

# COMPETENCY STANDARDS

## BANANA CARE AND CONTROL SERVICES LEVEL II



### AGRICULTURE FISHERY AND FORESTRY

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 skills 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.

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## AGRICULTURE, FORESTRY AND FISHERY SECTOR

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## **COMPETENCY STANDARDS FOR BANANA CARE AND CONTROL SERVICES LEVEL II**

### **SECTION 1 DEFINITION**

The Banana Care and Control Services Level II Qualification consists of competencies that a person must achieve to conduct plant care, conduct fruit care and control pests and diseases.

The Units of Competency comprising this Qualification include the following:

<b>Unit Code</b>	<b>BASIC COMPETENCIES</b>
400311210	Participate in workplace communication
400311211	Work in team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Exercise efficient and effective sustainable practices in the workplace
400311218	Practice entrepreneurial skills in the workplace

<b>Unit Code</b>	<b>COMMON COMPETENCIES</b>
AFF321201	Apply safety measures in farm operations
AFF321202	Use farm tools and equipment
AFF321203	Perform estimation and calculations

<b>Unit Code</b>	<b>CORE COMPETENCIES</b>
AB-AFF1206500131301	Conduct plant care
AB-AFF1206500131302	Conduct fruit care
AB-AFF1206500131303	Control pests and diseases

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

- Master Tagger
- Plant Care Workers
- Fruit Care Workers
- Master Surveyor
- SIGATOKA Technician
- Black Leaf Streak (BLS) Reader
- Spray Men
- Chemical Mixer

## SECTION 2 COMPETENCY STANDARDS

These guidelines are set to provide the Technical Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **BANANA CARE AND CONTROL SERVICES LEVEL II**

### BASIC COMPETENCIES

<b>UNIT OF COMPETENCY</b>	:	<b>PARTICIPATE IN WORKPLACE COMMUNICATION</b>
<b>UNIT CODE</b>	:	<b>400311210</b>
<b>UNIT DESCRIPTOR</b>	:	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><i>appropriate sources</i></b> . 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information. 1.3 Appropriate <b><i>medium</i></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 are identified and followed. 1.6 Defined workplace procedures for the location and <b><i>storage</i></b> of information are used. 1.7 Personal interaction is carried out clearly and concisely.	1.1 Effective verbal and nonverbal communication 1.2 Different modes of communication 1.3 Medium of communication in the workplace 1.4 Organizational policies 1.5 Communication procedures and systems 1.6 Lines of Communication 1.7 Technology relevant to the enterprise and the individual's work responsibilities 1.8 Workplace etiquette	1.1 Following simple spoken language 1.2 Performing routine workplace duties following simple written notices 1.3 Participating in workplace meetings and discussions 1.4 Preparing work-related documents 1.5 Estimating, calculating and recording routine workplace measures 1.6 Relating/ Interacting with people of various levels in the workplace 1.7 Gathering and providing basic information in response to workplace requirements 1.8 Basic business writing skills

			1.9 Interpersonal skills in the workplace 1.10 Active-listening skills
2. Perform duties following workplace instructions	2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines. 2.2 Routine written instructions are followed based on established procedures. 2.3 Feedback is given to workplace supervisor based instructions/ information received. 2.4 <b>Workplace interactions</b> are conducted in a courteous manner. 2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from <b>appropriate sources</b> . 2.6 Meetings outcomes are interpreted and implemented.	2.1 Effective verbal and non-verbal communication 2.2 Different modes of communication 2.3 Medium of communication in the workplace 2.4 Organizational/ Workplace policies 2.5 Communication procedures and systems 2.6 Lines of communication 2.7 Technology relevant to the enterprise and the individual's work responsibilities 2.8 Effective questioning techniques (clarifying and probing) 2.9 Workplace etiquette	2.1 Following simple spoken instructions 2.2 Performing routine workplace duties following simple written notices 2.3 Participating in workplace meetings and discussions 2.4 Completing work- related documents 2.5 Estimating, calculating and recording routine workplace measures 2.6 Relating/ Responding to people of various levels in the workplace 2.7 Gathering and providing information in response to workplace requirements 2.8 Basic questioning/querying 2.9 Skills in reading for information 2.10 Skills in locating
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 Errors in recording information on forms/ documents are identified and acted upon. 3.4 Reporting requirements to the supervisor are completed according to	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication 3.3 Workplace forms and documents 3.4 Organizational/ Workplace policies 3.5 Communication procedures and systems 3.6 Technology relevant to the enterprise and the individual's work responsibilities	3.1 Completing work- related documents 3.2 Applying operations of addition, subtraction, division and multiplication 3.3 Gathering and providing information in response to workplace requirements 3.4 Effective record keeping skills

	organizational guidelines.		
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	May include: 1.1 Team members 1.2 Supervisor/Department Head 1.3 Suppliers 1.4 Trade personnel 1.5 Local government 1.6 Industry bodies
2. Medium	May include: 2.1 Memorandum 2.2 Circular 2.3 Notice 2.4 Information dissemination 2.5 Follow-up or verbal instructions 2.6 Face-to-face communication 2.7 Electronic media (disk files, cyberspace)
3. Storage	May include: 3.1 Manual filing system 3.2 Computer-based filing system
4. Workplace interactions	May include: 4.1 Face-to-face 4.2 Telephone 4.3 Electronic and two-way radio 4.4 Written including electronic means, memos, instruction and forms 4.5 Non-verbal including gestures, signals, signs and diagrams
5. Forms	May include: 5.1 HR/Personnel forms, telephone message forms, safety reports

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared written communication following standard format of the organization</li> <li>1.2 Accessed information using workplace communication equipment/systems</li> <li>1.3 Made use of relevant terms as an aid to transfer information effectively</li> <li>1.4 Conveyed information effectively adopting formal or informal communication</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Fax machine</li> <li>2.2 Telephone</li> <li>2.3 Notebook</li> <li>2.4 Writing materials</li> <li>2.5 Computer with Internet connection</li> </ul>
3. Method of Assessment	<p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Demonstration with oral questioning</li> <li>3.2 Interview</li> <li>3.3 Written test</li> <li>3.4 Third-party report</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed individually in the actual workplace or through an accredited institution</li> </ul>



<b>UNIT OF COMPETENCY</b>	:	<b>WORK IN TEAM ENVIRONMENT</b>
<b>UNIT CODE</b>	:	<b>400311211</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the skills, knowledge and attitudes to identify one's roles and responsibilities 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 role and objective of the team is identified from available sources of information. 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources.	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace 1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one's role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified. 2.2 Roles and objectives of the team are identified from available sources of information. 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources.	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace 2.2 Developing ways in improving work structure and performing respective roles in the group or organization
3. Work as a team member	3.1 Effective and appropriate forms of communications are used and interactions undertaken with team members based on company practices. 3.2 Effective and appropriate contributions made to	3.1 Communication Process 3.2 Workplace communication protocol 3.3 Team planning and decision making 3.4 Team thinking 3.5 Team roles	3.1 Communicating appropriately, consistent with the culture of the workplace 3.2 Interacting effectively with others 3.3 Deciding as an individual and as a group using group

	<p>complement team activities and objectives, based on workplace context.</p> <p>3.3 Protocols in reporting are observed based on standard company practices.</p> <p>3.4 Contribute to the development of team work plans based on an understanding of the team's role and objectives.</p>	<p>3.6 Process of team development</p> <p>3.7 Workplace context</p>	<p>think strategies and techniques</p> <p>3.4 Contributing to Resolution of issues and concerns</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	May include: 1.1 Work activities in a team environment with enterprise or specific sector 1.2 Limited discretion, initiative and judgement may be demonstrated on the job, either individually or in a team environment
2. Sources of information	May include: 2.1 Standard operating and/or other workplace procedures 2.2 Job procedures 2.3 Machine/equipment manufacturer's specifications and instructions 2.4 Organizational or external personnel 2.5 Client/supplier instructions 2.6 Quality standards 2.7 OHS and environmental standards
3. Workplace context	May include: 3.1 Work procedures and practices 3.2 Conditions of work environments 3.3 Legislation and industrial agreements 3.4 Standard work practice including the storage, safe handling and disposal of chemicals 3.5 Safety, environmental, housekeeping and quality guidelines

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Worked in a team to complete workplace activity 1.2 Worked effectively with others 1.3 Conveyed information in written or oral form 1.4 Selected and used appropriate workplace language 1.5 Followed designated work plan for the job
2. Resource Implications	The following resources should be provided: 2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place 2.2 Materials relevant to the proposed activity or tasks
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Role play involving the participation of individual member to the attainment of organizational goal 3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork 3.3 Socio-drama and socio-metric methods 3.4 Sensitivity techniques 3.5 Written Test
4. Context of Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while task are being undertaken whether individually or in group

<b>UNIT OF COMPETENCY</b>	:	<b>SOLVE/ADDRESS GENERAL WORKPLACE PROBLEMS</b>
<b>UNIT CODE</b>	:	<b>400311212</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills and attitudes required to apply problem-solving techniques to determine the origin of problems and plan for their resolution. It also includes addressing procedural problems through documentation, and referral.

