



NATIONAL BOARD FOR TECHNICAL EDUCATION

PLOT B BIDA ROAD, P.M.B. 2239, KADUNA, NIGERIA

IN COLLABORATION WITH



SSC4A

NATIONAL OCCUPATIONAL STANDARDS
(NOS)

HORTICULTURE LEVELS 1 - 3

JUNE, 2026



**RENEWED HOPE
IN AGRICULTURE**

PREFACE

The development of the National Occupational Standards (NOS) for the agricultural sector marks another important milestone in Nigeria's commitment to strengthening Technical and Vocational Education and Training (TVET), promoting skills development, and improving workforce productivity. These standards have been developed to provide nationally recognized benchmarks for the knowledge, skills, and competencies required for effective performance in various agricultural occupations.

The National Occupational Standards were developed through a collaborative process involving industry experts, employers, professional bodies, regulatory agencies, training institutions, development partners, and other key stakeholders. Their contributions ensured that the standards reflect current industry practices, emerging technologies, and the competency requirements of the modern agricultural sector.

I wish to express my sincere appreciation to the Honourable Minister of Education for providing the policy direction that made this initiative possible. I also acknowledge the support of the Honourable Minister of Agriculture and Food Security and the Honourable Minister of Livestock Development for their commitment to advancing agricultural skills development in Nigeria.

I extend my profound gratitude to the Tertiary Education Trust Fund (TETFund) for its intervention and support, which facilitated the development of these National Occupational Standards. I also appreciate the invaluable contributions of the Sector Skills Council for Agriculture (SSC4A), members of the Implementation Committee, resource persons, industry practitioners, employers, professional associations, regulatory agencies, the French Embassy in Nigeria, development partners, and all stakeholders who contributed their expertise throughout the development process.

These National Occupational Standards will serve as an important reference for competency-based training, assessment, certification, apprenticeship, Recognition of Prior Learning (RPL), and workforce development within the agricultural sector. It is my expectation that all implementing institutions and industry partners will effectively utilize these standards to enhance the quality, relevance, and competitiveness of agricultural skills development in Nigeria.

I commend all stakeholders for their dedication and commitment to this important national assignment and look forward to the successful implementation of these National Occupational Standards for the benefit of the agricultural sector and the nation as a whole.

Professor Idris M. Bugaje, FNSE
Chairman, Implementation Committee

EXECUTIVE SECRETARY

National Board for Technical Education (NBTE), Kaduna

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**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Horticulture** for the award of National Skills Qualification (NSQ)/National Occupational Standards. It is aimed at producing competencies necessary to support in **Horticulture** at **NSQ Level 1**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent entry level horticultural assistant with knowledge, skills, and attitude required to perform routine horticulture production activities under supervision using standard horticultural practices and tools.

QUALIFICATION REQUIREMENTS

There are no formal academic entry requirements.

Candidates should:

- At least sixteen (16) years of age;
- Medically fit;
- Mentally fit (Mental alertness);
- A Nigerian citizen;
- Other nationals should present international passport, residence permit or Parent work permit;
- Vetted;
- Interested in agricultural production and related support operations;
- Able to carry out simple practical tasks under supervision.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

1. Comply with occupational health, safety and environmental requirements in horticultural production.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholder in horticultural production.
3. Work effectively as a member of a team to achieve horticultural production objectives.
4. Select the most appropriate site for horticultural crop productions
5. Apply appropriate Sustainable Land Preparation practices under supervision
6. Perform routine Plant Propagation practices under supervision.
7. Apply Soil Fertility Management to support the growth and productivity of horticultural enterprise under supervision.
8. Carry out basic Nursery Management activities under supervision.
9. Perform Integrated Weed Management practices under supervision.
10. Execute Irrigation and Water Management practices under supervision
11. Carry out Potting and Transplanting activities under supervision

NATIONAL SKILLS QUALIFICATION TABLE

S/NO /Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remark
1	AGR/HOT/001/L1	Occupational Health and Safety	1	10	30	Mandatory
2	AGR/HOT/002/L1	Communication	1	10	30	Mandatory
3	AGR/HOT/003/L1	Team Work	1	10	30	Mandatory
4	AGR/HOT/004/L1	Site Selection	1	10	30	Mandatory
5	AGR/HOT/005/L1	Sustainable Land Preparation	3	30	90	Mandatory
6	AGR/HOT/006/L1	Plant Propagation	2	20	60	Mandatory
7	AGR/HOT/007/L1	Soil Fertility Management	2	20	60	Mandatory
8	AGR/HOT/008/L1	Nursery Management	3	30	90	Mandatory
9	AGR/HOT/009/L1	Integrated Weed Management	2	20	60	Mandatory
10	AGR/HOT/010/L1	Irrigation and Water Management	2	20	60	Mandatory
11	AGR/HOT/011/L1	Potting and Transplanting	2	20	60	Mandatory
TOTAL			20	200	600	

QUALIFICATION STRUCTURE

This qualification comprises a total of eleven (11) Mandatory Units, with a credit value of 20 and 200 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.

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 Skills 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 001:

OCCUPATIONAL HEALTH AND SAFETY

Unit reference number:	AGR/HOT/001/L1
NSQ level:	1
Credit value:	1
Guided learning hours:	10 hours
Practice Time:	30 hours

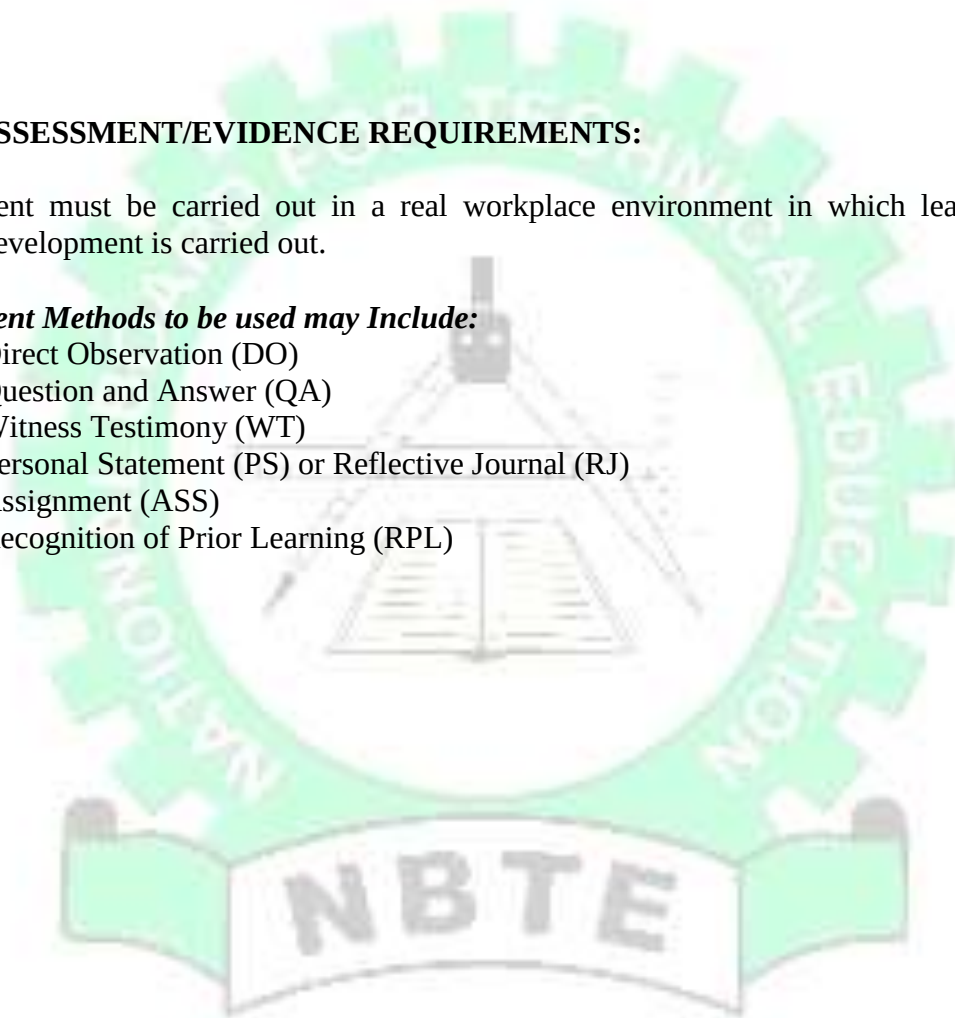
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills in occupational health and safety in horticultural enterprises to ensure a safe, injury free environment for the worker.

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

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

Assessment Methods to be used may Include:

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



Unit 001: Occupational Health and Safety

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Explain the regulations and safety requirements in horticultural operations</i>	1.1	State the basic safety rules in Agricultural Operations									
	1.2	List the Personal Protective Equipment (PPE) used in Agricultural Operations									
	1.3	Recognize work safety to protect self and others									
LO 2: <i>Explain the hazards involved in horticultural operations</i>	2.1	List the common hazards associated with Agricultural Operations									
	2.2	List the causes of hazards involved in Agricultural Operations									
	2.3	Explain the precautionary measures against natural hazards such as: - Fire - Predators, etc.									
LO 3: <i>Explain the measures taken against hazards in Agricultural Operations</i>	3.1	Explain how to prevent hazards in Agricultural Operations									
	3.2	Identify common safety signs used in Agricultural Operations									
	3.3	Explain the importance of safety signs to prevent hazards in Agricultural Operations.									
	3.4	List first aid procedures for specific risks									
LO 4: <i>Demonstrate the use of safety tools and equipment</i>	4.1	Identify Personal Protective Equipment (PPE) applicable to agricultural Operations									
	4.2	Identify correct usage of the most important PPEs in horticulture									
	4.3	Wear appropriate Personal Protective Equipment (PPE) while carrying out Agricultural Operations									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

UNIT 002: COMMUNICATION

Unit reference number:	AGR/HOT/002/L1
NSQ level:	1
Credit value:	1
Guided learning hours:	10 hours
Practice Time:	30 hours

Unit Purpose: This unit is designed to equip learners with knowledge and skills in quality communication system in horticultural work environment.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



Unit 002: Communication

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Identify the sources of information in a work environment</i>	1.1	Identify the sources of information in the work environment									
	1.2	Relate effectively with the source of information									
	1.3	Use the different information flow systems in a work environment to gather information									
	1.4	Report findings appropriately in accordance with laid down procedure in the work environment									
LO 2: <i>Use non-complex communication system in a work environment</i>	2.1	Use verbal means to pass on necessary information									
	2.2	Use non-verbal means to convey necessary information e.g. body language, signs									
	2.3	Identify symbols and signs in the workplace									
	2.4	Listen attentively to understand instructions in work environment									
LO 3: <i>Identify the use of various communication means in a work environment</i>	3.1										
	3.2	Locate the various communication equipment in the work environment									
	3.3	Identify the uses of the various communication equipment in a work environment.									
	3.4	Pass information effectively to the right personnel.									
	3.5	Pass information effectively using symbols, signs and codes.									
	3.6	Obey instructions in line with ethics of the work environment.									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

UNIT 003: TEAMWORK

Unit reference number:	AGR/HOT/003/L1
NSQ level:	1
Credit value:	1
Guided learning hours:	10 hours
Practice time:	30 hours

Unit Purpose: The purpose of this unit is to equip the learners with knowledge and skills required to develop team spirit and positive working relationship with colleagues.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



Unit 003: Teamwork

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. No.			
LO 1: <i>Explain positive working relationship with colleagues</i>	1.1	Identify the need for developing positive working relationship with colleagues									
	1.2	Assist team members when required.									
	1.3	Report to the personnel when request for assistance fall outside area of responsibility									
	1.4	Communicate information to colleagues about own work that might affect others									
LO 2: <i>Take responsibility within the team</i>	2.1	Recognize own role and responsibilities within team									
	2.2	Perform individual tasks in line with the team rules and regulations.									
	2.3	Participate effectively in teamwork.									
LO 3: <i>Comply with policy of organisation</i>	3.1	Work in line with organizational standard									
	3.2	Use organizational code of practice									
	3.3	Explain organizational code of conduct									
	3.4	Recognize the need for accountability.									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

UNIT 004: SITE SELECTION

Unit reference number:	AGR/HOT/004/L1
NSQ level:	1
Credit value:	1
Guided learning hours:	10 hours
Practice Time:	30 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills necessary to secure a conducive and safe site for horticultural plants.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



Unit 004: Site Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify farm infrastructure needed for the production of horticultural crops</i>	1.1	List farm infrastructures required for production		
	1.2	Identify materials used for making farm infrastructure		
	1.3	Carry out maintenance for farm infrastructure		
LO 2: <i>Locate suitable site environment</i>	2.1	Check topography of the land by visual method		
	2.2	Identify the vegetation of the areas		
	2.3	Assist in carrying out site survey		
LO 3: <i>Identify economic factors that have impact on production</i>	3.1	Identify the sources and cost of labour applicable to a given site		
	3.2	Determine distance of site to the market		
	3.3	Determine the cost of acquiring land for production in a given area		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 005: SUSTAINABLE LAND PREPARATION

Unit reference number: AGR/HOT/005/L1

NSQ level: 1

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to prepare the land to suit particular crop type and season.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)



Unit 005: Sustainable Land Preparation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify suitable equipment for the land clearing</i>	1.1	List tools and equipment for clearing the Land		
	1.2	Demonstrate the use of tools and equipment		
	1.3	Carry out minor maintenance of tools and equipment used for land clearing		
LO 2: <i>Explain land clearing</i>	2.1	Explain the principles of land clearing		
	2.2	Assist in land clearing processes such as tree felling, stumping, slashing of grasses, stone and debris collection		
	2.3	Comply with safety procedures in clearing land		
LO 3: <i>Dispose debris appropriately</i>	3.1	List the different methods of debris disposal from land e.g. burning, removal, incorporation into the soil, etc.		
	3.2	Identify reasons for debris disposal		
	3.3	Carry out disposal of debris using any of the methods described above		
LO 4: <i>Identify types and uses of appropriate equipment and implements for various land preparation activities</i>	4.1	Identify implements used for ploughing		
	4.2	Identify implements used for harrowing		
	4.3	Identify implements used for ridging		
	4.4	Identify implements used for discing		
LO 5: <i>Prepare the land to suit crop types and season</i>	5.1	Identify appropriate tools used for making beds		
	5.2	Recognize suitable bed types for different seasons		
	5.3	Assist in preparing different types of beds (e.g. raised bed, sunken bed)		
	5.4	List soil amendment materials e.g. ash, lime, rice bran, etc		
Learners Signature:			Date:	
Assessors Signature:			Date:	

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



UNIT 006:

PLANT PROPAGATION

Unit reference number:	AGR/HOT/006/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

Unit Purpose: The purpose of this unit is to equip students with knowledge and skills on how to multiply plants of a particular type for increased production.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 006: PLANT PROPAGATION

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify healthy and suitable parent plants</i>	1.1	Identify plant parts used for propagation e.g. seeds, stem, rhizome, leaves, etc		
	1.2	Recognize the maturity stage for use of the different parts listed in		
	1.3	Observe the health condition of a material to be used for propagation		
LO 2: <i>Distinguish between sexual and asexual methods of propagation</i>	2.1	List different methods of propagation i.e. sexual and asexual propagation		
	2.2	List the types of plant/crops that can be propagated using the methods of propagation		
	2.3	Describe the use of vegetative methods of propagation		
LO 3: <i>Prepare planting materials for propagation</i>	3.1	List the appropriate tools for obtaining or preparing the planting materials		
	3.2	Assist in using appropriate tools for obtaining or preparing the planting materials		
	3.3	Identify suitable planting materials (seeds, hardwood stem cuttings, underground stem, etc.) for different plants		
LO 4: <i>Carry out propagation</i>	4.1	Identify the appropriate techniques for propagating given plants		
	4.2	Use the right tools for vegetative propagation in a safe, proper and efficient manner		
	4.3	Assist in carrying out any two (2) vegetative propagation techniques using propagules such as bulbs, suckers, tubers, rhizomes, etc.		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 007: SOIL FERTILITY MANAGEMENT

Unit reference number:	AGR/HOT/007/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice Time:	60

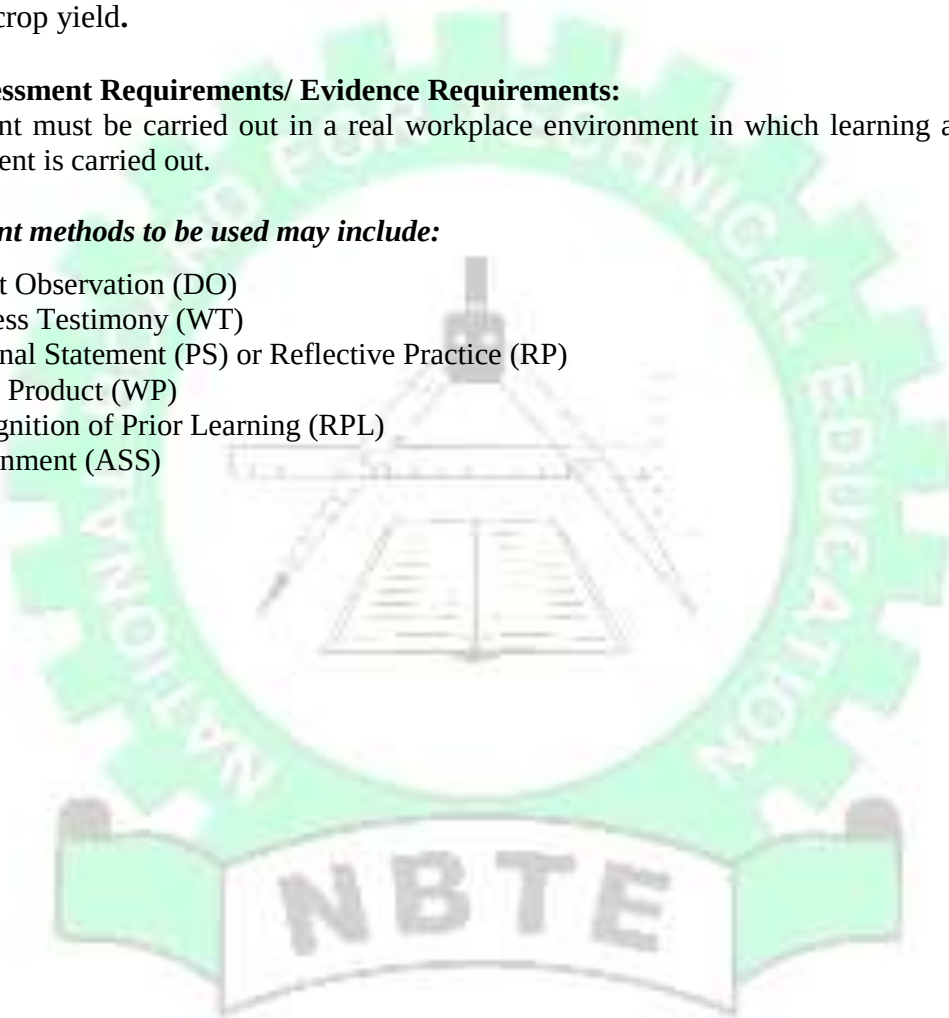
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills needed to apply the right type and quantity of fertilizer and manure to plants on a given farm to improve crop yield.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



