



NATIONAL BOARD FOR TECHNICAL EDUCATION

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

IN COLLABORATION WITH



NATIONAL OCCUPATIONAL STANDARDS (NOS)

PRECISION AGRICULTURE 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

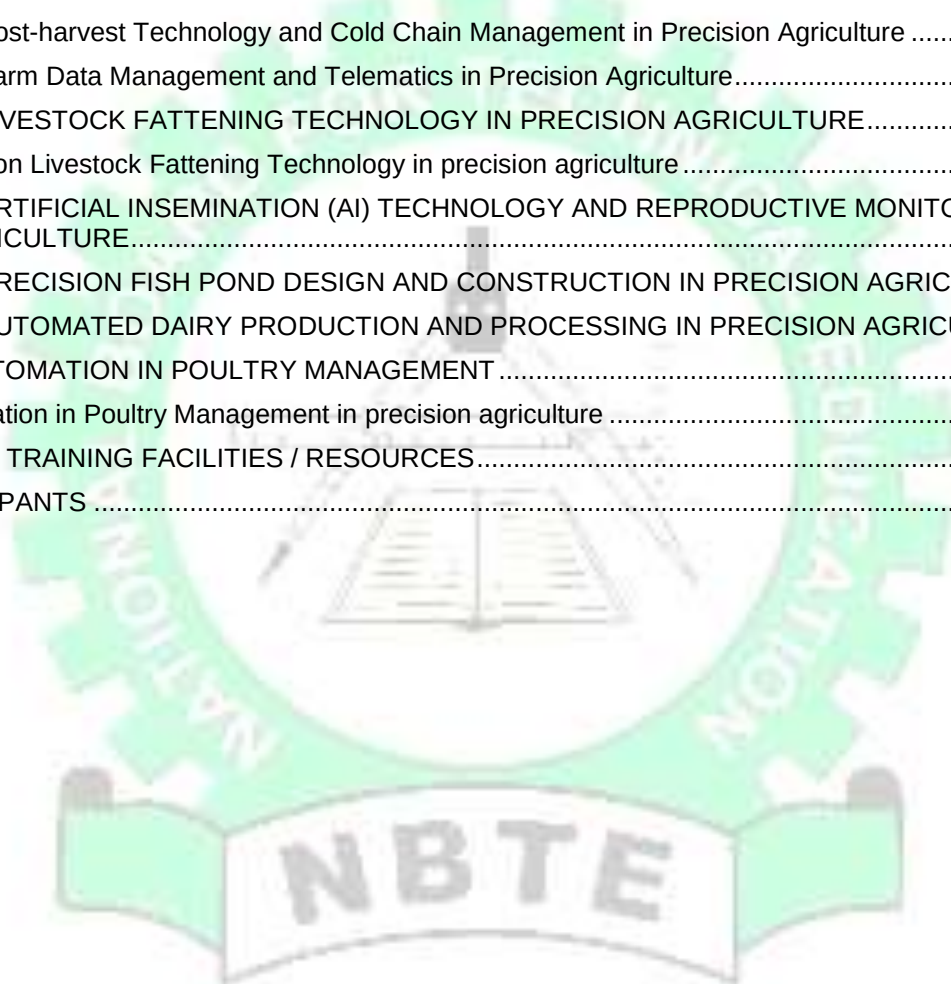
EXECUTIVE SECRETARY

National Board for Technical Education (NBTE), Kaduna

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NATIONAL SKILLS QUALIFICATION (NSQ)

LEVEL 1

PRECISION AGRICULTURE



JUNE 2026

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Precision Agriculture** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing **Precision Agriculture Assistant in Precision Agriculture NSQ Level 1** with the competencies necessary to provide support in **Precision Agriculture**. This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent entry level precision agriculture assistant with knowledge, skills, and attitude required to perform routine activities under 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
- Interest in agricultural production and related support operations;
- Ability to carry out simple practical tasks under supervision.

QUALIFICATION OBJECTIVES

Learners will acquire foundational competencies to perform simple precision agriculture support tasks under close supervision:

1. Apply occupational health, safety, and environmental principles in precision agriculture
2. Demonstrate effective communication in an agricultural work environment
3. Exhibit teamwork and professional work ethics
4. Demonstrate precision agriculture operations
5. Apply basic precision agriculture practices in crops, animals, aquaculture, and apiculture systems
6. Prepare and manage nurseries effectively
7. Identify and test soil using precision tools
8. Implement pest and disease management strategies
9. Perform basic precision farm measurements, mapping, and location identification
10. Manage farm inventory and select appropriate stock
11. Operate and maintain precision agriculture tools and devices
12. Manage water use, sanitation, and biosecurity in precision agriculture
13. Identify and assemble basic beehive components

NATIONAL SKILLS QUALIFICATION (NSQ) TABLE

Mandatory Units

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Practice Hours	Remark
1.	AGR/PAG/001/L1	Occupational Health, Safety and Environment in Precision Agriculture	1	10	30	Mandatory
2.	AGR/PAG/002/L1	Communication in Agricultural Work Environment	1	10	30	Mandatory
3.	AGR/PAG/003/L1	Teamwork and Work Ethics	1	10	30	Mandatory
4.	AGR/PAG/004/L1	Basics Operations in Precision Agriculture	1	10	30	Mandatory
5.	AGR/PAG/005/L1	Basic Application of Precision Agriculture in Crop, Animal, Aquaculture and Apiculture	2	20	60	Mandatory
6.	AGR/PAG/006/L1	Nursery Preparation and Management	2	20	60	Mandatory
7.	AGR/PAG/007/L1	Soil Identification and Testing using precision tools	2	20	60	Mandatory
8.	AGR/PAG/008/L1	Pest and Disease Management	2	20	60	Mandatory
9.	AGR/PAG/009/L1	Basic Farm Measurements, Mapping and Location Identification	2	20	60	Mandatory
10.	AGR/PAG/010/L1	Farm Inventory Management and Stock Selection	2	20	60	Mandatory
11.	AGR/PAG/011/L1	Basic Use and Care of Precision Agriculture Tools and Devices	2	20	60	Mandatory
12.	AGR/PAG/012/L1	Water management, Sanitation and Biosecurity in Precision Agriculture	2	20	60	Mandatory

