NATIONAL OCCUPATIONAL STANDARD/NATIONAL SKILLS QUALIFICATION (NOS/NSQ)

IN

AGRO-POST HARVEST MANAGEMENT

LEVEL 2-5

MARCH, 2026

PREFACE

It is with great pleasure that I present the National Occupational Standards (NOS) for Rice Processing, Tomato Processing, and Agro-Postharvest Management, developed under the Better Education for Africa's Rise (BEAR III) Project jointly supported by UNESCO and the Government of the Republic of Korea, with technical support from the Korean Research Institute for Vocational Education and Training (KRIVET)**.** The BEAR III Project seeks to strengthen TVET systems, improve skills relevance, and enhance youth employability through competency-based training and stronger linkages between education, industry, and the labour market.

The development of these standards represents a significant milestone in Nigeria's efforts to strengthen the agricultural value chain and address critical skills gaps within the agro-processing sector. Rice and tomato processing, alongside agro-postharvest management, are strategic subsectors with immense potential for enhancing food security, reducing postharvest losses, creating employment opportunities, and contributing to national economic development. The standards provide a clear framework for the acquisition, assessment, certification, and recognition of occupational competencies required by industry practitioners and employers.

These National Occupational Standards were developed through a rigorous consultative process involving industry experts, employers, professional associations, training institutions, Sector Skills Councils, government agencies, and development partners. Their collective expertise ensured that the standards accurately reflect current industry practices, technological advancements, occupational requirements, and emerging trends within the agricultural sector.
The standards will serve as essential reference documents for curriculum development, training delivery, assessment, certification, and workforce development under the Nigerian Skills Qualifications Framework (NSQF). They will also facilitate greater industry participation in skills development and support the production of a competent workforce capable of meeting national and international standards.

I wish to express my sincere appreciation to UNESCO, the Government of the Republic of Korea, KRIVET, the Federal Ministry of Education, the Sector Skills Council for Agriculture, industry stakeholders, resource persons, and all organizations and individuals whose contributions made the development of these standards possible. Their commitment and collaboration have been instrumental in ensuring the successful realization of this important initiative. It is my expectation that these National Occupational Standards will contribute significantly to the advancement of skills development, productivity enhancement, and sustainable growth within Nigeria's agricultural sector, while promoting decent employment opportunities and strengthening the nation's competitiveness in the global economy.

Professor Idris M. Bugaje
Executive Secretary
National Board for Technical Education
Kaduna, Nigeria

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AGRO HARVEST MANAGEMENT LEVEL 2

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in Agro Postharvest management for the award of National Skills Qualification (NSQ). It is aimed at producing craftsmen in Postharvest Management, NSQ Level 2, with the competencies necessary to work in Postharvest Management industries.
This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

This qualification is targeted at developing competence in Agro Postharvest Management. This is focused on knowledge, practical skills, communication skills, health and safety, teamwork, and workplace experience.

QUALIFICATION REQUIREMENTS

All candidates must:
Be at least (16) years of age;
Be medically fit;
Be mentally fit;
Have achieved all the Safety and Health mandatory units in the qualification;
Possess a valid National Identification

QUALIFICATION OBJECTIVES

To achieve this qualification, the learner should have the following competencies:

1. Adhere to hygiene and safety principles associated with Postharvest Management and the environment;
2. Develop team spirit and maintain positive work relationships with colleagues;
3. Demonstrate basic knowledge in handling postharvest losses;
4. Maintain safe storage practices;
5. Perform tasks under supervision;
6. Comply with safety procedures;
7. Perform routine and predictable tasks;
8. Use basic tools and equipment for Postharvest Management;
9. Adhere to established procedures;
10. Prepare and clean storage facilities;
11. Identify different packaging materials required for different produce
12. Stack bags safely and correctly;
13. Identify early signs of spoilage;
14. Keep simple inspection records;
15. Maintain sanitation in storage areas;
16. Identify storage pests;

17. Report pest activity promptly;
18. Report defects and problems clearly;
19. Maintain basic documentation;
20. Identify the causes of Postharvest losses;
21. Demonstrate basic knowledge of safe storage environment.

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

Assessment must be carried out in a real workplace environment in which learning and human development are carried out. Simulation is allowed in this unit and level.

1. Assessment Methods to be Used Include:
2. Direct Observation (DO)
3. Question and Answer (QA)
4. Witness Testimony (WT)
5. Personal Statement (PS) or Reflective Practice (RP)
6. Assignment (ASS)

National Occupation Standard /National Skills Qualification (NOS/NSQ) Unit Table
LEVEL 2
MANDATORY UNITS

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours
1	AGR/PHM/001/L2	Communication in work	2	20
2	AGR/PHM/002/L2	Team work	2	20
3	AGR/PHM/003/L2	Occupational Health and Safety	2	20
4	AGR/PHM/004/L2	Introduction to Postharvest Systems	3	30
5	AGR/PHM/005/L2	Produce Handling and Sorting	3	30
6	AGR/PHM/006/L2	Basic Drying and Storage Techniques	5	50
7	AGR/PHM/007/L2	Basic Quality Monitoring	4	40
TOTAL			**21**	**210**

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Vocational Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

Unit 1: Communication: Communication in Work place

Unit reference number: AGR/PHM/001/L2
NSQ Level: 2
Credit value: 2
Guided learning hours: 20

Unit Purpose: This Unit is designed to equip the learner with knowledge and skills to communicate effectively with team members

Unit assessment requirements/evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

Unit 1: Communication in work place

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 Follow Workplace Instructions	1.1	Listen attentively to verbal instructions.									
	1.2	Follow written and verbal instructions accurately									
	1.3	Ask for clarification when instructions are not understood.									
	1.4	Confirm understanding before performing tasks.									
		Communicate using workplace reporting systems									
LO 2 Report Operational Issues	2.1	Report damaged or spoiled produce promptly.									
	2.2	Inform the supervisor of equipment problems.									
	2.3	Communicate pest or contamination issues immediately.									
	2.4	Provide accurate information when requested.									
LO 3 Maintain Basic Documentation	3.1	Demonstrate basic operational data documentation									
	3.2	Complete stock forms									
	3.3	Submit records to supervisor on time.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 2: Teamwork

Unit Reference Number: AGR/PHM/002/L2
NSQ Level: 2
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This Unit is designed to equip the learner with knowledge and skills on how to work effectively among team members
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:
Direct Observation (DO)
Personal Statement/Learning Journal (PS/LJ)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Work Products (WP)

Unit 2: Teamwork

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Participate in Team Activities	1.1	Perform assigned duties within the team.									
	1.2	Support team member's Postharvest activities.									
	1.3	Complete tasks within agreed timelines.									
	1.4	Maintain positive working relationships.									
LO 2 Maintain Respectful Workplace Behaviour	2.1	Treat co-workers with respect.									
	2.2	Avoid disruptive behaviour.									
	2.3	Respect diversity in the workplace.									
	2.4	Adhere to workplace rules and team guidelines.									
LO 3 Contribute to Team Safety and Productivity	3.1	Adhere to team-based safety procedures.									
	3.2	Assist in maintaining the cleanliness of the work area.									
	3.3	Report unsafe team practices.									
	3.4	Cooperate during peak workload periods.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 3: Occupational Health and Safety

Unit Reference Number: AGR/PHM/003/L2
NSQ Level: 2
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This unit is designed to equip the learner with knowledge and skill on occupational health and safety

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

(This depends on the Trade Areas to be assessed)

Unit 3: Occupational Health and Safety

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Identify Workplace Hazards	1.1	Identify common hazards in storage and drying areas.									
	1.2	Identify unsafe stacking or lifting practices.									
	1.3	Report unsafe conditions promptly.									
LO 2 Carry out Safety Procedures	2.1	Wear appropriate PPE (gloves, boots, masks).									
	2.2	Follow safe lifting techniques.									
	2.3	Maintain a clean and organized workspace.									
	2.4	Follow emergency procedures when required.									
LO3: Respond to emergency situations	3.1	Report any emergency situation to the supervisor									
	3.2	Locate a muster point									
	3.3	Carry out head count									
	3.4	Report any anomalies									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 4: Introduction to Postharvest Systems

Unit Reference Number: AGR/PHM/004/L2
NSQ Level: 2
Credit Value: 3
Guided Learning Hours: 30

Unit Purpose: This unit is aimed to equip learners with specific skills to maintain quality and reduce losses from farm to consumers.

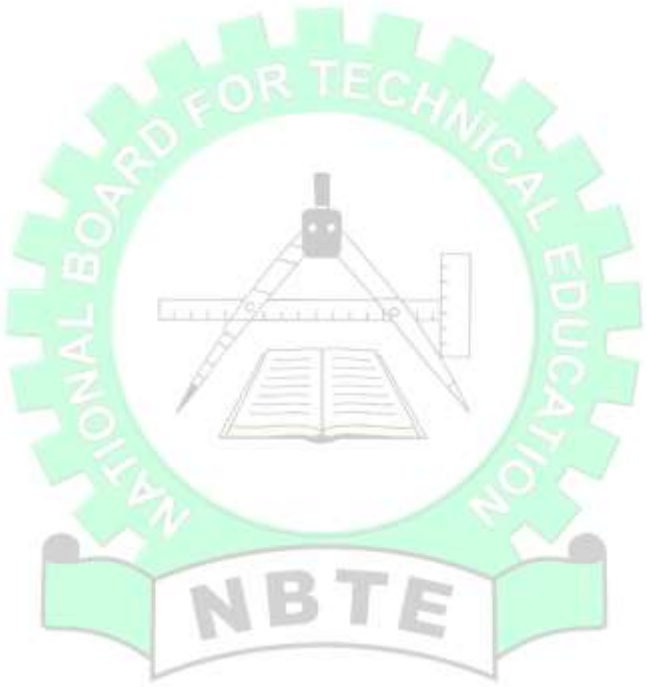
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:
Direct Observation (DO)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)