Unit 007: Soil Fertility Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Apply right type of fertilizer</i>	1.1	Identify different types of organic fertilizers e.g. compost, poultry manure, cow dung, etc		
	1.2	Identify different types of inorganic fertilizers e.g. Urea, NPK, SSP, etc		
	1.3	Explain the importance of fertilizer application.		
	1.4	Explain the importance of applying organic fertilizer before planting		
	1.5	Differentiate between the uses of Solid and Liquid fertilizers		
LO 2: <i>Apply right quantity of fertilizers</i>	2.1	Measure right quantity of fertilizer for a given crop		
	2.2	Apply right quantity of fertilizer to a given crop.		
	2.3	Apply fertilizer to the crops at the right time.		
LO 3: <i>Identify safety measures and precautions during application</i>	3.1	Identify the correct personal protective equipment (PPE) used in fertilizer application.		
	3.2	State the importance of each PPE used during fertilizer application.		
	3.3	Use correct PPE in fertilizer application.		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 008: NURSERY MANAGEMENT

Unit reference number:	AGR/HOT/008/L1
NSQ level:	1
Credit value:	3
Guided learning hours:	30
Practice Time:	90 hours

UNIT PURPOSE: The purpose of this unit is to equip students with knowledge and skills required to produce healthy and vigorous seedlings.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 008: NURSERY MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Establish physical infrastructure for Nursery</i>	1.1	Identify nursery tools and equipment.		
	1.2	Identify existing tree shade for nursery.		
	1.3	Erect a shade for nursery plants if no tree shade is identified.		
	1.4	Observe the construction of a simple poly propagator.		
LO 2: <i>Prepare growing media.</i>	2.1	Identify different growing media for nursery plants e.g. top soil, coconut husk, sawdust, rice husk, etc.		
	2.2	Prepare appropriate soil mix for different plants		
	2.3	Prepare seed beds		
	2.4	Prepare seed trays for sowing of seeds		
LO 3: <i>Care for growing nursery plants</i>	3.1	Assist in hardening of seedlings		
	3.2	Arrange plants accordingly.		
	3.3	Carry out pest and disease control in nursery plants		
	3.4	Assist in roguing of nursery plants before transplant		
LO 4: <i>Carry out transplanting</i>	4.1	Assist in transplanting seedlings using different methods such as ball of earth method, naked root method		
	4.2	Assist in potting of seedlings		
	4.3	State the right time of the day to transplant seedlings		
	4.4	Transplant seedlings at the right time		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 009:

INTEGRATED WEED MANAGEMENT

Unit reference number:	AGR/HOT/009/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice Time:	60hours

UNIT PURPOSE: This unit is designed to equip students with knowledge and skills required to take necessary measures that ensures a site free of unwanted plants

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 009: INTEGRATED WEED MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.
The learner will:		The learner can:			
LO 1: <i>Identify the types of weeds in the area</i>	1.1	List different types of weeds			
	1.2	Identify different types of weeds			
	1.3	List the harmful effects of weed			
LO 2: <i>Determine the most suitable preventive and/or control measures of weeds</i>	2.1	Identify weed control measures			
	2.2	Identify items needed for weed control			
	2.3	Recognize the suitable time to carry out weed control			
LO 3: <i>Carry out weed control measures</i>	3.1	Carry out manual weeding			
	3.2	Assist in mixing the adequate quantity of herbicide in a sprayer tank			
	3.3	Use recommended plant population to control weeds			
	3.4	Apply mulch to control weeds where necessary			
	3.5	Assist in carrying out routine maintenance of spraying equipment			
LO 4: <i>Comply with safety measures</i>	4.1	List suitable PPE used during weed control			
	4.2	Carryout weed control using appropriate PPE			
	4.3	Observe safety measures			
Learners Signature:			Date:		
Assessors Signature:			Date:		
IQA Signature (if sampled)			Date:		
EQA Signature (if sampled)			Date:		

UNIT 010: IRRIGATION AND WATER MANAGEMENT

Unit reference number:	AGR/HOT/010/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills to identify the sources of water, its sustainability and removal of excess of water where necessary

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 010: IRRIGATION AND WATER MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.
The learner will:		The learner can:			
LO 1: <i>Locate sources of water for irrigation</i>	1.1	Identify sources of water for irrigation e.g. Dam, Stream, Borehole, Well, etc.			
	1.2	Assist in determining the distance between the source of water and the site			
	1.3	Identify the means of drawing water from the source to the site.			
LO 2: <i>Identify the suitable systems of irrigation to be used</i>	2.1	Carry out surface irrigation using flooding system			
	2.2	Carry out surface irrigation using watering can			
	2.3	Carry out surface irrigation using hose			
	2.4	Carry out surface irrigation using simple sprinkler			
LO 3: <i>Carry out drainage of excess water</i>	3.1	State the importance of draining excess water from soil			
	3.2	Assist in constructing suitable drainage channel(s) on the site			
	3.3	Drain excess water where applicable			
Learners Signature:			Date:		
Assessors Signature:			Date:		
IQA Signature (if sampled)			Date:		
EQA Signature (if sampled)			Date:		

UNIT 011: POTTING AND TRANSPLANTING

Unit reference number:	AGR/HOT/011/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

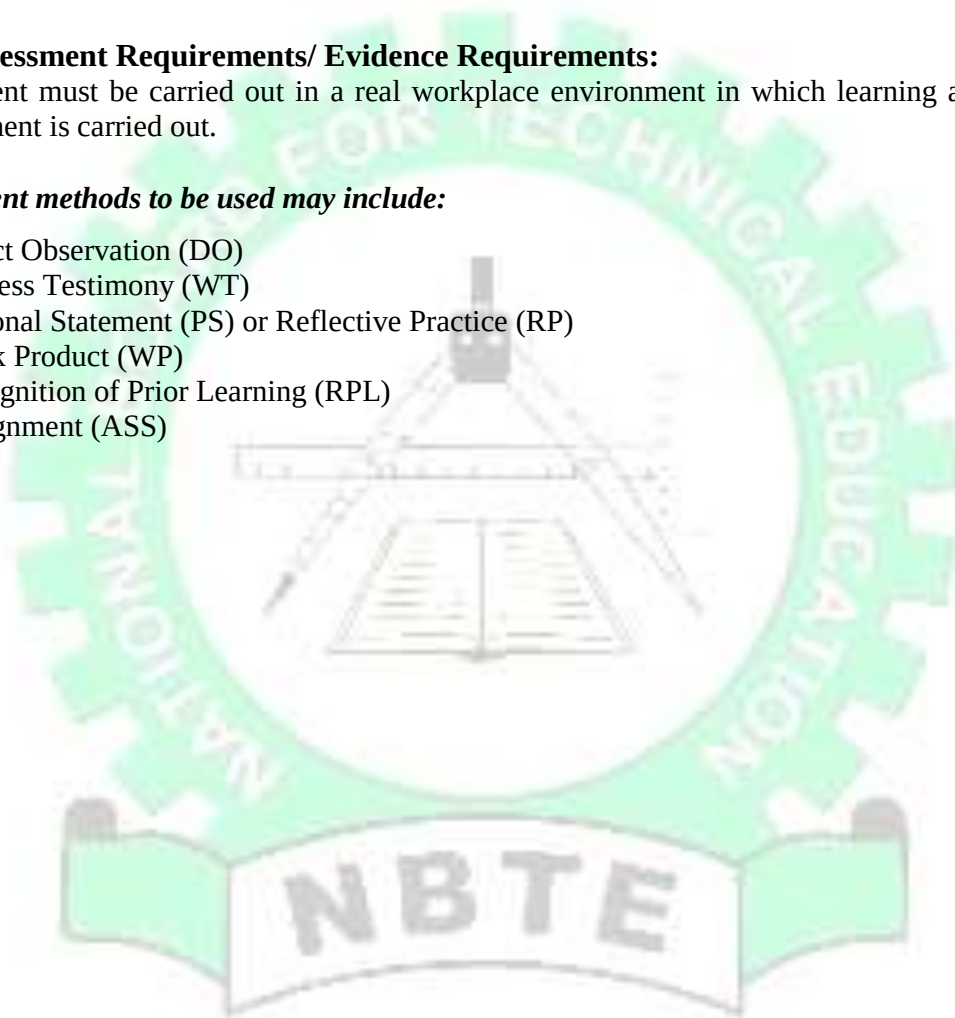
UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills needed to prepare the right medium for growth of plant at early stage.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 011: POTTING AND TRANSPLANTING

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify potting materials</i>	1.1	List different potting materials		
	1.2	Arrange potted plants in the nursery shed based on their content		
	1.3	List different types of potting media		
	1.4	List some common plants that can be potted		
LO 2: Identify the most suitable site for potted plants	2.1	Identify site for potted plants taking into consideration the following: - Source of water - Gradient of the land - Sunshine direction Absence of pests e.g. rodents, birds, etc.		
	2.2	Assist in protecting potted plants e.g. by fencing		
	2.3	Carry out farm sanitation regularly		
LO 3: <i>Carrying out curing, Sterilizing and potting</i>	3.1	Assist in curing different kinds of manure		
	3.2	Assist in sterilizing soil using simple rotating drum		
	3.3	Carry out potting		
	3.4	Change potting media at the appropriate time		
LO 4: <i>Identify the most appropriate time and technique for seedling transplant</i>	4.1	Identify the right time of the day to carry out transplanting		
	4.2	Identify the different techniques for transplanting		
	4.3	Identify types of plants to be transplanted		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN

HORTICULTURE

LEVEL 2

JUNE, 2026



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Horticulture** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to support in **Horticulture at NSQ Level 2**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent horticulture assistant with knowledge, skills, and attitude required to perform routine horticultural production activities under minimal supervision using basic precision agriculture principles and tools.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least sixteen (16) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present international passport, residence permit or Parent work permit.
- Vetted
- Interested in agricultural production and related support operations;
- Able to carry out simple practical tasks under supervision.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

1. Apply safe and healthy work practices in horticultural production environments.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholders in horticultural productions.
3. Work effectively as a member of a team to achieve horticultural production goals.
4. Select the most appropriate site for horticultural crop productions under minimal supervision.
5. Apply appropriate Sustainable Land Preparation practices under minimal supervision
6. Apply Soil Fertility Management to support the growth and productivity of horticultural enterprise under minimal supervision.
7. Carry out basic Nursery Management activities under minimal supervision.
8. Perform Integrated Weed Management practices under minimal supervision.
9. Execute Irrigation and Water Management practices under minimal supervision
10. Carry out Potting and Transplanting activities under minimal supervision
11. Perform routine Plant Propagation practices under minimal supervision.
12. Carry out Pruning and Trimming operations under minimal supervision
13. Perform Integrated Pest and Disease Management practices under minimal supervision.

14. Carry out Harvesting and Postharvest Management operations under minimal supervision.
15. Produce, select and collect most appropriate seed materials for optimal horticultural productions under minimal supervision.
16. Apply landscaping competencies in horticultural enterprises under minimal supervision.
17. Manage Horticultural Business enterprises under minimal supervision.



NATIONAL SKILLS QUALIFICATION TABLE

Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remarks
Unit 001	AGR/HOT/001/L2	Health and Safety	2	20	60	Mandatory
Unit 002	AGR/HOT/002/L2	Communication	1	10	30	Mandatory
Unit 003	AGR/HOT/003/L2	Team Work	1	10	30	Mandatory
Unit 004	AGR/HOT/004/L2	Site selection	2	20	60	Mandatory
Unit 005	AGR/HOT/005/L2	Sustainable Land preparation	2	20	60	Mandatory
Unit 006	AGR/HOT/006/L2	Soil Fertility Management	2	20	60	Mandatory
Unit 007	AGR/HOT/007/L2	Nursery Management	3	30	90	Mandatory
Unit 008	AGR/HOT/008/L2	Integrated Weed Management	2	20	60	Mandatory
Unit 009	AGR/HOT/009/L2	Irrigation and Water Management	2	20	60	Mandatory
Unit 10	AGR/HOT/010/L2	Potting and Transplanting	2	20	60	Mandatory
Unit 11	AGR/HOT/011/L2	Plant Propagation	3	30	90	Mandatory
Unit 12	AGR/HOT/012/L2	Pruning and Trimming	2	20	60	Mandatory
Unit 13	AGR/HOT/013/L2	Integrated Pest and Disease Management	2	20	60	Mandatory
Unit 14	AGR/HOT/014/L2	Harvesting and Postharvest Management	3	30	90	Mandatory
SUB-TOTAL			29	290	870	
Unit 15	AGR/HOT/015/L2	Seed production, collection and selection	2	20	60	Optional
Unit 16	AGR/HOT/016/L2	Landscaping	2	20	60	Optional
Unit 17	AGR/HOT/017/L2	Horticultural Business Management and Entrepreneurship	2	20	60	Optional
SUB-TOTAL			6	60	180	

GRAND-TOTAL	35	350	1050	
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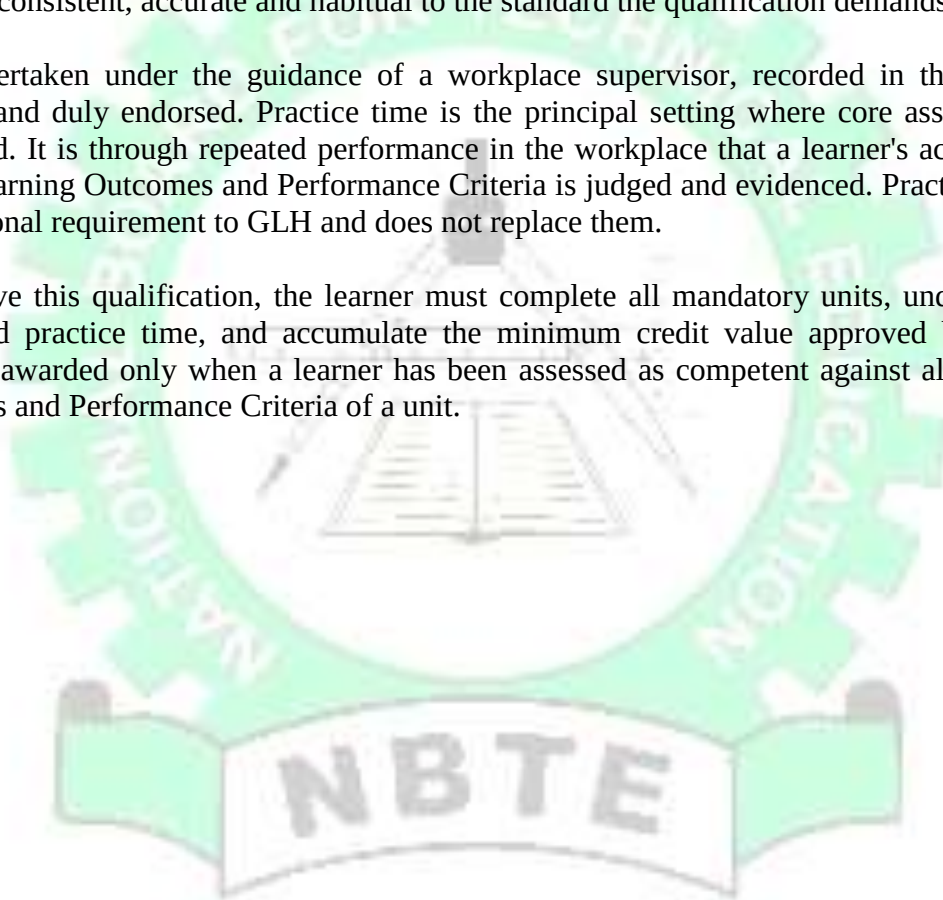
QUALIFICATION STRUCTURE

This qualification comprises a total of Seventeen (17) Mandatory and Optional Units, with a credit value of 35 and 350 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands.

It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.