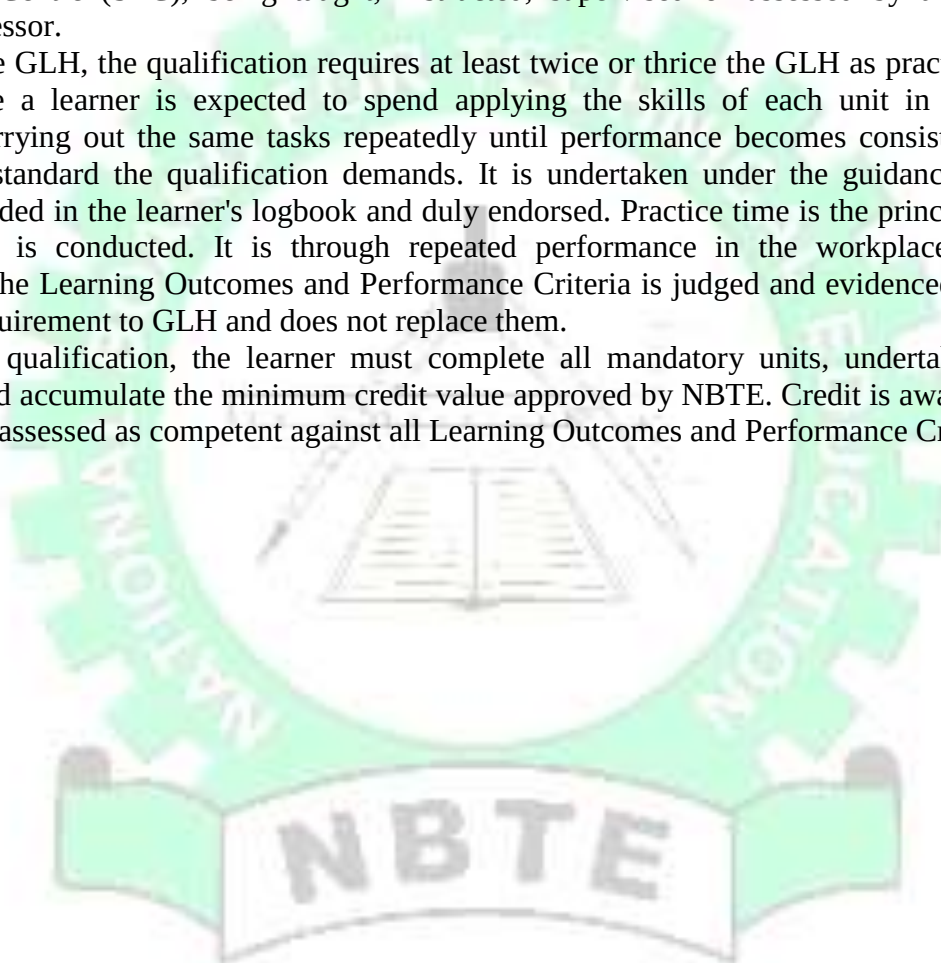
13.	AGR/PAG/013/L1	Identification and Simple Assembly of Beehive Components	2	20	60	Mandatory
TOTAL			22	220	660	

QUALIFICATION STRUCTURE

This qualification comprises a total of thirteen (13) Mandatory Units, with a credit value of 22 and 220 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 Skill 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, SAFETY AND ENVIRONMENT
IN PRECISION AGRICULTURE**

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

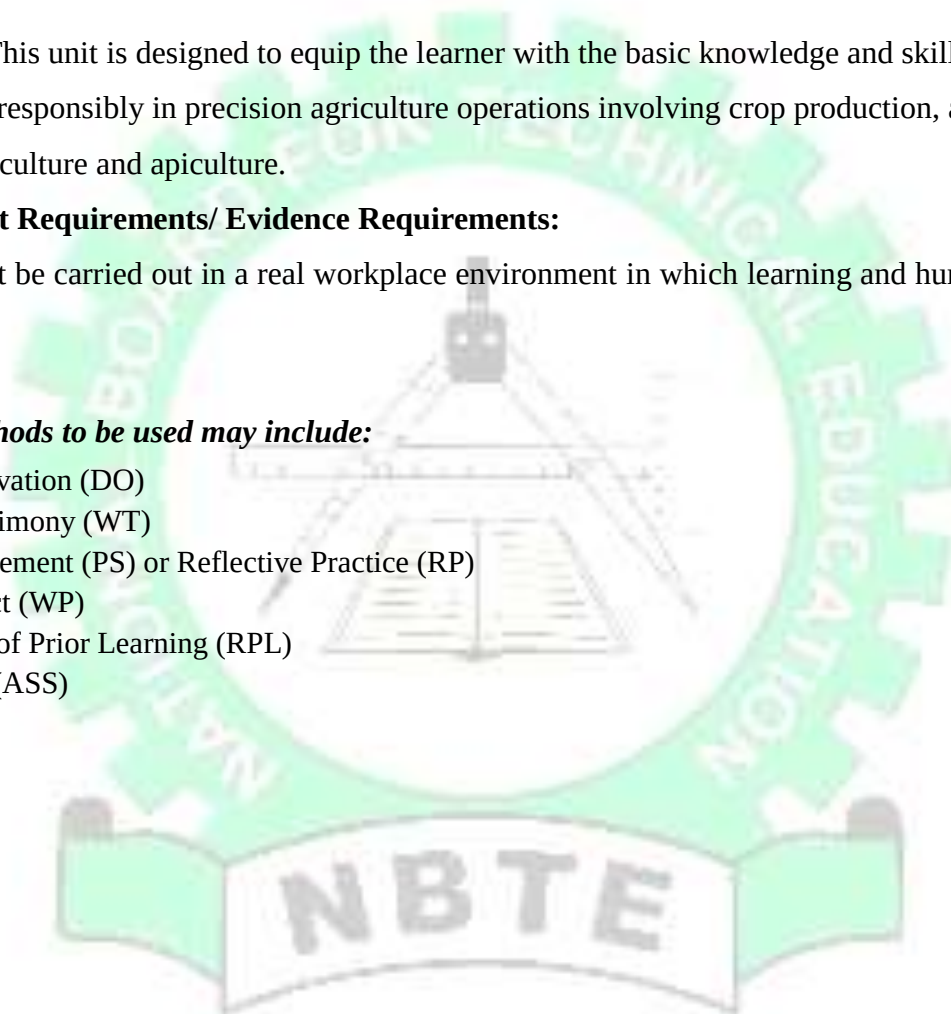
Unit Purpose: This unit is designed to equip the learner with the basic knowledge and skills required to work safely and responsibly in precision agriculture operations involving crop production, animal production, aquaculture and apiculture.

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 001: OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT IN PRECISION AGRICULTURE

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Identify safety rules in precision agriculture	1.1	State simple safety rules for crop, animal, aquaculture and apiculture operations									
	1.2	Identify common safety signs used in agricultural work areas									
	1.3	Identify basic Personal Protective Equipment (PPE) used on the farm									
	1.4	State the importance of obeying safety instructions at work									
LO 2: Identify hazards in precision agriculture operations	2.1	Identify hazards associated with farm tools and equipment									
	2.2	Identify hazards associated with water bodies, animals and bees									
	2.3	Identify hazards associated with chemicals, slippery surfaces and electrical devices									
	2.4	State the dangers of careless handling of farm materials, tools and devices									
LO 3: Apply safe work practices during routine farm operations	3.1	Use appropriate PPE for assigned farm tasks									
	3.2	Handle simple tools and devices safely									
	3.3	Follow instructions while carrying out farm work									
	3.4	Report unsafe acts, accidents and hazards to the supervisor									
LO 4: Maintain environmental safety and hygiene	4.1	Dispose waste in the designated areas									
	4.2	Keep work area clean before and after farm operations									
	4.3	Avoid contamination of water, feed, produce and equipment									
	4.4	Maintain personal cleanliness during farm work									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