Unit 4: Introduction to Postharvest Systems

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Identify basic postharvest concepts	1.1	Present a talk on basic concepts of Postharvest Management									
	1.2	Identify stages in the postharvest chain for different types of farm produce harvesting, Sorting/grading packaging storage, transportation. labelling									
	1.3	Identify common causes of postharvest losses.									
	1.4	Present a talk on the importance of postharvest management in Small and Medium Enterprises (SME).									
LO 2 Identify Roles in Postharvest Operations	2.1	Identify key personnel in postharvest operations.									
	2.2	Demonstrate individual responsibilities within a team.									
	2.3	Follow organizational structure and reporting lines.									
LO3: Identify postharvest principles	3.1	Identify factors affecting quality deterioration: Temperature; Humidity; Pests; Handling.									
	3.2	Select appropriate harvesting methods.									
	3.3	Select appropriate harvesting tools									
	3.4	Minimize mechanical damage during harvesting									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 5: Produce Handling and Sorting

Unit Reference Number: AGR/PHM/005/L2
NSQ Level: 2
Credit Value: 3
Guided Learning Hours: 30

Unit Purpose: This unit is designed to equip learners with the knowledge, skills, and attitudes required to safely handle, sort and prepare fresh produce.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

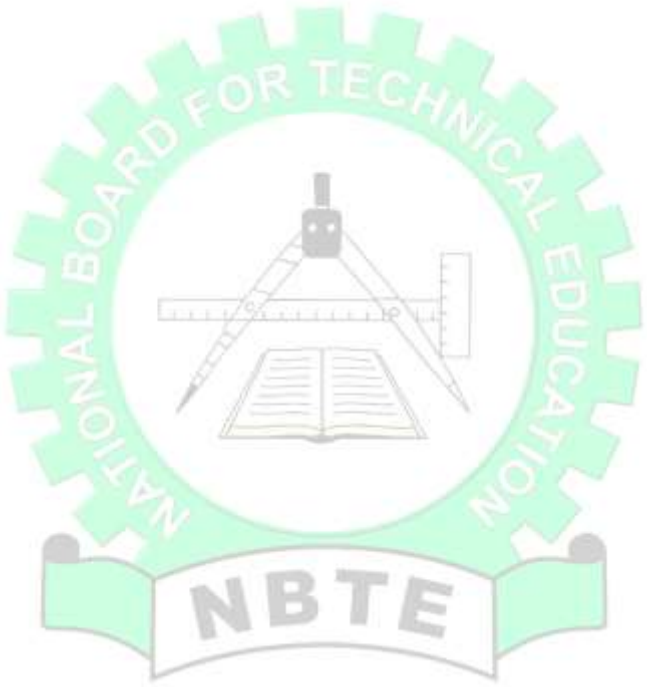
Assessment methods to be used include:
Direct Observation (DO)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)

(This depends on the trade areas to be assessed)

Unit 5: Produce Handling and Sorting

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Handle Produce Safely	1.1	Use appropriate techniques to lift and carry produce									
	1.2	Demonstrate proper handling of produce.									
	1.3	Use clean containers and equipment.									
	1.4	Prevent contamination during handling.									
LO 2 Perform Sorting and grading Produce	2.1	Inspect the produce for visible defects.									
	2.2	Separate damaged and undamaged produce.									
	2.3	Grade, classify and label produce according to simple quality standards.									
	2.4	Remove foreign materials.									
	2.5	Maintain cleanliness during sorting.									
LO3: Maintain Workplace Hygiene and Safety	3.1	Sanitize work surfaces and tools.									
	3.2	Adhere to workplace health and safety guidelines									
	3.3	Dispose waste properly									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 6: Basic Drying and Storage Techniques

Unit Reference Number: AGR/PHM/006/L2
NSQ Level: 2
Credit Value: 5
Guided Learning Hours: 50

Unit Purpose: This unit equips learners to properly remove excess moisture from produce and store it under suitable conditions to extend their shelf life and maintain food safety standards.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

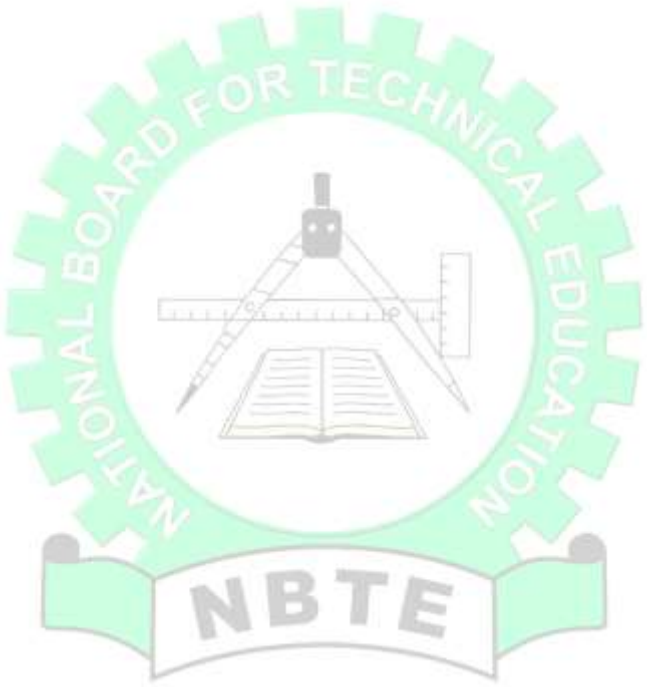
Assessment methods to be used include:
Direct Observation (DO)
Personal Statement/Learning Journal (PS/LJ)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Work Products (WP)

(This depends on the trade areas to be assessed)

Unit 6: Basic Drying and Storage Techniques

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 Dry produce	1.1	Spread produce evenly for sun or mechanical drying.									
	1.2	Protect produce from rain and contamination.									
	1.3	Turn the produce during drying to ensure uniformity.									
	1.4	Confirm dryness using simple methods.									
LO 2 Store produce Safely	2.1	Fumigate storage area before use.									
	2.2	Stack bags on pallets properly and safely									
	2.3	Keep the storage area dry and clean.									
	2.4	Separate new and old stock.									
	2.5	Monitor storage for infestation and spoilage.									
LO 3 Apply Safety in storage	3.1	Maintain walkway in storage area									
	3.2	Maintain proper stacking height									
	3.3	Identify and use fire safety equipment									
	3.4	Demonstrate the uses of the content of first aid box correctly									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 7: **Basic Quality Monitoring**

Unit Reference Number: AGR/PHM/007/L2
NSQ Level: 2
Credit Value: 4
Guided Learning Hours: 40

Unit Purpose: This unit is designed to equip learners to apply basic inspection and evaluation techniques that ensure harvested crops meet required safety standards, freshness and market quality throughout the period of storage and distribution.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:
Direct Observation (DO)
Personal Statement/Learning Journal (PS/LJ)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)

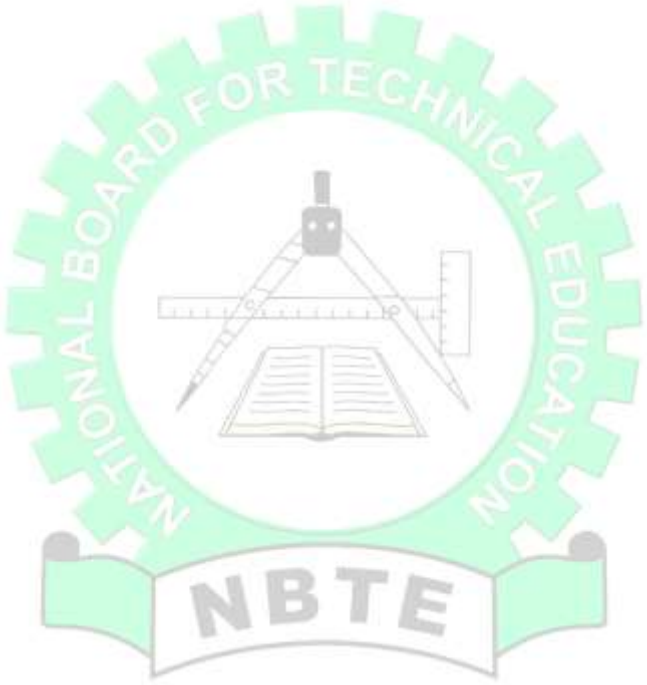
(This depends on the trade areas to be assessed)

Unit 7: Basic Quality Monitoring

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 **Conduct visual inspection**.	1.1	Inspect the produce for discoloration and mould									
	1.2	Identify broken or damaged produce.									
	1.3	Detect foreign materials.									
	1.4	Identify pest infestation signs									
	1.5	Remove substandard produce.									
LO 2 **Maintain simple hygiene practices**	2.1	Wash hands before handling produce									
	2.2	Clean storage and packaging area									
	2.3	Dispose waste properly									
LO 3 **Maintain Basic Quality Records**	3.1	Record inspection findings accurately.									
	3.2	Report quality problems or defects to the Supervisor.									
	3.3	Maintain simple inspection logs.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

AGRO POSTHARVEST MANAGEMENT LEVEL 3



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in Agro Postharvest Management for the award of National Skills Qualifications (NSQ). It is aimed at producing Foremen in Postharvest Management, NSQ Level 3 with the competencies necessary to work in Postharvest Management industries. This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

This qualification is targeted at developing competence in Postharvest Management operations. This is focused on knowledge, practical skills, communication skills, health and safety, teamwork, and workplace experience.