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 Skills 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 001: HEALTH AND SAFETY

Unit reference number:	AGR/HOT/001/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

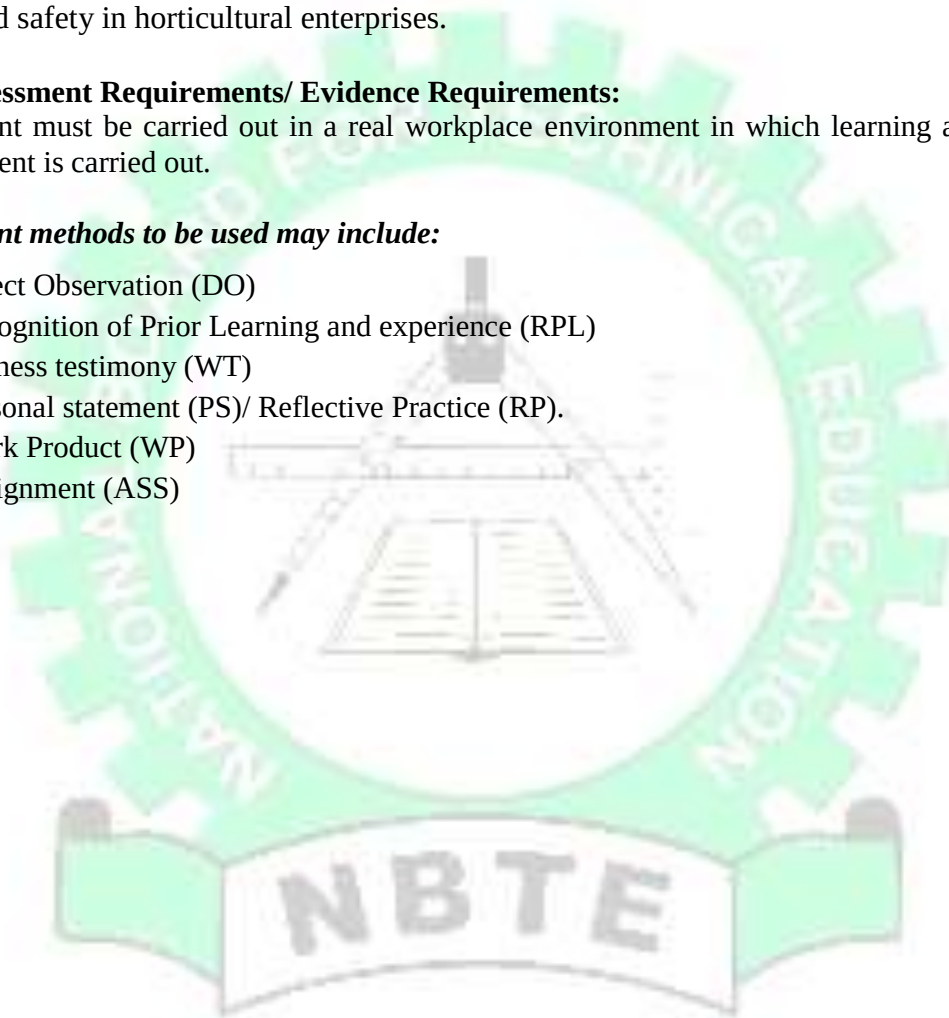
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills in health and safety in horticultural enterprises.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 001: Health, Safety and Environment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Explain the regulations and safety requirements in horticultural Operations</i>	1.1	Explain the general rules and regulations governing health and safety in horticultural operations.									
	1.2	Explain the importance of Personal Protective Equipment (PPE) used in Agric Operations									
	1.3	Use Personal Protective Equipment (PPE) to selected risk area in horticultural Operations									
	1.4	Explain how to take care of and maintain selected Personal Protective Equipment (PPE)									
LO 2: <i>Explain the hazards and risk involved in Agric Operations</i>	2.1	Explain the hazards associated with different horticultural operations									
	2.2	Explain different types of natural disasters associated with horticultural operations									
	2.3	Discuss the risks associated with the use of agro-chemicals in horticultural Operations									
LO 3: <i>Demonstrate protection measures against hazards in horticultural Operations</i>	3.1	Discuss precautionary measures against the following hazards in horticultural Operations: - Fire - Chemical injury - Predator - Injury from farm machinery and implements									
	3.2	Explain the importance of safety signs and labels in horticultural operations									
	3.3	Explain the hazards in horticultural operations from living organisms in the work place e.g. insects, plants, animals, etc.									
	3.4	List first aid procedures for specific risks identified in above									
LO 4: <i>Demonstrate the use of safety tools and equipment</i>	4.1	Select Personal Protective Equipment (PPE) used against hazards in horticultural operations e.g. - Fire									

		- Chemical injury - Machinery and Implements - Predators, etc.																		
	4.2	Demonstrate the use of appropriate PPE in Agric Operations to prevent the risks above																		
	4.3	Demonstrate care and maintenance of PPE used while carrying out Agric Operations.																		
	4.4																			
Learners Signature:			Date:																	
Assessors Signature:			Date:																	
IQA Signature (if sampled)			Date:																	
EQA Signature (if sampled)			Date:																	



UNIT 002:**COMMUNICATION**

Unit reference number:	AGR/HOT/002/L2
NSQ level:	2
Credit value:	1
Guided learning hours:	10
Practice Time:	30 hours

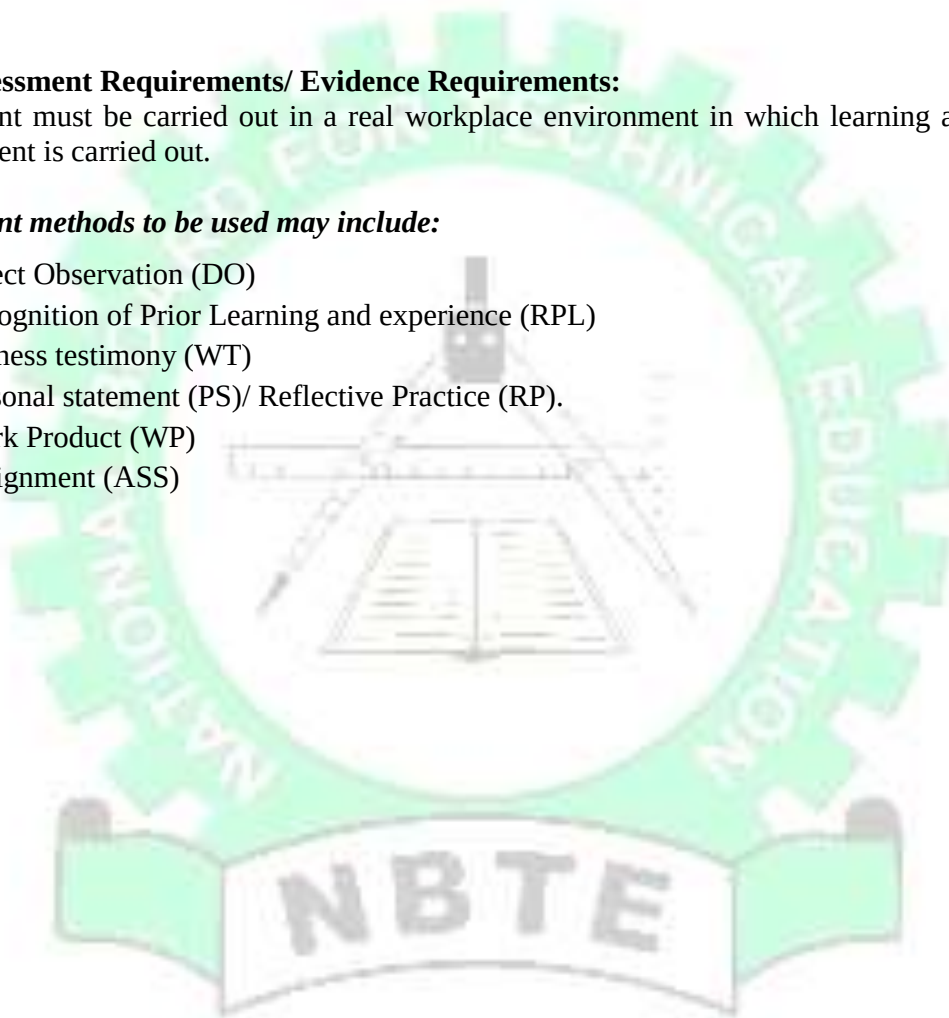
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to establish a quality communication system.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 002: Communication

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Use a non-complex communication system in a work environment</i>	1.1	Use a verbal means to pass on necessary information		
	1.2	Use non-verbal means to convey necessary information e.g. body language, signs		
	1.3	Interpret symbols and signs appropriately		
LO 2: <i>Develop the ability to identify the source of information in a work environment</i>	2.1	Identify the source of information in the work environment		
	2.2	Relate effectively with the source of information		
	2.3	Use the different information flow systems in a work environment		
	2.4	Use information gathered to avoid challenges in a work situation		
	2.5	Report findings appropriately in accordance with laid down procedure in the work environment		
LO 3: <i>Demonstrate the use of various communication means in a work environment</i>	3.1	Locate the various communication equipment in the work environment		
	3.2	Use the various communication equipment in a work environment effectively.		
	3.3	Pass information effectively to the right personnel.		
	3.4	Pass information effectively using symbols, signs and codes.		
	3.5	Obey instructions in line with ethics of the work environment.		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 003: TEAMWORK

Unit reference number:	AGR/HOT/003/L2
NSQ level:	2
Credit value:	1
Guided learning hours:	10
Practice Time:	30 hours

Unit Purpose: The purpose for this unit is to equip the learner with knowledge and skills required to develop team spirit and positive working relationship with colleagues

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 003: Teamwork

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Develop positive working relationship with colleagues</i>	1.1	Identify the need for developing positive 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 personnel when request for assistance fall outside area of responsibility									
	1.5	Communicate information to colleagues about own work that might affect others									
LO 2: <i>Take responsibility within the team</i>	2.1	Recognize own role and responsibilities within team									
	2.2	Perform individual tasks in line with the team rules and regulations.									
	2.3	Participate effectively in teamwork.									
	2.4	Learn how to inspire innovation.									
LO 3: <i>Comply with policy of organization</i>	3.1	Work in line with organizational standard									
	3.2	Explain organizational code of conduct									
	3.3	Use organizational code of practice									
	3.4	Identify the importance of optimizing efficiency.									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

UNIT 004:

SITE SELECTION

Unit reference number:	AGR/HOT/004/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

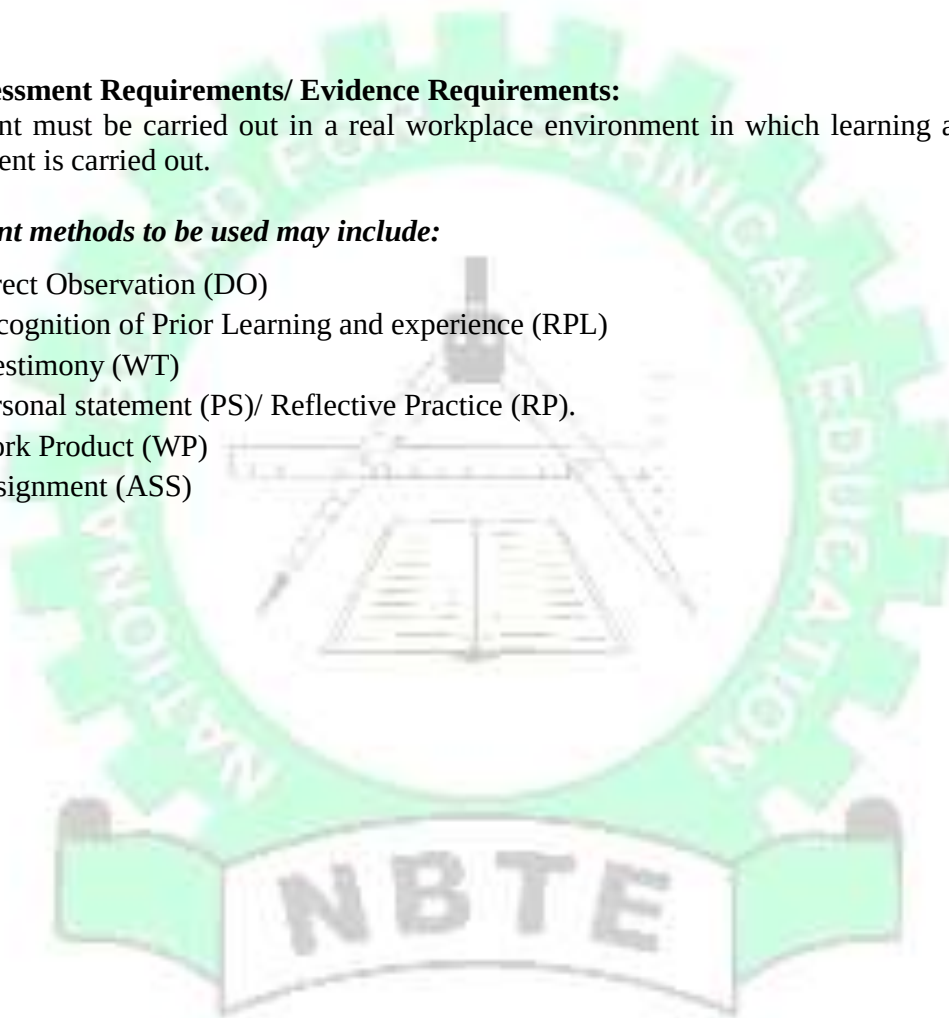
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills necessary to secure a conducive and safe site for horticultural plants.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
 2. Recognition of Prior Learning and experience (RPL)
- Witness testimony (WT)
3. Personal statement (PS)/ Reflective Practice (RP).
 4. Work Product (WP)
 5. Assignment (ASS)



Unit 004: Site Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify farm infrastructure needed for the production</i>	1.1	Explain the importance of farm infrastructure to production		
	1.2	Carry out maintenance of farm infrastructure		
	1.3	List equipment used for site survey		
LO 2: <i>Locate suitable site environment</i>	2.1	Check topography of the land by visual method		
	2.2	Identify the vegetation of the areas		
	2.3	Explain factors to consider in site selection		
	2.4	Carry out rudimentary measurement and site survey		
LO 3: <i>Identify right soil conditions for the plants</i>	3.1	Recognize appropriate soil for planting a given crop		
	3.2	Assist in aligning soil conditions with the plant requirement		
	3.3	Mention suitable soil conditions for specific plant growth and development		
LO 4: <i>Identify economic factors that have impact on production</i>	4.1	Mention the sources and cost of labour applicable to given site		
	4.2	Determine distance of site to the market using time		
	4.3	Determine the cost of acquiring land for production in a given area		
	4.4	Explain factors to consider when costing for acquiring land for production		
LO 5: <i>Keep record of findings obtained from site selection</i>	5.1	Collect information of a given site		
	5.2	Explain the use of appropriate record books for collecting information		
	5.3	Assist in documenting information above for use in site selection		
Learners Signature:			Date:	
Assessors Signature:			Date:	

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



UNIT 005: SUSTAINABLE LAND PREPARATION

Unit reference number:	AGR/HOT/005/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

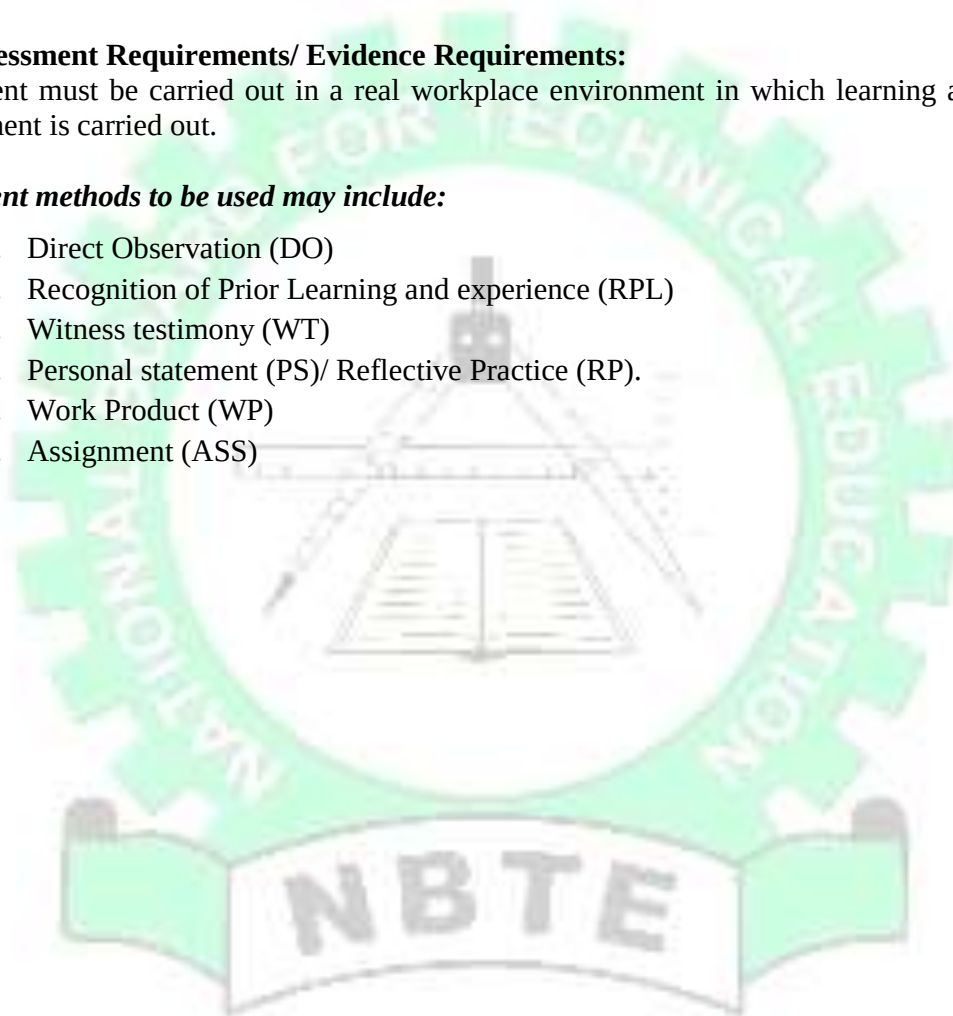
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to prepare the land to suit particular horticultural crop type and season.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 005: Sustainable Land Preparation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Identify suitable tools and equipment for land clearing</i>	1.1	Identify tools and equipment for clearing the land									
	1.2	Demonstrate the use land clearing tools and equipment									
	1.3	Carry out minor maintenance of tools and equipment used for land clearing such as cleaning, lubrication, replacement, etc.									
LO 2: <i>Clear the land</i>	2.1	Describe processes involved in land clearing such as tree felling, stumping, slashing of grasses, stone and debris collection.									
	2.2	Carry out stumping, stone and debris collection where necessary									
	2.3	Observe tree felling where necessary									
	2.4	Comply with safety procedures in land clearing									
LO 3: <i>Dispose debris appropriately</i>	3.1	Describe different methods of disposing debris from land e.g. burning, removal, etc.									
	3.2	Carry out disposal of debris using any of the methods.									
	3.3	Identify reasons for debris disposal									
LO 4: <i>Identify types and uses of appropriate tools and implement for various land preparation activities</i>	4.1	Identify implements used in ploughing									
	4.2	Identify implements used in harrowing									
	4.3	Identify implements used in ridging									
	4.4	Identify implements used in discing									
	4.5	Identify tools used in bedding									
	4.6	Carry out minor maintenance and repairs of tools and implements used in land preparation under supervision.									
LO 5: <i>Prepare the land to suit crop types and season</i>	5.1	Identify appropriate tools used for making beds									
	5.2	Recognize suitable bed types for different seasons									

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UNIT 006:**SOIL FERTILITY MANAGEMENT**

Unit reference number:	AGR/HOT/006/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