<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 routine problems	1.1 Routine problems or procedural problem areas are identified. 1.2 Problems to be investigated are defined and determined. 1.3 Current conditions of the problem are identified and documented.	1.1 Current industry hardware and software products and services 1.2 Industry maintenance, service and helpdesk practices, processes and procedures 1.3 Industry standard diagnostic tools 1.4 Malfunctions and resolutions	1.1 Identifying current industry hardware and software products and services 1.2 Identifying current industry maintenance, services and helpdesk practices, processes and procedures. 1.3 Identifying current industry standard diagnostic tools 1.4 Describing common malfunctions and resolutions. 1.5 Determining the root cause of a routine malfunction
2. Look for solutions to routine problems	2.1 Potential solutions to problems are identified. 2.2 Recommendations about possible solutions are developed, documented, ranked and presented to the appropriate person for decision.	2.1 Current industry hardware and software products and services 2.2 Industry service and helpdesk practices, processes and procedures 2.3 Operating systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions.	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk practices processes and procedures. 2.3 Identifying operating system

		2.6 Root cause analysis	2.4 Identifying current industry standard diagnostic tools 2.5 Describing common malfunctions and resolutions. 2.6 Determining the root cause of a routine malfunction
3. Recommend solutions to problems	3.1 Implementation of solutions are planned. 3.2 Evaluation of implemented solutions are planned. 3.3 Recommended solutions are documented and submitted to appropriate person for confirmation.	3.1 Standard procedures 3.2 Documentation produce	3.1 Producing documentation that recommends solutions to problems 3.2 Following established procedures

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Problems/Procedural Problem	May include: 1.1 Routine/non – routine processes and quality problems 1.2 Equipment selection, availability and failure 1.3 Teamwork and work allocation problem 1.4 Safety and emergency situations and incidents 1.5 Work-related problems outside of own work area
2. Appropriate person	May include: 2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Document	May include: 3.1 Electronic mail 3.2 Briefing notes 3.3 Written report 3.4 Evaluation report
4. Plan	May include: 4.1 Priority requirements 4.2 Coordination and feedback requirements 4.3 Safety requirements 4.4 Risk assessment 4.5 Environmental requirements

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Determined the root cause of a routine problem</li> <li>1.2 Identified solutions to procedural problems.</li> <li>1.3 Produced documentation that recommends solutions to problems.</li> <li>1.4 Followed established procedures.</li> <li>1.5 Referred unresolved problems to support persons.</li> </ul>
2. Resource Implications	<p>Assessment will require access to a workplace over an extended period, or a suitable method of gathering evidence of operating ability over a range of situations.</p>
3. Method of Assessment	<p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Case Formulation</li> <li>3.2 Life Narrative Inquiry</li> <li>3.3 Standardized test</li> </ul> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
4. Context of Assessment	<p>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.</p>



<b>UNIT OF COMPETENCY</b>	:	<b>DEVELOP CAREER AND LIFE DECISIONS</b>
<b>UNIT CODE</b>	:	<b>400311213</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills, and attitudes in managing one's emotions, developing reflective practice, and boosting self-confidence and developing self-regulation.

<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. Manage one's emotion	1.1 Self-management strategies are identified. 1.2 Skills to work independently and to show initiative, to be conscientious, and persevering in the face of setbacks and frustrations are developed. 1.3 Techniques for effectively handling negative emotions and unpleasant situations in the workplace are examined.	1.1 Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self management strategies according to Robert Kelley) 1.2 Enablers and barriers in achieving personal and career goals 1.3 Techniques in handling negative emotions and unpleasant situations in the workplace such as frustration, anger, worry, anxiety, etc.	1.1 Managing properly one's emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2 Developing self discipline, working independently and showing initiative to achieve personal and career goals 1.3 Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace
2. Develop reflective practice	2.1 Personal strengths and achievements, based on self assessment strategies and teacher feedback are contemplated. 2.2 Progress when seeking and responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored.	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan)	2.1 Using the basic SWOT analysis as self assessment strategy 2.2 Developing reflective practice through realization of limitations, likes/ dislikes; through showing of self confidence 2.3 Demonstrating self-acceptance and being able to accept challenges

	2.3 Outcomes of personal and academic challenges by reflecting on previous problem solving and decision making strategies and feedback from peers and teachers are predicted.		
3. Boost self confidence and develop self regulation	3.1 Efforts for continuous self improvement are demonstrated. 3.2 Counter-productive tendencies at work are eliminated. 3.3 Positive outlook in life is maintained.	3.1 Four components of self-regulation based on Self Regulation Theory (SRT) 3.2 Personality development concepts 3.3 Self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis, psychospiritual concepts)	3.1 Performing effective communication skills – reading, writing, conversing skills 3.2 Showing affective skills – flexibility, adaptability, etc. 3.3 Self-assessment for determining one’s strengths and weaknesses

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategies	May include: 1.1 Seeking assistance in the form of job coaching or mentoring 1.2 Continuing dialogue to tackle workplace grievances 1.3 Collective negotiation/bargaining for better working conditions 1.4 Share your goals to improve with a trusted co worker or supervisor 1.5 Make a negativity log of every instance when you catch yourself complaining to others 1.6 Make lists and schedules for necessary activities
2. Unpleasant situation	May include: 2.1 Job burn-out 2.2 Drug dependence 2.3 Sulking

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Express emotions appropriately 1.2 Work independently and show initiative 1.3 Consistently demonstrate self-confidence and self-discipline
2. Resource Implications	The following resources should be provided: 2.1 Access to workplace and resources 2.2 Case studies
3. Method of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration or simulation with oral questioning 3.2 Case problems involving work improvement and sustainability issues 3.3 Third-party report
4. Context of Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment

<b>UNIT OF COMPETENCY</b>	:	<b>CONTRIBUTE TO WORKPLACE INNOVATION</b>
<b>UNIT CODE</b>	:	<b>400311214</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills and attitudes required to make a proactive and positive contribution to workplace innovation.

<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 opportunities to do things better	1.1 Opportunities for improvement are identified proactively in their own area of work. 1.2 Information is gathered and reviewed which may be relevant to ideas and which might assist in gaining support for ideas.	1.1 Roles of individuals in suggesting and making improvements. 1.2 Positive impacts and challenges in innovation. 1.3 Types of changes and responsibility. 1.4 Seven habits of highly effective people.	1.1 Identifying opportunities to improve and to do things better. Involvement 1.2 Identifying the positive impacts and the challenges of change and innovation 1.3 Identifying examples of the types of changes that are within and outside own scope of responsibility
2. Discuss and develop ideas with others	2.1 People who could provide input to ideas for improvements are identified. 2.2 Ways of approaching people to begin sharing ideas are selected. 2.3 Meeting is set with relevant people. 2.4 Ideas for follow up are reviewed and selected based on feedback. 2.5 Critical inquiry method is used to discuss and develop ideas with others.	2.1 Roles of individuals in suggesting and making improvements 2.2 Positive impacts and challenges in innovation 2.3 Types of changes and responsibility. 2.4 Seven habits of highly effective people	2.1 Identifying opportunities to improve and to do things better. Involvement 2.2 Identifying the positive impacts and the challenges of change and innovation 2.3 Providing examples of the types of changes that are within and outside own scope of responsibility 2.4 Communicating ideas for change through small group discussions and meetings

<p>3. Integrate ideas for change in the workplace</p>	<p>3.1 Critical inquiry method is used to integrate different ideas for change of key people.  3.2 Summarizing, analyzing and generalizing skills are used to extract salient points in the pool of ideas.  3.3 Reporting skills are likewise used to communicate results.  3.4 Current Issues and concerns on the systems, processes and procedures, as well as the need for simple innovative practices are identified.</p>	<p>3.1 Roles of individuals in suggesting and making improvements  3.2 Positive impacts and challenges in innovation  3.3 Types of changes and responsibility  3.4 Seven habits of highly effective people  3.5 Basic research skills analysis, psychospiritual concepts)</p>	<p>3.1 Identifying opportunities to improve and to do things better. Involvement  3.2 Identifying the positive impacts and the challenges of change and innovation  3.3 Providing examples of the types of changes that are within and outside own scope of responsibility  3.4 Communicating ideas for change through small group discussions and meetings  3.5 Demonstrating skills in analysis and interpretation of data</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Opportunities for improvement	May include: 1.1 Systems 1.2 Processes 1.3 Procedures 1.4 Protocols 1.5 Codes 1.6 Practices
2. Information	May include: 2.1 Workplace communication problems 2.2 Performance evaluation results 2.3 Team dynamics issues and concerns 2.4 Challenges on return of investment 2.5 New tools, processes and procedures 2.6 New people in the organization
3. People who could provide input	May include: 3.1 Leaders 3.2 Managers 3.3 Specialists 3.4 Associates 3.5 Researchers 3.6 Supervisors 3.7 Staff 3.8 Consultants (external) 3.9 People outside the organization in the same field or similar expertise/industry 3.10 Clients
4. Critical inquiry method	May include: 4.1 Preparation 4.2 Discussion 4.3 Clarification of goals 4.4 Negotiate towards a Win-Win outcome 4.5 Agreement 4.6 Implementation of a course of action 4.7 Effective verbal communication. See our pages: Verbal Communication and Effective Speaking 4.8 Listening 4.9 Reducing misunderstandings is a key part of effective negotiation 4.10 Rapport Building 4.11 Problem Solving 4.12 Decision Making 4.13 Assertiveness 4.14 Dealing with Difficult Situations
5. Reporting skills	May include: 5.1 Data management 5.2 Coding 5.3 Data analysis and interpretation 5.4 Coherent writing 5.5 Speaking

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Identified opportunities to do things better.</p> <p>1.2 Discussed and developed ideas with others on how to contribute to workplace innovation.</p> <p>1.3 Integrated ideas for change in the workplace.</p> <p>1.4 Analyzed and reported rooms for innovation and learning in the workplace.</p>
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <p>2.1 Pens, papers and writing implements</p> <p>2.2 Cartolina</p> <p>2.3 Manila papers</p>
<p>3. Method of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <p>3.1 Psychological and behavioral Interviews</p> <p>3.2 Performance Evaluation</p> <p>3.3 Life Narrative Inquiry</p> <p>3.4 Review of portfolios of evidence and third-party workplace reports of on-the-job performance</p> <p>3.5 Sensitivity analysis</p> <p>3.6 Organizational analysis</p> <p>3.7 Standardized assessment of character strengths and virtues applied</p>
<p>4. Context of Assessment</p>	<p>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.</p>



<b>UNIT OF COMPETENCY</b>	:	<b>PRESENT RELEVANT INFORMATION</b>
<b>UNIT CODE</b>	:	<b>400311215</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills and attitudes required to present data/information appropriately.