Unit 002: COMMUNICATION IN PRECISION AGRICULTURAL WORK ENVIRONMENT

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

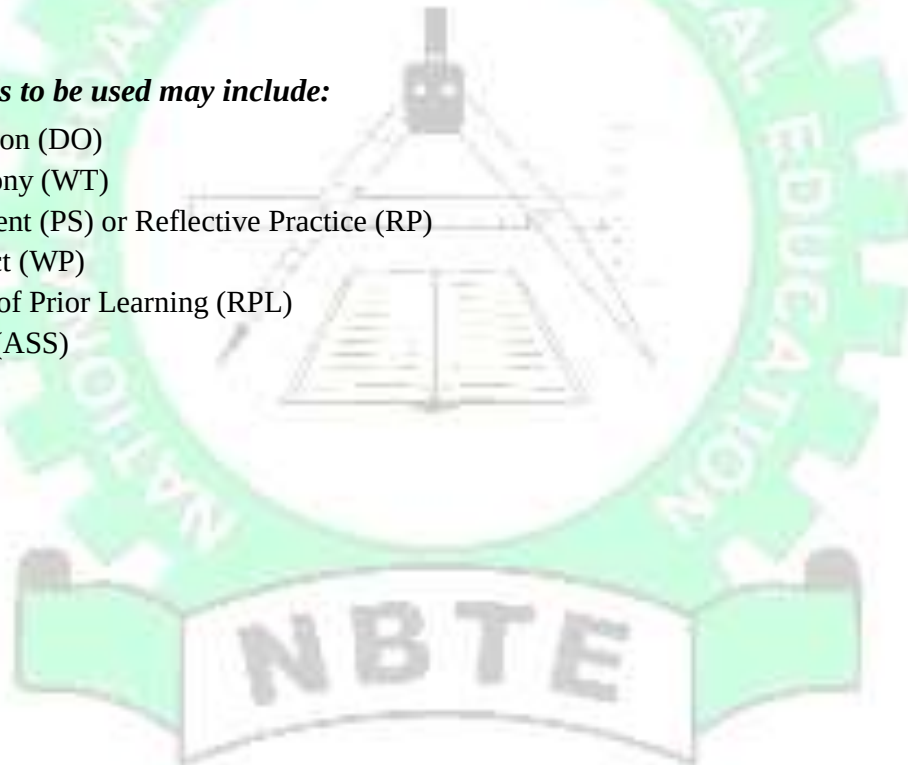
Unit Purpose: This unit is designed to equip the learner with the ability to communicate effectively in a precision agricultural work environment.

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:

7. Direct Observation (DO)
8. Witness Testimony (WT)
9. Personal Statement (PS) or Reflective Practice (RP)
10. Work Product (WP)
11. Recognition of Prior Learning (RPL)
12. Assignment (ASS)



UNIT 002: COMMUNICATION IN PRECISION AGRICULTURAL WORK ENVIRONMENT

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence			
							Ref.	Page		
LO 1: Obtain and act on simple communication methods in the workplace	1.1	Use verbal communication to receive and pass information								
	1.2	Use non-verbal communication such as signs and gestures appropriately								
	1.3	Interpret simple instructions, signs and labels								
	1.4	Listen carefully to workplace instructions								
LO 2: Obtain workplace instructions	2.1	Obtain task instructions from the supervisor or team leader								
	2.2	Ask questions where instructions are not clear								
	2.3	Repeat or confirm instructions where necessary								
	2.4	Follow instructions correctly during work activities								
LO 3: Observe work activities	3.1	Observe task in the workplace								
	3.2	Report completed tasks to the supervisor								
	3.3	Report unusual observations from crops and livestock								
	3.4	Report faults, accidents or emergencies promptly								
	3.5	Use simple record sheets or notebooks to record and share information								
LO 4: Maintain good communication behaviour at work	4.1	Speak respectfully to supervisors and co-workers								
	4.2	Use polite language in the workplace								
	4.3	Avoid passing wrong or incomplete information								
	4.4	Keep communication clear, honest and work-related								
Learner's Signature:			Date:							
Assessor's Signature:			Date:							
IQAM Signature (if sampled)			Date:							
EQAM Signature (if sampled)			Date:							

Unit 003: TEAMWORK AND WORK ETHICS IN PRECISION AGRICULTURE

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

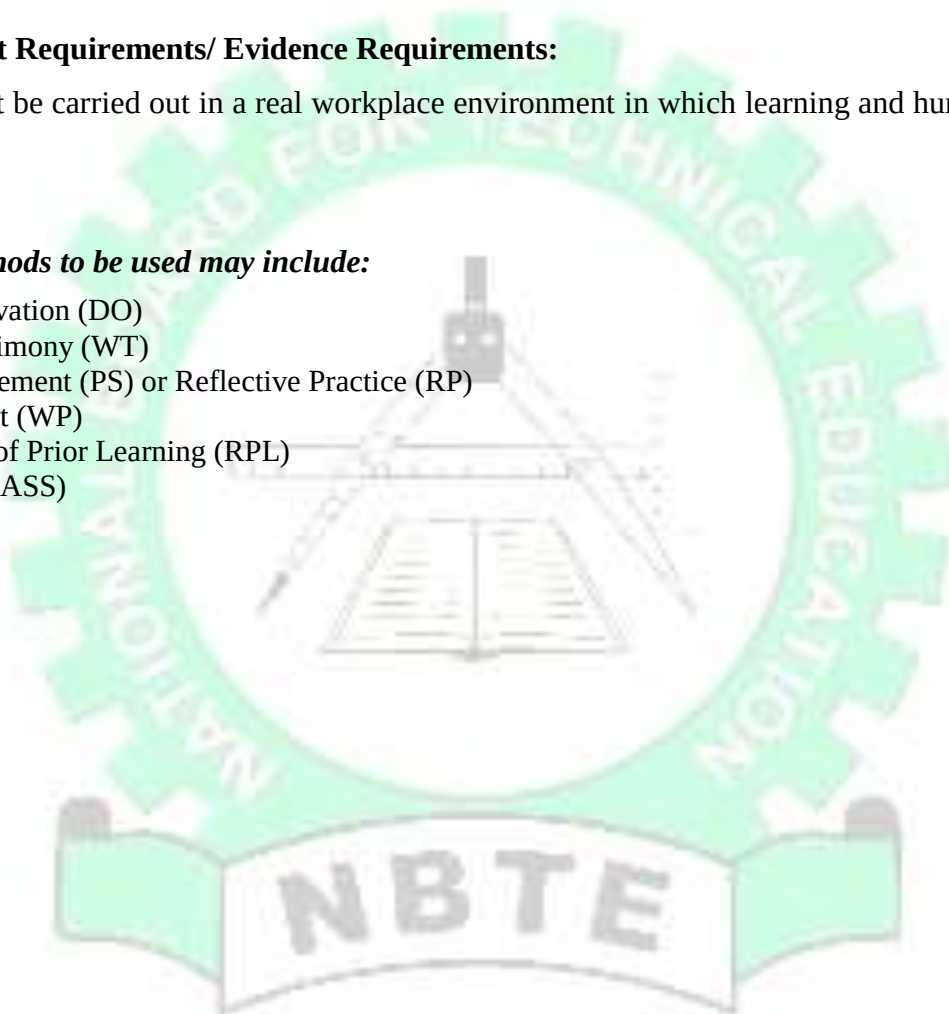
Unit Purpose: This unit is designed to equip the learner with the attitudes and behaviours needed to work with others and behave responsibly in an agricultural work environment.