QUALIFICATION REQUIREMENTS

All candidates must:

1. Be at least (17) years of age
2. Be medically fit
3. Be mentally fit (mental alertness)
4. Have achieved all the Safety and Health mandatory units in the qualification
5. Possess a valid National Identification

QUALIFICATION OBJECTIVES

To achieve this qualification, the learner should have the following competencies:

1. Adhere to health and safety precaution and avoidance of environmental hazards associated with Postharvest Management;
2. Communicate effectively in Postharvest Management Practices:
3. Develop team spirit and positive working relationships with colleague:
4. Monitor quality, manage storage conditions and apply loss reduction strategy;
5. Carry out standard operational procedures in postharvest management
6. Apply approved pest control treatments safely in accordance with regulatory and safety guidelines;
7. Evaluate effectiveness of pest control interventions and maintain documentation;
8. Use safe, approved and industry complaint methods to minimize losses and ensure food safety;
9. Demonstrate basic Integrated Pest Management (IPM) principles;
10. Adhere to regulatory guide lines on pesticides usage.

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is allowed in this unit and level.
Assessment Methods to be used include:

1. Direct Observation (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal statement (PS) or Reflective Practice (RP)
5. Assignment (ASS)
6. Recognition of Prior Learning (RPL)

National Skills Qualification/National Occupation Standard (NSQ/NOS) Unit Table

LEVEL

MANDATORY UNITS

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours
1	AGR/PHM/001/L3	Communication in Work Place	2	20
2	AGR/PHM/002/L3	Team Work	2	20
3	AGR/PHM/003/L3	Health and Safety	2	20
4	AGR/PHM/004/L3	*Postharvest Management of Perishable*	4	40
5	AGR/PHM/005/L3	Postharvest Management of Durables	3	30
6	AGR/PHM/006/L3	Postharvest Management of Semi-Perishables	4	40
7	AGR/PHM/007/L3	Postharvest Management of Specialty Crop	4	40
8	AGR/PHM/008/L3	Equipment Operation and Maintenance	5	50
TOTAL			**26**	**260**

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Vocational Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours.
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand, or be able to do as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

Unit 1: Communication in Work place

Unit reference number: AGR/PHM/001/L3
NSQ Level: 3
Credit value: 2
Guided learning hours: 20

Unit Purpose: This Unit is designed to provide the trainees with abilities, skills and knowledge needed to comply with occupational health and safety principles and procedures in Postharvest Management.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:
Direct Observation (DO)
Written Questions (QA)
Oral Questions
Assignment

(This depends on the trade areas to be assessed)

Unit 2: Communication in Work place

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Apply the use of non-complex communication system in work place.	1.1	Use verbal means to pass on necessary information.									
	1.2	Participate in problem-solving discussions.									
	1.3	Use basic digital tools (where available) for reporting.									
	1.4	Use non-verbal means to convey necessary information, e.g., body language, signs									
	1.5	Interpret symbols and signs appropriately									
LO 2: Source for information in work environment.	2.1	Identify sources of information in the work environment									
	2.2	Use the different information flow systems in work place									
	2.3	Use information gathered to resolve challenges in a work situation									
	2.4	Report findings appropriately in accordance with laid down procedures in the work environment i.e. Cards, Flip Chart									
	2.5	Use simple communication gadgets like mobile phones and table phones.									
	2.6	Coordinate workflow with different teams.									
	2.7	Explain changes in quality of produce to supervisors.									
LO 3: Apply various means of communication in a work environment.	3.1	Identify the various communication equipment in the work environment.									
	3.2	Use the various communication equipment effectively in a work environment.									
	3.3	Convey information effectively to the right personnel.									
	3.4	Obey instructions in line with the ethics of the work									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		environment									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 2: Teamwork

Unit Reference Number: AGR/PHM/002/L3
NSQ Level: 3
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This unit is designed to provide trainees with the ability, skill and knowledge needed to participate in teamwork.
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

Unit 2: Teamwork

LO (Learning Outcome)		Criteria:-	Evidence Type					Evidence Ref Page Number			
LO 1 Cordial working relationship with colleagues	1.1	Identify the need for developing a cordial working relationship with colleagues.									
	1.2	Recognize the importance of relating with other people in a way that makes them feel valued and respected.									
	1.3	Assist team members when required.									
	1.4	Report to the appropriate personnel when requests for assistance fall outside the area of responsibility.									
	1.5	Communicate to colleagues about individual work that may affect teamwork.									
LO 2 Take responsibility within the team.											
	2.1	Recognize individual roles and responsibilities within a team.									
	2.2	Perform individual tasks in line with the team's rules and regulations.									
	2.3	Participate effectively in teamwork.									
LO.3 Compliance with the policy of the organization											
	3.1	Identify organizational codes of conduct.									
	3.2	Work in line with organizational standards.									
	3.3	Observe organizational codes of practice.									
	3.4	Adhere strictly to instructions given by the Management.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 3: Occupational Health and Safety

Unit Reference Number: AGR/PHM/003/L3
NSQ Level: 3
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This unit is designed to equip trainees with abilities, skills and knowledge to observe occupational health and safety in postharvest management

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)
7. Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 3: Occupational Health and Safety in Postharvest Management

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Work safely in Postharvest Management	1.1	Give a talk on safe work practices in line with postharvest management procedures									
	1.2	Identify safety signs and symbols in postharvest management practices									
	1.3	Identify safety signs and symbols.									
	1.4	Demonstrate safe work practices and instructions in postharvest management practices									
	1.5	Operate in accordance with health and safety practices.									
LO 2: Comply with safety standards in postharvest management	2.1	Identify work environment hazards.									
	2.2	Identify common types of hazards and risks associated with Postharvest Management									
	2.3	Observe safety standards on Postharvest Management equipment and facilities.									
	2.4	Respond appropriately to minor incidents and accidents.									
LO 3: Apply Personal Protective Equipment (PPE) in Postharvest Management environment	3.1	Identify the types of PPEs required for postharvest management.									
	3.2	Select appropriate PPE for Postharvest Management									
	3.3	Demonstrate the use of PPE.									
	3.4	Handle pesticides and fumigants according to regulations.									
	3.5	Maintain PPE before and after use.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 4: Response to accidents/injuries in the Postharvest Management environment	4.1	Use basic first aid materials.									
	4.2	Respond to supervisor-given instructions.									
	4.3	Report incidents, accidents OR injuries to the appropriate supervisor.									
LO 5: Apply safe work habits and clean work place in Postharvest Management environment	5.1	Report unsafe conditions promptly.									
	5.2	Identify common workplace hazards.									
	5.3	Identify appropriate working tools, materials, and equipment.									
	5.4	Conduct proper maintenance for tools and equipment									
	5.5	Maintain safety logs and records.									
	5.6	Demonstrate lifting techniques in loading and offloading materials without assistance.									
	5.7	Stack materials correctly.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 4: Postharvest Management of Perishables

Unit Reference Number: AGR/PHM/004/L3
NSQ Level: 3
Credit Value: 4
Guided Learning Hours: 40

Unit Purpose: This unit is designed to equip the learners with knowledge and skills to determine the maturity levels of perishables, distribute harvest, manage pre-cooling and maintain their freshness.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

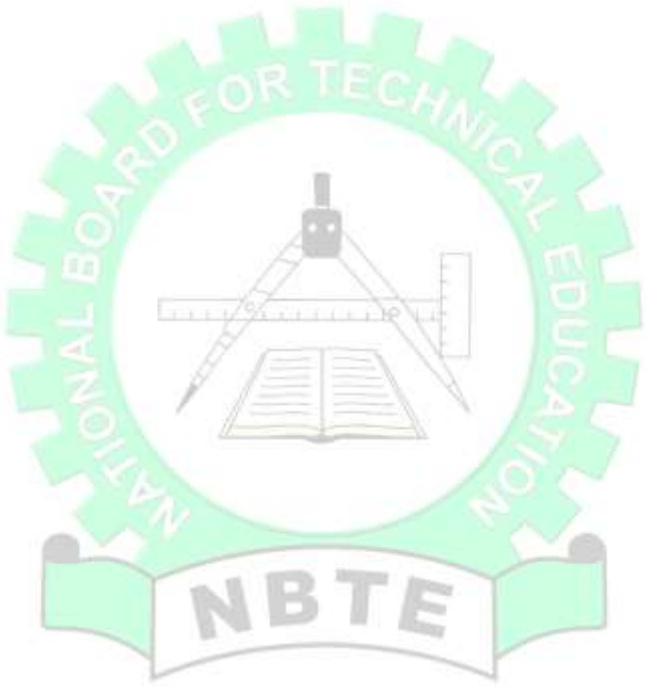
1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)
7. Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 4: Postharvest Management of Perishable

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 Harvest Perishables	1.1	Determine level of maturity of perishables									
	1.2	Identify harvesting time for Perishables									
	1.3	Determine harvest readiness based on established indicators									
	1.4	Perform different methods of harvesting fruit and vegetables									
	1.5	Differentiate senescence in fruits and vegetables									
	1.6	Harvest fruits and vegetables safely									
LO 2 ***Apply Pre cooling management***	2.1	Shade perishables immediately after harvest									
	2.2	Ventilate to perishables after shading									
	2.3	Transport perishables to packing house safely									
	2.4	Use oils and films packaging to reduce respiration									
	2.5	Identify different pre cooling method									
LO3: Apply Storage Management	3.1	Disinfect storage area before stocking									
	3.2	Sort damaged fruits and vegetables									
	3.3	Stack fruits and vegetables appropriately									
	3.4	Control temperature in vegetables and fruits storage area									
	3.5	Prevent physical damage in storage									
	3.6	Perform storage of perishables using different methods									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 5: Postharvest Management of Durables

Unit Reference Number: AGR/PHM/005/L3
NSQ Level: LEVEL 3
Credit Value: 3
Guided Learning Hours: 30

Unit Purpose: This unit is designed to equip the learners with skills in harvesting, processing and storage of durables.