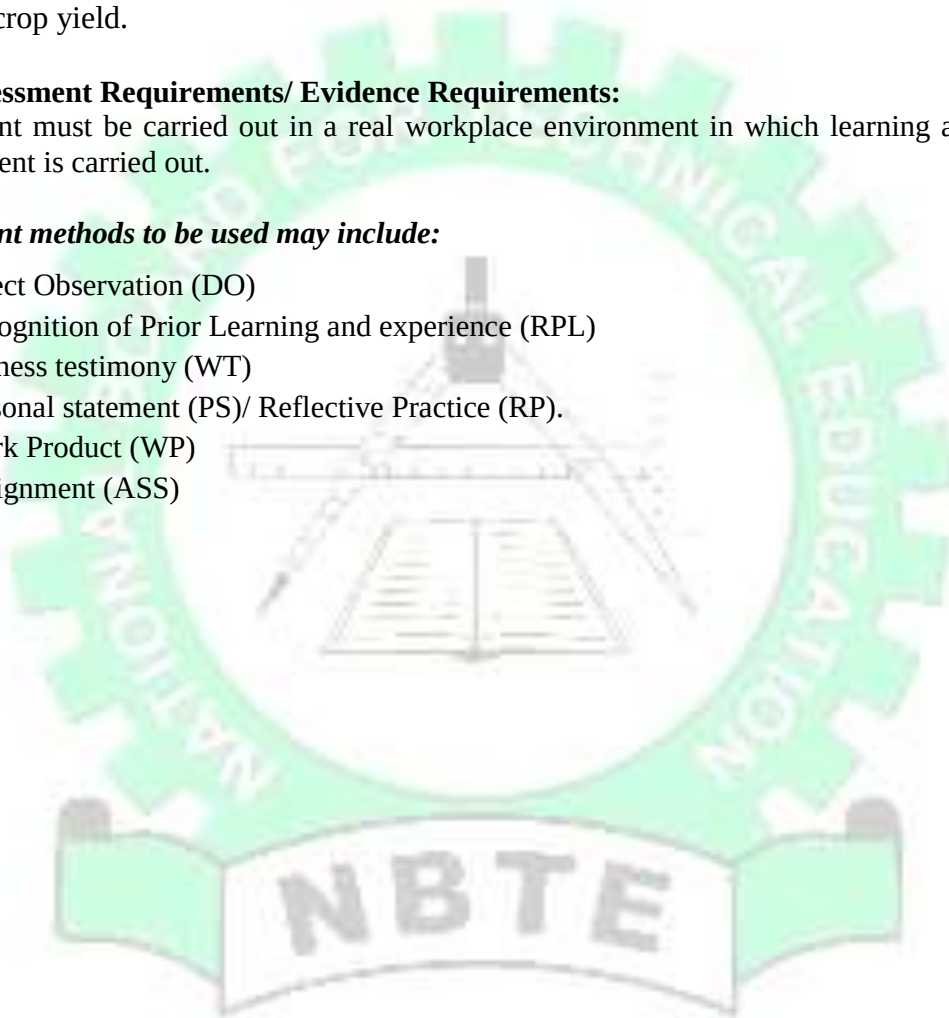
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills needed to apply the right type and quantity of fertilizer and manure to plants on a given farm to improve crop yield.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 006: Soil Fertility Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Apply right type of fertilizer</i>	1.1	Identify different types of organic fertilizers e.g. compost, poultry manure, cow dung, etc.		
	1.2	Identify different types of inorganic fertilizers e.g Urea, NPK, SSP, etc		
	1.3	Explain the importance of fertilizer application.		
	1.4	Explain the importance of applying organic fertilizer before planting		
	1.5	Describe the uses of Solid and Liquid fertilizers		
LO 2: <i>Apply right quantity of fertilizers</i>	2.1	Measure right quantity of fertilizer for a given crop		
	2.2	Apply right quantity of fertilizer to a given crop		
	2.3	Identify factors that determine time for application of fertilizers e.g. moisture level of soil, age of crop, weather condition		
	2.4	Apply fertilizer to the crops at the right time.		
LO 3: <i>Identify safety measures and precautions during application</i>	3.1	Explain the uses of PPE used in fertilizer application		
	3.2	Identify the correct personal protective equipment (PPE) used in fertilizer application		
	3.3	Use correct PPE in fertilizer application		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 007:**NURSERY MANAGEMENT**

Unit reference number:	AGR/HOT/007/L2
NSQ level:	2
Credit value:	3
Guided learning hours:	30
Practice Time:	90 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to produce healthy and vigorous seedlings.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

Unit 007: Nursery Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Establish physical infrastructure.</i>	1.1	Identify necessary physical infrastructure for a nursery		
	1.2	Assist in erecting a shade for nursery plants		
	1.3	Assist in constructing a simple poly propagator		
	1.4	Assist in erecting a wind break		
	1.5	Assist in erecting a fence around a nursery.		
LO 2: <i>Prepare growing media</i>	2.1	Prepare appropriate soil mix for different plants		
	2.2	Sterilize soil using simple rotating drum		
	2.3	Prepare seed beds		
	2.4	Identify different mulching materials		
	2.5	Use mulching materials on prepared beds		
	2.6	Prepare seed trays for sowing of seeds		
LO 3:	3.1	Carry out hardening of seedlings		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
Manage growing plants	3.2	Differentiate between healthy and unhealthy plant conditions		
	3.3	Differentiate between vigorous and non-vigorous plants		
	3.4	Identify pest and diseases.		
	3.5	Carry out pest and disease control in nursery plants		
LO 4: Carry out transplanting	4.1	Describe the process of transplanting in nursery		
	4.2	Transplant seedlings using different methods such as ball of earth method, naked root method		
	4.3	Pot seedlings		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 008:

INTEGRATED WEED MANAGEMENT

Unit reference number:	AGR/HOT/008/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

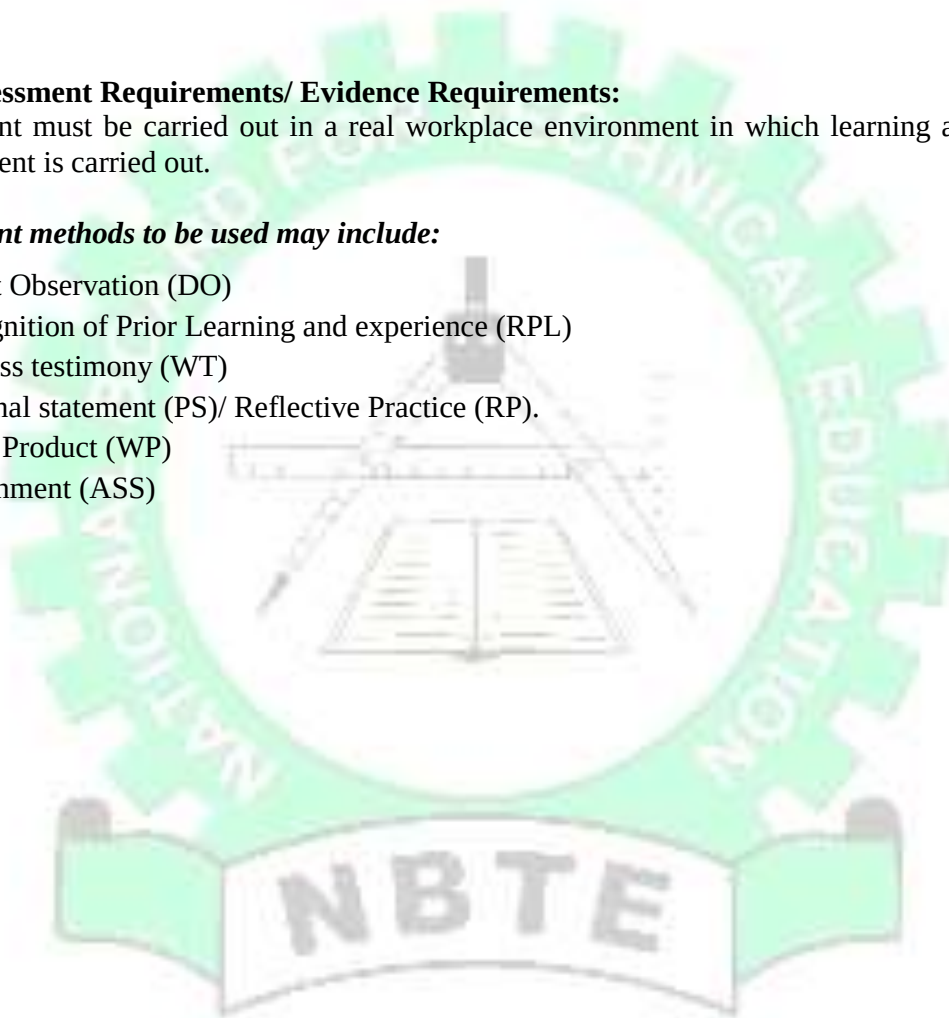
Unit Purpose: the purpose of this unit is to equip learners with knowledge and skills required to take necessary measures that ensures a site free of unwanted plants

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 008: INTEGRATED WEED MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify the types of weed in the area</i>	1.1	List the types of weeds		
	1.2	Identify types of weeds		
	1.3	Classify weeds into grasses, sedges and broad leaved		
LO 2: <i>Determine the most suitable preventive and/or control measures of weeds</i>	2.1	Identify weed control measures		
	2.2	Identify items needed for weed control		
	2.3	Observe the determination of the right quantity of herbicides to be applied per unit area		
	2.4	Observe the determination of the quantity of herbicides to use per sprayer tank		
LO 3: <i>Carry out weed control measures</i>	3.1	Carry out weed control using herbicides		
	3.2	Carry out manual weeding		
	3.3	Carry out appropriate cultural practices (e.g. land preparation, use of recommended spacing) to smother weeds		
LO 4: <i>Comply with safety measures</i>	4.1	Identify suitable PPEs used in weed control		
	4.2	Identify suitable method of application of weed control to safeguard the plants.		
	4.3	Identify suitable method of application of weed control to safeguard the worker		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 009:

IRRIGATION AND WATER MANAGEMENT

Unit reference number:	AGR/HOT/009/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills to identify the sources of water, its sustainability and removal of excess water where necessary.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

UNIT 009: IRRIGATION AND WATER MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Determine moisture requirement of the crop and soil</i>	1.1	Determine the moisture level of the soil using soil moisture meter		
	1.2	Determine moisture level using local method by moulding soil		
	1.3	Determine moisture level using local method by crop observation		
LO 2: <i>Locate sources of water for irrigation</i>	2.1	Identify sources of water for irrigation e.g. Dam, Stream, Borehole, well etc.		
	2.2	Determine the distance between the source of water and the site		
	2.3	Identify the means of drawing water from the source of water to the site		
LO 3: <i>Identify the suitable system of irrigation to be used</i>	3.1	List methods of irrigation e.g. Surface, Drip, Sprinkler etc.		
	3.2	Distinguish methods of irrigation.		
	3.3	Carry out irrigation using right method for the particular type of crop.		
LO 4: <i>Explain the installation and maintenance of irrigation facility</i>	4.1	List materials needed for irrigation.		
	4.2	Assist in installation of materials for irrigation.		
	4.3	Maintain simple irrigation facilities.		
LO 5: <i>Carry out drainage of excess water</i>	5.1	Explain drainage of excess water from soil		
	5.2	Explain the reasons for drainage of excess water from soil		
	5.3	Drain excess water where applicable		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 010:**POTTING AND TRANSPLANTING**

Unit reference number:	AGR/HOT/010/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills needed to prepare right medium for the growth of horticultural plants at early stage.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

Unit 010: Potting and Transplanting

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>List appropriate potting for horticultural crops</i>	1.1	List different potting materials		
	1.2	Identify the right direction to arrange the potted plants		
	1.3	Describe different potting media		
	1.4	Prepare different potting media mixtures for plants		
LO 2: <i>Identify plants that can be potted</i>	2.1	Identify some common plants that can be potted		
	2.2	Select materials for potting		
	2.3	Carry out potting		
	2.4	State the economic factors that have influence on potting.		
LO 3: <i>Locate suitable site for arrangement of potted plants.</i>	3.1	Identify site for potted plants taking into consideration the following; - Source of water - Gradient of the land - Sunshine direction - Free of unwanted pests e.g. Birds, Lizards, etc.		
	3.2	Protect plants from pest and diseases		
	3.3	Protect plants from Predators (animals and humans) e.g. by fencing		
	3.4	Change potting media at the right time		
LO 4: <i>Determine the seedling age, right time of the day for transplanting and techniques of transplanting</i>	4.1	Determine the time to transplant seedlings by measuring the stem girth and plant height		
	4.2	Assess the seedling age by counting the number of leaves and time spent in the nursery		
	4.3	Identify the right time of the day to carry out transplanting		
	4.4	Identify the different techniques for transplanting		
	4.5	Carry out transplanting		
LO 5: <i>Demonstrate staking operations in horticultural crop production</i>	5.1	Identify plants to be staked		
	5.2	Identify materials for staking plants e.g. sticks, rope, etc.		
	5.3	Carry out staking where necessary		

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



UNIT 011: PLANT PROPAGATION

Unit reference number:	AGR/HOT/011/L2
NSQ level:	2
Credit value:	3
Guided learning hours:	30
Practice Time:	90 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills in multiplying plants of a particular type for increased production.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 011: PLANT PROPAGATION

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Explain sexual propagation</i>	1.1	Know the advantages and disadvantages of sexual propagation		
	1.2	Identify materials for sexual propagation		
	1.3	Detect the maturity stage for use of the different parts listed above.		
	1.4	Identify the health condition of a material to be used in propagation		
LO 2: <i>Observe quality of planting materials and seed germination</i>	2.1	Understand importance of quality seeds		
	2.2	Test for seed viability using various methods such as roll towel test, tetrazolium test, etc		
	2.3	Know types of germination		
	2.4	Identify factors affecting germination		
	2.5	Carry out germination test		
LO 3: <i>Prepare planting materials for propagation</i>	3.1	Break seed dormancy using mechanical, chemical or physical methods		
	3.2	Carry out seed purity test		
	3.3	Carry out seed treatment		
LO 4: <i>Carry out sexual propagation</i>	4.1	Select the appropriate techniques for propagation of given plant.		
	4.2	Carry out seed treatment before planting		
	4.3	Propagate plants by seeds using any suitable method e.g. broadcasting, drilling, dibbling.		
LO 5: <i>Determine number of plants per unit area</i>	5.1	Use recommended plant spacing for each crop		
	5.2	Use recommended number of seeds/seedlings per stand		
	5.3	Carry out thinning/ supplying where necessary		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 012:**PRUNING AND TRIMMING**

Unit reference number:	AGR/HOT/012/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills on how to remove excess, diseased and dead branches of plants in order to improve or modify the growth of the plant.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 012: PRUNING AND TRIMMING

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Identify the plants to be pruned or trimmed</i>	1.1	List some plants that can be pruned and trimmed									
	1.2	Locate parts of plants that can be pruned and trimmed									
	1.3	Explain importance of pruning and trimming									
LO 2: <i>Prune the excess, diseased and dead branches</i>	2.1	Identify excess, diseased, dead branches to be pruned or trimmed									
	2.2	Identify tools used in pruning and trimming e.g. secateur, scissors, pruning Shear, axe, cutlass etc									
	2.3	Carry out pruning and trimming on the necessary parts									
	2.4	Dispose pruned and trimmed materials properly									
LO 3: <i>Keep record of findings during pruning or trimming</i>	3.1	Obtain the history of the plants									
	3.2	Assist in documenting information for use in record keeping									
	3.3	Assist in designing a log book for pruning and trimming activities.									
LO 4: <i>Maintain health and safety measures during pruning and trimming</i>	4.1	List PPE used for pruning and trimming									
	4.2	Adhere to safety and health practices in pruning and trimming									
	4.3	Adhere to safety and health practices in disposal of pruned and trimmed materials.									
	4.4	Maintain tools and equipment used for pruning and trimming activities safely									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								

UNIT 013:**INTEGRATED PEST AND DISEASE
MANAGEMENT**

Unit reference number:	AGR/HOT/013/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

Unit Purpose: The purpose of this unit is equip learners with knowledge and skills to prevent and control the common pests and diseases of horticultural plants.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

UNIT 013: INTEGRATED PEST AND DISEASE MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify types of pests and diseases of horticultural crops in an area.</i>	1.1	List common rodents of horticultural crops in an area.		
	1.2	Identify some common insect pests of horticultural crops		
	1.3	List other common bird pests of horticultural crops		
	1.4	List common diseases of horticultural plants		
	1.5	Identify tools for trapping pests in a given area e.g. net to trap insects, traps for rodents, etc.		
	1.6	Identify signs of pest attack of horticultural plants		
	1.7	Distinguish between healthy and diseased horticultural plants.		
LO 2: <i>Determine the probable host organisms of pests and diseases of horticultural crops in a given area</i>	2.1	Identify the presence of pests of horticultural crops in a given vegetation.		
	2.2	Identify the presence of pests of horticultural crops in given soil.		
	2.3	State the parts of plants being attacked or damaged by different pests.		
	2.4	Identify alternative hosts for pests of horticultural plants in a given area.		
	2.5	Describe means of spread of the common diseases of horticultural plants in an area.		
LO 3: <i>Apply preventive measures in pests and diseases control on horticultural crops</i>	3.1	Identify appropriate Personal Protective Equipment (PPEs) in carrying out of pests and diseases control activities.		
	3.2	Identify common biological agents used in the control of pests of horticultural crops.		
	3.3	State different cultural methods for the control of pests and diseases of horticultural crops.		
	3.4	List common chemicals used for the control of pests and diseases of horticultural plants.		
Learners Signature:			Date:	
Assessors Signature:			Date:	

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



UNIT 014:

**HARVESTING AND POSTHARVEST
MANAGEMENT**

Unit reference number:	AGR/HOT/014/L2
NSQ level:	2
Credit value:	3
Guided learning hours:	30
Practice Time:	90 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills in harvesting horticultural crops.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 014: HARVESTING AND POSTHARVEST MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Determine the stage of growth at which horticultural crops are to be harvested.</i>	1.1	State the maturity stages of horticultural crops.									
	1.2	State the maturity indices e.g. colour, size, shape, texture, etc.									
	1.3	Identify matured crops using the maturity indices listed above									
	1.4	Explain the economic importance of harvesting horticultural crops at matured stage only.									
LO 2: <i>Demonstrate methods of harvesting horticultural crops</i>	2.1	Explain the different methods of harvesting of horticultural crops/plants.									
	2.2	Explain the importance of harvesting horticultural crops using the appropriate methods e.g. hand picking for tomatoes, cutting with knives for vegetables, plucking for fruit trees, etc.									
	2.3	Harvest matured horticultural crops using appropriate methods									
LO 3: <i>Determine the suitable time for harvesting horticultural crops</i>	3.1	Explain the importance of harvesting matured horticultural crops during cool weather e.g. to avoid moisture loss, to maintain turgidity, etc.									
	3.2	Identify the best period of the day for harvesting matured horticultural crops i.e. mornings or evenings.									
	3.3	Explain the influence of environmental factors on harvesting.									
LO 4: <i>Carry out pre-harvest preparations for horticultural crops</i>	4.1	Identify appropriate tools used for harvesting horticultural crops e.g. knives, sickle,									
	4.2	Maintain tools used for harvesting horticultural crops e.g. sharpening blunt edges of knives and sickles									
	4.3	Select appropriate containers for packing harvested horticultural crops e.g. Jute bags, crate, plastic containers, baskets, etc,									
	4.4	Wear appropriate Personal									

	5.5	Grade horticultural produce accordingly							
<i>e to the ural</i>	6.1	Describe the appropriate processing method for each horticultural produce							
	6.2	Describe the appropriate preservation method for each horticultural produce							
	6.3	Identify additives/preservatives needed for value addition to horticultural produce							
	6.4	Carry out short term preservation of horticultural produce accordingly e.g. by refrigeration, drying, etc.							
	6.5	Process the horticultural produce into diverse acceptable products e. fruit or vegetable salad, paste, juice, etc.							
<i>ural ntely</i>	7.1	Identify different packaging materials. e.g. sachets, plastic bottles, paper bags, etc.							
	7.2	State the effects of packaging materials on the products.							
	7.3	Package given horticultural							