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 003: TEAMWORK AND WORK ETHICS IN PRECISION AGRICULTURE

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. No.				Page
LO 1: Explain the importance of teamwork	1.1	State the meaning of teamwork									
	1.2	State the importance of teamwork in agricultural activities									
	1.3	Identify members of a work team in the farm environment									
	1.4	State simple benefits of helping others at work									
LO 2: Work effectively with others	2.1	Relate well with supervisors and co-workers									
	2.2	Share relevant work information with team members where necessary									
	2.3	Assist co-workers during team tasks within own role									
	2.4	Respect other people's role and responsibility at work									
LO 3: Demonstrate good work ethics	3.1	Observe punctuality and regular attendance									
	3.2	Carry out assigned tasks honestly and responsibly									
	3.3	Use farm tools and materials carefully									
	3.4	Follow workplace rules and code of conduct									
LO 4: Show responsibility in work performance	4.1	Carry out assigned tasks as instructed									
	4.2	Report completed and uncompleted tasks to the supervisor									
	4.3	Seek correction where necessary									
	4.4	Maintain discipline and seriousness during work activities									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								

Unit 004: BASIC OPERATIONS IN PRECISION AGRICULTURE

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

Unit Purpose: This unit is designed to equip the learner with the concept, importance and simple operations of precision agriculture.

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: BASIC OPERATIONS IN PRECISION AGRICULTURE

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
LO 1: Identify the meaning of precision agriculture	1.1	Define precision agriculture in simple terms			
	1.2	State the purpose of precision agriculture in farming			
	1.3	Identify precision agriculture as a modern farming approach			
LO 2: Carry out the major areas of precision agriculture	2.1	Identify crop production as a component of precision agriculture			
	2.2	Identify animal production as a component of precision agriculture			
	2.3	Identify aquaculture as a component of precision agriculture			
	2.4	Identify apiculture as a component of precision agriculture			
LO 3: Identify simple activities in precision agriculture	3.1	Take basic farm measurements using appropriate tools			
	3.2	Identify visible changes in crops, animals, fish, or hives.			
	3.3	Monitor farm activities using basic tools or methods			
	3.4	Record farm data accurately using approved farm recording systems.			
	3.5	Report farm information to the appropriate supervisor			
LO 4: Identify simple tools used in precision agriculture	4.1	Identify simple measuring tools used on the farm			
	4.2	Identify record books, sheets or mobile devices used for data collection			
	4.3	State the use of weighing scales, thermometers and digital meters.			
	4.4	State the importance of keeping simple farm records			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

Unit 005: BASIC APPLICATION OF PRECISION AGRICULTURE IN CROPS, ANIMALS, AQUACULTURE AND APICULTURE

Unit reference number:	AGR/PAG/005/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice time:	60

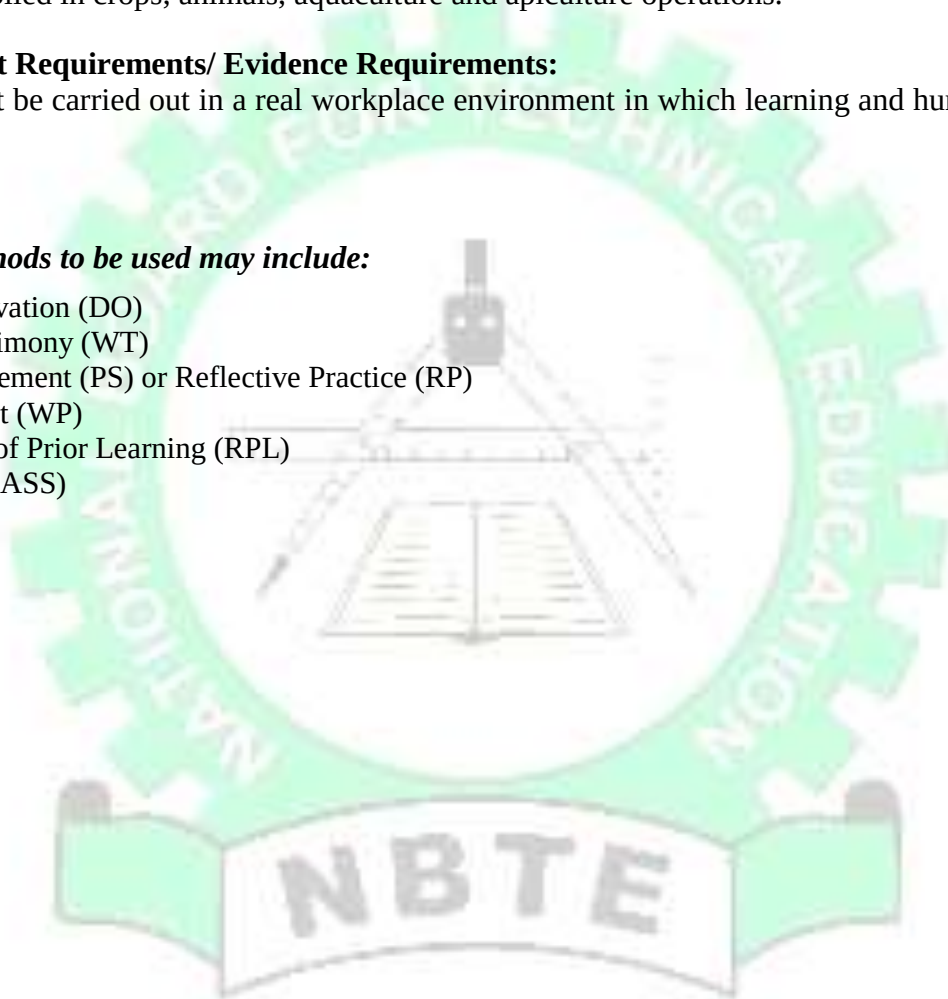
Unit Purpose: This unit is designed to equip the learner with simple knowledge of how precision agriculture is applied in crops, animals, aquaculture and apiculture operations.

