:

- Must be a holder of National TVET Trainer Certificate in Milking Operation NC II or preferably graduate of Animal Science and related areas or graduate of Agricultural Engineering/Agricultural Biosystems Engineering with TM I
- Must have two (2) years industry experience for the last five (5) years



### **3.7 INSTITUTIONAL ASSESSMENT**

Institutional assessment is undertaken by trainees to determine their achievement of units of competency . A certificate of achievement is issued for each unit of competency.

## SECTION 4 ASSESSMENT AND CERTIFICATION ARRANGEMENTS

Competency Assessment is the process of collecting evidence and making judgments whether competency has been achieved. The purpose of assessment is to confirm that an individual can perform to the standards expected at the workplace as expressed in relevant competency standards.

The assessment process is based on evidence or information gathered to prove achievement of competencies. The process may be applied to an employable unit(s) of competency in partial fulfillment of the requirements of the national qualification.

### 4.1. NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS

- 4.1.1 To attain the National Qualification of **MILKING OPERATION NC II** the candidate must demonstrate competence covering all the units of competency listed in Section 1. A successful candidate shall be awarded a National Certificate by the TESDA Director General
- 4.1.2 Assessment shall focus on the core units of competency. The basic and common units are assessed concurrently with the core units.
- 4.1.3 Recognition of Prior Learning (RPL). Candidates who have gained competencies through education, informal training, and work or life experience may apply for recognition in a particular qualification through competency assessment.
- 4.1.4 The following are qualified to apply for assessment:
  - 4.1.4.1 Graduating students/trainees of WTR-registered programs, graduates of NTR programs or graduates of formal/non-formal/informal including enterprise-based training programs related to milking operation.
  - 4.1.4.2 Experienced workers in dairy industry
- 4.1.5 Conduct of assessment and issuance of certificates shall follow the “Procedures Manual on Assessment and Certification” and “Guidelines on the Implementation of the “Philippine TVET

### 4.2. COMPETENCY ASSESSMENT REQUISITE

- 4.2.1 **Self-Assessment Guide.** The self-assessment guide (SAG) is accomplished by the candidate prior to actual competency assessment. SAG is a pre-assessment tool to help the candidate and the assessor determine what evidence is available, where gaps exist, including readiness for assessment.

This document can:

- a) Identify the candidate's skills and knowledge
- b) Highlight gaps in candidate's skills and knowledge
- c) Provide critical guidance to the assessor and candidate on the evidence that need to be presented
- d) Assist the candidate to identify key areas in which practice is needed or additional information or skills that should be gained prior to assessment

4.2.2 **Accredited Assessment Center.** Only a TESDA-accredited assessment center is authorized to conduct competency assessment. The center has to undergo a quality assured procedure for accreditation before it is authorized by TESDA to manage the assessment for National Certification. The Accredited Assessment Center may partner with a Dairy Facilities and enter into a Memorandum of Agreement for venue use.

4.2.3 **Accredited Competency Assessor.** Only accredited competency assessor is authorized to conduct assessment of competence. Competency assessors undergo a quality assured system of accreditation procedure before they are authorized by TESDA to assess the competencies of candidates for National Certification.

#### 4.2.3.1 Qualification of Competency Assessors

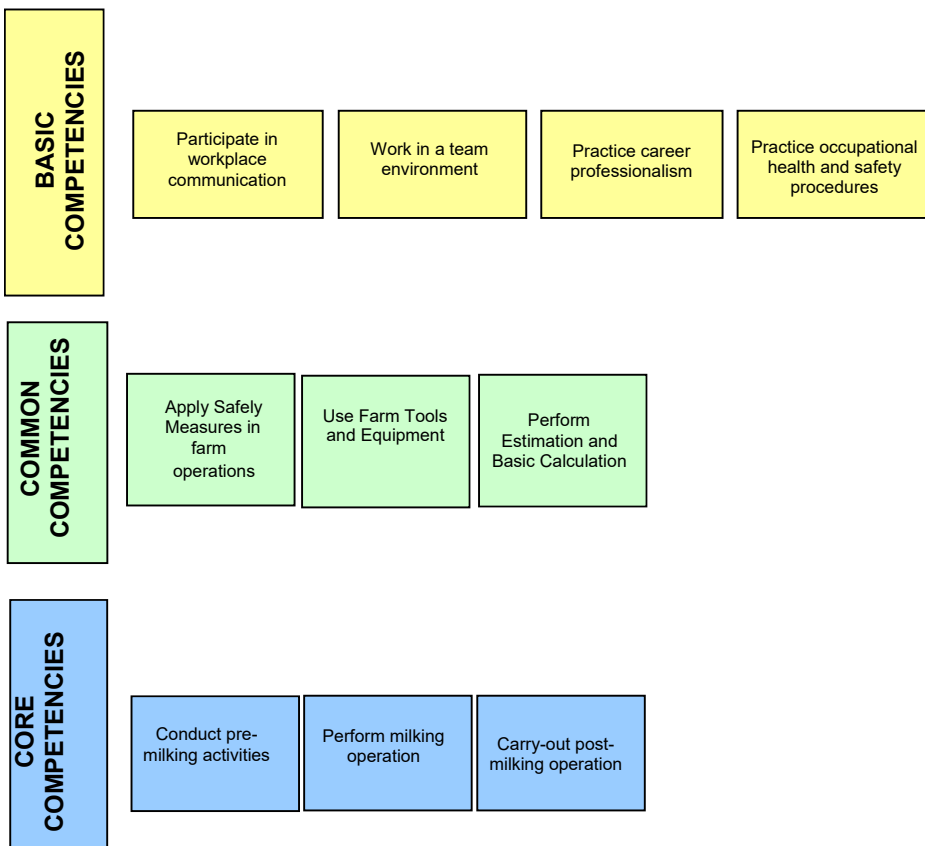
For Trainer-Assessor

- Holder of National TVET Trainer Certificate Level I (NTTC) on Milking Operation NC II with at least three (3) years work experience in the dairy industry

For Industry-Assessor

- Holder of National Certificate in Milking Operation NC II
- Holder of Certificate of Competency (COC) in Conduct Competency under the Trainers Methodology Level I (TM I)
- Must have at least three (3) years work experience in the dairy industry

**Supermarket of Competencies  
AGRICULTURE, FORESTRY AND FISHERY SECTOR**



## GLOSSARY OF TERMS

- 1. Milkers' PPE** Specialized clothing or equipment worn by milkers for protection against health and safety hazards. Personal protective equipment includes head cap, scrub suit, and boots
- 2. Animal udders** Organ formed of the mammary glands of female quadruped mammals
- 3. Teats dipping** The dipping of teats of dairy cows in a long-acting disinfectant before and at the end of each milking
- 4. Clean-in-place (CIP)** Method of cleaning the interior surfaces of pipes, vessels, process equipment, filters and associated fittings, without disassembly
- 5. Milking Parlor** An isolated room or separate building including the milking machine to which cows kept on a loose-housing system are taken for milking
- 6. Foremilking** is the process of the extraction of first milk or foremilk drawn from a cow's udder prior to milking
- 7. Clean-out-of- place (COP)** Cleaning disassembling or dismantling the equipment, often done manually

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