<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. Gather data/ information	1.1 Evidence, facts and information are collected. 1.2 Evaluation, terms of reference and conditions are reviewed to determine whether data/information falls within project scope.	1.1 Organisational protocols 1.2 Confidentiality 1.3 Accuracy 1.4 Business mathematics and statistics 1.5 Data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Legislation, policy and procedures relating to the conduct of evaluations 1.8 Organisational values, ethics and codes of conduct	1.1 Describing organisational protocols relating to client liaison 1.2 Protecting confidentiality 1.3 Describing accuracy 1.4 Computing business mathematics and statistics 1.5 Describing data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Stating legislation, policy and procedures relating to the conduct of evaluations 1.8 Stating organisational values, ethics and codes of conduct
2. Assess gathered data/ information	2.1 Validity of data/ information is assessed. 2.2 Analysis techniques are applied to assess data/ information. 2.3 Trends and anomalies are identified. 2.4 Data analysis techniques and procedures are documented. 2.5 Recommendations are made on areas of possible improvement.	2.1 Business mathematics and statistics 2.2 Data analysis techniques/procedures 2.3 Reporting requirements to a range of audiences 2.4 Legislation, policy and procedures relating to the conduct of evaluations	2.1 Computing business mathematics and statistics 2.2 Describing data analysis techniques/procedures 2.3 Reporting requirements to a range of audiences 2.4 Stating legislation, policy and procedures relating

		2.5 Organisational values, ethics and codes of conduct	to the conduct of evaluations 2.5 Stating organisational values, ethics and codes of conduct
3. Record and present information	3.1 Studied data/ information are recorded. 3.2 Recommendations are analysed for action to ensure they are compatible with the project's scope and terms of reference. 3.3 Interim and final reports are analysed and outcomes are compared to the criteria established at the outset. 3.4 Findings are presented to stakeholders.	3.1 Data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Legislation, policy and procedures relating to the conduct of evaluations 3.4 Organisational values, ethics and codes of conduct	3.1 Describing data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Stating legislation, policy and procedures relating to the conduct of evaluations 3.4 Stating organisational values, ethics and codes of conduct practices

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Data analysis techniques	May include: 1.1 Domain analysis 1.2 Content analysis 1.3 Comparison technique

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Determine data / information</li> <li>1.2 Studied and applied gathered data/information</li> <li>1.3 Recorded and studied data/information</li> </ul> <p>These aspects may be best assessed using a range of scenarios as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.</p>
<p>2. Resource Implications</p>	<p>Specific resources for assessment</p> <ul style="list-style-type: none"> <li>2.1 Evidence of competent performance should be obtained by observing an individual in an information management role within the workplace or operational or simulated environment.</li> </ul>
<p>3. Method of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Written Test</li> <li>3.2 Interview</li> <li>3.3 Portfolio</li> </ul> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
<p>4. Context of Assessment</p>	<ul style="list-style-type: none"> <li>4.1 In all workplaces, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.</li> </ul>

<b>UNIT OF COMPETENCY</b>	:	<b>PRACTICE OCCUPATIONAL SAFETY AND HEALTH POLICIES AND PROCEDURES</b>
<b>UNIT CODE</b>	:	<b>400311216</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills and attitudes required to identify OSH compliance requirements, prepare OSH requirements for compliance, perform tasks in accordance with relevant OSH policies and procedures.

<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 OSH compliance requirements	1.1 Relevant OSH requirements, regulations, policies and procedures are identified in accordance with workplace policies and procedures. 1.2 OSH activity nonconformities are conveyed to appropriate personnel. 1.3 OSH preventive and control requirements are identified in accordance with OSH work policies and procedures.	1.1 OSH preventive and control requirements 1.2 Hierarchy of Controls 1.3 Hazard Prevention and Control 1.4 General OSH principles 1.5 Work standards and procedures 1.6 Safe handling procedures of tools, equipment and materials 1.7 Standard emergency plan and procedures in the workplace	1.1 Communication skills 1.2 Interpersonal skills 1.3 Critical thinking skills 1.4 Observation skills
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures. 2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures. 2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures 2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills 2.6 Material, tool and equipment identification skills

<p>3. Perform tasks in accordance with relevant OSH policies and procedures</p>	<p>3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures.  3.2 Work Activities are executed in accordance with OSH work standards.  3.3 Non-compliance work activities are reported to appropriate personnel.</p>	<p>3.1 OSH work standards  3.2 Industry related work activities  3.3 General OSH principles  3.4 OSH Violations Non-compliance work activities</p>	<p>3.1 Communication skills  3.2 Interpersonal skills  3.3 Troubleshooting skills  3.4 Critical thinking skills  3.5 Observation skills</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Requirements, Regulations, Policies and Procedures	May include: .1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Permit to Operate 1.6 Philippine Occupational Safety and Health Standards 1.7 Department Order No. 13 (Construction Safety and Health) 1.8 ECC regulations
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself
3. OSH Preventive and Control Requirements	May include: 3.1 Resources needed for removing hazard effectively 3.2 Resources needed for substitution or replacement 3.3 Resources needed to establishing engineering controls 3.4 Resources needed for enforcing administrative controls 3.5 Personal Protective equipment
4. Non OSH-Compliance Work Activities	May include non-compliance or observance of the following safety measures: 4.1 Violations that may lead to serious physical harm or death 4.2 Fall Protection 4.3 Hazard Communication 4.4 Respiratory Protection 4.5 Power Industrial Trucks 4.6 Lockout/Tag-out 4.7 Working at heights (use of ladder, scaffolding) 4.8 Electrical Wiring Methods 4.9 Machine Guarding 4.10 Electrical General Requirements 4.11 Asbestos work requirements 4.12 Excavations work requirements

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Convey OSH work non-conformities to appropriate personnel</li> <li>1.2 Identify OSH preventive and control requirements in accordance with OSH work policies and procedures</li> <li>1.3 Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures</li> <li>1.4 Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards</li> <li>1.5 Execute work activities in accordance with OSH work standards</li> <li>1.6 Report OSH activity non-compliance work activities to appropriate personnel</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Facilities, materials tools and equipment necessary for the activity</li> </ul>
3. Method of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Observation/Demonstration with oral questioning</li> <li>3.2 Third party report</li> </ul>
4. Context of Assessment	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed in the workplace or in a simulated workplace setting</li> </ul>



<b>UNIT OF COMPETENCY</b>	:	<b>EXERCISE EFFICIENT AND EFFECTIVE SUSTAINABLE PRACTICES IN THE WORKPLACE</b>
<b>UNIT CODE</b>	:	<b>400311217</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers knowledge, skills and attitude to identify the efficiency and effectiveness of resource utilization, determine causes of inefficiency and/or ineffectiveness of resource utilization and Convey inefficient and ineffective environmental practices.

<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 the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques. 1.2 Data is recorded in accordance with workplace protocol. 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established environmental work procedures.	1.1 Importance of Environmental Literacy 1.2 Environmental Work Procedures 1.3 Waste Minimization 1.4 Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1 Potential causes of inefficiency and/or ineffectiveness are listed. 2.2 Causes of inefficiency and/or ineffectiveness are identified through deductive reasoning. 2.3 Identified causes of inefficiency and/or ineffectiveness are validated thru established environmental procedures.	2.1 Causes of environmental inefficiencies and ineffectiveness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are	3.1 Appropriate Personnel to address the environmental hazards	3.1 Written and Oral Communication Skills 3.2 Critical thinking 3.3 Problem Solving

	<p>reported to appropriate personnel.</p> <p>3.2 Concerns related to resource utilization are discussed with appropriate personnel.</p> <p>3.3 Feedback on information/ concerns raised are clarified with appropriate personnel.</p>	<p>3.2 Environmental corrective actions</p>	<p>3.4 Observation Skills</p> <p>3.5 Practice Environmental Awareness</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Work Procedures	May include: 1.1 Utilization of Energy, Water, Fuel Procedures 1.2 Waster Segregation Procedures 1.3 Waste Disposal and Reuse Procedures 1.4 Waste Collection Procedures 1.5 Usage of Hazardous Materials Procedures 1.6 Chemical Application Procedures 1.7 Labeling Procedures
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Measured required resource utilization in the workplace using appropriate techniques 1.2 Recorded data in accordance with workplace protocol 1.3 Identified causes of inefficiency and/or ineffectiveness through deductive reasoning 1.4 Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures 1.5 Report efficiency and effectiveness of resource utilization to appropriate personnel 1.6 Clarify feedback on information/concerns raised with appropriate personnel
2. Resource Implications	The following resources should be provided: 2.1 Workplace 2.2 Tools, materials and equipment relevant to the tasks 2.3 PPE 2.4 Manuals and references
3. Method of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written examination
4. Context of Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment 4.2 Assessment shall be observed while task are being undertaken whether individually or in-group

<b>UNIT OF COMPETENCY</b>	:	<b>PRACTICE ENTREPRENEURIAL SKILLS IN THE WORKPLACE</b>
<b>UNIT CODE</b>	:	<b>400311218</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the outcomes required to apply entrepreneurial workplace best practices and implement cost-effective operations.

<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. Apply entrepreneurial workplace best practices	1.1 Good practices relating to workplace operations are observed and selected following workplace policy. 1.2 Quality procedures and practices are complied with according to workplace requirements. 1.3 Cost-conscious habits in resource utilization are applied based on industry standards	1.1 Workplace best practices, policies and criteria 1.2 Resource utilization 1.3 Ways in fostering entrepreneurial attitudes: • Patience • Honesty • Quality-consciousness • Safety-consciousness • Resourcefulness	1.1 Communication skills 1.2 Complying with quality procedures
2. Communicate entrepreneurial workplace best practices	2.1 Observed good practices relating to workplace operations are communicated to the appropriate person. 2.2 Observed quality procedures and practices are communicated to the appropriate person. 2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	2.1 Workplace best practices, policies and criteria 2.2 Resource utilization 2.3 Ways in fostering entrepreneurial attitudes: • Patience • Honesty • Quality-consciousness • Safety-consciousness • Resourcefulness	2.1 Communication skills 2.2 Complying with quality procedures 2.3 Following workplace communication protocol
3. Implement cost effective operations	3.1 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy. 3.2 Judicious use of workplace tools,	3.1 Optimization of workplace resources 3.2 5S procedures and concepts 3.3 Criteria for cost effectiveness 3.4 Workplace productivity	3.1 Implementing preservation and optimizing workplace resources 3.2 Observing judicious use of workplace tools,

	<p>equipment and materials are observed according to manual and work requirements.</p> <p>3.3 Constructive contributions to office operations are made according to enterprise requirements.</p> <p>3.4 Ability to work within one's allotted time and finances is sustained.</p>	<p>3.5 Impact of entrepreneurial mindset to workplace productivity</p> <p>3.6 Ways in fostering entrepreneurial attitudes:</p> <ul style="list-style-type: none"> <li>• Quality - consciousness</li> <li>• Safety - consciousness</li> </ul>	<p>equipment and materials</p> <p>3.3 Making constructive contributions to office operations</p> <p>3.4 Sustaining ability to work within allotted time and finances</p>
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## RANGE OF VARIABLES

<b>VARIABLE</b>	<b>RANGE</b>
1. Good practices	May include: 1.1 Economy in use of resources 1.2 Documentation of quality practices
2. Resources utilization	May include: 2.1 Consumption/ use of consumables 2.2 Use/Maintenance of assigned equipment and furniture 2.3 Optimum use of allotted /available time

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Demonstrated ability to identify and sustain cost-effective activities in the workplace 1.2 Demonstrated ability to practice entrepreneurial knowledge, skills and attitudes in the workplace.
2. Resource Implications	The following resources should be provided: 2.1 Simulated or actual workplace 2.2 Tools, materials and supplies needed to demonstrate the required tasks 2.3 References and manuals 2.3.1 Enterprise procedures manuals 2.3.2 Company quality policy
3. Method of Assessment	Competency in this unit should be assessed through: 3.1 Interview 3.2 Third-party report
4. Context of Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group

## COMMON COMPETENCIES

<b>UNIT OF COMPETENCY</b>	:	<b>APPLY SAFETY MEASURES IN FARM OPERATIONS</b>
<b>UNIT CODE</b>	:	<b>AFF321201</b>
<b>UNIT DESCRIPTOR</b>	:	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.