Unit assessment requirements/evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)
7. Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 5: **Postharvest Management of Durables**

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Harvest Durables	1.1	Determine level of maturity of durables									
	1.2	Identify harvesting time for durables									
	1.3	Observe harvesting indicators									
	1.4	Perform different method of harvesting durables									
	1.5	Harvest durables safely									
LO 2 **Dry durables.**	2.1	Dry durables using different methods									
	2.2	Preserve moisture content of durables according to usage									
	2.3	Monitor drying process									
	2.4	Dry durables according to Good Agricultural Practices (GAP)									
LO 3 Apply pest control treatment	3.1	Select appropriate pest control method based on the infestation level									
	3.2	Use approved pesticides or fumigants according to the manufacturer's instruction									
	3.3	Identify appropriate Personal Protective Equipment (PPE)									
	3.4	Follow the dosage and exposure time requirements accurately									
LO3: **Store durables**	3.1	Store durables appropriately									
	3.2	Control storage temperature and humidity									
	3.3	Perform sanitation and hygiene of storage area									
	3.4	Ventilate storage area									
	3.5	Stack durables on pallet for storage									
	3.6	Perform methods of durable storage									
	3.7	Perform different methods of durable packaging									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 6: Postharvest Management of Semi-Perishables

Unit Reference Number: AGR/PHM/006/L3
NSQ Level: LEVEL 3
Credit Value: 4
Guided Learning Hours: 40

Unit Purpose: This unit is designed to equip the learner with skills in harvesting drying, processing and storage of semi-perishables

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)
7. Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 6: Postharvest Management of Semi-Perishables

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 Harvest Semi-Perishables	1.1	Determine level of maturity of semi-perishables									
	1.2	Identify harvesting time for: roots tubers									
	1.3	Observe harvesting indicators									
	1.4	Perform harvesting of roots and tubers using mechanical and manual methods									
	1.6	Harvest roots and tuber safely									
LO 2 Perform Curing management.	2.1	Shade semi-perishables immediately after harvest									
	2.2	Provide ventilation to semi-perishables after shading									
	2.3	Transport semi-perishables to packing house safely									
	2.4	Apply different curing methods									
LO3: Apply Storage management	3.1	Disinfect storage area before stocking									
	3.2	Sort out damaged roots and tubers after harvesting									
	3.3	Stack roots and tubers appropriately									
	3.4	Control temperature in roots and tuber storage area									
	3.5	Prevent physical damages in the storage									
	3.6	Use different methods of storing semi-perishables									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 7: Postharvest Management of Specialty Crops

Unit Reference Number: AGR/PHM/007/L3
NSQ Level: 3
Credit Value: 4
Guided Learning Hours: 40

Unit Purpose: This unit is designed to equip the learner with skills in harvesting drying processing and storage of specialty crops.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal Statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)
7. Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 7: Postharvest Management of Specialty Crop

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Determine methods of harvesting specialty crops.	1.1	Identify physiological characteristics of specialty crops									
	1.2	Determine optimum harvesting time based on crop types									
	1.3	Select appropriate harvesting method based on crop type									
	1.4	Determine the harvest time of specialty crop s									
LO2: Harvest specialty crops	2.1	Harvest according to prevailing weather and soil conditions									
	2.2	Use appropriate machinery and tools									
	2.3	Record harvest results in farm management book									
	2.4	Perform simple maintenance of harvest tools and equipment									
LO3: Take care of specialty crop after harvest	3.1	Transport harvested produce from the farm to store									
	3.2	Construct simple storage facilities based on crop type									
	3.3	Store the harvested produce in a safe manner using the appropriate storage method									
	3.4	Determine methods of drying for specialty crops that require drying									
	3.5	Monitor the conditions of the store									
	3.6	Determine when to supply based on market demand									
	3.7	Maintain the freshness and quality of harvested specialty crop									
LO4: Carry out postharvest processing of specialty crop	4.1	Undertake cleaning and sorting of specialty crops									
	4.2	Improve the marketability of the specialty crops									
	4.3	Add value to harvested specialty crops through simple processing techniques									
	4.4	Maintain Good Manufacturing Practice (GMP) while processing specialty crops									

Learners Signature:	**Date:**

Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 8: Equipment Operation and Maintenance

Unit Reference Number: AGR/PHM/008/L3
NSQ Level: 3
Credit Value: 5
Guided Learning Hours: 50

Unit Purpose: This unit is designed to equip the learner with knowledge and skills on equipment operations and maintenance
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in a real workplace environment in which learning and human development are carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Recognition of Prior learning (RPL)

Unit 8: Equipment Operation and Maintenance

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1 Prepare equipment for operations	1.1	Inspect equipment before use.									
	1.2	Verify the calibration of measuring devices.									
	1.3	Confirm that safety guards are functional.									
LO 2 Operate equipment safely	2.1	Operate dryers within the recommended parameters.									
	2.2	Monitor airflow and temperature.									
	2.3	Prevent equipment overload.									
	2.4	Maintain hygiene during and after operation.									
LO 3 Perform Routine Maintenance	3.1	Clean equipment after use.									
	3.2	Lubricate moving parts as required.									
	3.3	Record maintenance activities.									
	3.4	Report equipment damages for maintenance									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

AGRO POSTHARVEST MANAGEMENT LEVEL 4

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in Agro Postharvest management for the award of National Skills Qualifications (NSQ). It is aimed at producing Senior-Foreman in postharvest management. NSQ Level 4 with the competencies necessary to support in handling of durable food crops, perishable food crops, semi-perishable crops and specialty crops to minimize losses, ensure food safety, and maintain quality standards across the value chain. This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

This qualification is targeted at developing competence in agro Postharvest Management. This is focused on knowledge, practical skills, communication skills, health and safety, team work, and work place experience in postharvest handling, storage, and distribution.

QUALIFICATION REQUIREMENTS

All Candidates must:

1. Be at least 18 years of age;
2. Be medically and mentally fit;
3. Have completed NSQ Level 3 in Agro-processing or equivalent;
4. Demonstrate competence in health and safety mandatory units;

QUALIFICATION OBJECTIVES

To achieve this qualification, the learner should have the following competencies:
Learners should be able to:

1. Apply advanced health and safety standards in postharvest facilities.
2. Manage cold chain systems for perishable crops.
3. Operate specialized storage technologies for grains and semi-perishables.
4. Implement Good Agricultural Practices (GAP) and food safety protocols.
5. Supervise packaging, grading, and distribution processes.
6. Reduce postharvest losses through innovative techniques.

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. Simulation is allowed in this unit and level.

Assessment Methods to be Used Include:

1. Direct Observation (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal statement (PS) or Reflective Practice (RP)
5. Assignment (ASS)
6. Recognition of Prior Learning (PRL)

National Skills Qualification/National Occupation Standard (NSQ/NOS) Unit Table

LEVEL

MANDATORY UNITS

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours
1	AGR/PHM/001/L4	Communication in work	2	20
2	AGR/PHM/002/L4	Team work	2	20
3	AGR /PHM/003/L4	Health and Safety in Postharvest Facilities	2	20
4	AGR/PHM/004/L4	*Postharvest Management of Durable Food Crops*	6	60
5	AGR/PHM/005/L4	Postharvest Management of Perishables Crops	6	60
6	AGR/PHM/006/L4	Postharvest Management of Semi Perishables Crops	5	50
7	AGR/PHM/007/L4	Postharvest Management of Specialty Crops	5	50
8	AGR/PHM/008/L4	Quality Control handling and Packaging of durables crops	6	60
9	AGR/PHM/009/L4	Quality Control h Handling and Packaging of Perishables and semi Perishables	8	80
10	AGR/PHM/010/L4	Quality Control handling and Packaging of Specialty Crops	6	60
TOTAL			**48**	**480**

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approved by NBTE
Unit level	Denotes the level of the unit within the National Vocational Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

Unit 1: Communication in work place

Unit reference number: **AGR/PHM/001/L4**
NSQ Level: **4**
Credit value: **2**
Guided learning hours: **20**

Unit Purpose: This unit is designed to equip learners with effective verbal, non-verbal and digital communication skills for agro postharvest workplace efficiency.

Unit assessment requirements/ evidence requirement:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

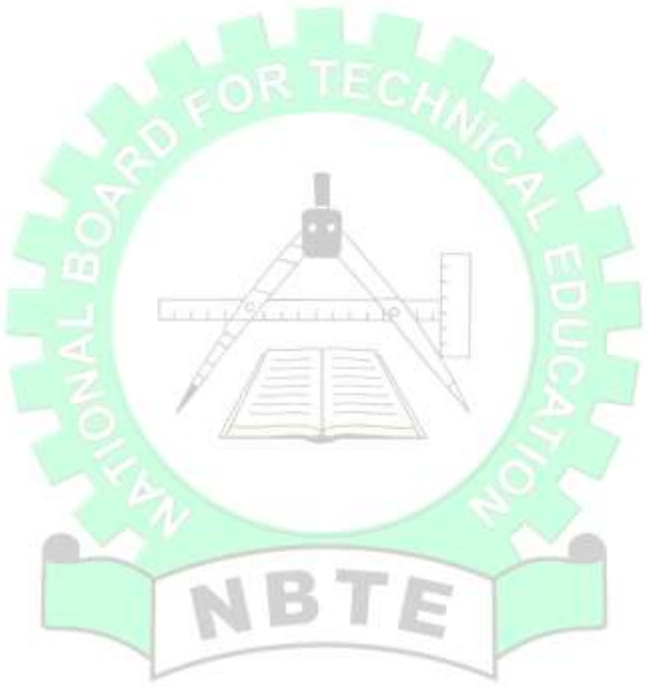
1. Direct Observation (DO)
2. Written Questions (QA)
3. Oral Questions
4. Assignment

(This depends on the Trade Areas to be assessed)