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:

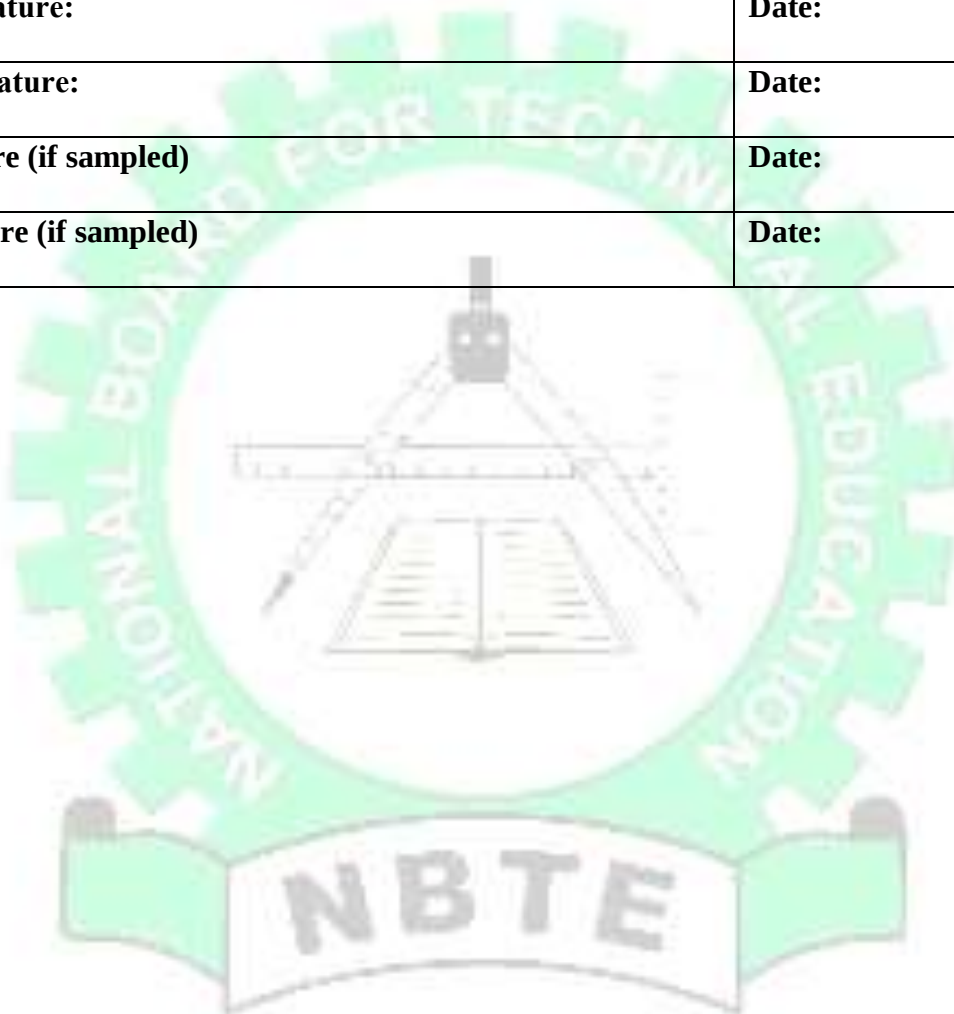
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 005: BASIC APPLICATION OF PRECISION AGRICULTURE IN CROP, ANIMAL, AQUACULTURE AND APICULTURE

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Identify basic precision agriculture practices in crop production	1.1	Identify basic tools used in precision crop production.									
	1.2	Carry out crop monitoring activities such as counting stands, observing growth etc									
	1.3	Carry out simple crop measurement activities such as; plot measurement, watering checks etc.									
	1.4	Assist in recording crop observations under supervision									
	1.5	Report unusual crop conditions to the supervisor									
LO 2: Identify basic precision agriculture practices in livestock production	2.1	Identify basic tools used in precision livestock production.									
	2.2	Count livestock accurately using approved farm methods.									
	2.3	Observe livestock feeding habits.									
	2.4	Monitor livestock health and water intake.									
	2.5	Record livestock observations under supervision.									
	2.6	Report unusual livestock conditions to the supervisor.									
LO 3: Identify basic precision agriculture practices in aquaculture	3.1	Identify basic tools used in precision aquaculture production.									
	3.2	Identify different types of pond									
	3.3	Observe fish feeding behaviour using precision tools									
	3.4	Check water level and quality									
	3.5	Assist in pond monitoring and data documentation.									
	3.6	Report unusual fish behaviour or pond conditions to the supervisor									
LO 4: Identify basic precision agriculture practices in apiculture	4.1	Identify basic tools used in precision apiculture.									
	4.2	Identify different types of bee-hives									
	4.3	Monitor bees behaviour using precision tools									

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. No.	Page
The learner will:		The learner can:							
	4.4	Identify simple checks on hive condition and apiary environment							
	4.5	Assist in bee-hive data documentation.							
	4.6	Report unusual bee-hive conditions to the supervisor.							
Learner's Signature:			Date:						
Assessor's Signature:			Date:						
IQAM Signature (if sampled)			Date:						
EQAM Signature (if sampled)			Date:						



Unit 006: NURSERY PREPARATION AND MANAGEMENT

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

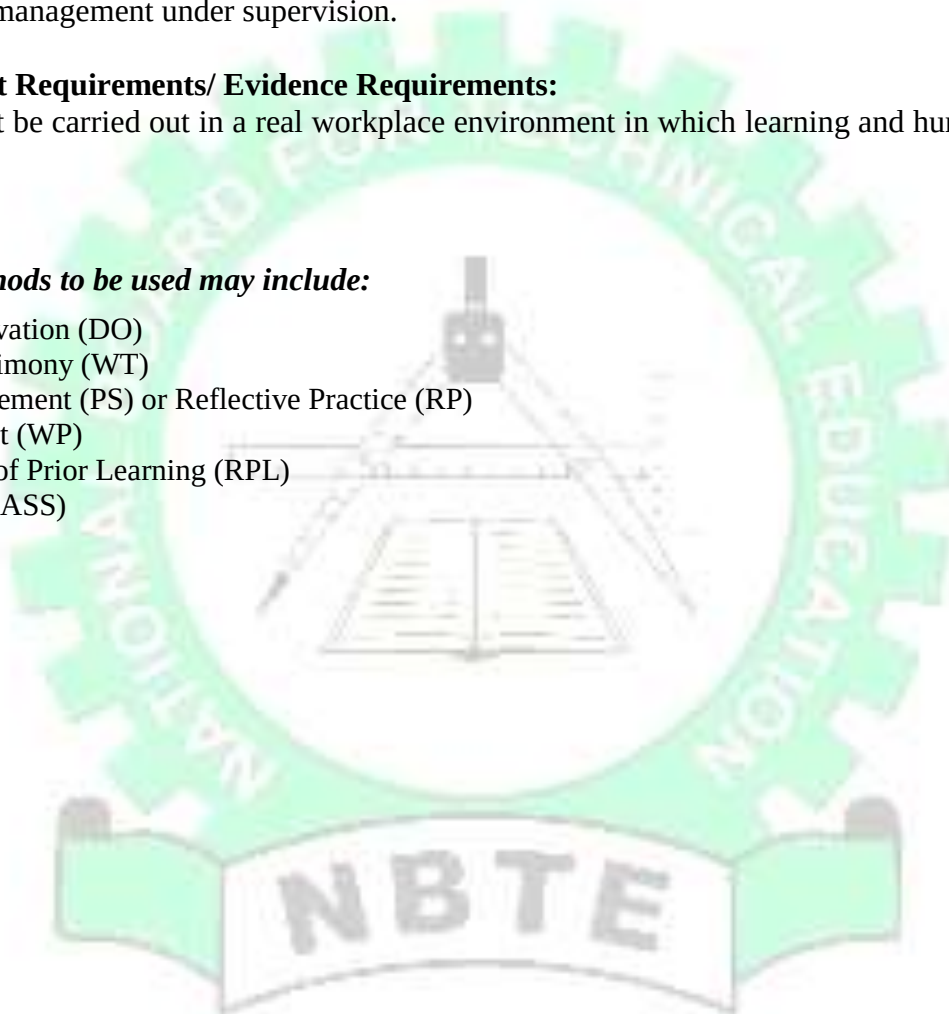
Unit Purpose: This unit is designed to equip the learner with the basic skills required to assist in nursery preparation and management under supervision.