<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. 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	1.1 Different work tasks in farm operations 1.2 Place and time for implementation of safety measures 1.3 Different hazards in the workplace 1.4 Types of tools, materials and outfits 1.5 Preparation of tools, materials and outfits	1.1 Identifying work tasks in farm operations 1.2 Determining place and time for implementation of safety measures 1.3 Reading labels, manuals and other basic safety information 1.4 Identifying effective/functional tools, materials and outfit 1.5 Preparing tools, materials and outfits 1.6 Discarding defective tools, and materials
2. 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	2.1 Uses and functions of tools 2.2 Outfits and how to wear it. 2.3 Expiration/shelf life of materials 2.4 Proper disposal of expired materials 2.5 Environmental rules and regulations 2.6 Emergency procedures 2.7 Hazards identification and reporting 2.8 Communication skills	2.1 Using tools and materials in the workplace 2.2 Wearing of outfits 2.3 Observing expiration/ shelf life of materials 2.4 Disposing of expired materials 2.5 Following emergency procedures 2.6 Identifying and reporting hazards in the workplace area.



	and reported in line with farm guidelines	2.9 OSHS	
3. Safe keep /dispose tools, materials and outfit	<p>3.1 Used tools and outfit are cleaned after use and stored in designated areas</p> <p>3.2 Unused materials are properly labeled and stored according to manufacturer's recommendation and farm requirements</p> <p>3.3 Waste materials are disposed according to manufacturers, government and farm requirements</p>	<p>3.1 Procedures of cleaning used tools and outfits</p> <p>3.2 Label and storage unused materials</p> <p>3.3 Disposal of wastes materials</p> <p>3.4 Manufacturers recommendation on keeping materials</p> <p>3.5 Environmental rules and regulations</p>	<p>3.1 Cleaning used tools and outfit</p> <p>3.2 Labelling and storing unused materials</p> <p>3.3 Disposing waste materials</p>

## RANGE OF VARIABLES

<b>VARIABLE</b>	<b>RANGE</b>
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	May include: 2.1 Stock room/storage areas/warehouse 2.2 Field/farm/orchard
3. Time	May include: 3.1 Fertilizer and pesticides application 3.2 Feed mixing and feeding 3.3 Harvesting and hauling
4. Tools, materials and outfits	May include: 4.1 Tools 4.1.1 Wrenches 4.1.2 Screwdriver 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	May include: 5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Hazards	May include: 6.1 Chemical 6.2 Electrical 6.3 Falls

## EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Determined areas of concern for safety measures</li> <li>1.2 Applied appropriate safety measures according to industry requirements</li> <li>1.3 Prepared tools, materials and outfit needed</li> <li>1.4 Performed proper disposal of used materials</li> <li>1.5 Cleaned and stored tools, materials and outfit in designated facilities.</li> </ul>
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Farm location</li> <li>2.2 Tools, equipment and outfits appropriate in applying safety measures</li> </ul>
3. Method of Assessment	<p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Practical demonstration</li> <li>3.2 Third Party Report</li> </ul>
4. Context of Assessment	<p>4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.</p>

<b>UNIT OF COMPETENCY</b>	:	<b>USE FARM TOOLS AND EQUIPMENT</b>
<b>UNIT CODE</b>	:	<b>AFF321202</b>
<b>UNIT DESCRIPTOR</b>	:	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.

<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. Select and use farm tools	<p>1.1 Appropriate farm tools are identified according to requirement/use.</p> <p>1.2 Farm tools are checked for faults and defective tools reported in accordance with farm procedures.</p> <p>1.3 Appropriate tools are safely used according to job requirements and manufacturers conditions.</p>	<p>1.1 Types and uses of farm tools</p> <p>1.2 Characteristics of functional tools</p> <p>1.3 Checking tools for defects/faults</p> <p>1.4 Segregation and reporting defective tools</p> <p>1.5 Uses of tools</p>	<p>1.1 Identifying farm tools for the work</p> <p>1.2 Checking the conditions of tools</p> <p>1.3 Reporting defective tools</p> <p>1.4 Using tools</p>
2. Select and operate farm equipment	<p>2.1 Identify appropriate <b>farm equipment</b>.</p> <p>2.2 Instructional manuals of the farm tools and equipment are carefully read prior to operation.</p> <p>2.3 Pre-operation check-up is conducted in line with the manufacturer's manual.</p> <p>2.4 Faults in farm equipment are identified and reported in line with farm procedures.</p> <p>2.5 Farm equipment is used according to its function. 2.6 Safety procedures are followed.</p>	<p>2.1 Types and operations of farm equipment</p> <p>2.2 Standards operating procedures of farm equipment</p> <p>2.3 Instructional manual of equipment</p> <p>2.4 Pre-operation check-up</p> <p>2.5 Equipment Specification</p> <p>2.6 Procedures in calibrating and use of equipment</p> <p>2.7 Equipment faults identification and reporting</p> <p>2.8 Operation of equipment</p> <p>2.9 Codes and Regulations on environmental protection</p>	<p>2.1 Identifying appropriate farm equipment for the work</p> <p>2.2 Reading instructional manual</p> <p>2.3 Conducting pre operation checkup</p> <p>2.4 Identifying faults/defects of farm equipment</p> <p>2.5 Reporting on defective farm equipment</p> <p>2.6 Operating farm equipment</p> <p>2.7 Following safety procedures</p> <p>2.6 Identifying and reporting hazards in the workplace area.</p>

		2.10 Safety and keeping of equipment every after use 2.11 Safety measures	
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. 3.3 Tools and equipment are stored in designated areas in line with farm procedures.	3.1 Cleaning procedures of tools and equipment 3.2 Maintenance procedures of farm equipment 3.3 Storage of tools and equipment 3.4 Designated storage areas	3.1 Cleaning tools and equipment 3.2 Performing routinely checkup of tools and equipment 3.3 Maintaining farm equipment 3.4 Storing tools and equipment

## RANGE OF VARIABLES

<b>VARIABLE</b>	<b>RANGE</b>
1. Farm equipment	May include: 1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	May include: 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	May include: 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	Assessment requires evidence that the candidate: 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	The following resources should be provided: 2.1 Service/operational manual of farm tools and equipment 2.2 Tools and equipment 2.3 Farm implements
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Direct observation 3.2 Practical demonstration 3.3 Third Party Report
4. Context of Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions

<b>UNIT OF COMPETENCY</b>	:	<b>PERFORM ESTIMATION AND BASIC CALCULATION</b>
<b>UNIT CODE</b>	:	<b>AFF321203</b>
<b>UNIT DESCRIPTOR</b>	:	This unit covers the knowledge, skills and attitudes required to perform basic workplace calculations.

<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. 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 estimates for work completion are made. 1.5 Estimates of materials and resources are reported to the appropriate person.	1.1 Job requirements/ labor needs 1.2 Calculation of quantities of materials and resources required 1.3 Calculation of time for job completion 1.4 Preparation of estimate report 1.5 Basic mathematical operations 1.6 Percentage and ratios 1.7 Unit Conversion	1.1 Identifying job requirements/ labor 1.2 Estimating quantities of materials and resources required 1.3 Estimating time for job completion 1.4 Performing basic calculation 1.5 Compute percentage 1.6 Convert English to metric systems of measurement 1.7 Preparing estimate report
2. Perform basic workplace calculation	2.1 System and units of measurement to be followed are ascertained. 2.2 Calculations needed to complete work tasks are performed using the four basic mathematical operations. 2.3 Calculate the whole fraction, percentage and mixed when they are used to complete the instructions. 2.4 Number computed is checked following work requirements	2.1 Four basic mathematical operation 2.2 System and units of measurement 2.3 Fraction, percentage and ratio 2.4 Material take-off 2.5 Materials costing	2.1 Compute bill of materials 2.2 Compute project cost.



## RANGE OF VARIABLES

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

## EVIDENCE GUIDE

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

## CORE COMPETENCIES

### UNIT OF COMPETENCY: CONDUCT PLANT CARE

**UNIT CODE:** AB-AFF1206500131301

**UNIT DESCRIPTOR:** This unit covers the knowledge, skills and attitudes required to conduct activities related to plant care. This unit also includes conduct staking, digging of holes, application of basal fertilizer, planting of meristem and other procedures as necessary.