Unit 1: Communication

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1 : Demonstrate effective verbal and non-verbal communication	1.1	Convey information clearly using verbal methods such as respectful speech and tone.									
	1.2	Apply non-verbal communication techniques Eye Contact Facial expression Gestures Posture									
	1.3	Interpret workplace communication symbols and instructions accurately.									
	1.4	Maintain respectful communication with colleagues and supervisors in line with workplace ethics.									
LO2 : Apply workplace communication systems	2.1	Use appropriate sources of information in the work place.									
	2.2	Record findings using workplace communication systems charts, logs, documentation tools.									
	2.3	Use communication flow systems (e.g., reporting channels, feedback mechanisms) to avoid challenges in work situations.									
	2.4	Convey information accurately to the right personnel following organizational procedures.									
LO3: Use communication tools and technologies	3.1	Operate communication equipment (phones, radios, digital platforms) effectively.									
	3.2	Use digital tools (word processors, spreadsheets, mobile apps) for documentation and reporting.									
	3.3	Use communication technology in compliance with workplace standards and safety guidelines.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 2: Teamwork

Unit Reference Number: AGR/PHM/002/L4
NSQ Level: 4
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This unit is designed to equip the learner to develop the ability to collaborate, lead, and resolve conflicts in postharvest operation

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Recognition of Prior Learning (RPL)

Unit 2: Teamwork

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO :1 Develop good working relationship with co- workers	1.1	Demonstrate teamwork									
	1.2	Relate cordially with team members									
	1.3	List the qualities of a team player									
	1.4	Develop a plan for motivating and engaging team members									
LO: 2 Lead teams in storage and distribution operations	2.1	Lead a group in produce storage and delegate task and responsibilities									
	2.2	Lead a group in produce distribution exercise and delegate task and responsibilities									
	2.3	Give feedback and coach team member to enhance their performance									
	2.4	Comply organizational code of conduct in storage distribution setting									
LO: 3 Resolve conflict and collaboration	3.1	Practice active listening where two teams have disagreement									
	3.2	Develop a plan to promote collaboration and team work in storage and distribution									
	3.3	Demonstrate accountability, cooperation, and adaptability when handling tasks in a group setting.									
	3.4	Maintain peaceful relationship among team members									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 3: Health and Safety in Postharvest Facilities

Unit Reference Number: AGR/PHM/003/L4
NSQ Level: 4
Credit Value: 2
Guided Learning Hours: 20

Unit Purpose: This unit is designed to ensure learners can conduct risk assessments and implement safety protocols in postharvest environments

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO);
Personal statement/Learning Journal (PS/LJ);
Questions and Answers (QA);
Witness Testimony (WT);
Assignment (ASS);

(This depends on the Trade Areas to be assessed)

Unit 3: Occupational Health and Safety

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO: 1 Identify hazards in postharvest environments.	1.1	Conduct hazard assessment of the postharvest environment									
	1.2	Create a checklist for identifying hazards in postharvest facilities									
	1.3	Take photo of storage facility and label potential hazard.									
LO: 2 Use PPE and advanced safety protocol	2.1	use PPE correctly									
	2.2	Demonstrate proper use of safety equipment and fire extinguishers									
	2.3	Comply with safety protocol for handling hazards									
LO: 3 **Respond to accident and emergencies**	3.1	Demonstrate drill and evacuation protocol									
	3.2	Activate alarm systems promptly when required.									
	3.3	Administer first aid for common accidents in post harvest facilities									
LO: 4 **Maintain clean and safe work environment**	4.1	Use safe access and exit routes in the work environment									
	4.2	Identify appropriate working tools, materials and equipment									
	4.3	Use tools and equipment safely in accordance with the supervisors instructions									
	4.4	Comply with safety hygiene in the work place									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 4: Postharvest Management of Durable Crops

Unit Reference Number: AGR/PHM/004/L4
NSQ Level: 4
Credit Value: 6
Guided Learning Hours: 60

Unit Purpose: This unit is designed to train learners in drying, milling, storage, and pest control techniques for grains and legumes

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 4: Postharvest Management of Durable Crops

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Apply drying and winnowing techniques	1.1	Execute drying and winnowing procedures in accordance with SOP for Cereal, Legumes and Pulses									
	1.2	Demonstrate traditional and mechanical techniques of winnowing									
	1.3	Compare the efficiency and quality of different milling techniques									
LO 2 Operate mechanical dryers	2.1	Monitor drying parameters									
	2.2	Monitor moisture content									
	2.3	Troubleshoot common issues with mechanical dryers , silos, and storage facilities									
	2.4	Use mechanical dryers , silos, and storage facilities									
LO: 3 Manage cereal storage	3.1	Monitor moisture levels of grains and relative humidity of storage facilities									
	3.2	Apply fumigation and pest control.									
	3.3	Use grain sampling techniques and equipment to collect representative sample									
	3.4	Interpret results and recommend action to maintain grain quality									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 5: Postharvest Management for Perishable Crops

Unit Reference Number: AGR/PHM/005/L4
NSQ Level: 4
Credit Value: 6
Guided Learning Hours: 60

Unit Purpose: This unit is designed to equip the learners to build competence in precooling, cold storage, and handling methods that extend shelf life of perishables

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Recognition of Prior Learning (RPL)/Accreditation of Prior Learning (APL)

(This depends on the Trade Areas to be assessed)

Unit 5: Postharvest Management for Perishables crops

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO1: Carry out Planning and Supervise operations	1.1	Prepare work schedules according to Standard Operating Procedures (SOPs)									
	1.2	Assign responsibilities to workers.									
	1.3	Monitor performance of workers and implement correction									
LO: 2: Apply precooling techniques	2.1	Operate forced air cooling method on perishable crops									
	2.2	Operate hydro-cooling methods on various perishable crops									
	2.3	Evaluate the effectiveness of different precooling techniques on various perishables									
	2.4	Develop a precooling plan for a specific crop									
LO: 3 Manage cold storage facilities	3.1	Monitor temperature and humidity in cold storage									
	3.2	Conduct storage trial.									
	3.3	Monitor crop quality over time									
	3.4	Solve common issues in cold storage such as temperature fluctuation									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 6: Postharvest Management of Semi Perishables Crops

Unit Reference Number: AGR/PHM/006/L4
NSQ Level: 4
Credit Value: 5
Guided Learning Hours: 50

Unit Purpose: This unit is designed to equip learners to apply ventilation, humidity control, and microbial prevention in medium-term storage for semi-perishable crops.

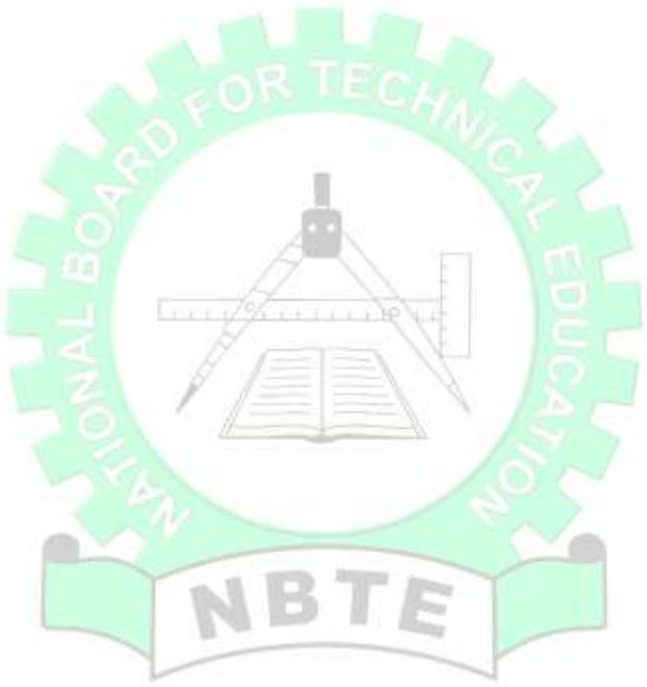
Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

(This depends on the Trade Areas to be assessed)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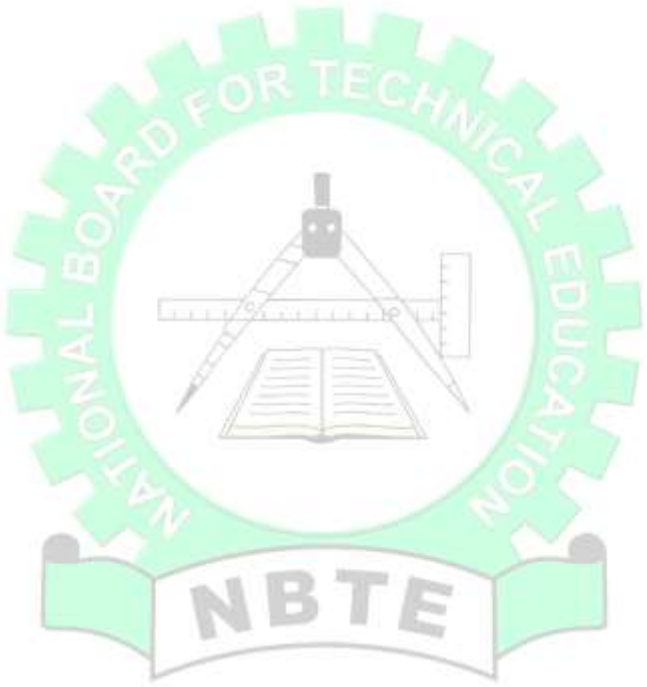
NBTE

Unit 6: Postharvest Management for Semi Perishables Crops

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO: 1 Classify storage facilities based on requirements.	1.1	Differentiate storage needs of different semi-perishable crops.									
	1.2	Identify potential storage needs for semi-perishable crops									
	1.3	Comply storage requirements for different varieties of crops									
LO: 2 Apply ventilation and humidity control techniques	2.1	Identify ventilation system in a small scale storage facility for semi-perishable crops									
	2.2	Monitor ventilation and humidity in storage facilities									
	2.3	Adjust humidity levels in a storage environment and observe effect on crops									
LO: 3 Prevent microbial spoilage during medium-term storage	3.1	Identify common microbes that spoil semi-perishable crops and their control methods									
	3.2	Develop sanitation plan for a storage facility to prevent microbial contamination									
	3.3	Inspect stored crops for signs of microbial spoilage									
LO: 4 Organize distribution channels to minimize losses.	4.1	Map out distribution channels for semi-perishable crops from markets and identify potential loss point.									
	4.2	Develop strategies to reduce loss during transportation.									
	4.3	Coordinate logistics for delivering semi-perishable crops to the markets.									
	4.4	Implement corrective actions.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 7: Postharvest Management for Specialty Crops
Unit Reference Number: AGR/PHM/007/L4
NSQ Level: 4
Credit Value: 5
Guided Learning Hours: 50