UNIT 015: SEED PRODUCTION, COLLECTION AND SELECTION

Unit reference number:	AGR/HOT/015/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

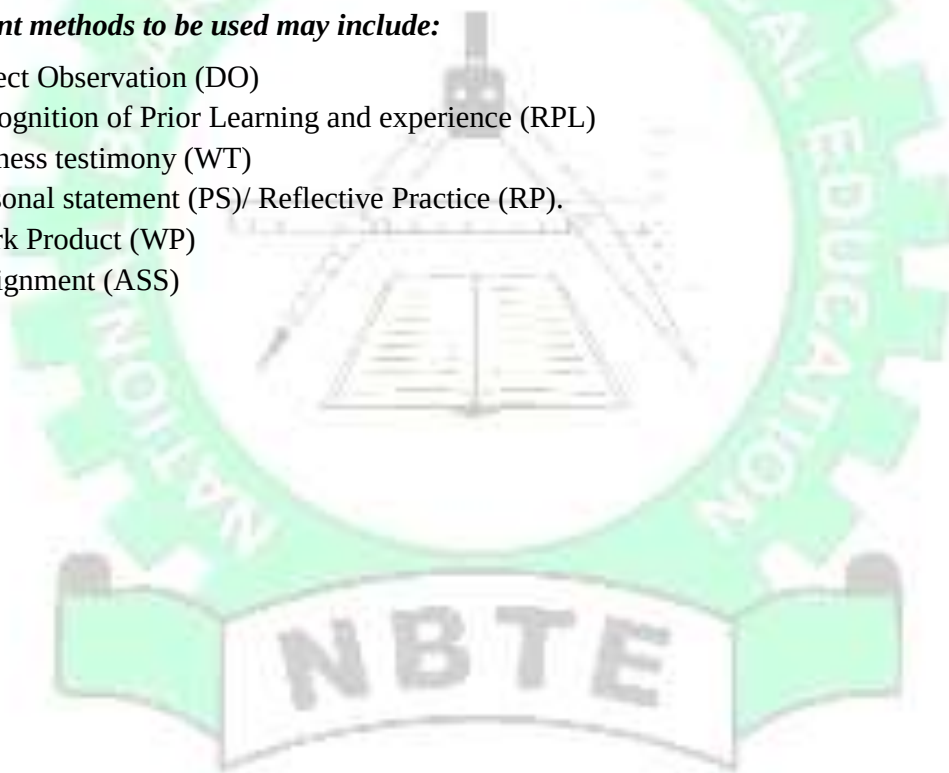
Unit Purpose: The purpose of this unit is to equip students with knowledge and skills necessary to ensure use of viable and healthy seeds for optimum yield of crops.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 015: Seed Production, Collection and Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Obtain seeds from the right source to ensure their viability</i>	1.1	Identify sources of seed collection		
	1.2	Sort seeds to obtain healthy ones for planting		
	1.3	Identify types of seeds using varied information/ description of seeds and label information		
LO 2: <i>Carry out seed treatment and storage properly</i>	2.1	Explain the process of seed treatment		
	2.2	Dress seeds with chemicals		
	2.3	Store seeds in appropriate containers		
	2.4	Carry out germination test		
LO 3: <i>Carry out seed processing</i>	3.1	Thresh the harvested seed heads		
	3.2	Winnow or blow to separate chaff from the seeds		
	3.3	Extract seeds carefully		
	3.4	Dry seeds to appropriate moisture level		
	3.5	Sort seeds to obtain pure ones		
	3.6	Package the processed seeds in appropriate conditions		
	3.7	Ferment seeds when necessary		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 016:**LANDSCAPING**

Unit reference number:	AGR/HOT/016/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills in creating and designing various components of the garden and landscape for beautification.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

UNIT 016: LANDSCAPING

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.				
The learner will:		The learner can:										
LO 1: <i>Establish ornamental garden</i>	1.1	Raise plants in the nursery										
	1.2	Transplant plants to the permanent site (i.e. in the garden)										
	1.3	Observe plants in the garden to detect problems such as pests, diseases, wilting, etc.										
	1.4	Control weeds, pests and diseases in the garden										
	1.5	Use suitable tools and equipment for operations in the garden										
	1.6	Carry out specified maintenance on established ornamental garden										
LO 2: <i>Establish landscape sites</i>	2.1	Prepare ground prior to planting for landscaping e.g. grading, excavation, levelling, layout, filling, etc.										
	2.2	Carry out soil enriching practices such as manuring, soil amendment, mulching, etc.										
	2.3	Plant trees, hedges and ground covers for landscaping.										
	2.4	Carry out landscape maintenance activities such as trimming, training, pruning, shaping, weeding, irrigation, etc.										
	2.5	Adhere to health and safety measures while carrying out landscaping activities above										
	2.6	Carry out specified maintenance on established landscape										
LO 3: <i>Manage lawns</i>	3.1	Prepare ground prior to lawn establishment e.g. ploughing, harrowing, levelling, layout, etc										
	3.2	Apply appropriate manure to the lawn to enhance the growth.										
	3.3	Maintain the lawn by rolling, mowing, weeding, pest and disease control in lawns.										
	3.4	Use suitable equipment in carrying out lawn operations										
	3.5											
Learners Signature:			Date:									
Assessors Signature:			Date:									

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



UNIT 017:

**HORTICULTURAL BUSINESS MANAGEMENT
AND ENTREPRENEURSHIP**

Unit reference number:	AGR/HOT/017/L2
NSQ level:	2
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

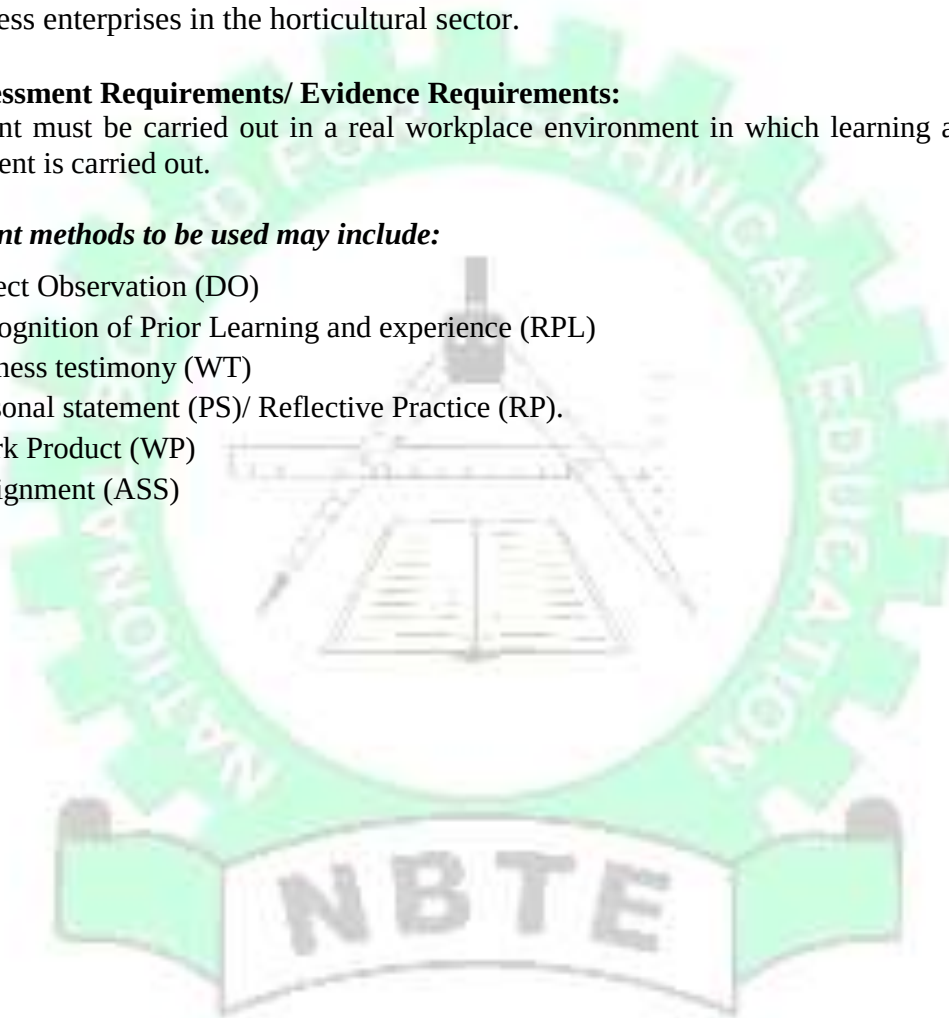
Unit Purpose: The purpose of this unit is to equip students with knowledge and to build agribusiness enterprises in the horticultural sector.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 017: Horticultural Business Management and Entrepreneurship

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Explain agribusiness principles in horticulture</i>	1.1	Know horticultural value chain components		
	1.2	Identify the main actors in horticultural value chain		
	1.3	Highlight market information sources and how to use them		
LO 2: <i>Assist in enterprise budgeting and financial planning</i>	2.1	Assist in preparing budget template for horticultural enterprise		
	2.2	Assist in preparing cash flow template for horticultural enterprise		
	2.3	Assist in calculating the break-even yield and break-even price for horticultural enterprise		
	2.4	Assist in preparing income statement template for horticultural enterprise		
	2.5	Assist in analysing the financial performance of horticultural enterprise to identify areas for improvement		
LO 3: <i>Assist in business planning for horticultural enterprise</i>	3.1	Identify the components of a business plan: executive summary, market analysis, production plan and financial projections		
	3.2	Assist in preparing SWOT analysis template for horticultural enterprise		
	3.3	Assist in preparing market analysis template to set up SMART objective and key performance indicators (KPIs) for horticultural enterprise		
	3.4	Assist in preparing risk assessment template for horticultural enterprise		
LO 4: <i>Human resource management in horticultural businesses</i>	4.1	Identify staffing requirements for a commercial horticultural		
	4.2	Assist in preparing organogram template for horticultural enterprise		
	4.3	Assist in preparing job		

	5.2	List the requirements for accessing bank loans and government schemes							
	5.3	Explain equity financing and investor partnerships for horticultural businesses							
	5.4	Evaluate the financial viability of one horticultural investment using a simple payback period calculation							
Contract n	6.1	Identify contract opportunity in horticultural enterprise							
	6.2	Identify the key clauses in a typical horticultural production contract							
	6.3	Assist in preparing a contract compliance checklist							
Signature:			Date:						
Signature:			Date:						
e (if sampled)			Date:						
ure (if sampled)			Date:						

**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN

HORTICULTURE

LEVEL 3

JUNE, 2026



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Horticulture** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to support in **Horticulture at NSQ Level 3**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent horticulture technician with knowledge, skills, and attitude required to perform routine horticultural production activities using precision agriculture principles and tools.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least sixteen (16) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present international passport, residence permit or Parent work permit.
- Vetted
- Interest in agricultural production and related support operations;
- Ability to carry out simple practical tasks under supervision.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

1. Apply safe and healthy work practices in horticultural production environments.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholders in horticultural productions.
3. Work effectively as a member of a team to achieve horticultural production goals.
4. Select the most appropriate site for horticultural crop productions under.
5. Apply appropriate Sustainable Land Preparation practices.
6. Apply Soil Fertility Management to support the growth and productivity of horticultural enterprise.
7. Carry out basic Nursery Management activities.
8. Perform Integrated Weed Management practices.
9. Execute Irrigation and Water Management practices.
10. Carry out Potting and Transplanting activities.
11. Perform routine Plant Propagation practices.
12. Carry out Pruning and Trimming operations.
13. Perform Integrated Pest and Disease Management practices.
14. Produce, select and collect most appropriate seed materials for optimal horticultural productions.
15. Apply landscaping competencies in horticultural enterprises.
16. Market and add Value to horticultural products.

NATIONAL SKILLS QUALIFICATION (NSQ) TABLE

Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remarks
Unit 001	AGR/HOT/001/L3	Health and safety	2	20	70	Mandatory
Unit 002	AGR/HOT/002/L3	Communication	2	20	70	Mandatory
Unit 003	AGR/HOT/003/L3	Team work	2	20	70	Mandatory
Unit 004	AGR/HOT/004/L3	Site selection	3	30	90	Mandatory
Unit 005	AGR/HOT/005/L3	Sustainable Land preparation	2	20	100	Mandatory
Unit 006	AGR/HOT/006/L3	Fertility Management	2	20	90	Mandatory
Unit 007	AGR/HOT/007/L3	Nursery management	3	30	140	Mandatory
Unit 008	AGR/HOT/008/L3	Integrated Weed management	3	30	140	Mandatory
Unit 009	AGR/HOT/009/L3	Irrigation and Water Management	3	30	140	Mandatory
Unit 10	AGR/HOT/010/L3	Potting, transplanting and staking	3	30	140	Mandatory
Unit 11	AGR/HOT/011/L3	Plant propagation	4	40	140	Mandatory
Unit 12	AGR/HOT/012/L3	Pruning and trimming	2	20	100	Mandatory
Unit 13	AGR/HOT/013/L3	Integrated Pest and disease management	3	30	120	Mandatory
SUB-TOTAL			34	340	1410	
Unit 14	AGR/HOT/014/L3	Seed collection and selection	2	20	60	Optional
Unit 15	AGR/HOT/015/L3	Landscaping	3	30	90	Optional
Unit 16	AGR/HOT/016/L3	Horticultural Value Addition and Marketing	2	20	60	Optional
SUB-TOTAL			7	70	210	
GRAND-TOTAL			41	410	1620	

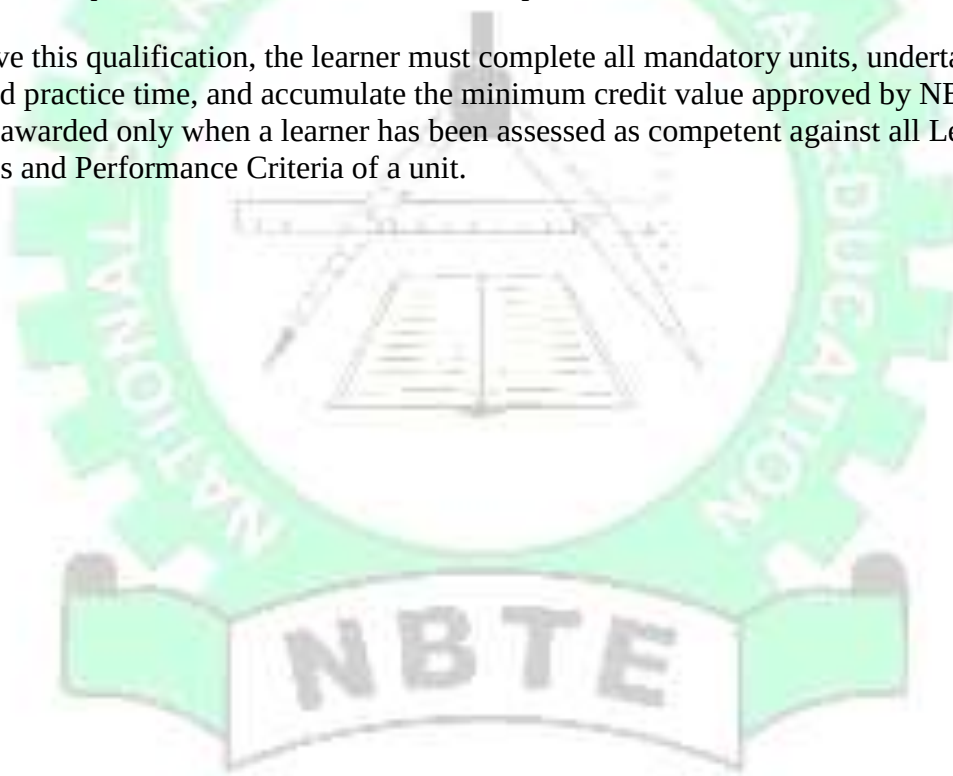
QUALIFICATION STRUCTURE

This qualification comprises a total of sixteen (16) Mandatory and Optional Units, with a credit value of 41 and 410 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands.

It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.



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 Skills 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 001: HEALTH AND SAFETY**Unit Reference Number:** AGR/HOT/001/L3**NSQ Level:** 3**Credit Value:** 2**Guided Learning Hours:** 20**Practice Time:** 70 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills on health and safety requirements for workers carrying out Agricultural Operations.