ELEMENTS	PERFORMANCE CRITERIA	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform Planting	1.1. <b>Tools, materials and equipment</b> are prepared for planting 1.2. Bamboo stakes are placed based on <b>standard measurements</b> 1.3. Irrigation System is established 1.4. Holes are dug based on <b>industry standards</b> 1.5. <b>Basal fertilizer</b> is applied based on manuals and procedures. 1.6. Meristem is planted based farm standards. 1.7. Suckers are removed using <b>gas pruning method</b> 1.8. <b>Personal protective Equipment (PPEs)</b> are used based on industry standards	<b>SCIENCE</b> 1.1. Systems of Planting 1.2. Soil Quality 1.3. Land Topography 1.4. Weather Forecast 1.5. Awareness on soil erosion and its control  <b>TECHNOLOGY</b> 1.6. Types of tools, materials and equipment 1.7. Usage and importance of PPEs 1.8. Cleaning, sanitation and disinfection procedures 1.9. Irrigation System 1.10. Methods of Pruning  <b>MATH</b> 1.11. Fertilizer Rate 1.12. Ratio and proportion 1.13. hole measurement 1.14. Measurement  <b>COMMUNICATION</b> 1.15. Manuals and procedures 1.16. Manpower efficiency  <b>ENVIROMENTAL AND RELATED LAWS</b> 1.17. Good Agricultural Practices (GAPS) 1.18. Occupational Health and Safety (OHS)	1.1. Handling of tools, materials and equipment 1.2. Using manuals. 1.3. Digging holes 1.4. Staking 1.5. Using PPEs 1.6. Applying fertilizers 1.7. Measuring 1.8. Pruning 1.9. Cleaning, sanitizing and disinfecting 1.10. Operating irrigation system

		<p>guidelines</p> <p>1.19. Fertilizer and Pesticide Authority (FPA) accreditation</p> <p>1.20. Bureau of Plant Industry guidelines</p> <p>1.21. Good environmental practices</p> <p>1.22. RA 6969: Act to Control Toxic Substances and Hazardous and Nuclear Wastes</p> <p>1.23. RA 9003: Ecological Waste Management</p> <p>1.24. RA 8749: Clean Air Act</p>	
2. Perform Soil Fertilization	<p>2.1 <b>Tools, materials and equipment</b> are prepared for soil fertilization</p> <p>2.2 <b>Soil ameliorants</b> are applied based on soil analysis.</p> <p>2.3 <b>Fertilizer</b> is applied based on farm standards</p> <p>2.4 <b>Root system</b> is examined based on farm standards</p> <p>2.5 <b>Personal protective Equipment (PPEs)</b> are used based on industry standards</p>	<p><b>SCIENCE</b></p> <p>2.1. Weather Forecast</p> <p>2.2. Fertilizer elements</p> <p>2.3. Roots System</p> <p><b>TECHNOLOGY</b></p> <p>2.4. Types of tools, materials and equipment</p> <p>2.5. Usage and importance of PPEs</p> <p>2.6. Methods of fertilizer application</p> <p>2.7. Schedule of fertilizer application</p> <p>2.8. Cleaning, sanitation and disinfection procedures</p> <p><b>MATH</b></p> <p>2.9. Fertilizer Rate</p> <p>2.10. Ratio and proportion</p> <p>2.11. Measurement</p> <p><b>COMMUNICATION</b></p> <p>2.12. Manuals and procedures</p> <p>2.13. Schedule of farm activities</p> <p>2.14. Manpower efficiency</p> <p><b>ENVIRONMENTAL AND RELATED LAWS</b></p> <p>2.15. Good Agricultural Practices (GAPS)</p> <p>2.16. Occupational Health</p>	<p>2.1. Handling of tools, materials and equipment</p> <p>2.2. Using manuals.</p> <p>2.3. Using PPEs</p> <p>2.4. Applying fertilizers</p> <p>2.5. Measuring</p> <p>2.6. Cleaning, sanitizing and disinfecting</p>

		<p>and Safety (OHS) guidelines</p> <p>2.17. Fertilizer and Pesticide Authority (FPA) accreditation</p> <p>2.18. Bureau of Plant Industry guidelines</p> <p>2.19. Fertilizer Regulatory Policies and Implementing Guidelines</p> <p>2.20. Good environmental practices</p>	
<p>3. Perform Weed Control</p>	<p>3.1 <b>Tools, materials and equipment</b> are prepared for weed control</p> <p>3.2 Tools, materials and equipment are used following industry practice</p> <p>3.3 <b>Weeds</b> are controlled using <b>weed control methods</b>.</p> <p>3.4. <b>Personal protective Equipment (PPEs)</b> are used based on industry standards</p>	<p><b>SCIENCE</b></p> <p>3.1. Types of Weeds</p> <p>3.2.Types of herbicides</p> <p>3.3. Weather forecast</p> <p>3.4.Water Quality</p> <p><b>TECHNOLOGY</b></p> <p>3.5. Weed control methods</p> <p>3.6.Types of tools, materials and equipment</p> <p>3.7. Usage and importance of PPEs</p> <p>3.8. Cleaning, sanitation and disinfection procedures</p> <p>3.9.Risks mitigation strategies</p> <p><b>MATH</b></p> <p>3.10. Ratio and proportion</p> <p>3.11. Measurement</p> <p><b>COMMUNICATION</b></p> <p>3.12. Manuals and procedures</p> <p>3.13. Schedule of farm activities</p> <p>3.14. Manpower efficiency</p> <p><b>ENVIROMENTAL AND RELATED LAWS</b></p> <p>3.15. Good Agricultural Practices (GAPS)</p> <p>3.16. Occupational Health and Safety (OHS) guidelines</p> <p>3.17. Fertilizer and Pesticide Authority (FPA) accreditation</p>	<p>3.1. Handling of tools, materials and equipment</p> <p>3.2. Using manuals.</p> <p>3.3. Using PPEs</p> <p>3.4. Measuring</p> <p>3.5. Mixing Chemical Solutions</p> <p>3.6. Spraying herbicides</p> <p>3.7. Cleaning, sanitizing and disinfecting</p>

		<p>3.18. Bureau of Plant Industry guidelines  3.19. Good environmental practices  3.20. RA 6969: Act to Control Toxic Substances and Hazardous and Nuclear Wastes  3.21. RA 9003: Ecological Waste Management  3.22 RA 8749: Clean Air Act</p>	
<p>4. Perform Population Control</p>	<p>4.1. <b>Tools, material and equipment</b> are prepared for Population control  4.2. Excess Suckers are pruned.  4.3. Pseudo stem wound are covered with soil  4.4. Tools and equipment are disinfected  4.5. <b>Planting materials</b> are prepared for replanting based on farm practices  4.6. <b>Personal protective Equipment (PPEs)</b> are used based on industry standards  4.7. Tools, materials and equipment are cleaned, sanitized and disinfected</p>	<p><b>SCIENCE</b>  4.1. Types of Suckers - Photosynthesis</p> <p><b>TECHNOLOGY</b>  4.2. Types of tools, materials and equipment  4.3 Usage and importance of PPEs  4.4. Cleaning, sanitation and disinfection procedures  4.5. Pruning Method</p> <p><b>MATH</b>  4.6. Ratio and proportion Measurement</p> <p><b>COMMUNICATION</b>  4.7. Manuals and procedures  4.8. Schedule of farm activities  4.9. Manpower efficiency</p> <p><b>ENVIRONMENTAL AND RELATED LAWS</b>  4.10. Good Agricultural Practices (GAPS)  4.11. Occupational Health and Safety (OHS) guidelines  4.12. Fertilizer and Pesticide Authority (FPA) accreditation  4.13. Bureau of Plant Industry guidelines  4.14. Good environmental practices  4.15. RA 6969: Act to</p>	<p>4.1. Handling of tools, materials and equipment  4.2. Using manuals.  4.3. Using PPEs  4.4. Measuring  4.5. Pruning  4.6. Cleaning, sanitizing and disinfecting</p>

		Control Toxic Substances and Hazardous and Nuclear Wastes 4.16. RA 9003: Ecological Waste Management	
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### RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, materials and equipment	<p>Tools, materials equipment may include:</p> <p>Tools</p> <ul style="list-style-type: none"> <li>1.1 Digging Bar</li> <li>1.2 Shovel</li> <li>1.3 Measuring Rope</li> <li>1.4 Calibrated Measuring Tools</li> <li>1.5 Calibrated Spike</li> <li>1.6 Selector Knife</li> <li>1.7 Plastic Ribbon</li> <li>1.8 Ground Scabbard</li> </ul> <p>Materials</p> <ul style="list-style-type: none"> <li>1.1 Stake</li> <li>1.2 Meristem</li> <li>1.3 Fertilizer</li> <li>1.4 Disinfectant Materials</li> <li>1.5 Empty Sacks</li> <li>1.6 Fuel</li> <li>1.7 Kerosene</li> <li>1.8 Personal Protective Equipment</li> <li>1.9 Gloves</li> <li>1.10 Rubber Boots</li> <li>1.11 Face masks</li> <li>1.12 Overall</li> </ul> <p>Equipment</p> <ul style="list-style-type: none"> <li>1.1 "Kangga"</li> <li>1.2 Earth auger</li> </ul>
2. standard measurements	<ul style="list-style-type: none"> <li>2.1 Double hedge row</li> <li>2.2 Quincunx</li> <li>2.3</li> </ul>
3. industry standards	<ul style="list-style-type: none"> <li>3.1 Depth: 2 feet</li> </ul>

	3.2 Width: 50 cm <sup>2</sup>
4. Basal fertilizer	Basal fertilizer may include: 4.1 Urea 4.2 Muriate of Potash 4.3 Zinc 4.4 Chicken manure
5. gas pruning method	Process may include: 5.1 Cutting of suckers using selector knife 5.2 Puncturing the center of cut suckers using calibrated spike 5.3 Applying adequate amount of kerosene 5.4 Disinfecting used tools.



## EVIDENCE GUIDE

<p><b>1. Critical aspects of Competency</b></p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1. Performed Planting               <ul style="list-style-type: none"> <li>1.1.1 Prepared tools, materials and equipment</li> <li>1.1.2. Conducted proper staking</li> <li>1.1.3. Dug holes</li> <li>1.1.4. Applied basal fertilizer</li> <li>1.1.5. Planted Meristem properly</li> <li>1.1.6. Performed gas pruning</li> <li>1.1.7. Applied safety practices</li> </ul> </li> <li>1.2. Performed Soil Fertilization               <ul style="list-style-type: none"> <li>1.2.1. Prepared tools, materials and equipment</li> <li>1.2.2. Applied appropriate Soil ameliorants</li> <li>1.2.3. Applied accurate amount of Fertilizer</li> <li>1.2.4. Applied safety practices</li> </ul> </li> <li>1.3. Performed Weed Control               <ul style="list-style-type: none"> <li>1.3.1 Prepared Tools, materials and equipment</li> <li>1.3.2 Used Tools, materials and equipment.</li> <li>1.3.3 Carried out weed control methods.</li> <li>1.3.4 Applied safety practices</li> </ul> </li> <li>1.4. Performed Population Control               <ul style="list-style-type: none"> <li>1.4.1 Prepared Tools, material and equipment</li> <li>1.4.2 Pruned suckers</li> <li>1.4.3 Disinfected Tools and equipment</li> <li>1.4.4 Prepared replanting materials</li> <li>1.4.5 Conducted replanting</li> <li>1.4.6 Cleaned, sanitized, disinfected and stored Tools and equipment</li> <li>1.4.7 Applied safety practices</li> </ul> </li> </ul>
<p><b>2. Resource Implications</b></p>	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 Planting Site</li> <li>2.2 Meristem</li> <li>2.3 Tools material and equipment</li> <li>2.4 Personal Protective Equipment (PPE)</li> <li>2.5 References (catalogs, manuals, modules, field guides, etc)</li> <li>2.6 Writing Materials (logbook, pen, pencils, etc)</li> <li>2.7 Storage</li> </ul>
<p><b>3. Methods of Assessment</b></p>	<p><b>Competency in this unit may be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1 Demonstration</li> <li>3.2 Observation with Oral Questioning</li> <li>3.3 Third party report</li> </ul>

<b>4. Context for Assessment</b>	Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center
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**UNIT OF COMPETENCY: CONDUCT FRUIT CARE**

**UNIT CODE: AB-AFF1206500131302**

**UNIT DESCRIPTOR:** This unit covers the knowledge, skills and attitudes required to conduct activities related to fruit care. This unit also includes conduct flower thrips, defingering and deflowering, bunch spray, plastic insert and propping and other procedures as necessary.