Unit Purpose: This unit is designed to equip learners with skills for handling, storing, and preserving crops with unique postharvest requirements.
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

Unit 7: Postharvest Management for Specialty Crops

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Determine the Method of Harvesting	1.1	Determine the physical characteristics of crop at maturity stages.									
	1.2	Determine harvest time considering crop maturity, environment, and market demand.									
	1.3	Decide harvesting methods suitable for crop type, area, and packaging requirements.									
LO2: Harvest specialty crops	2.1	Harvest crops with consideration for weather, soil conditions, and available resources.									
	2.2	Harvest produce ensuring its value is retained									
	2.3	Record harvest results accurately in farm management records.									
	2.4	Use agricultural machinery effectively and safely during harvest.									
	2.5	Manage workforce and equipment safely.									
LO3: Carryout Postharvest Care of Specialty Crops	3.1	Transport harvested produce safely to prevent damage.									
	3.2	Dry crops using appropriate method.									
	3.3	Determine storage periods based on supply, demand, and market conditions.									
	3.4	Operate storage facilities and machinery effectively.									
LO4: Apply Postharvest Processing	4.1	Clean and sort harvested crops appropriately.									
	4.2	Perform Peeling, cutting, grinding, or shape produce to improve marketability.									
	4.3	Conduct simple processing (e.g., thickening, foaming) based on crop purpose.									
	4.4	Operate cleaning and processing									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		equipment safely and efficiently.									
	4.5	Maintain awareness of food safety and product quality standards.									
LO5: Evaluate harvested Speciality crops	5.1	Document yield, timing, manpower, and resources systematically.									
	5.2	Use word processors and spread sheets to record harvest data.									
	5.3	Apply problem-solving skills to improve harvest efficiency.									
	5.4	Evaluate harvest outcomes against market conditions and economic feasibility.									
	5.5	Demonstrate communication and documentation skills for farm management.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 8: Quality Control Handling and Packaging of Durables Crops

Unit Reference Number: AGR/PHM/008/L4

NSQ Level: 4
Credit Value: 6
Guided Learning Hours: 60
Unit Purpose: This unit is designed to equip learners with skills to grade, package, and maintain quality standards for durable crops.
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Recognition of Prior Learning (RPL)

Unit 8: Quality Control handling and Packaging of durables

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO: 1 Apply Quality Control Standards in Cereal Handling	1.1	Monitor quality parameters (moisture content, purity, grain size, absence of pests)									
	1.2	Conduct sampling and testing for contaminants (aflatoxins, moulds, foreign matter)									
	1.3	Record quality parameters accordingly.									
	1.4	Interpret the data based on established standards									
	1.5	Apply Good Agricultural Practices (GAP).									
	1.6	Apply food safety standards.									
LO: 2 Grade and Sort Cereals for Market Requirements	2.1	Classify grains by size, weight, and colour									
	2.2	Operate mechanical graders and sorters.									
	2.3	Remove defective or damaged grains.									
	2.4	Grade based on compliance with national and international grading standards.									
LO: 3 Apply Hygienic Handling Practices.	3.1	Enforce clean storage and packaging environments.									
	3.2	Prevent cross-contamination during handling									
	3.3	Apply pest control measures safely.									
	3.4	Train workers on hygiene and safety protocols.									
LO: 4 Supervise Packaging Operations	4.1	Select appropriate packaging materials (jute bags, polypropylene sacks, and laminated films).									
	4.2	Package produce to meets weight and labelling standards.									
	4.3	Apply palletizing and stacking techniques to prevent damage.									
	4.4	Monitor packaging integrity									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		during storage and transport.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 9: Quality Control handling and Packaging of perishables and semi Perishables

Unit Reference Number: AGR/PHM/009/L4
NSQ Level: 4
Credit Value: 8
Guided Learning Hours: 80

Unit Purpose: This unit is designed to equip learners with skills in packaging techniques and comply with quality standards for perishable and semi-perishable crops .
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Recognition of Prior Learning (RPL)

Unit 9: Quality Control handling and Packaging of perishables semi Perishables

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO: 1 Apply Quality Control Standards in Handling Perishable and semi perishables	1.1	Monitor quality parameters (firmness, absence of sprouting, microbial damage).									
	1.2	Conduct inspection for defects (bruises, rot, insect damage).									
	1.4	Apply Good Agricultural Practices (GAP) and food safety protocols.									
LO: 2 Perform Grading and Sorting of Perishables and Semi-perishables for Market Requirements	2.1	Classify produce by size, weight, and external appearance.									
	2.2	Operate mechanical graders and sorting equipment where applicable.									
	2.3	Remove defective or damaged produce.									
	2.4	Grade based on compliance with national and international standards.									
LO: 3 Apply Hygienic Handling Practices.	3.1	Maintain clean storage and packaging environments.									
	3.2	Prevent microbial contamination during handling.									
	3.3	Apply safe pest control measures.									
	3.4	Train workers on hygiene and safety protocols.									
LO: 4 Supervise Packaging Operations	4.1	Select appropriate packaging materials..									
	4.2	Prevent compression damage using palletisation and stacking techniques.									
	4.3	Monitor packaging integrity during storage and transport.									
LO:5 Comply with Storage and Distribution Standards	5.1	Apply recommended storage conditions (cool, ventilated, dry environments).									
	5.2	Supervise loading and unloading to prevent mechanical damage.									
	5.3	Align packaging and handling									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		with domestic and export requirements.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 10: Quality Control handling and Packaging of Specialty Crops

Unit Reference Number: AGR/PHM/010/L4
NSQ Level: 4
Credit Value: **6**
Guided Learning Hours: 60
Unit Purpose: This unit is designed to equip learners with skills to develop competence in specialized packaging methods that maintain the integrity of specialty crops.
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Recognition of Prior Learning

Unit 10: Quality Control handling and Packaging of Specialty Crops

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Evaluate inspected Specialty crop.	1.1	Identify accurately: Defects; Contamination; Damage in harvested crops.									
	1.2	Examine crop quality based on established grading standards: Size; Colour; Texture; Maturity.									
	1.3	Document inspection results systematically for traceability and farm management records.									
LO: 2 Maintain Quality of Specialty Crop	2.1	Apply appropriate cleaning, sorting, and handling techniques to preserve crop freshness.									
	2.2	Transport specialty crop based on crop type.									
	2.3	Monitor postharvest processes to prevent deterioration.									
LO: 3 Comply with Safety rules and regulations	3.1	Adhere food safety guidelines and regulatory standards during quality control processes.									
	3.2	Use equipment and facilities safely and correctly to avoid contamination.									
	3.3	Implement quality control measures to ensure product consistency.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

AGRO POSTHARVEST MANAGEMENT LEVEL 5

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in Agro Postharvest Management for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing Assistant Managers/Technicians in Agro Post Harvest, NSQ Level 5 with the competencies necessary to work in Postharvest Management industries. This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

This qualification is targeted at developing competence in strategic management and supply chain coordination in agro Postharvest Management. This is focused on knowledge, practical skills, communication skills, health and safety, team work and workplace experience.

QUALIFICATION REQUIREMENTS

All Candidates must:

1. Be at least (20) years of age
2. Be medically fit
3. Be mentally fit (Mental alertness)
4. Have achieved all the Safety and Health mandatory units in the qualification
5. Possession of a valid National Identification (Nigerian and Non-Nigerian)

QUALIFICATION OBJECTIVES

To achieve this qualification, the learner should have the following competencies:

i. Source for information and communicate effectively in Postharvest Management System;
ii. Apply different methods of communication strategy in Postharvest Management System;
iii. Implement strategic communication tools in Postharvest Management System;
iv. Coordinate teams across supply chains in Postharvest Management System;
v. Tailor smooth collaboration between different postharvest actors;
vi. Design technical collaboration in postharvest management chain;
vii. Develop a strategy on safety first culture and quality metrics in Postharvest Management System;
viii. Establish risk management and hazard control in Postharvest Management System;
ix. Enforce regulatory compliance and documentation in Postharvest Management System;
x. Adopt strategic postharvest management system: from field to market;
xi. Establish supply chain logistics and infrastructure management;
xii. Design quality management, food safety and traceability;

xiii. Document agricultural produce for storage;
xiv. Handle customer complaint effectively;
xv. Design, acknowledge and Log Complaints received from the customers;
xvi. Investigate and verify the claim for documentation as reported by the customer;
xvii. Resolve workers' complaints, communicate effectively and dispatch appropriately;
xviii. Document and analyze the report findings for proper implementation;
xix. Manage different methods of storage;

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

Assessment must be carried out in real workplace environment in which learning and human development is carried out. Simulation is allowed in this unit and level.

i. Assessment methods to be used include:
ii. Direct Observation (DO)
iii. Question and Answer (QA)
iv. Witness Testimony (WT)
v. Personal statement (PS) or Reflective Practice (RP)
vi. Assignment (ASS)
vii. Recognition of Prior Learning (RPL)

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National Skills Qualification/National Occupation Standard (NSQ/NOS) Unit Table
LEVEL
MANDATORY UNITS

Unit	Unit Reference Number	Unit Title	Credit Value	Guided Learning Hours
1	AGR/PHM/001/L5	Communication in work	3	30
2	AGR/PHM/002/L5	Team work	3	30
3	AGR/PHM/003/L5	Health and safety	3	30
4	AGR/PHM/004/L5	*Postharvest Management from field to market*	6	60
5	AGR/PHM/005/L5	Logistics in Postharvest Management	5	50
6	AGR/PHM/007/L5	Customer Complaint Handling	5	50
7	AGR/PHM/006/l5	Quality Management, Food Safety and Traceability	6	60
8	AGR/PHM/007/L5	Storage in Postharvest System	6	60
TOTAL			**37**	**370**