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: NURSERY PREPARATION AND MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page
The learner will:		The learner can:						
LO 1: Identify nursery site and materials	1.1	Identify a suitable area for nursery establishment						
	1.2	Identify nursery tools and materials						
	1.3	Identify planting materials used in the nursery.						
	1.4	State the importance of water supply in precision nursery management						
LO 2: Support nursery site and infrastructure setup	2.1	Clear land for nursery establishment under supervision						
	2.2	Remove debris in the nursery site						
	2.3	Assist in nursery beds, trays or containers as instructed						
	2.4	Arrange nursery materials in 2.3 above properly before sowing						
	2.5	Provide simple shade or protection for nursery area where required under supervision						
LO 3: Assist in sowing and nursery maintenance	3.1	Sow planting materials according to instruction						
	3.2	Water nursery regularly using precision tools such as drip irrigation, pressure regulators etc						
	3.3	Remove weeds from nursery area						
	3.4	Replace damaged or fallen nursery containers where necessary						
LO 4: Assist in maintaining nursery conditions under supervision.	4.1	Observe seed germination in the nursery						
	4.2	Observe signs of wilting, poor growth or pest attack						
	4.3	Count missing or poorly growing seedlings where instructed						
	4.4	Report nursery problems to the supervisor promptly						
Learner's Signature:			Date:					
Assessor's Signature:			Date:					
IQAM Signature (if sampled))			Date:					
EQAM Signature (if sampled)			Date:					

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



Unit 007: SOIL IDENTIFICATION AND TESTING USING PRECISION TOOLS

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

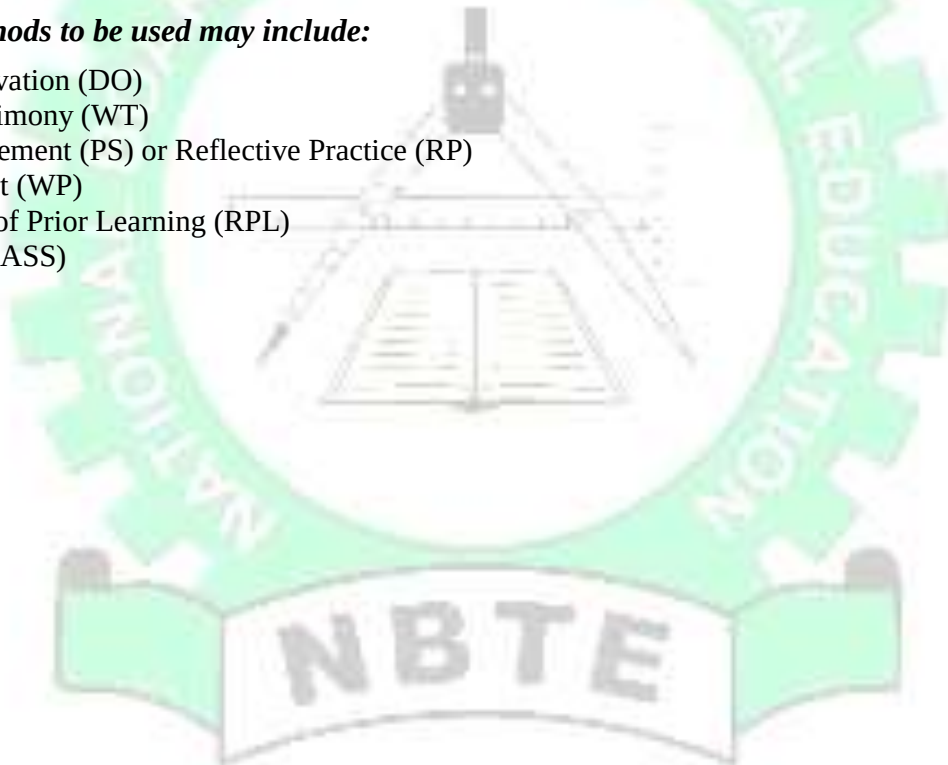
Unit Purpose: This unit is designed to equip the learner with the ability to identify common soil types and assist in simple soil testing activities.

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 IDENTIFICATION AND TESTING USING PRECISION TOOLS

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
LO 1: Identify common soil types	1.1	Identify sandy soil by simple observation			
	1.2	Identify loamy soil by simple observation			
	1.3	Identify clayey soil by simple observation			
	1.4	State one simple use of each soil type in crop production			
LO 2: Observe simple soil physical properties	2.1	Identify soil colour by observation			
	2.2	Identify soil texture by touch			
	2.3	Identify soil moisture condition by simple observation.			
	2.4	Explain the importance of good soil for crop growth and development			
LO 3: Observe soil sampling and testing procedures	3.1	Observe soil sample collection from a given location using precision tools			
	3.2	Handle soil testing materials carefully during use			
	3.3	Observe soil sample labelling			
	3.4	Observe the handing over of the collected samples to the soil lab			
	3.5	Report unusual soil condition such as waterlogging or hardpan to the supervisor			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

Unit 008: PEST AND DISEASE MANAGEMENT IN PRECISION AGRICULTURE

Unit reference number:	AGR/PAG/008/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice time:	60

Unit Purpose: This unit is designed to equip the learner with the basic ability to identify report and assist in simple pest and disease management activities under supervision.