ELEMENTS	PERFORMANCE CRITERIA	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Conduct Fruit Care	<p>1.1 <b>Tools, materials and equipment</b> are prepared for fruit care</p> <p>1.2 Flower thrips are controlled based on <b>standard methods</b></p> <p>1.3. Flowers and excess and unwanted fingers are removed based on <b>industry standards</b></p> <p>1.4 Excess Hands are removed based on weather and market requirement.</p> <p>1.5 Bunches are sprayed using <b>Standard Operating procedures (SOP)</b></p> <p>1.6 Plastic insert is installed based on farm standards.</p> <p>1.7 <b>Bagging materials</b> are installed based on farm standards</p> <p>1.8 <b>Propping Method</b> is performed based on farm standards</p> <p>1.9 Tools, materials and equipment are cleaned, sanitized, disinfected and stored</p> <p>1.10 PPEs are used based on safety standards</p>	<p><b>SCIENCE</b></p> <p>1.1 Weather forecast</p> <p>1.2 Water Quality</p> <p>1.3 Bud Development</p> <p>1.4 Bunch Development</p> <p><b>TECHNOLOGY</b></p> <p>1.5 Types of tools, materials and equipment</p> <p>1.6 Usage and importance of PPEs</p> <p>1.7 Cleaning, sanitation and disinfection procedures</p> <p>1.8 Risks mitigation strategies</p> <p>1.9 Propping Method</p> <p>1.10 Flower Thrips Control Method</p> <p><b>MATH</b></p> <p>1.11 Ratio and proportion</p> <p>1.12 Measurement</p> <p><b>COMMUNICATION</b></p> <p>1.13 Manuals and procedures</p> <p>1.14 Schedule of farm activities</p> <p>1.15 Manpower efficiency</p> <p><b>ENVIROMENTAL AND RELATED LAWS</b></p> <p>1.16 Good Agricultural Practices (GAPS)</p> <p>1.17 Occupational Health and Safety (OHS) guidelines</p>	<p>1.1 Handling of tools, materials and equipment</p> <p>1.2 Using manuals.</p> <p>1.5 Using PPEs</p> <p>1.6 Measuring</p> <p>1.7 Mixing Chemical Solutions</p> <p>1.8 Spraying fungicides and insecticides</p> <p>1.9 Cleaning, sanitizing and disinfecting</p>

		<p>1.18 Fertilizer and Pesticide Authority (FPA) accreditation</p> <p>1.19 Bureau of Plant Industry guidelines</p> <p>- Good environmental practices</p> <p>1.20 RA 6969: Act to Control Toxic Substances and Hazardous and Nuclear Wastes</p> <p>1.21 RA 9003: Ecological Waste Management</p> <p>1.22 RA 8749: Clean Air Act</p>	
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## RANGE OF VARIABLES

VARIABLE	RANGE
<p>1. Tools, materials and equipment</p>	<p>May include but not limited to:</p> <p>Tools</p> <p>1.1 Calibrated Measuring Tools</p> <p>1.2 Ladder</p> <p>1.3 Selector Knife</p> <p>1.4 Bagger's Knife</p> <p>1.5 Bud Injection Needle</p> <p>1.6 Aluminum Lance</p> <p>1.7 TX3 Nozzle</p> <p>1.8 Roller</p> <p>1.9 Tally Counter</p> <p>Materials</p> <p>1.1 Disinfectant Materials</p> <p>1.2 Polybag</p> <p>1.3 Plastic Insert</p> <p>1.4 Ribbon</p> <p>1.5 Old News Paper</p> <p>1.6 Poly twine</p> <p>1.7 Flat Twine</p> <p>1.8 Bud Tube</p> <p>1.9 Lumber Crayon</p> <p>1.10 Container</p> <p>1.11 Protective Equipment</p> <ul style="list-style-type: none"> <li>• Gloves</li> <li>• Rubber Boots</li> <li>• Face masks</li> <li>• Overall</li> </ul> <p>Equipment</p> <p>1.1 Knapsack Sprayer</p>
<p>2. Standard methods</p>	<p>Systems and procedures for:</p> <p>Peeping Bud Bagging (PBB)</p> <p>2.1 Scouting of Peeping Bud</p> <p>2.2 Installation of Peeping Bud Tube</p> <p>2.3 Marking of Peeping Bud details</p> <p>2.4 Recording of accomplishments</p> <p>2.5 Retrieval of PBB Tubes</p> <p>2.6 Cleaning of dirty bud tubes</p>

	<p>Bud Injection (BI)</p> <p>2.1 Preparing of chemical solution</p> <p>2.2 Scouting of Peeping Bud</p> <p>2.3 Standardize volume delivery of chemical solutions</p> <p>2.4 Injection of chemical solutions</p> <p>2.5 Marking of details</p> <p>2.6 Disinfecting bud injection needle.</p> <p>2.7 Recording of accomplishments</p>
3. industry standards	<p>Deflowering and Defingering Procedures include:</p> <p>3.1 Scouting of bunches</p> <p>3.2 Conducting Fruit Obstacle Removal (FOR)</p> <p>3.3 Removing all excess and unwanted fingers (<i>fused, wayward, single layer, extreme right, middle finger, mokillo, etc.</i>)</p> <p>3.4 Removing brownish flower</p> <p>3.5 Removing excess hands based on farm standards</p> <p>3.6 Removing bell (banana heart)</p> <p>3.7 Chopping the bell</p> <p>3.8 Disinfecting the selector knife</p> <p>3.9 Installing of ribbon</p> <p>3.10 Marking of details</p> <p>3.11 Recording of Accomplishments</p>
4. Standard Operating procedures (SOP)	<p>Bunch Spray Procedures include:</p> <p>4.1 Preparing the chemical solution</p> <p>4.2 Standardize volume delivery of chemical solutions</p> <p>4.3 Standardize nozzle use</p> <p>4.4 Scouting of bunches</p> <p>4.5 Conducting Fruit Obstacle Removal (FOR)</p> <p>4.6 Spraying of solutions using proper strokes and standard distance of nozzle to the bunch</p> <p>4.7 Marking of details</p> <p>4.8 Recording of accomplishments</p>
5. Bagging materials	<p>May Include:</p> <p>5.1 <b>Polybag</b></p> <p>5.2 Old News Paper</p> <p>5.3 Cyan Dome Bag</p> <p>5.4 Sacks</p> <p>5.5 Poly Twine</p> <p>5.6 Flat Twine</p>

<p>6. Propping Method</p>	<p>Propping procedure may include:</p> <p><b>Guying</b>  6.1 Scouting of bend bud.  6.2 Tying the two poly twines on the opposite ends of the overhead cable propping (OHCP) and ensure 45-degree angle in between.  6.3 Position the ladder opposite the orientation of the bending bud.  6.4 Conduct FOR.  6.5 Pull the twine to create a 45-degree angle between the pseudo stem and the bunch.  6.6 Tying the appropriate length of poly twine in between third and fourth leaf petiole with enough loop.  6.7 Recording of accomplishments</p> <p><b>Base Propping</b>  6.1 Scouting of bend bud  6.2 Position the ladder opposite to the orientation of the bending bud.  6.3 Conduct FOR.  6.4 Tying the appropriate length of poly twine in between third and fourth leaf petiole with enough loop.  6.5 Tying the two poly twines on the adjacent pseudo stem situated at the back of the bunch opposite to each other ensuring 45-degree angle in between.  6.7 Record the accomplishment</p> <p><b>Pole Propping</b>  6.1 Scouting of bend bud  6.3 Position 2 pieces of bamboo poles on the leaning plant with its base forming a triangle of equal distance from the base of the plant. The other end of the pole must be positioned on the orientation of the bunch stalk. Provide two or three leaf petioles each in-between the bunch stalk and the poles.  6.4 Position the bamboo ladder against the leaning direction of the plant.  6.5 Cut the twine.  6.6 Climb in the ladder and securely tie the neck of the bunch stalk connecting one end of the twine from one pole to another pole.  6.7 Clear the bud obstruction.  6.8 GO down the ladder and reposition the poles by pushing the base provide the necessary support to the bunch.  6.9 Report the accomplishment</p>
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**EVIDENCE GUIDE**

<p><b>1. Critical aspects of Competency</b></p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ol style="list-style-type: none"> <li>1. Perform Fruit Care <ol style="list-style-type: none"> <li>1.1. Prepared tools, materials and equipment</li> <li>1.2. Controlled flower thrips.</li> <li>1.3. Removed flowers and excess and unwanted fingers.</li> <li>1.4. Removed excess hands</li> <li>1.5. Sprayed the bunches</li> <li>1.6. Installed plastic insert</li> <li>1.7. Installed bagging materials</li> <li>1.8. Performed propping method</li> <li>1.9. Applied safety practices</li> </ol> </li> </ol>
<p><b>2. Resource Implications</b></p>	<p><b>The following resources should be provided:</b></p> <ol style="list-style-type: none"> <li>2.1 Demo Farm</li> <li>2.3 Tools material and equipment</li> <li>2.4 Personal Protective Equipment (PPE)</li> <li>2.5 References (catalogs, manuals, modules, field guides, etc.)</li> <li>2.6 Writing Materials (logbook, pen, pencils, etc.)</li> <li>2.7 Storage</li> </ol>
<p><b>3. Methods of Assessment</b></p>	<p><b>Competency in this unit may be assessed through:</b></p> <ol style="list-style-type: none"> <li>3.1 Demonstration</li> <li>3.2 Observation with Oral Questioning</li> <li>3.3 Third party report</li> </ol>
<p><b>4. Context for Assessment</b></p>	<p>Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center</p>