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Vocational Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

Unit 1: Communication in Postharvest

Unit reference number: AGR/PHM/001/L5
NSQ Level: 5
Credit value: 3
Guided learning hours: 30

Unit Purpose: This unit is designed to equip the learners with competence to strategically manage postharvest system, ensure profitability, compliance and innovation

Unit assessment requirements/ evidence requirement:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Written Questions (QA)
Oral Questions
Assignment
Recognition of prior knowledge (RPL)

(This depends on the Trade Areas to be assessed)

Unit 1: Communication in Postharvest

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: ***Describe source of communication and information in Postharvest work environment***	1.1	Use different communication flow system in postharvest working environment									
	1.2	Communicate information to mitigate challenges in Postharvest working environment									
	1.3	Document findings in accordance with laid down procedures in Postharvest working environment									
LO2: ***Apply different methods of communication in postharvest working environment***	2.1	Pass communication messages to workers in Postharvest working environment									
	2.2	Monitor achievements in Postharvest working environment									
	2.3	Coordinate compliance with all communication accessories use in in Postharvest working environment									
LO3: ***Implement strategic communication for Post- harvest Management System***	3.1	Enforce Postharvest handling protocols on team members									
	3.2	Lead meetings that align supply chain actors with quality standards									
	3.3	Draft clear reports on storage losses and corrective actions									
	3.4	Train staffs on communication etiquette for handling durable's, perishables and semi perishables produce									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 2: Teamwork in Postharvest Management System

Unit Reference Number: AGR/PHM/002/L5
NSQ Level: 5
Credit Value: 3
Guided Learning Hours: 30

Unit Purpose: This unit is designed to equip the learners with essential principles and practices of effective team work and its dynamics within the context of postharvest management systems
Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Personal statement/Learning Journal (PS/LJ)
3. Questions and Answers (QA)
4. Witness Testimony (WT)
5. Assignment (ASS)
6. Work Products (WP)

Unit 2: Teamwork in Postharvest Management System

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Coordinate teams across supply chains in managing Postharvest management system	1.1	Supervise sign in and out of staff Register									
	1.2	Coordinate the shared use of critical resources to prevent equipment damage									
	1.3	Create situational awareness in Postharvest Management of potential hazards									
LO2: *Tailor smooth collaboration between different Postharvest actors*	2.1	Collaborate to monitor the rejection of off-grade produce.									
	2.2	Reassign roles dynamically within the team during peak working hours									
	2.3	Apply efficient metrics to ensure no back log occurs in cooling or packing house.									
	2.4	Maintain sorting line with minimal product loss to team									
LO3: ***Develop a technical collaboration in Postharvest Management chain***	3.1	Share responsibility for checking and recording quality parameters.									
	3.2	Perform team based calibration of grading equipment's to ensure all shifts are working with the same technical specifications									
	3.3	Arrange team members along processing line based on individual experiences and strength.									
	3.4	Plan warehouse packing collaboratively to ensure First in First Out(FIFO)									
LO:4 Coordinate Recruitment, Training and Retraining	4.1	Recruit and train diverse teams of Postharvest handlers, technicians and supervisors									
	4.2	Develop clear job descriptions, performance metrics and conduct effective performances evaluation and review									
	4.3	Foster culture of safety, quality and professional development									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		among team members									
	4.4	Manage labour effectively during peak harvest seasons, balancing cost with the need of speed and care in handling									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 3: Health and Safety in Postharvest

Unit Reference Number: AGR/PHM/003/L5
NSQ Level: **5**
Credit Value: **3**
Guided Learning Hours: **30**

Unit Purpose: This unit is designed to equip learners with the requisite knowledge, skills and attitude to identify workplace hazards, assess risk and implement control measures during postharvest activities.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

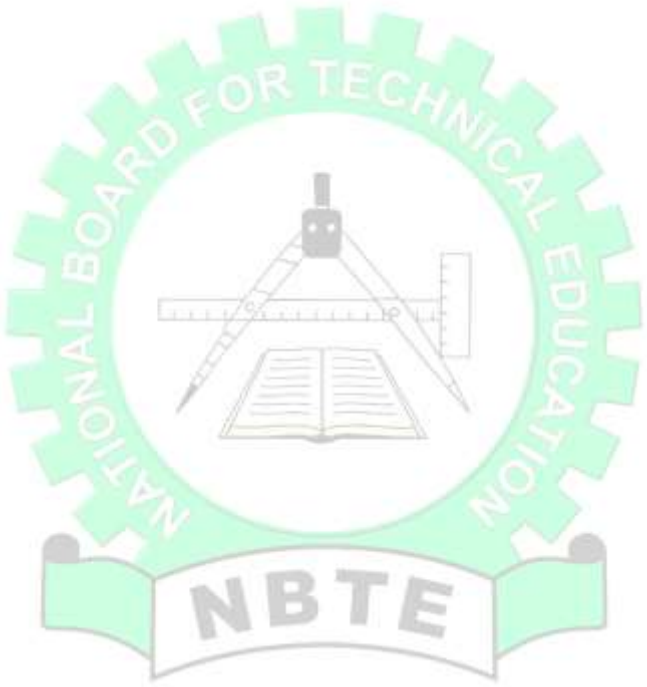
Assessment methods to be used include:
Direct Observation (DO)
Personal statement/Learning Journal (PS/LJ)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Work Products (WP)
Recognition of Prior Learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 3: Occupational Health and Safety in Postharvest Management System

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: ***Develop a strategy on safety first culture and quality metrics***	1.1	Apply safety protocols to influence subordinate behaviors (use of PPE)									
	1.2	Facilitate safety communication actions that address specific postharvest risk									
	1.3	Break down Postharvest tasks to staff for safety and job performance optimization									
	1.4	Develop modified duty plans for injured workers while recovering and reducing lost work days									
LO2: ***Establish risk management and hazard control***	2.1	Identify risks before accidents occur									
	2.2	Design processing line for routine activities to reduce strain injuries									
	2.3	Identify risks during non-routine operations such as maintenance shut down or peak Postharvest season									
	2.4	Coordinate an effective response to major Postharvest emergencies									
LO3: ***Enforce regulatory compliance and documentation in Post harvest Management System***	3.1	Enforce local and international regulations regarding workers safety in Postharvest working environment									
	3.2	Document training records, safety data sheet (SDS), chemicals and incident investigation reports									
	3.3	Verify that all hazards communications programmes are up-to-date									
	3.4	Schedule regular inspection of critical safety devices and properly document observations.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 4: Postharvest Management System from Field to Market

Unit Reference Number: AGR/PHM/004/L5
NSQ Level: 5
Credit Value: 6
Guided Learning Hours: 60

Unit Purpose: This unit is designed to equip the learner to ensure that agricultural produce maintains its quality, safety and market value from the field all the way to the ultimate consumer.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Questions and Answers (QA)
Witness Testimony (WT)
Assignment (ASS)
Recognition of Prior Learning (RPL)/Accreditation of Prior Learning (APL)

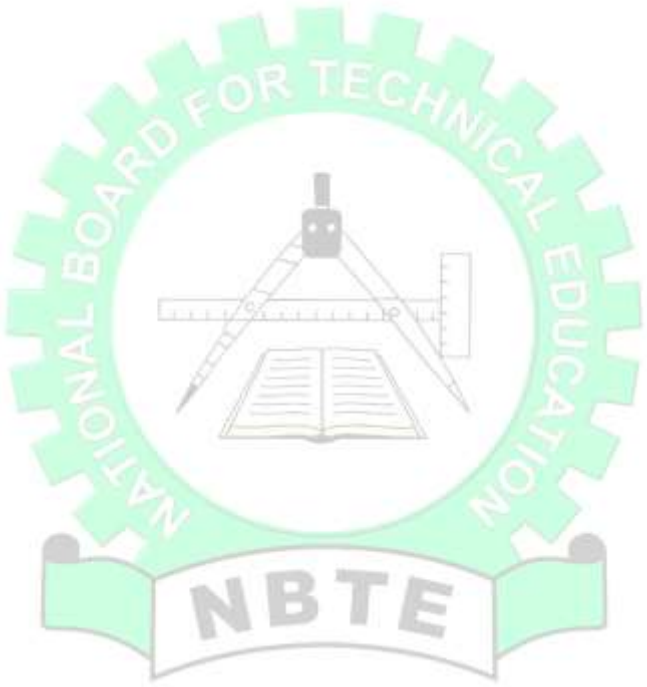
(This depends on the Trade Areas to be assessed)

Unit 4: Postharvest Management System from Field to Market

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: **Apply Postharvest Processes**	1.1	Monitor stages of postharvest handling: i. Harvesting; ii. Sorting; iii. Grading; iv. Cleaning; v. Packaging; vi. Storage; vii. Transportation; and viii. Marketing.									
	1.2	Monitor stages affecting product quality and shelf life									
	1.3	Identify key properties of physical (size), chemicals (aroma/flavour) and sensory (touch/feel) of: i. Durable's, ii. Perishables and iii. Semi-perishable									
	1.4	Monitor losses and wastes of durables, perishables and semi-perishable: i. Quantitative ii. Qualitative									
	1.5	Supervise critical control points in the supply chain for: i. Durables; ii. Perishables; iii. Semi-perishable									
LO2: Establish supply chain logistics and infrastructure management to Minimize Postharvest Losses	2.1	Evaluate different Postharvest handling systems and select the most appropriate infrastructure									
	2.2	Design an efficient layout for packing house that optimize workflow from receiving to dispatch									
	2.3	Develop standard protocols for the Postharvest infrastructure operation and maintenance									
	2.4	Manage inventory effectively using principles of First-In-First-Out									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		(FIFO)									
	2.5	Create partnerships with local markets and distributors to streamline transport and maintain produce quality.									
LO3:Apply quality management	3.1	Implement a comprehensive quality management system including SOP for: Durables, Perishables and Semi-perishable									
	3.2	Oversee food safety plans based on: i. Hazard Analysis and Critical Control Point (HACCP) principles ii. National Agency for Food and Drug Administration and Control (NAFDAC) iii. Standards Organization of Nigeria (SON)									
	3.3	Identify potential food safety hazards that are: i. Biological; ii. Chemical; iii. Physical									
	3.4	Implement a traceability system for forward and backward tracking of : i. Durables, ii. Perishable iii. Semi-perishable									
	3.5	Motivate staffs to adhere to quality and food safety standards									
	3.6	Develop benchmarks for measuring postharvest losses and establish regular review									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**



Unit 5: Logistics in Postharvest Management

Unit reference number: AGR/PHM/005/L5
NSQ Level: 5
Credit value: 5
Guided learning hours: 50

Unit Purpose: This unit is designed to equip learner with knowledge and skills of harvested crops to maintain their quality, minimize losses, and reach consumers efficiently.