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: PEST AND DISEASE MANAGEMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
LO 1: Identify common pest problems in the farm	1.1	Identify visible signs of pest attack in crops			
	1.2	Identify visible pest damage in livestock, fish, and apiary units			
	1.3	Observe unusual holes, feeding damage, weakness or disturbance caused by pests			
	1.4	Distinguish between healthy and pest-affected farm units by simple observation			
LO 2: Identify common diseases and stress signs	2.1	Identify visible disease and stress signs in crops			
	2.2	Identify visible disease signs in animals			
	2.3	Identify visible disease signs in fish by simple observation			
	2.4	Identify visible disease signs in bees by simple observation			
LO 3: Communicate pest and disease problems	3.1	Report pest attack or disease symptoms promptly to the supervisor			
	3.2	Report affected crop, pen, pond or hive			
	3.3	Observe recording of pest and disease incidence			
	3.4	Observe the handling of suspected diseased materials properly			
LO 4: Support simple pest and disease management operations	4.1	Assist in field disease monitoring using digital tools			
	4.2	Assist in removing affected plant parts or waste materials under supervision			
	4.3	Assist in cleaning and sanitizing affected farm areas			
	4.4	Use protective clothing during pest and disease management activities			
	4.5	Wash hands, tools and clothing after pest and disease management operations			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

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



Unit 009: BASIC PRECISION FARM MEASUREMENTS, MAPPING AND LOCATION IDENTIFICATION

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

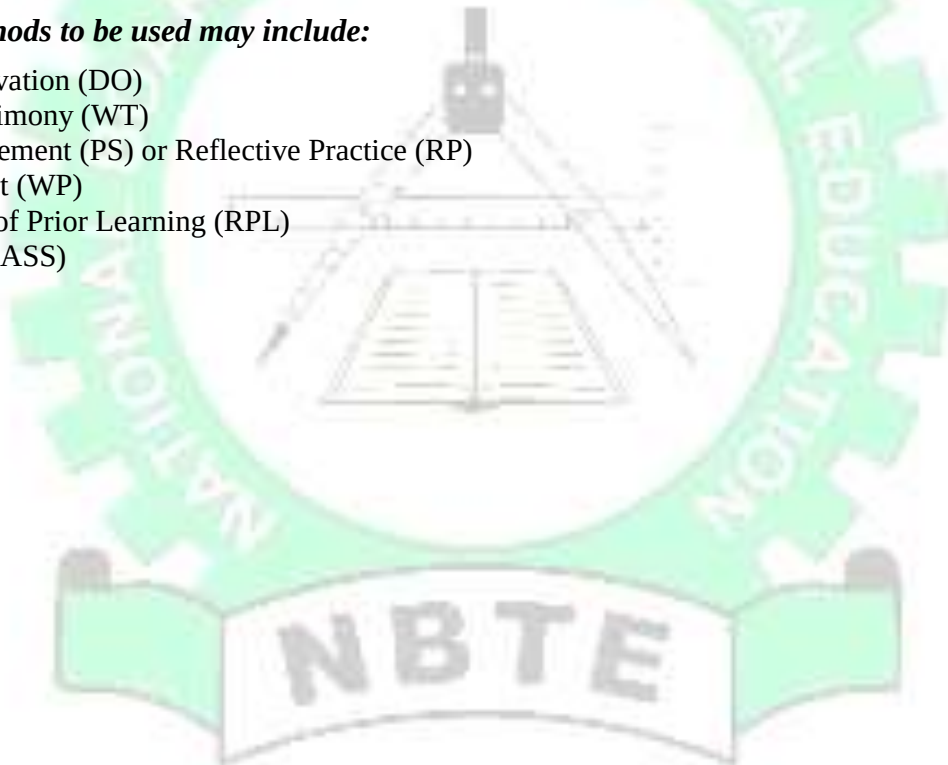
Unit Purpose: This unit is intended to develop the learner's ability to carry out simple measurements, identify farm locations and assist in basic mapping activities.

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: BASIC PRECISION FARM MEASUREMENTS, MAPPING AND LOCATION IDENTIFICATION

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Identify simple mapping tools	1.1	Identify basic mapping tools									
	1.2	Identify note books, simple farm sketches and labels used in mapping									
	1.3	Identify landmarks and signs used for location identification on the farm									
	1.4	State the use of each mapping tools									
LO 2: Carry out simple farm measurements	2.1	Measure length and width of a field using simple precision tools									
	2.2	Measure simple dimensions of animal houses, ponds and apiary sites.									
	2.3	Record measured values correctly in the appropriate format									
	2.4	Estimate simple distances between important points on the farm									
LO 3: Identify farm locations	3.1	Identify crop plots, animal houses, pens, ponds, stores and apiary sites on the farm									
	3.2	Use labels, signs and landmarks to identify farm locations									
	3.3	Follow directions to locate a particular production unit on the farm									
	3.4	Assist in marking locations for farm operations under supervision.									
LO 4: Assist in simple farm mapping	4.1	Identify simple symbols used in sketch maps or farm layouts									
	4.2	Assist in drawing a simple farm layout under supervision									
	4.3	Observe the labelling of farm production units									
	4.4	Keep simple location records for easy identification of farm units									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								

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



Unit 010: FARM INVENTORY MANAGEMENT AND STOCK SELECTION

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

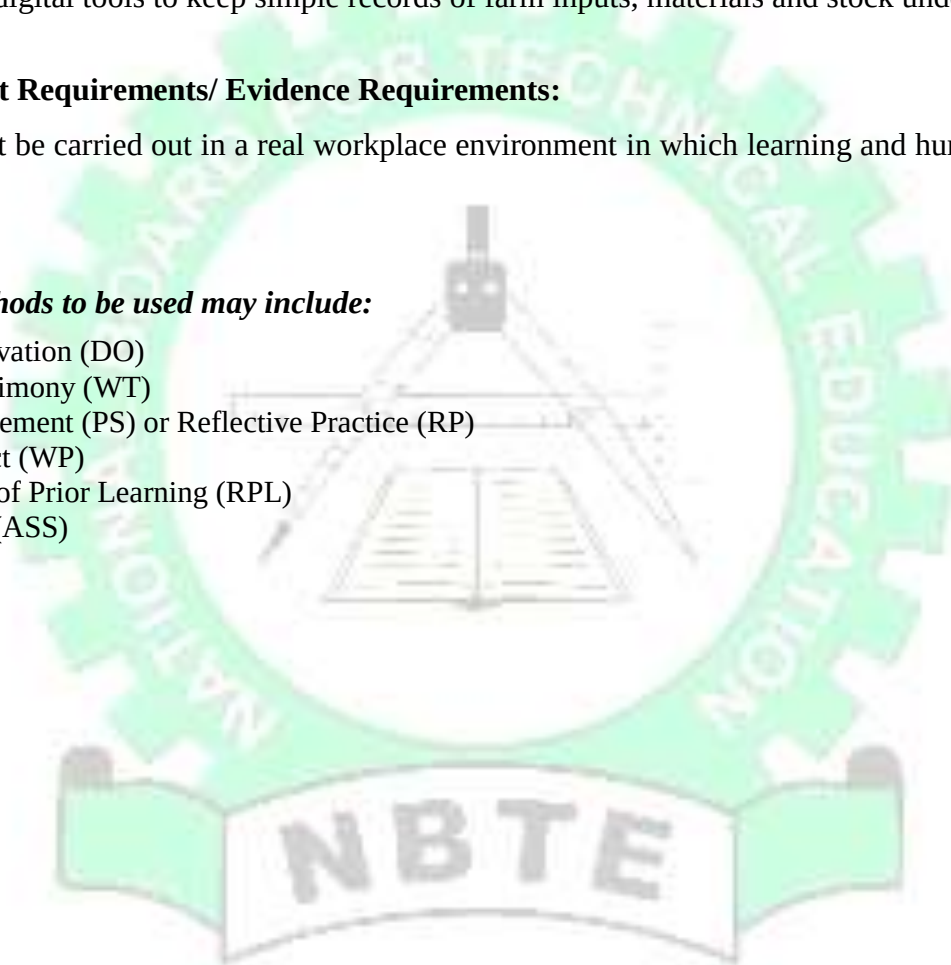
Unit Purpose: This unit is designed to equip the learner with the basic skills required to identify, count, arrange and use digital tools to keep simple records of farm inputs, materials and stock under supervision.