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 001: Health and Safety

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Demonstrate understanding of the regulations and safety requirements in Agricultural Operations</i>	1.1	Interpret the general rules and regulations governing health and safety in horticultural operations.		
	1.2	Demonstrate appropriate care and maintenance of selected Personal Protective Equipment (PPE) in horticultural operations.		
	1.3	Demonstrate appropriate servicing of selected Personal Protective Equipment (PPE) in horticultural operations.		
	1.4	Identify common causes of allergies in agricultural production		
	1.5	Explain how to safeguard against allergic reactions in agricultural production		
LO 2: <i>Carry out appropriate protection against work and environmental hazards</i>	2.1	Recommend proper methods of disposing agrochemical containers		
	2.2	State environmental effects of chemical usage in agricultural production.		
	2.3	Identify the effects of agrochemicals on the environment		
	2.4	Explain residual effects of some chemical and medicaments on human beings, animals, plants and environment.		
	2.5	Explain the importance of withdrawal period on treated commodities.		
LO 3: <i>Demonstrate the use of safety tools and equipment during horticultural operations.</i>	3.1	Select Personal Protective Equipment (PPE) used against hazards in Agricultural Operations e.g. - Fire - Chemical injury - Machinery and Implements - Predators, etc.		
	3.2	Demonstrate the use of appropriate PPE in horticultural operations to prevent risks		
	3.3	Demonstrate care and		

		maintenance of PPE used while carrying out horticultural operations.									
	3.4	Carry out appropriate first-aid action in case of any accident in agricultural operations.									
Learners Signature:			Date:								
Assessors Signature:			Date:								
IQA Signature (if sampled)			Date:								
EQA Signature (if sampled)			Date:								



UNIT 002: COMMUNICATION

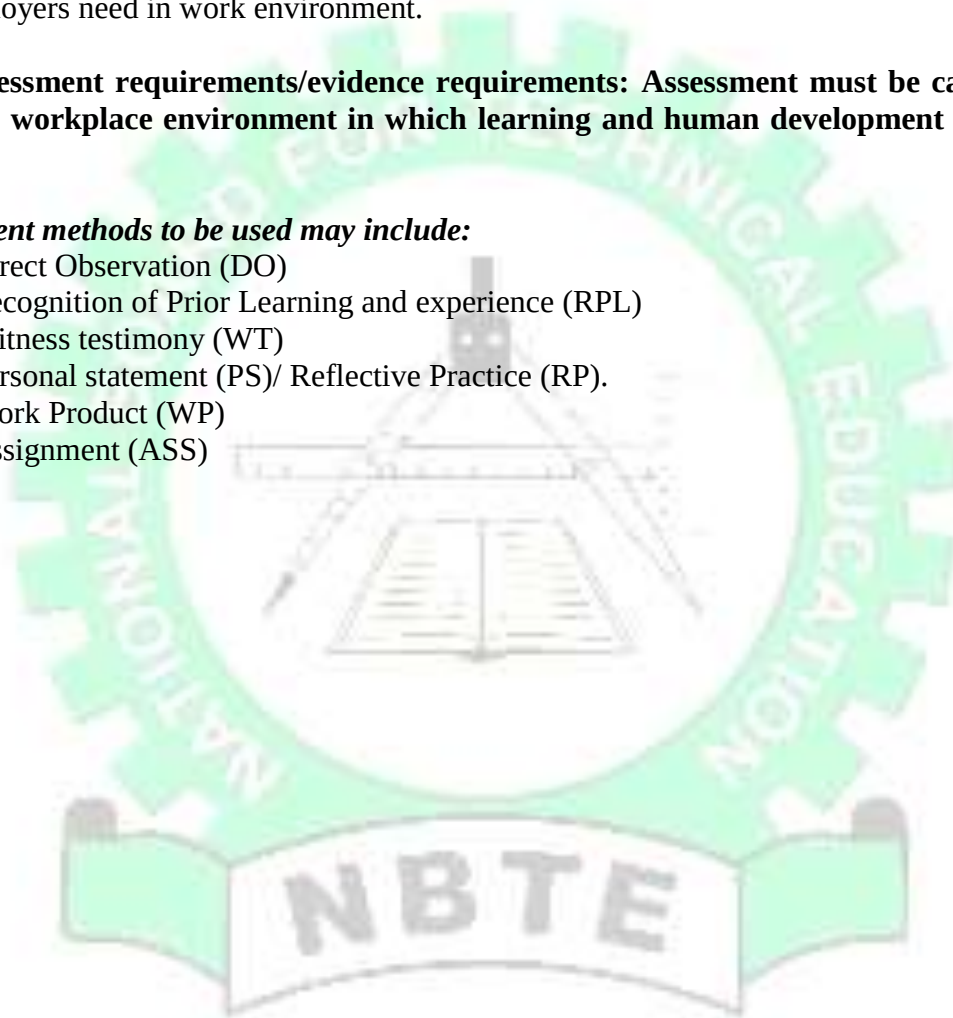
Unit Reference Number:	AGR/HOT/002/L3
NSQ Level:	3
Credit Value:	2
Guided Learning Hours:	20
Practice Time:	70 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skill in quality communication system that is responsive and subject to change in meeting workers and employers need in work environment.

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 002: Communication

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.				
The learner will:		The learner can:										
LO 1: <i>Use a non-complex communication system in a work environment</i>	1.1	Use a verbal means to pass on necessary information										
	1.2	Use nonverbal means to convey necessary information e.g. body language, signs										
	1.3	Interpret symbols and signs appropriately										
LO 2: <i>Develop the ability to identify the source of information in a work environment</i>	2.1	Identify the source of information in the work environment										
	2.2	Relate effectively with the source of information										
	2.3	Use the different information flow systems in a work environment										
	2.4	Use information gathered to avoid challenges in a work situation										
	2.5	Report findings appropriately in accordance with laid down procedure in the work environment										
LO 3: <i>Demonstrate the use of various communication means in a work environment</i>	3.1	Locate the various communication equipment in the work environment										
	3.2	Use the various communication equipment in a work environment effectively.										
	3.3	Pass information effectively to the right personal.										
	3.4	Pass information effectively using symbols, signs and codes.										
Learners Signature:			Date:									
Assessors Signature:			Date:									
IQA Signature (if sampled)			Date:									
EQA Signature (if sampled)			Date:									

UNIT 003: TEAM WORK**Unit Reference Number:** AGR/HOT/003/L3**NSQ Level:** 3**Credit Value:** 2**Guided Learning Hours:** 20**Practice Time:** 70 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to develop team spirit and positive working relationship with colleagues.

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 003: Teamwork

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Develop positive working relationship with colleagues</i>	1.1	Identify the need for developing positive 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 request for assistance fall outside area of responsibility		
	1.5	Communicate information to colleagues about own work that might affect others		
LO 2: <i>Take responsibility within the team</i>	2.1	Recognize own role and responsibilities within team		
	2.2	Perform individual tasks in line with the team rules and regulations.		
	2.3	Participate effectively in teamwork.		
LO 3: <i>Comply with policy of organisation</i>	3.1	Work in line with organizational standard		
	3.2	Use organizational code of practice		
	3.3	Explain organizational code of conduct		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 004: SITE SELECTION

Unit Reference Number:	AGR/HOT/004/L3
NSQ Level:	3
Credit Value:	3
Guided Learning Hours:	30
Practice Time:	90 hours

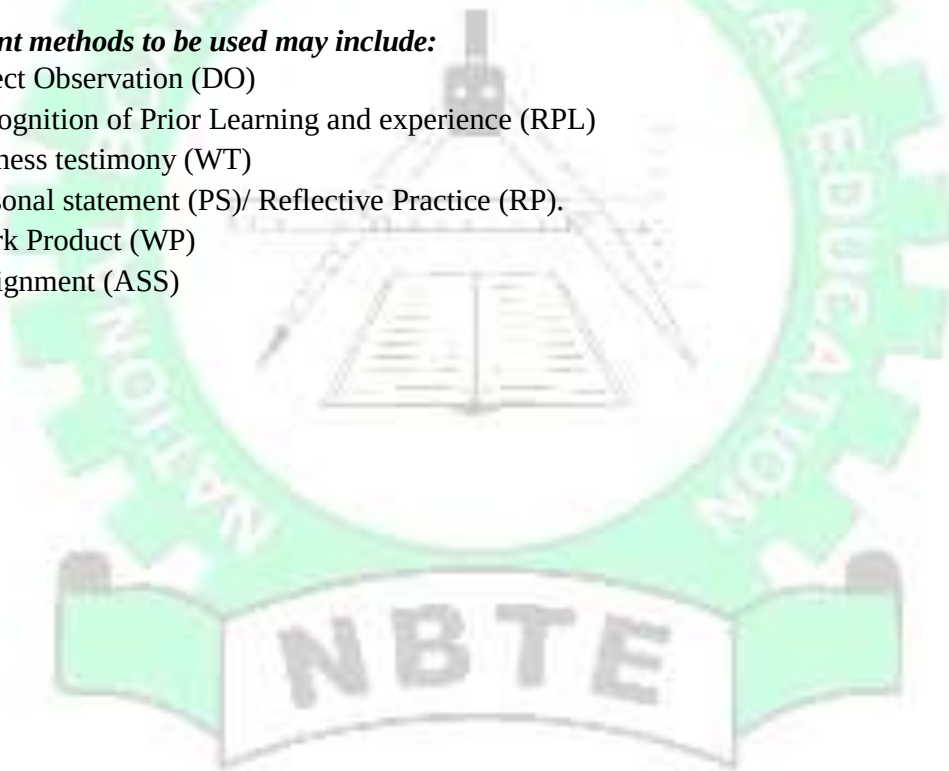
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills necessary to secure a conducive and safe site for horticultural plants.

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 004: Site Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Locate suitable site environment</i>	1.1	Explain factors to consider in site selection		
	1.2	Survey the Land Area to take necessary measurement		
	1.3	Check topography of the land by visual method		
	1.4	Identify the vegetation of the area		
LO 2: <i>Identify the right soil conditions for the plants</i>	2.1	Identify suitable soil conditions for plant growth and development in a given area such as soil texture, structure, pH, drainage, etc.		
	2.2	Relate the Soil conditions above to requirements of the plants in selecting the site		
	2.3	Select appropriate soil for planting a given crop		
LO 3: <i>Identify economic factors that have impact on production</i>	3.1	Mention the sources and cost of Labour applicable to given site		
	3.2	Determine distance of site to the market using time		
	3.3	Determine the cost of acquiring land for production in a given area		
	3.4	Explain factors to consider when costing for acquiring land for production		
LO 4: <i>Keep record of findings obtained from site selection</i>	4.1	Collect information of a given site		
	4.2	Explain the use of appropriate record books for collecting information		
	4.3	Document information above for use in site selection		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 005: SUSTAINABLE LAND PREPARATION

Unit Reference Number: AGR/HOT/005/L3
NSQ Level: 3
Credit value: 2
Guided Learning Hours: 20
Practice Time: 100 hours

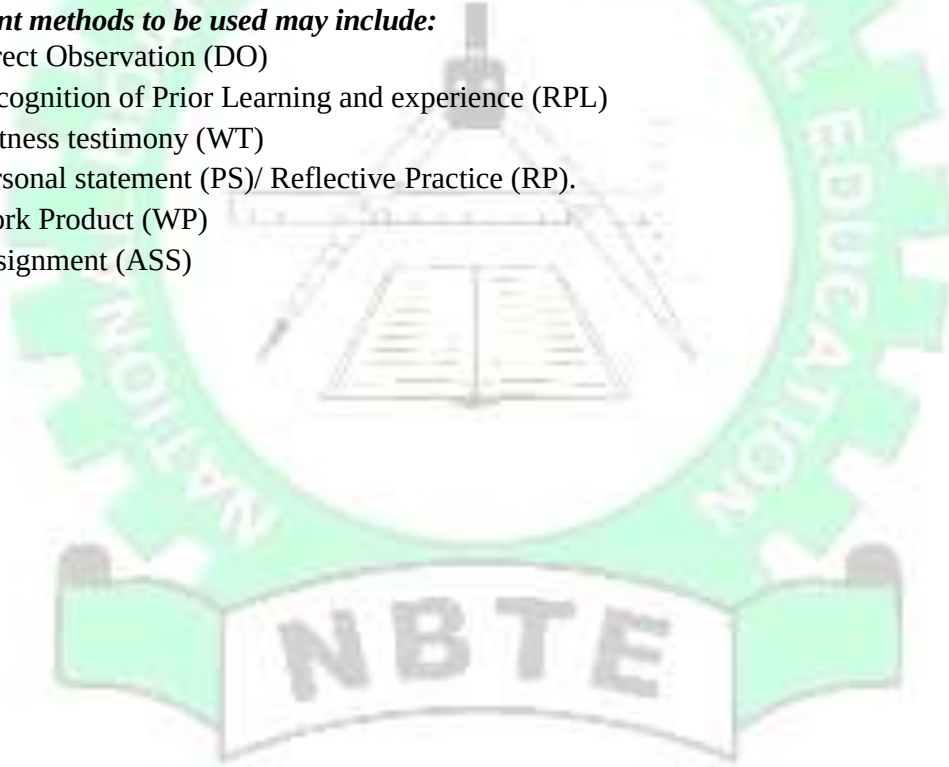
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills of removing trees, stumps, stones and other obstacles from the land

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 005: Sustainable Land Preparation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Demonstrate the use of appropriate tools for various land preparation activities</i>	1.1	Carry out ploughing using appropriate tools.		
	1.2	Carry out harrowing using appropriate tools		
	1.3	Carry out ridging, using appropriate tools		
LO 2: <i>Incorporate soil amendment materials</i>	2.1	Identify soil amendment materials		
	2.2	Carry out soil amendment to suit growth of plants where necessary		
	2.3	Explain the importance of soil amendment		
LO 3: <i>Carry out conservation land preparation</i>	3.1	Identify land conservation methods		
	3.2	Carry out land conservation methods e.g. contour farming, mulching, minimum tillage, etc		
	3.3	Highlight the benefits of the different land conservation methods		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 006: FERTILITY MANAGEMENT

Unit Reference Number:	AGR/HOT/006/L3
NSQ Level:	3
Credit Value:	2
Guided Learning Hours:	20
Practice Time:	90 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills needed to apply the correct type and quantity of fertilizer and manure to horticultural plants to improve crop yield.

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 006: Fertility Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Apply right type of fertilizer (Organic or Inorganic)</i>	1.1	Identify different types of organic fertilizers e.g. compost, poultry manure, cow dung, etc		
	1.2	Identify different types of inorganic fertilizers e.g. Urea, NPK, SSP, etc		
	1.3	Explain the importance of fertilizer application to plants		
	1.4	Explain the importance of applying organic fertilizer before planting		
	1.5	Differentiate between the uses of solid and liquid fertilizers		
LO 2: <i>Apply right quantity of fertilizers</i>	2.1	Measure right quantity of fertilizer for a given crop		
	2.2	Apply right quantity of fertilizer to a given crop		
	2.3	Identify factors that determine time for application of fertilizers e.g. moisture level of soil, age of crop, weather condition		
	2.4	Describe how each of the factors above affect time of application of fertilizer.		
LO 3: <i>Identify right method of application of fertilizer to crops.</i>	3.1	Describe different methods of application of solid fertilizer e.g. Broadcasting, Ring, Side Placement		
	3.2	Describe method of applying Liquid Fertilizer e.g Spraying, drip application		
	3.3	Demonstrate one method of applying Solid fertilizer		
	3.4	Apply fertilizer to the crops at the right time		
LO 4: <i>Identify safety measures and precautions during application</i>	4.1	Identify the correct personal protective equipment (PPE) used in fertilizer application		
	4.2	Explain the uses of PPE in fertilizer application		
	4.3	Use correct PPE during fertilizer application		
LO 5: <i>Carry out compost making</i>	5.1	Identify equipment's for compost making		
	5.2	List types of composting:		

		Container, Ground etc.															
	5.3	List materials for compost making e.g. vegetative materials, Ash, top soil, dry leaves, organic manure															
	5.4	Describe steps for preparing compost															
	5.5	Describe the maintenance of compost															
Learners Signature:			Date:														
Assessors Signature:			Date:														
IQA Signature (if sampled)			Date:														
EQA Signature (if sampled)			Date:														



Unit 007:	Nursery Management
Unit Reference Number:	AGR/HOT/007/L3
NSQ Level:	3
Credit Value:	3
Guided Learning Hours:	30
Practice Time:	140 hours

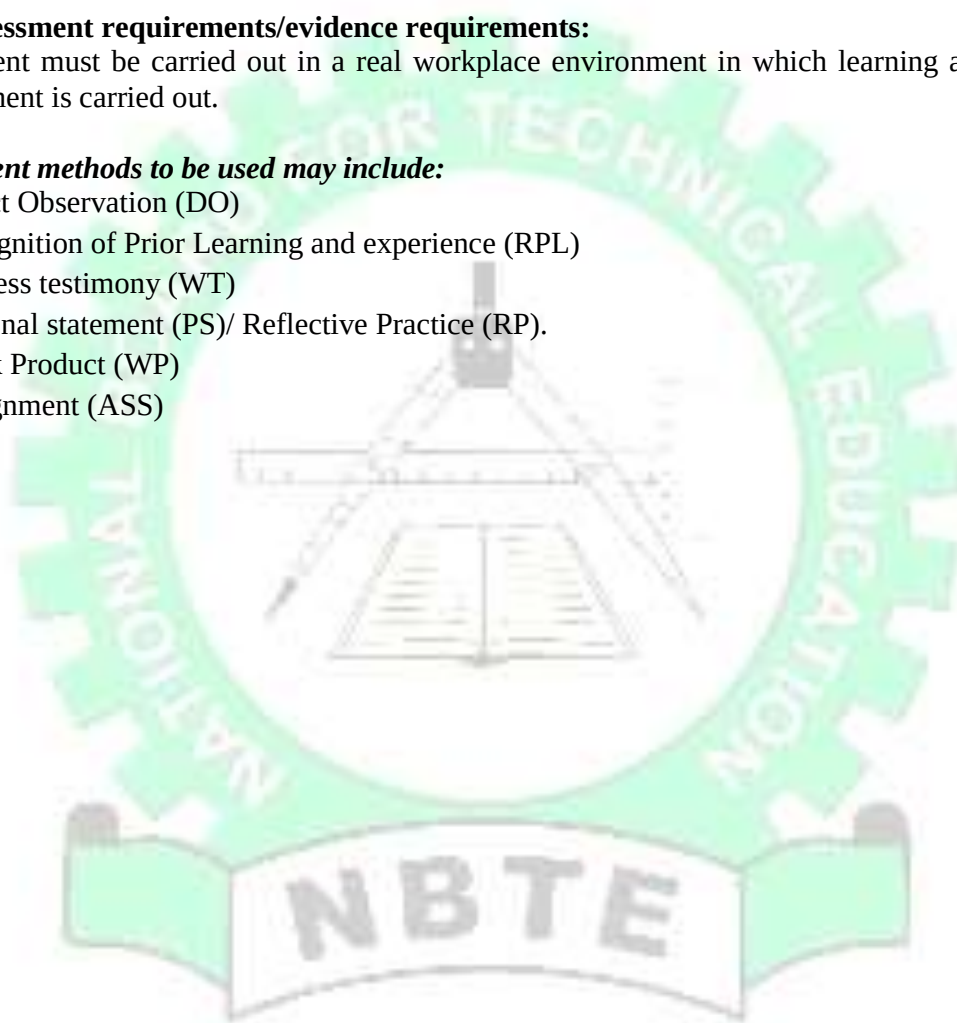
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to Produce Healthy and Vigorous Seedlings.

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 007: NURSERY MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Manage greenhouse nursery activities</i>	1.1	Identify greenhouse design and construction materials		
	1.2	Identify benching systems in the greenhouse		
	1.3	Construct a simple nursery shed for protected cultivation		
	1.4	Identify different glazing materials used in greenhouse nursery		
LO 2: <i>Prepare growing media</i>	2.1	Identify different growing media used in greenhouse nursery		
	2.2	Mention different soilless production systems in nursery management		
	2.3	Identify seed trays used in greenhouse nursery		
	2.4	Label seed trays containing different crops		
	2.5	Itemize the spray regime for selected crops in the nursery		
LO 3: <i>Manage growing nursery plants</i>	3.1	Irrigate nursery plants		
	3.2	Carry out fertigation		
	3.3	Manage pests and diseases in a greenhouse nursery		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 008: INTEGRATED WEED MANAGEMENT

Unit Reference Number: AGR/HOT/008/L3
NSQ Level: 3
Credit Value: 3
Guided Learning Hours: 30
Practice Time: 140 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to take necessary measures that ensures a site free of unwanted plants.