Unit assessment requirements/ evidence requirement:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Written Questions (QA)
Oral Questions
Assignment
Recognition of prior learning (RPL)

(This depends on the Trade Areas to be assessed)

Unit 5: Logistics in Postharvest Management

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Move produce safely	1.1	Direct timely movement of Produce to storage or market within the shortest possible time									
	1.2	Package produce efficiently to prevent bruising, crushing, or mechanical injury									
	1.3	Distribute produce effectively to minimize expenses without compromising quality									
	1.4	Maximize the shelf life of produce without compromising safety and quality									
LO2: Coordinate Supply Chain	2.1	Move produce quickly from farm to storage/market to reduce spoilage.									
	2.2	Enforce harvesting, packaging, storage, and distribution to align seamlessly.									
	2.3	Use sensors and trackers to ensure quality standards are met.									
	2.4	Control logistics expenses to be lower than the market value of produce.									
LO3: Optimize Cost and market flexibility	3.1	Maximize efficient use of transport, storage, and labor while minimizing waste									
	3.2	Monitor shipments or storage to reduce per-unit costs									
	3.3	Release produce when market demand and prices are favourable.									
	3.4	Access multiple markets (local, regional, international) through efficient logistics									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 6: Customer Complaint Handling

Unit Reference Number: AGR/PHM/006/L5
NSQ Level: 5
Credit Value: 5
Guided Learning Hours: 50

Unit Purpose: This unit is designed to equip learners with the knowledge and skills required to effectively manage customer satisfaction through professional complaint handling.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation (DO)
2. Questions and Answers (QA)
3. Witness Testimony (WT)
4. Assignment (ASS)
5. Recognition of Prior Learning (RPL)/Accreditation of Prior Learning (APL)

(This depends on the Trade Areas to be assessed)

Unit 6: Customer Complaint Handling

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Coordinate and log Complaints	1.1	Record detailed information about complaints such as: Commodity type storage timeline Specific nature of the issue. Complainers information									
	1.2	Document complaints by: Produce type (quality, weight); Pest damage									
	1.3	Determine damage that occur during storage period or prior to arrival									
LO2; Perform Investigation and Verify claim	2.1	Collaborate with the Warehouse Operations and Quality Assurance teams to trace the affected batch/grain lot.									
	2.2	Review: Intake records; Temperature logs; Moisture content logs; Aflatoxin test results.									
	2.3	Inspect remaining stock to verify claims of: Spoilage Infestation Contamination									
	2.4	Establish feedback channels from consumers to continuously improve processes									
LO3: Resolve complaint and Communicate effectively	3.1	Carry out staff involvement in quality improvement discussions									
	3.2	Design a schedule for regular training sessions									
	3.3	Utilize technology for tracking and monitoring every stage of the postharvest system									
	3.4	Communicate findings and resolution to the customer clearly									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.5	Facilitate workshops on innovation to drive improvements in postharvest management.									
LO4: Document report findings	4.1	Maintain a secure database of all complaints and their resolutions for compliance and audit purposes									
	4.2	Review recurring issues (e.g rising complaints about insect activity) to flag systemic risks.									
	4.3	Generate monthly reports highlighting Trends Root causes Cost of non-conformance.									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 7: Quality Management, Food Safety and Traceability

Unit Reference Number: AGR/PHM/007/L5
NSQ Level: 5
Credit Value: 6
Guided Learning Hours: 60

Unit Purpose: This unit is to equip learners with the knowledge and skills on agricultural and food products on maintaining high quality standards after harvest, while meeting food safety regulations and enabling traceability across the supply chain.

Unit assessment requirements/ evidence requirements:
Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

i. Direct Observation (DO)
ii. Personal statement/Learning Journal (PS/LJ)
iii. Questions and Answers (QA)
iv. Witness Testimony (WT)
v. Assignment (ASS)
vi. Work Products (WP)

(This depends on the Trade Areas to be assessed)

Unit 7: Quality Management, Food Safety and Traceability

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO1: Enforce Postharvest Quality	1.1	Supervise product quality on handling, storage, and distribution.									
	1,2	Apply grading, packaging, and preservation techniques to maintain nutritional value and shelf life.									
	1.3	Evaluate the outcomes of processing methods on product integrity and nutritional value									
LO2: Apply Food Safety Standards	2.1	Examine biological, chemical, and physical hazards in postharvest systems									
	2.2	Implement hygiene protocols and regulatory frameworks									
	2.3	Promote sustainability and efficiency within the postharvest system.									
LO3 Implement Traceability Systems	3.1	Enforce tracking of agricultural products across the supply chain.									
	3.2	Document product claims and ensure transparency using digital tools									
	3.3	Perform quality management, food safety and traceability practices to consumer confidence for fair trade									

Learners Signature:	**Date:**
Assessors Signature:	**Date:**
IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

Unit 8: Storage in Postharvest System

Unit reference number: AGR/PHM/008/L5
NSQ Level: 5
Credit value: 6
Guided learning hours: 60

Unit Purpose: This unit is designed to equip the learner with knowledge and skills on storage of agro produce after harvest

Unit assessment requirements/ evidence requirement:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:
Direct Observation (DO)
Written Questions (QA)
Oral Questions
Assignment
Role Play

(This depends on the Trade Areas to be assessed)

Unit 8: Storage in Postharvest System

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1 Manage storage facility preparation	1.1	Evaluate suitability of different storage facilities. i. Bulk storage ii. Bag storage iii. Cold storage iv. Cool storage v. Modified atmosphere storage vi. Control atmosphere storage									
	1.2	Use storage facilities for easy loading, offloading and cleaning operations									
	1.3	Inspect storage structures for defects, pest entry points, and ventilation system functionality									
LO2 Control temperature and humidity	2.1	Determine optimal temperature and humidity ranges based on physiological characteristics for: i. Perishables ii. Semi-perishables iii. Durables									
	2.2	Operate temperature and humidity control systems to achieve optimum ranges									
	2.3	Monitor temperature and humidity to identify deviations									
	2.4	Interpret readings to guide management decisions									
LO3 Carry out atmosphere and ventilation control	3.1	Determine optimum gas exchange (oxygen, carbon dioxide, ethylene) in stored produce and their effects on shelf life									
	3.2	Operate ventilation systems to maintain optimal gas composition									
	3.3	Prevent accumulation of harmful gases									
	3.4	Monitor gas concentrations using appropriate instruments									
	3.5	Interpret readings to guide									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		management decisions									

Learners Signature:	**Date:**
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IQA Signature (if sampled)	**Date:**
EQA Signature (if sampled)	**Date:**

List of Equipment for Postharvest Management

HARVESTING

S/No	Equipment/Machinery
1.	Tractor/Power tiller
2.	Combine Harvester
3.	Diggers (for root/tubers)
4.	Secateurs
5.	Cutlasses/Knives
6.	Harvesting crates
7.	Mesh Handle, Bag, and String (for tying produce)
8.	Carriage/Trailer (for haulage of produce)
9.	Thresher
10	Hoe
11.	Winnower
12	PPE

DRYING

S/No	Equipment/Machinery
1.	Dryer (Mechanical)
2.	Solar Dryer
3.	Moisture Meter
4.	Tarpaulin
5.	Shade (shade drying)
6.	Thermometer

COOLING AND PRE-COOLING

S/No	Equipment/Machinery
1.	Cold room
2.	Refrigerated truck
3.	Evaporative cooling pad
4.	Ice block machine
5.	Insulated box (portable cooler)
6.	Water sprinkler
7.	Heating ventilation air condition and cooling equipment.(HVAC)

VENTILATION

S/No	Equipment/Machinery
1.	Industrial fan/extractor
2.	Plenum/ducting System
3.	Wind turbine ventilator

STORAGE

S/No	Equipment/Machinery
1.	Silo

2.	Refrigerated warehouse
3.	Traditional granary (*Rumbu*)
4.	Warehouse
5.	Pallets
6.	Tarpaulin

QUALITY CONTROL

S/No	Equipment/Machinery
1.	Sugar Meter / Refractometer
2.	Color Chart
3.	Weighing scale
4.	Cleaning and Sorting device
5.	pH meter
6.	Moisture analyzer
7.	Magnifying glass (for pest and mold infestation)
8.	Tenderometer

WASTE MANAGEMENT EQUIPMENT/MACHINERY

S/N	EQUIPMENT/MACHINERY
1.	Waste basket
2.	Brooms
3.	Packer
4.	Shovels
5.	Rakes
6.	Vacuum cleaner
7.	Blower/cyclone
8.	Stalk shredder
9.	Disposable plastic bags
10.	Incinerator.

List of Workshop Participants

National Zero Draft Development Workshop

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National Critique and Validation Workshop

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