<p><b>1. Critical aspects of Competency</b></p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ol style="list-style-type: none"> <li>1.1. Selected suitable Personal Protective Equipment according to OHS requirements</li> <li>1.2. Select bio-control measures according to target pests and their natural enemies, and other beneficial organisms, availability and appropriateness to prevailing pest density, level of severity/infestation, the environment and other relevant information in accordance with farm work procedures</li> <li>1.3. Prepared supplies and materials needed for transport based on laboratory standard</li> <li>1.4. Sterilized and cleaned supplies and Materials to be used according to OHS standard operating procedure in production of high-valued Banana</li> </ol>
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	<p>1.5. Collected Appropriate specimen volume/sample based on standard operating practice</p> <p>1.6. Placed collected specimen in appropriate container with cap or proper closure and properly labeled according to specimen collected</p> <p>1.7. Maintained required temperature of collected sample in accordance to standard operating procedure</p> <p>1.8. Transported specimen to the diagnostic laboratory following standard operating practice</p>
<b>2. Resource Implications</b>	<p><b>The following resources should be provided:</b></p> <p>2.1 Banana farm or simulated workplace / demo farm</p> <p>2.2. Enterprise procedures relating to pest management activities</p> <p>2.3 Tools, materials and equipment required to complete the task</p>
<b>3. Methods of Assessment</b>	<p><b>Competency in this unit may be assessed through:</b></p> <p>3.1. Demonstration/ Observation with oral questioning</p> <p>3.2. Written exam</p> <p>3.3. Portfolio</p> <p>3.4. Third-party report</p>
<b>4. Context for Assessment</b>	<p>Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center</p>

**UNIT OF COMPETENCY: IMPLEMENT PEST AND DISEASE CONTROL**

**UNIT CODE: AB-AFF1206500131303**

**UNIT DESCRIPTOR:** This unit covers the knowledge, skills and attitude required in the implementation of pest and disease control methods and other procedures as necessary. This unit also includes identification and eradication of various banana pests and diseases.

ELEMENTS	PERFORMANCE CRITERIA	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Survey Pests and Diseases	1.1 <b>Pest and Disease</b> infected plants are identified 1.2 Disease infected plants are tagged 1.3 Accomplishments are recorded 1.4 PPEs are used based on safety standards	<b>SCIENCE</b> 1.1 Types of Banana Pests and Diseases 1.2 Banana diseases and development  <b>TECHNOLOGY</b> 1.3 Types of tools and materials, 1.4 Usage and importance of PPEs  <b>MATH</b> 1.5 Counting 1.6 Inventory  <b>COMMUNICATION</b> 1.7 Manuals and procedures 1.8 Schedule of farm activities 1.9 Accomplishment Records 1.10 Manpower efficiency  <b>ENVIROMENTAL AND RELATED LAWS</b> 1.11 Good Agricultural Practices (GAPS) 1.12 Occupational Health and Safety (OHS) guidelines 1.13 Bureau of Plant Industry guidelines 1.14 Good environmental practices	1.1 Identifying Plant Diseases 1.2 Diagnosis 1.3 Recording 1.4 Using PPEs
2. Conduct Pest and Disease Control	2.1 <b>Tools, materials and equipment</b> are prepared. 2.2 Stem and Mat Spraying	<b>SCIENCE</b> 2.1 Types of Banana Pests and Diseases 2.2 Banana diseases and	2.1 Identifying Banana Pests and Diseases

	<p>2.2.1 Delivery of <b>Chemical Solutions</b> are standardized</p> <p>2.2.2 Nozzle is standardized</p> <p>2.2.3 Chemical solutions are sprayed</p> <p>2.2.4 Recording of accomplishments</p> <p>2.3 SIGATOKA Control</p> <p>2.3.1 Spray Polygon is established</p> <p>2.3.2 Chemical Mixing is standardized</p> <p>2.3.3 Delivery of Chemical Solutions are standardized</p> <p>2.3.4 Nozzle is standardized.</p> <p>2.3.5 Chemical solutions are sprayed</p> <p>2.3.6 Recording of accomplishments</p> <p>2.4 Leaf Trimming or De-leaving</p> <p>2.4.1 SIGATOKA infected and buckled leaves are scouted</p> <p>2.4.2 SIGATOKA infected and buckled leaves are cutted</p> <p>2.4.3 FOR are conducted</p> <p>2.4.4 Tools are disinfected</p> <p>2.4.5 Recording of accomplishments</p> <p>2.5 Tools, materials and equipment are cleaned, sanitized, disinfected and stored.</p> <p>2.6 PPEs are used based on safety standards</p> <p>2.7 <b>Biosecurity Measures</b> are applied based on safety standards</p>	<p>development</p> <p>2.3 Stages of SIGATOKA</p> <p>TECHNOLOGY</p> <p>2.4 Types of tools, materials and equipment</p> <p>2.5 Usage and importance of PPEs</p> <p>2.6 Cleaning, sanitation and disinfection procedures</p> <p>2.7 Risks mitigation strategies</p> <p>2.8 Biosecurity Measures</p> <p>2.9 Spray Polygon</p> <p>MATH</p> <p>2.10 Measuring</p> <p>2.11 Ratio and Proportion</p> <p>COMMUNICATION</p> <p>2.12 Manuals and procedures</p> <p>2.13 Schedule of farm activities</p> <p>2.14 Accomplishment Records</p> <p>2.15 Manpower efficiency</p> <p>ENVIROMENTAL AND RELATED LAWS</p> <p>2.16 Good Agricultural Practices (GAPS)</p> <p>2.17 Occupational Health and Safety (OHS) guidelines</p> <p>2.18 Fertilizer and Pesticide Authority (FPA) accreditation</p> <p>2.19 Bureau of Plant Industry guidelines</p> <p>2.20 Good environmental practices</p> <p>2.21 RA 6969: Act to Control Toxic Substances and Hazardous and Nuclear Wastes</p> <p>2.22 RA 9003: Ecological Waste Management</p> <p>2.23 RA 8749: Clean Air Act</p>	<p>2.2 Diagnosis</p> <p>2.3 Recording</p> <p>2.4 Using PPEs</p> <p>2.5 Handling of Tools, materials and Equipment</p> <p>2.6 Cleaning, sanitizing and disinfecting Tools, materials and Equipment</p> <p>2.7 Mixing chemicals</p> <p>2.8 Spraying chemicals</p>
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<p>3. Conduct Eradication of diseases</p>	<p>3.1 Bunchytop, bract mosaic or Mutant  3.1.1 Tools, materials and equipment are prepared  3.1.2 Tagged infected plants are located  3.1.3 Buffer Plants are sprayed  3.1.4 Infected Plants are sprayed and eradicated</p> <p>3.2 Fusarium Oxysporum (Panama Disease) or MOKO  3.2.1 Tools, materials and equipment are prepared  3.2.2 Tagged infected plants are located  3.2.3 Infected plants are cordoned  3.2.4 Buffer Plants are eradicated  3.2.5 <b>Eradication Methods</b> on Infected Plants are applied.</p> <p>3.3 Chop and bag (<i>FUSARIUM OXYSPORUM</i> aka <i>Panama Disease</i>)  3.3.1 Tools, materials and equipment are prepared  3.3.2 Tagged infected plants are located  3.3.3 Infected plants are cordoned  3.3.4 Buffer Plants are eradicated  3.3.5 Infected Plants are chopped and bagged</p> <p>3.4 Tools, materials and equipment are cleaned, sanitized, disinfected and stored</p> <p>3.5 PPEs are used based on safety standards</p> <p>3.6 Biosecurity Measures are applied</p>	<p>SCIENCE  1.1 Types of Banana Pests and Diseases  1.2 Banana diseases and development</p> <p>TECHNOLOGY  1.3 Types of tools, materials and equipment  1.4 Usage and importance of PPEs  1.5 Cleaning, sanitation and disinfection procedures  1.6 Risks mitigation strategies  1.7 Eradication Methods  1.8 Biosecurity Measures</p> <p>MATH  1.9 Counting  1.10 Inventory  1.11 Measuring  1.12 Ration and Proportion</p> <p>COMMUNICATION  1.13 Manuals and procedures  1.14 Schedule of farm activities  1.15 Accomplishment Records  1.16 Manpower efficiency</p> <p>ENVIROMENTAL AND RELATED LAWS  1.17 Good Agricultural Practices (GAPS)  1.18 Occupational Health and Safety (OHS) guidelines  1.19 Fertilizer and Pesticide Authority (FPA) accreditation  1.20 Bureau of Plant Industry guidelines  1.21 Good environmental practices  1.22 RA 6969: Act to Control Toxic Substances and Hazardous and Nuclear Wastes  1.23 RA 9003: Ecological</p>	<p>1.1 Identifying Banana Pests and Diseases  1.2 Diagnosis  1.3 Recording  1.4 Using PPEs  1.5 Handling of Tools, materials and Equipment  1.6 Mixing Chemicals  1.7 Spraying Chemicals  1.8 Cleaning, sanitizing and disinfecting Tools, materials and Equipment</p>
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		Waste Management 1.24 RA 8749: Clean Air Act	
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Pest and Disease	<p>May include but not limited to:</p> <p>Pests</p> <ul style="list-style-type: none"> <li>1.1 Aphids</li> <li>1.2 Mealybugs</li> <li>1.3 Scale insects</li> <li>1.4 Ants</li> <li>1.5 Corn Borer</li> <li>1.6 Army worm</li> </ul> <p>Diseases</p> <ul style="list-style-type: none"> <li>1.1 Black leaf streak (<i>SIGATOKA</i>)</li> <li>1.2 Freckles</li> <li>1.3 Bunchytop</li> <li>1.4 bract mosaic</li> <li>1.5 Heart Rot</li> <li>1.6 Fusarium Oxysporum</li> <li>1.7 MOKO</li> </ul>
2. Tools, materials and equipment	<p>May include but not limited to:</p> <p>Tools</p> <ul style="list-style-type: none"> <li>1.10 Calibrated Measuring Tools</li> <li>1.11 Selector Knife</li> <li>1.12 Aluminum Lance</li> <li>1.13 TX3 Nozzle</li> <li>1.14 Roller</li> <li>1.15 Tally Counter</li> <li>1.16 Bamboo Pole</li> <li>1.17 De-leafing Knife</li> <li>1.18 Chopping Board</li> <li>1.19 Tumbling Bolo</li> <li>1.20 Container Drum</li> <li>1.21 Plastic Bag (40"x68"x0.003")</li> <li>1.22 Digging Bar</li> <li>1.23 Ground Scabbard</li> <li>1.24 Portable foot bath</li> </ul> <p>Materials</p> <ul style="list-style-type: none"> <li>1.12 Disinfectant Materials</li> <li>1.13 Calcic Lime</li> <li>1.14 Urea</li> <li>1.15 Poly twine</li> </ul>