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 008: INTEGRATED WEED MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.				
The learner will:		The learner can:										
LO 1: <i>Identify the type of weeds in the area</i>	1.1	List the types of weeds										
	1.2	Identify types of weeds										
	1.3	Explain how weeds affect crop plants										
	1.4	State characteristics of weeds										
LO 2: <i>Determine the most suitable preventive and/or control measures of weeds</i>	2.1	Identify weed control measures										
	2.2	Explain different methods of weed control i.e. Biological, physical, chemical										
	2.3	Identify items needed for weed control										
	2.4	Describe most suitable way to control different weed types										
LO 3: <i>Carry out weed control measures</i>	3.1	Carry out sprayer calibration										
	3.2	Use black polythene nylon as mulch material to control weeds										
	3.3	Calculate the correct dosage of chemical per unit area										
	3.4	Calculate the correct dosage of chemical per sprayer tank										
	3.5	Select the right herbicide for given crops										
	3.6	Determine the crops that can be used as companion crops for weed control for horticultural plants										
LO 4: <i>Comply with safety measures</i>	4.1	Identify suitable PPE used in weed control										
	4.2	Identify suitable methods of application of weed control to safeguard the plants and the worker										
	4.3	Discuss safe practices of weed control in relation to the health of the worker										
Learners Signature:			Date:									
Assessors Signature:			Date:									
IQA Signature (if sampled)			Date:									
EQA Signature (if sampled)			Date:									

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UNIT 009: IRRIGATION AND WATER MANAGEMENT

Unit Reference Number: AGR/HOT/009/L3
NSQ Level: 3
Credit Value: 3
Guided Learning Hours: 30
Practice Time: 140 hours

UNIT PURPOSE: The purpose of this unit is to equip students with knowledge and skills to identify the sources of water, its sustainability and removal of excess water where necessary.

Unit assessment requirements/evidence requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 009: IRRIGATION AND WATER MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Determine moisture requirement of the crop and soil</i>	1.1	Explain the moisture requirement of the crops to be grown.									
	1.2	Determine the moisture level of the soil using soil moisture meter									
	1.3	Identify whether the moisture requirement of a given crop can be met and maintained									
	1.4	Determine the water holding capacity of the soil									
LO 2: <i>Locate source of water for irrigation and supplementation</i>	2.1	Identify source of water for irrigation e.g. Dam, Stream, Borehole, Well, etc.									
	2.2	Determine the distance between the source of water and the site									
	2.3	Identify the means of drawing water from the source of water to the site									
LO 3: <i>Determine the sustainability of supply</i>	3.1	Check the size, volume and capacity of source of water for irrigation									
	3.2	Determine the duration of source of water over a period of time									
	3.3	Examine socio – cultural factors that may affect supply of water									
LO 4: <i>Identify the suitable system of irrigation to be used</i>	4.1	List methods of irrigation e.g. Surface, Drip, Sprinkler etc									
	4.2	Differentiate the methods of irrigation									
	4.3	Choose appropriate method to be used									
LO 5: <i>Determine cost of installation of irrigation facility</i>	5.1	List materials needed for irrigation									
	5.2	Determine cost of materials used on farm for irrigation									
	5.3	Determine cost of installation of materials used for irrigation									
	5.4	Evaluate the manpower needed for installation and maintenance									
LO 6: <i>Carry out drainage of excess water</i>	6.1	Explain drainage of excess water from soil									
	6.2	Explain the factors that affect drainage									
	6.3	Construct suitable drainage channel on the site									

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



UNIT 010:**POTTING, TRANSPLANTING AND STAKING**

Unit reference number:	AGR/HOT/010/L3
NSQ level:	3
Credit value:	3
Guided learning hours:	30
Practice Time:	140 hours

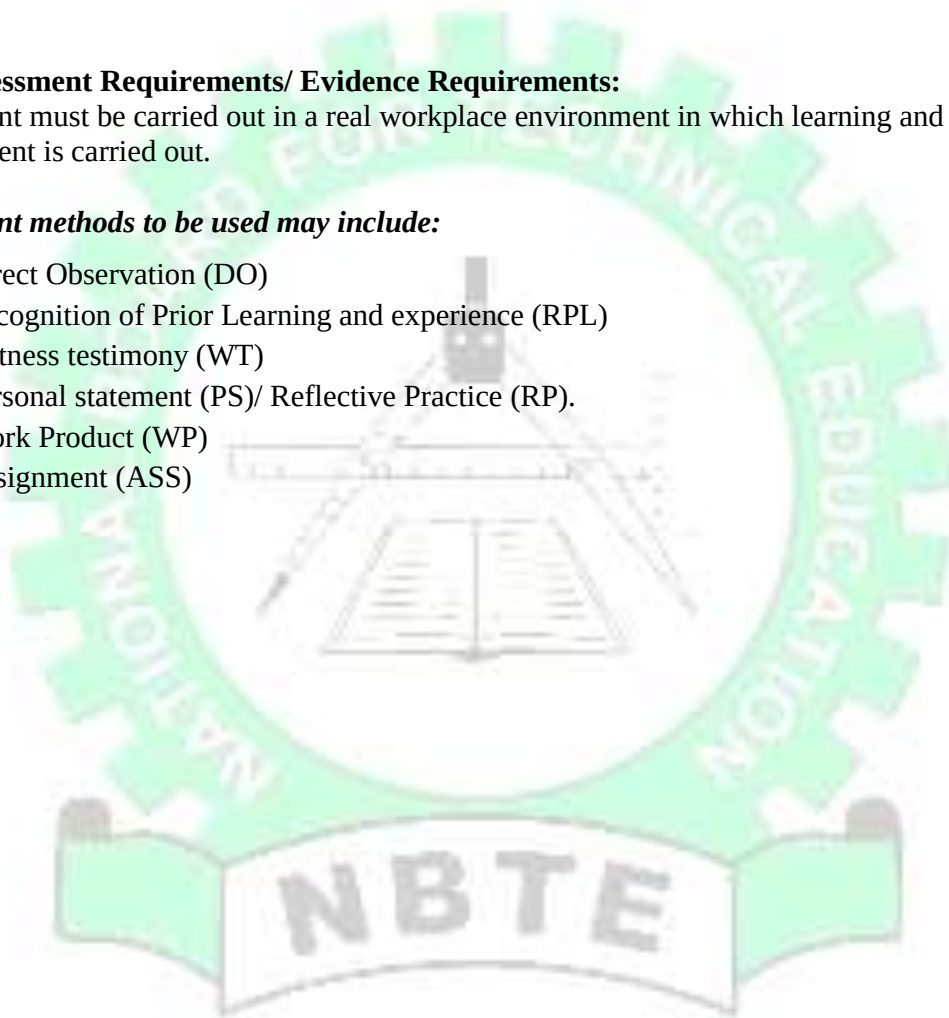
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills needed to prepare the right medium for the growth of the plant at early stage.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 010: POTTING, TRANSPLANTING AND STAKING

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify potting materials</i>	1.1	Explain the advantages and disadvantages of different potting materials		
	1.2	Identify right direction to arrange the potted plants		
	1.3	Explain the importance of potting media on plant growth		
	1.4	Explain the ratio of media materials to be mixed in preparing different media		
	1.5	Prepare different potting media for given plants		
LO 2: <i>Identify plants that can be potted</i>	2.1	List some common plants that can be potted		
	2.2	Select materials for potting		
	2.3	Explain economic factors that have influence on potting		
LO 3: <i>Determine the seedling age, right time of the day for transplanting and techniques for transplanting</i>	3.1	Explain different methods of determining the age of seedlings		
	3.2	Explain the effects of different periods of the day on transplanting		
	3.3	Describe the different techniques for transplanting		
	3.4	Identify types of plants to be transplanted		
LO 4: <i>Carry out staking</i>	4.1	Describe the process of staking		
	4.2	Explain the importance of staking		
	4.3	Explain different types of staking		
	4.4	Determine the materials to be used for staking		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 011: PLANT PROPAGATION

Unit reference number:	AGR/HOT/011/L3
NSQ level:	3
Credit value:	4
Guided learning hours:	40
Practice Time:	140 hours

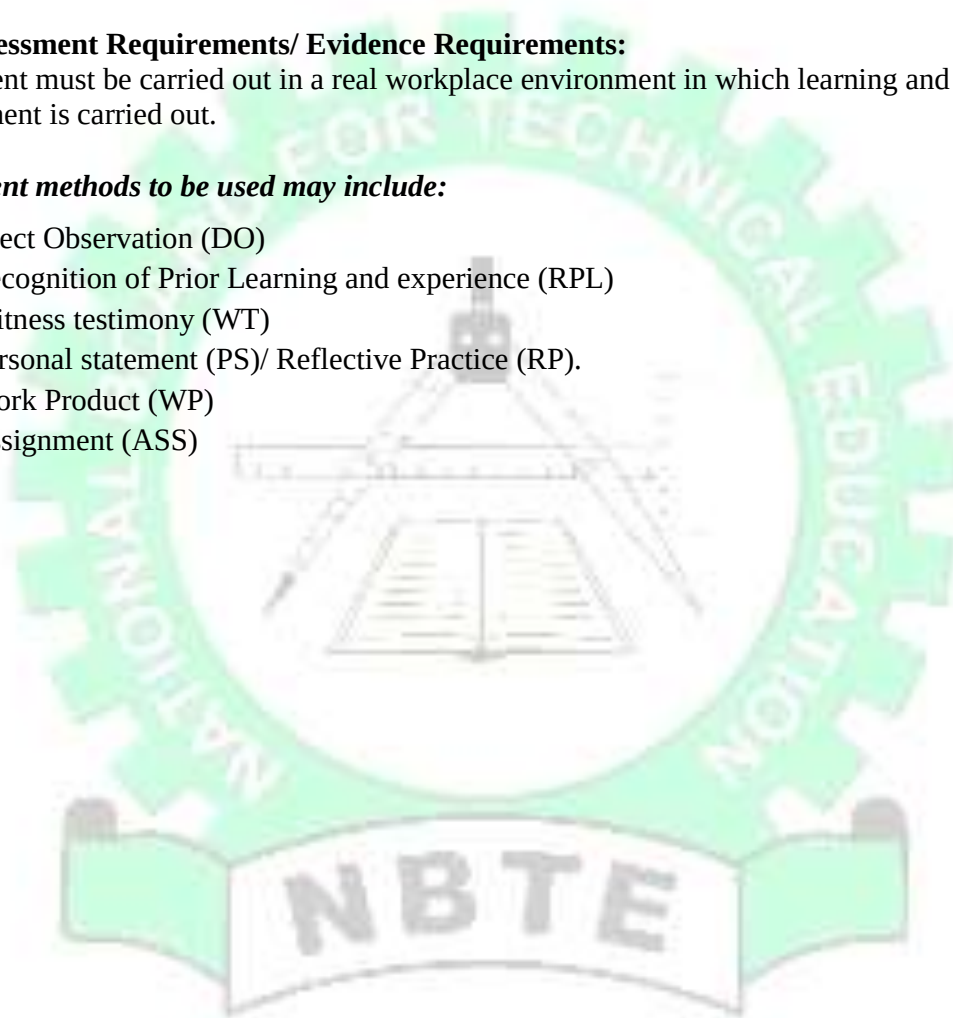
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to multiply plants of a particular type for increased production.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 011: PLANT PROPAGATION

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Identify healthy and suitable parent plants</i>	1.1	Explain plant parts required for propagation e.g. seeds, stem, rhizome, leaves, etc.									
	1.2	Determine the maturity stage for use of the different parts listed above.									
	1.3	Assess the health condition of a material to be used in propagation									
LO 2: <i>Distinguish between sexual and asexual methods of propagation</i>	2.1	Explain different methods of propagation i.e. sexual and asexual propagation									
	2.2	Describe different techniques of asexual propagation i.e. layering, budding, grafting, etc.									
	2.3	State the importance of sexual and asexual propagation									
	2.4	Determine when to use a particular method of propagation for a plant that can be raised using more than one method.									
LO 3: <i>Prepare planting materials for propagation</i>	3.1	Select the appropriate tools for obtaining or preparing the planting materials									
	3.2	Use appropriate tools for obtaining or preparing the planting materials									
	3.3	Determine suitable planting materials (seed, hardwood stem cutting, underground stem, etc) for different plants.									
	3.4	Raise root stocks for budding and grafting.									
	3.5	Obtain scion from parent plant.									
	3.6	Break seed dormancy using mechanical, chemical or physical methods									
	3.7	Determine when to use growth and rooting hormones									
	3.8	Select the appropriate tools for obtaining or preparing the planting materials									
LO 4: <i>Carry out propagation</i>	4.1	Determine the appropriate techniques for propagation of given plant.									

Signature:	Date:
Signature:	Date:
Signature (if sampled)	Date:
Signature (if sampled)	Date:



The logo of the National Board for Technical Education (NBTE) is a large, light green circular emblem. It features a gear-like outer ring with the words 'NATIONAL BOARD FOR TECHNICAL EDUCATION' in white capital letters. Inside the ring, there is a stylized illustration of an open book at the bottom, a pair of compasses in the center, and a pencil at the top. Below the circular emblem is a white banner with the letters 'NBTE' in bold, black, sans-serif font.

UNIT 012:	PRUNING AND TRIMMING
Unit reference number:	AGR/HOT/012/L3
NSQ level:	3
Credit value:	2
Guided learning hours:	20
Practice Time:	100 hours

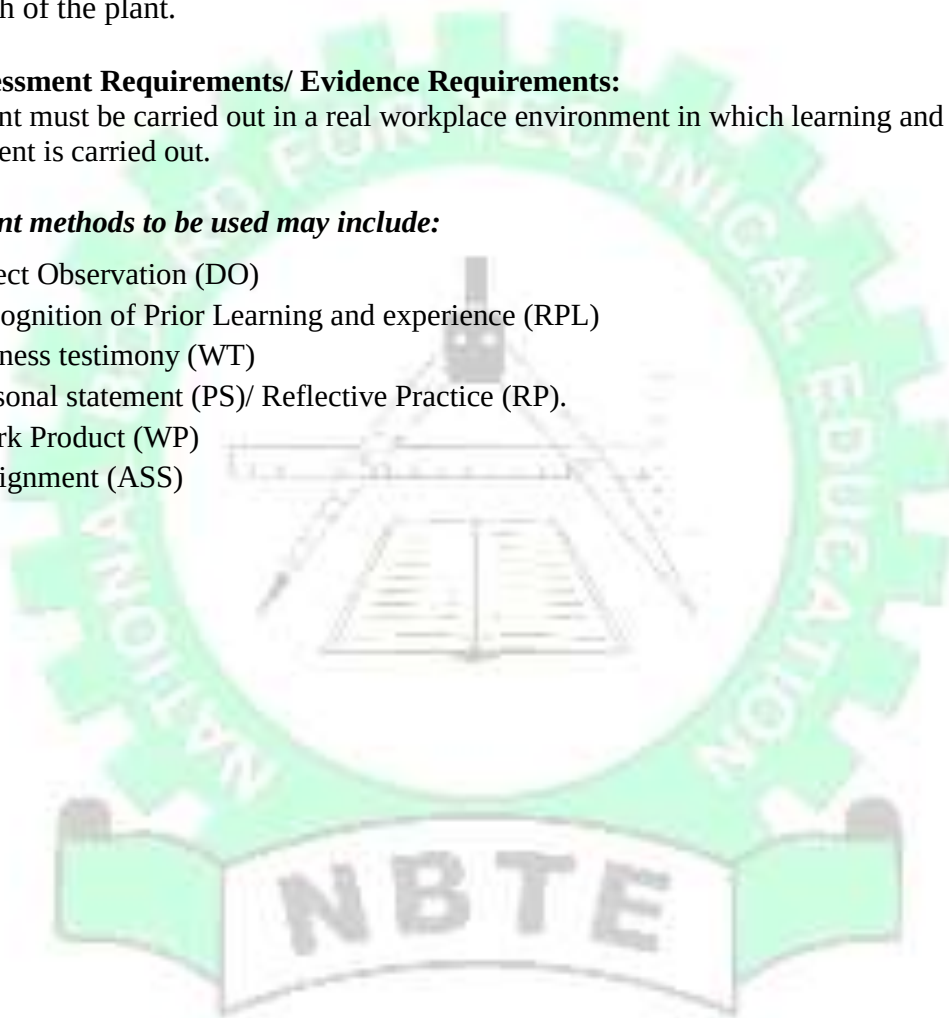
UNIT PURPOSE: The purpose of this unit is to equip learners with knowledge and skills on how to remove excess, diseased and dead branches of plants in order to improve or modify the growth of the plant.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 012: Pruning and Trimming

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Identify the plants to be pruned or trimmed</i>	1.1	List some plants that can be pruned or trimmed		
	1.2	Locate parts of plants that can be pruned and trimmed		
	1.3	Explain importance of pruning and trimming		
LO 2: <i>Prune the excess, diseased and dead branches</i>	2.1	assess excess, diseased and dead branches to be pruned or trimmed		
	2.2	Select tools used in pruning and trimming e.g. Secateur, Scissors, Pruning Shear, Axe, Cutlass etc.		
	2.3	Carry out pruning of necessary plant parts		
LO 3: <i>Keep record of activities during pruning or trimming</i>	3.1	Obtain the history of plants to be pruned or trimmed		
	3.2	Document information above properly for record purposes		
	3.3	Design a register for pruning and trimming activities.		
LO 4: <i>Maintain Health and Safety Measures during pruning and Trimming</i>	4.1	List PPE used during pruning and trimming		
	4.2	Adhere to safety and health practices in pruning and trimming		
	4.3	Adhere to safety and health practices in disposal of pruned and trimmed materials.		
	4.4	Keep materials and tools used for pruning and trimming activities safely		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

**UNIT 013:
MANAGEMENT****INTEGRATED PEST AND DISEASE**

Unit reference number:	AGR/HOT/013/L3
NSQ level:	3
Credit value:	3
Guided learning hours:	30
Practice Time:	120 hours

Unit Purpose: The purpose of this unit is to equip students with knowledge and skills to assess, prevent and control the common pests and diseases of horticultural plants.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 013: INTEGRATED PEST AND DISEASE MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Demonstrate ability to identify types of pests and diseases of horticultural crops in an area.</i>	1.1	Identify some common pests of horticultural crops in a given area.		
	1.2	Describe the symptoms of common diseases of horticultural plants		
	1.3	Use appropriate tools to trap pests in a given area e.g. net to trap insects, traps for rodents, etc		
	1.4	Assess the types of pests available in a given area		
	1.5	Explain the disease symptom of horticultural crops in a given area		
	1.6	Describe parts of horticultural parts being attacked by different pests		
	1.7	Describe parts of horticultural parts being attacked by different diseases.		
LO 2: <i>Determine the probable host organisms of pests and diseases of horticultural crops in a given area</i>	2.1	Detect the presence of pests of horticultural crops in a vegetation.		
	2.2	Detect the presence of common pests of horticultural crops in a given soil.		
	2.3	Identify the existence of alternative feeds for pests in a given area.		
	2.4	Explain the means of spread of diseases of horticultural crops in a given area.		
LO 3: <i>Assess the impact of and behaviour of pests and diseases on horticultural crops to develop targeted control strategies</i>	3.1	Identify specific pests that attack various parts of horticultural plants e.g. grasshopper attacking leaves, birds attacking fruits, etc.		
	3.2	Identify specific pests that attack the roots of the crops		
	3.3	State the different types of damage done to horticultural crops by pest, e.g. rolling of leaves, eating or chewing of the leaves, cutting of the stem, etc		
	3.4	Describe symptoms of disease attack on horticultural plants.		