	<p>1.16 Flat Twine  1.17 Igniter  1.18 Lumber Crayon  1.19 Container  1.20 Bamboo Stick  1.21 Herbicides (<i>Glyphosate</i>)  1.22 Insecticides  1.23 Fuel  1.24 Rice Hull  1.25 Protective Equipment</p> <ul style="list-style-type: none"> <li>• Gloves</li> <li>• Rubber Boots</li> <li>• Face masks</li> <li>• Overall</li> </ul> <p>Equipment  1.2 Knapsack Sprayer  1.3 Drone  1.4 Airplane  1.5 Mist Blower  1.6 Chemical Mixing Equipment</p>
<p>2. Chemical Solutions</p>	<p><i>May include but not limited to:</i></p> <p>2.1 Water  2.2 Ammonium Sulfate  2.3 Herbicides (<i>Glyphosate</i>)  2.4 Insecticides</p> <ul style="list-style-type: none"> <li>• Dimethoate</li> <li>• Lambdacyhalothrin</li> <li>• Methomyl</li> <li>• Cypermethrin</li> </ul> <p>2.5 Fungicides</p> <ul style="list-style-type: none"> <li>• Boscalid</li> <li>• Ploupyram+Pyremethanil</li> <li>• Isopyrazam</li> <li>• Tridemorph</li> <li>• Fenpropimorph</li> <li>• Spiroxamine</li> <li>• Pyramithanil</li> <li>• Propineb</li> <li>• Mancozeb</li> <li>• Chlorothalonil</li> </ul> <p>2.6 Disinfectant</p>

	<ul style="list-style-type: none"> <li>• Diakyl Dimethyl Ammonium Chloride (DDAC) + Alkyl Dimethyl Benzyl Ammonium</li> <li>• Dibromo-3-nitropropionamide</li> <li>• Benzalkonium Chloride</li> </ul>
<p>3. Biosecurity Measures</p>	<p>Process may include but not limited to:</p> <p>3.1 Tire Bath</p> <ul style="list-style-type: none"> <li>• Tire Disinfecting through Spraying</li> </ul> <p>3.2 Foot Bath</p> <p>3.3 Tools, Material and Equipment Cleaning, Sanitizing and Disinfecting.</p> <p>3.4 Fencing</p>
<p>4. Eradication Method</p>	<p>Process may include but not limited to:</p> <p>4.1 Chopping</p> <ul style="list-style-type: none"> <li>• Locate tagged infected plants</li> <li>• Spraying within the 6-meter radius</li> <li>• Spraying of bunchy-top infected plant</li> <li>• Cutting and piling of leaves</li> <li>• Chopping of Pseudo stem on top of banana leaves</li> <li>• Paring of Bud eye</li> <li>• Impregnation of glyphosate treated bamboo stick</li> <li>• Insecticide spraying of eradicated stump</li> <li>• Insecticide spraying of chopped infected plant parts</li> </ul> <p>4.2 Burning</p> <ul style="list-style-type: none"> <li>• Cordon the area using Bamboo fence or twine (6sqm)</li> <li>• Diagnose the buffer plants</li> <li>• Chopping of the buffer plants</li> <li>• Excavation of the corm of the buffer plants</li> <li>• Spreading of rice hulls 1 foot away from the base of the infected plant as matting</li> <li>• Chopping of moko case on top of the rice hull</li> <li>• Chopping of infected plants</li> <li>• Covering the chopped plant parts with rice hull</li> <li>• Excavation of infected corm and roots</li> <li>• Covering the excavation site with rice hull</li> <li>• Chopping of the corm</li> <li>• Covering with rice hull</li> </ul>



	<ul style="list-style-type: none"> <li>• Ignite the heap</li> <li>• Disinfection of tools and periphery</li> <li>• Disinfection of boots</li> <li>• Moving out of the fence</li> <li>• Foot dip</li> </ul> <p>4.2 Chop and Bag</p> <ul style="list-style-type: none"> <li>• Locate tagged infected plant</li> <li>• Cordon the area using Bamboo fence or twine</li> <li>• Provide portable foot bath</li> <li>• Using an improvise chopping board mad from cut plastic drum, open the plastic bag and infected plant on top of the drum with chopping board.</li> <li>• Slowly chop the leaves and pseudo stem into small pieces and ensure that all chopped parts of the infected plants will be collected inside the plastic bag. Decomposition becomes faster if parts are cut into smaller pieces</li> <li>• When the bag is half full, spread 250g of Calcic Lime and 250g urea on top of the chopped plant parts.</li> <li>• When the bag is already full spread another 250g Calcic Lime and 250g of Urea over the chopped plant parts then close the bag bu tying using poly twine. During tying, ensure to provide tiny exhaust hole for the gas to avoid too much bloating and may cause bursting of the bag.</li> <li>• Place the bag on one side and leave for 3 months to allow decomposition</li> <li>• Burn the hole from the excavated corn with 2 sacks rice hull.</li> <li>• Spray the immediate surroundings of the eradication site with the recommended disinfectant</li> <li>• Within the cordoned area, evenly spread 18Kg Calcic Lime per 36sqm.</li> <li>• Install “lapida” to determine date of eradication and date of rice hull burning to determine date of re-entry.</li> <li>• After 2 weeks, cultivate burn the infected hole using another 1 sack of rice hull.</li> <li>• At the end of 12<sup>th</sup> week, open the plastic bag to burn the decomposed infected case through sandwich technique using rice hull. Spread the rice hull, then place the decomposed material in the middle then cover with another 2 bags of rice hull. Plastic bag may be re-used as long as disinfected.</li> </ul>
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	<ul style="list-style-type: none"><li>• Replant the vacant space with tolerant variety at the end of 12<sup>th</sup> weeks of fallow period.</li><li>• Disinfect all tools and equipment before and after eradication.</li></ul>
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## EVIDENCE GUIDE

<p><b>1. Critical aspects of Competency</b></p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ol style="list-style-type: none"> <li>1. Surveyed Pests and Diseases             <ol style="list-style-type: none"> <li>1.1. Identified infected plants</li> <li>1.2 Tagged infected plants</li> <li>1.3 Recorded accomplishments</li> <li>1.4 Used PPEs.</li> </ol> </li> <li>2. Conducted Pest and Disease Control             <ol style="list-style-type: none"> <li>2.1 Prepared tools, materials and equipment.</li> <li>2.2 Used tools, materials and equipment</li> <li>2.3 Carried out standardized stem and mat spraying operation</li> <li>2.4 Carried out standardized SIGATOKA control procedures</li> <li>2.5 Implemented Leaf trimming or de-leafing operation.</li> <li>2.6 cleaned, sanitized, disinfected and stored tools, materials and equipment</li> <li>2.7 Applied biosecurity measures.</li> </ol> </li> <li>3. Conducted Disease Eradication             <ol style="list-style-type: none"> <li>3.1 Prepared tools, materials and equipment.</li> <li>3.2 Used tools, materials and equipment</li> <li>3.3 Carried out standardized Bunchytop, bract mosaic or Mutant eradication procedures</li> <li>3.4 Carried out standardized Fusarium Oxysporum (Panama Disease) or MOKO eradication procedures</li> <li>3.5 Cleaned, sanitized, disinfected and stored tools, materials and equipment</li> <li>3.6 Applied biosecurity measures.</li> </ol> </li> </ol>
<p><b>2. Resource Implications</b></p>	<p><b>The following resources should be provided:</b></p> <ol style="list-style-type: none"> <li>2.1 Demo Farm</li> <li>2.3 Tools material and equipment</li> <li>2.4 Personal Protective Equipment (PPE)</li> <li>2.5 References (catalogs, manuals, modules, field guides, etc.)</li> <li>2.6 Writing Materials (logbook, pen, pencils, etc.)</li> <li>2.7 Storage</li> </ol>
<p><b>3. Methods of Assessment</b></p>	<p><b>Competency in this unit may be assessed through:</b></p> <ol style="list-style-type: none"> <li>3.1 Demonstration</li> <li>3.2 Observation with Oral Questioning</li> </ol>

	3.3 Third party report
<b>4. Context for Assessment</b>	Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center

## GLOSSARY OF TERMS

1. **Bio control measures-** is a method of controlling pests such as insects, mites, weeds and plant diseases using other organisms. It relies on predation, parasitism, herbivory, or other natural mechanisms, but typically also involves an active human management role.
2. **Cultural Management** - is the process of cultivating and scaling work culture inside an organization. This includes keeping a pulse on the performance of the organization's culture while measuring the impact of the culture on morale and productivity.
3. **Integrated Pest Management (IPM)** - is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices.
4. **Natural Enemies** - are insects that eat other organisms that we consider pests. They can be divided into two categories: Natural enemies are grouped into two types based on their life cycle: 1) predators. 2) parasitoids.
5. **Nutritional Disorder** - is defined as any abnormal plant growth or development. The affected plant does not live up to the normal expectations; it is incapable of carrying out its normal physiological functions to the best of its genetic potential.
6. **OHS (Occupational Health and Safety)** - is a multidisciplinary practice dealing with all aspects of health and safety in the workplace, with a strong focus on preventing workplace hazards
7. **Organisms**-refers to a living thing that has an organized structure, can react to stimuli, reproduce, grow, adapt, and maintain homeostasis. An organism would, therefore, be any animal, plant, fungus, protist, bacterium, or archaeon on earth
8. **Pest**-is any organism that spreads disease, causes destruction or is otherwise a nuisance.
9. **Pest density**-it is actually a level of injury that is indexed by pest numbers.
10. **Pesticides**- a substance used for destroying insects or other organisms harmful to cultivated plants or to animals.

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