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UNIT 014:**SEED COLLECTION AND SELECTION**

Unit reference number:	AGR/HOT/014/L3
NSQ level:	3
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

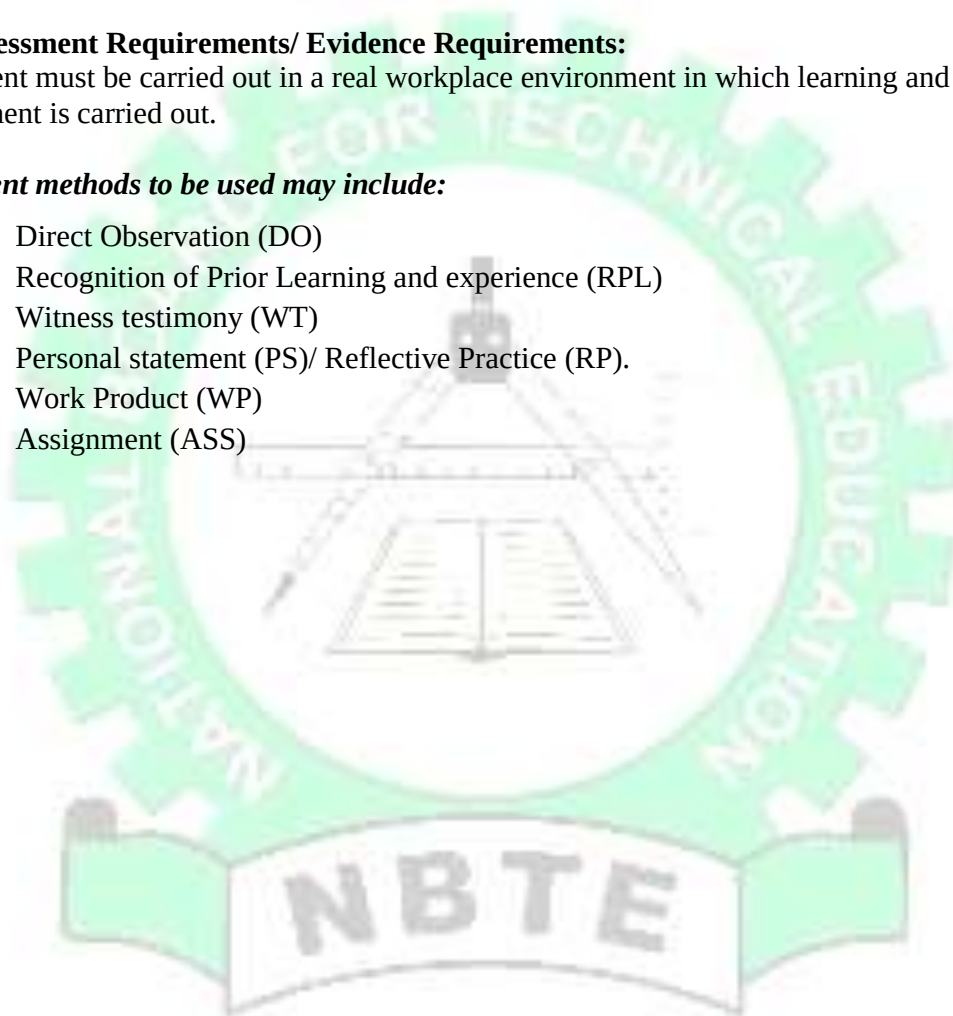
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills necessary to ensure use of viable and healthy seeds for optimum yield of crops.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 014: Seed Production, Collection and Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.
The learner will:		The learner can:		
LO 1: <i>Obtain seeds from the right source to ensure their viability</i>	1.1	Identify sources of seed collection		
	1.2	Sort seeds to obtain healthy ones for planting		
	1.3	Identify types of seeds using varietal information/ description of seeds (label information)		
LO 2: <i>Carry out seed treatment and storage properly</i>	2.1	Explain the process of seed treatment		
	2.2	Dress seeds with chemicals		
	2.3	Store seeds in appropriate containers		
	2.4	Carry out germination test		
LO 3: <i>Carry out seed harvesting</i>	3.1	Carry out checks to determine the physiological maturity of seeds		
	3.2	Prepare appropriate tools and containers for seed harvesting		
	3.3	Harvest seed heads, pods or fruits using proper techniques to minimize mechanical damage		
	3.4	Gather harvested seed materials carefully to prevent field contamination or spoilage		
LO 4: <i>Carry out seed processing</i>	4.1	Thresh the harvested seed heads		
	4.2	Winnnow or blow to separate chaff from the seeds		
	4.3	Package the processed seeds in appropriate conditions		
	4.4	Carry out seed Extraction		
	4.5	Carry out Fermentation		
	4.6	Carry out seed drying		
Learners Signature:			Date:	
Assessors Signature:			Date:	
IQA Signature (if sampled)			Date:	
EQA Signature (if sampled)			Date:	

UNIT 015: LANDSCAPING

Unit reference number:	AGR/HOT/015/L3
NSQ level:	3
Credit value:	3
Guided learning hours:	30
Practice Time:	90 hours

Unit Purpose: The purpose of this unit is to provide learners with knowledge and skills in creating and designing various components of the garden and landscape for beautification.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



UNIT 015: LANDSCAPING

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.			
The learner will:		The learner can:									
LO 1: <i>Maintain ornamental garden</i>	1.1	Identify different ornamental plants and their uses such as outdoor plants, indoor plants, hedges, avenues trees, etc.									
	1.2	Examine plants in the garden to detect problems such as pests, diseases, wilting, etc.									
	1.3	Control weeds, pests and diseases in the garden.									
	1.4	Use suitable tools and equipment for operations in the garden									
LO 2: <i>Maintain landscape sites</i>	2.1	Interpret landscape plan									
	2.2	Carry out simple site survey									
	2.3	Select plants for different locations on the landscape site.									
	2.4	Carryout landscape maintenance activities such as trimming, training, pruning, shaping, weeding, irrigation, etc.									
	2.5	Adhere to health and safety measures while carrying out landscape activities above									
	2.6	Arrange plants in relation to colour for beauty.									
LO 3: <i>Maintain lawns</i>	3.1	Explain different methods of establishing lawns									
	3.2	Identify different plants for lawn establishment									
	3.3	Determine methods of irrigating the lawn e.g. surface sprinkler									
LO 4: <i>Develop financial plans for ornamental gardens and landscape</i>	4.1	Estimate cost of materials required for establishing garden, landscaping and lawn.									
	4.2	Estimate cost of labour required for establishing garden, landscaping and lawn									
	4.3	Estimate cost of tools and equipment used in carrying out the activities									
Learners Signature:			Date:								
Assessors Signature:			Date:								

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



**UNIT 016:
MARKETING****HORTICULTURAL VALUE ADDITION AND**

Unit reference number:	AGR/HOT/016/L3
NSQ level:	3
Credit value:	2
Guided learning hours:	20
Practice Time:	60 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills in marketing and value addition for horticultural products through the integration of digital tools.

Unit Assessment Requirements/ Evidence Requirements:

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

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 016: Horticultural Value Addition and Marketing

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.				
The learner will:		The learner can:										
LO 1: <i>Apply value addition and processing techniques to horticultural produce</i>	1.1	Identify the various processing and preservation methods of horticultural produce										
	1.2	Prepare vegetable pickling, fresh fruit juice extraction and bottling										
	1.3	Calculate value addition cost and profit margin										
	1.4	Identify packaging materials used in horticulture										
LO 2: <i>Apply packaging technology for horticultural produce</i>	2.1	Design a label for processed horticultural product including all required information										
	2.2	Identify packaging line operations										
	2.3	Compare the shelf life of produce in two different packaging materials										
	2.4	Prepare a packaging cost analysis for horticultural produce										
LO 3: <i>Utilize digital tools and marketing strategies for horticultural market access</i>	3.1	Explain branding and packaging as marketing tools for horticultural products										
	3.2	identify digital platforms used for horticultural market access and agribusiness support										
	3.3	Set up a WhatsApp Business account for horticultural products										
	3.4	Analyse horticultural crops prices using information app or website										
	3.5	Differentiate between various e-commerce models for horticultural produce										
	3.6	Outline the sequence for listing product on digital market places and online selling platforms										
	3.7	Design packaging and label for an online order										
Learners Signature:			Date:									
Assessors Signature:			Date:									
IQA Signature (if sampled)			Date:									

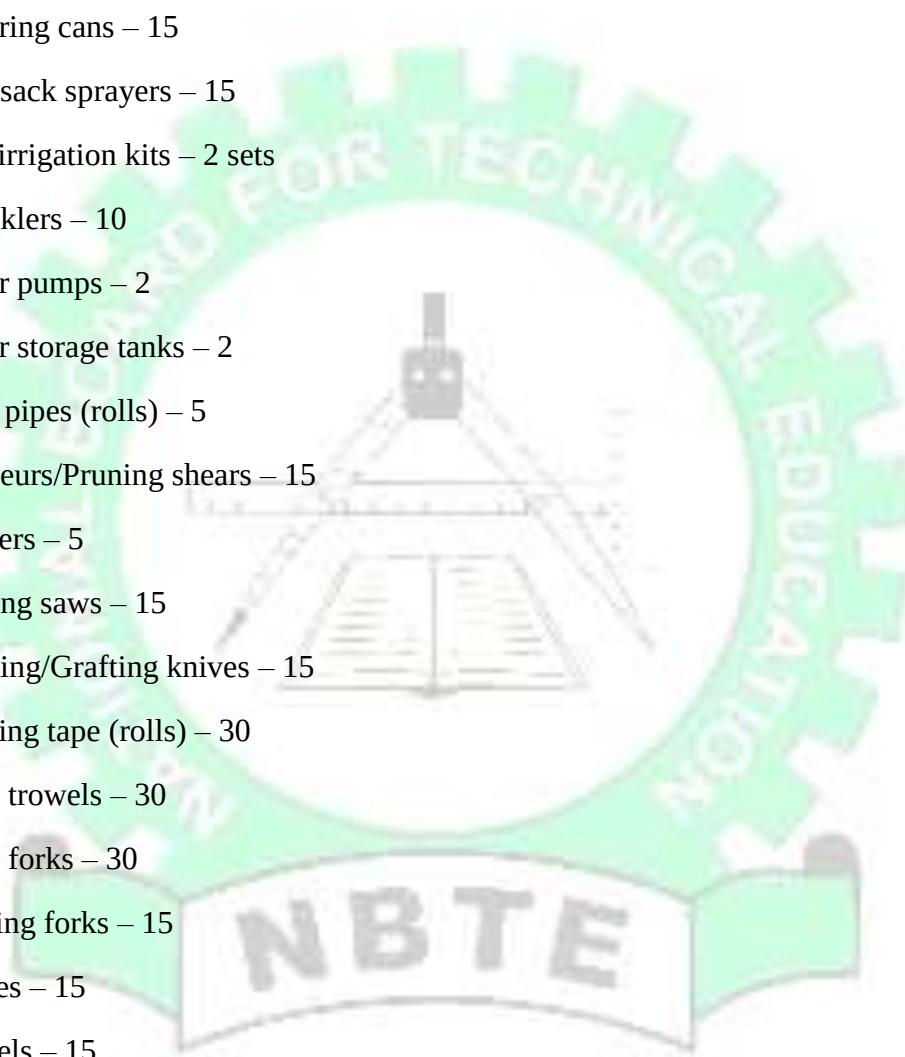
EQA Signature (if sampled)

Date:

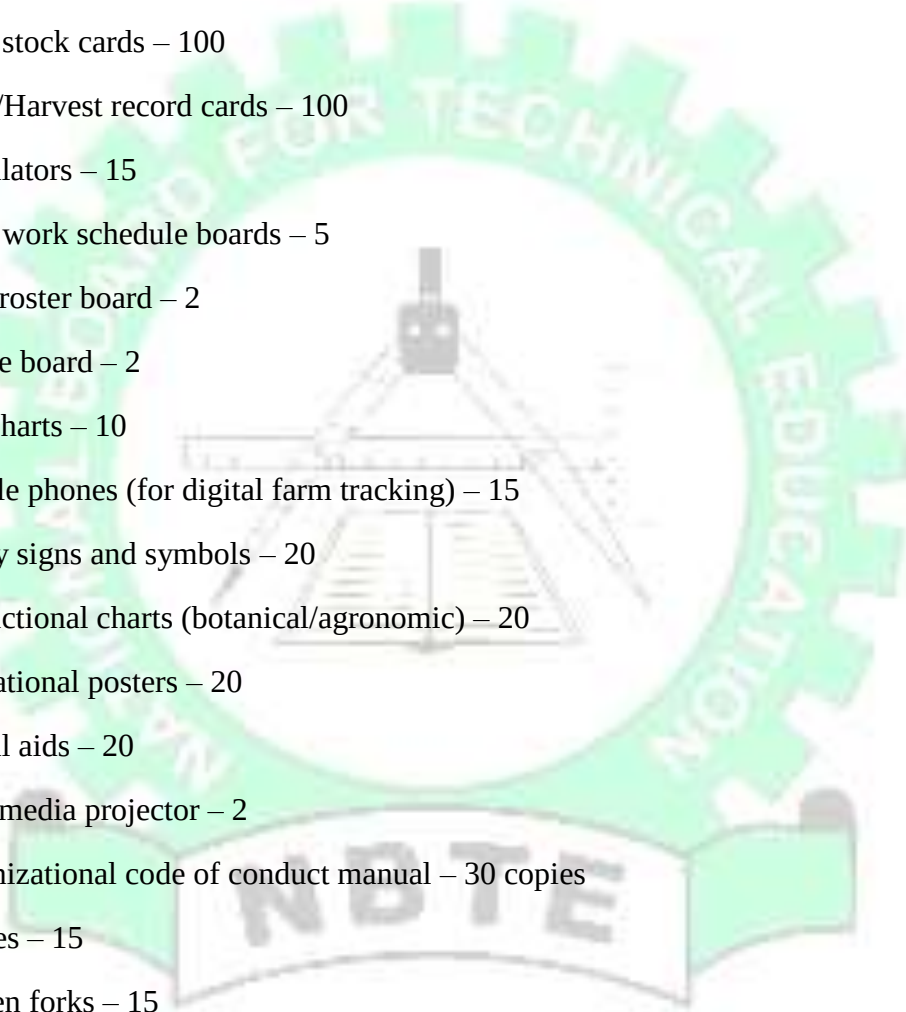


LIST OF TOOLS AND EQUIPMENT

1. Training farm/garden space (Demonstration plot) – 1 functional plot
2. Nursery sheds/Greenhouse structures – 2
3. Shading nets (rolls) – 5
4. Seedling trays (pro-trays) – 100
5. Watering cans – 15
6. Knapsack sprayers – 15
7. Drip irrigation kits – 2 sets
8. Sprinklers – 10
9. Water pumps – 2
10. Water storage tanks – 2
11. Hose pipes (rolls) – 5
12. Secateurs/Pruning shears – 15
13. Loppers – 5
14. Pruning saws – 15
15. Budding/Grafting knives – 15
16. Grafting tape (rolls) – 30
17. Hand trowels – 30
18. Hand forks – 30
19. Digging forks – 15
20. Spades – 15
21. Shovels – 15
22. Hoes – 15
23. Cutlasses/Machetes – 15
24. Rakes (garden) – 15
25. Wheelbarrows – 15
26. Head pans – 15
27. Soil auger – 2



28. Soil testing kits (pH/N-P-K) – 5
29. Weighing scales (digital) – 5
30. Measuring buckets – 15
31. Measuring cylinders – 15
32. Measuring tape – 15
33. Vegetable seeds (assorted varieties) – 1 complete training set
34. Fruit tree seedlings/rootstocks – 100 plants
35. Ornamental plants/cuttings – 1 complete training set
36. Organic manure/Compost – 1 tonne
37. Chemical fertilizers (N-P-K, Urea) – 50 kg
38. Potting media (Coco peat, Peat moss, Perlite) – 10 bags
39. Agro-chemicals (Insecticides, Fungicides) – 20 litres
40. Herbicides – 10 litres
41. Growth regulators/hormones – 5 litres
42. Mulching mats/polythene sheets – 20 rolls
43. Plant support sticks/stakes – 200
44. Nursery potting bags – 500
45. Fumigation sheets – 5
46. Harvest crates/baskets – 30
47. Sorting tables – 4
48. Cold storage facility/Cooling unit – 1
49. Refrigerator (for seed/chemical storage) – 2
50. Produce weighing scale – 2
51. Packaging materials (bags, boxes, wraps) – 1 complete training set
52. Store house (for tools and inputs) – 1
53. Wooden pallets – 20
54. PPE (overall, safety boots, gloves, respirator masks, goggles) – 30 complete sets
55. First aid box – 2
56. Fire extinguishers – 4

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57. Waste bins (sorting types) – 6
 58. Compost pit/bin system – 2
 59. Record books – 30
 60. Ledgers – 10
 61. Nursery record cards – 100
 62. Farm diary – 10
 63. Field history sheets – 100
 64. Input stock cards – 100
 65. Sales/Harvest record cards – 100
 66. Calculators – 15
 67. Farm work schedule boards – 5
 68. Duty roster board – 2
 69. Notice board – 2
 70. Flip charts – 10
 71. Mobile phones (for digital farm tracking) – 15
 72. Safety signs and symbols – 20
 73. Instructional charts (botanical/agronomic) – 20
 74. Educational posters – 20
 75. Visual aids – 20
 76. Multimedia projector – 2
 77. Organizational code of conduct manual – 30 copies
 78. Sickles – 15
 79. Garden forks – 15
 80. Ropes – 15
 81. Foot bath (for greenhouse/nursery biosecurity) – 2
 82. Disinfectants (for tools and structures) – 20 litres
 83. Dressing materials – 2 sets
 84. Feed store / Processing shed – 1
 85. Water supply – 1 functional system

86. Sodium hypochlorite (for sanitizing wash water/benches) – 20 litres
87. Scrubbing brushes – 15
88. Drying racks (for seeds/herbs/produce) – 5
89. Gas cylinder (for nursery soil sterilization/heating) – 2
90. Cooking pot / Sterilization vat – 2
91. Napkins / Clean cloths – 30
92. Detergent – 20 litres
93. Forage/Organic residue chopper (for composting mulch) – 2
94. Stock cards – 100
95. Record cards – 100



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