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: FARM INVENTORY MANAGEMENT AND STOCK SELECTION

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Farm inventory items	1.1	Identify common farm inputs such as seed, feed, and fertiliser.									
	1.2	Identify chemicals, containers, protective items and other farm materials									
	1.3	Identify storage areas for farm materials and supplies									
LO 2: Count and arrange inventory items	2.1	Count farm items correctly under supervision									
	2.2	Arrange farm items in their proper storage areas									
	2.3	Separate damaged items from usable items									
	2.4	Report missing, damaged or expired items to the supervisor									
LO 3: Select inventory stock	3.1	Identify healthy seeds, seedlings, fingerlings, and breeding stock.									
	3.2	Distinguish good stock from damaged or poor stock under supervision									
	3.3	Select stock according to instruction									
	3.4	Handle stock carefully during selection and movement									
LO 4: Maintain simple inventory and stock records	4.1	Record quantity of items received or issued in a simple stock record									
	4.2	Record date and type of stock received or selected									
	4.3	Submit inventory information to the supervisor									
	4.4	Keep stock or store area neat and organized									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								

Unit 011: BASIC USE AND CARE OF PRECISION AGRICULTURE TOOLS AND DEVICES

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

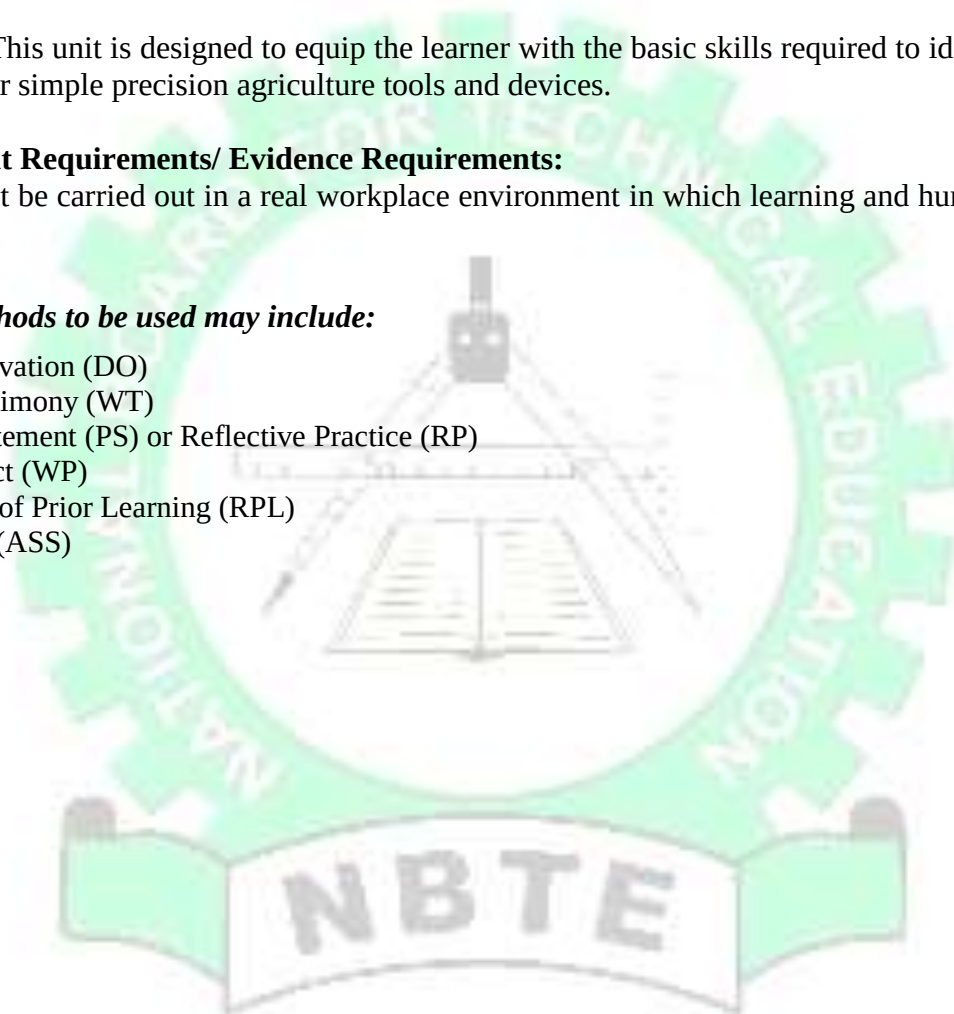
Unit Purpose: This unit is designed to equip the learner with the basic skills required to identify, use, clean, store and care for simple precision agriculture tools and devices.

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: BASIC USE AND CARE OF PRECISION AGRICULTURE TOOLS AND DEVICES

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
LO 1: Identify basic precision agriculture tools and devices	1.1	Identify simple digital tools used in crop, animal, aquaculture and apiculture operations.			
	1.2	Match the listed tools and devices with their corresponding uses			
	1.3	Identify damaged or unsafe tools and devices			
LO 2: Use simple precision tools and devices correctly	2.1	Use simple precision measuring tools according to instruction			
	2.2	Record simple values displayed by tools and devices			
	2.3	Handle tools and devices carefully during use			
	2.4	Use precision tools and devices only for approved tasks			
LO 3: Manage precision tools and devices	3.1	Clean tools and devices after use			
	3.2	Dry tools and devices where necessary after cleaning			
	3.3	Store tools and devices in designated places			
	3.4	Protect tools and devices from water, dust, excessive heat and damage			
LO 4: Report faulty precision tools and devices	4.1	Report damaged or malfunctioning tools promptly			
	4.2	Keep tools and devices out of unsafe places			
	4.3	Avoid misuse of tools and devices			
	4.4	Follow simple instructions for charging and storing portable devices			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

Unit 012: **WATER MANAGEMENT, SANITATION AND BIOSECURITY
IN PRECISION AGRICULTURE**

Unit reference number:	AGR/PAG/012/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice time:	60

Unit Purpose: This unit is designed to equip the learner with the basic knowledge and skills required to maintain clean water systems, sanitation and biosecurity standards in precision agriculture 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. 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 012: WATER MANAGEMENT, SANITATION AND BIOSECURITY IN PRECISION AGRICULTURE

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Identify water needs and water sources in farm operations	1.1	Identify water sources used in crop, animal, aquaculture and apiculture operations									
	1.2	Identify water need of farm livestock and crop using precision tools									
	1.3	State the importance of clean water in farm production									
	1.4	Identify water containers, drinkers, pipes, tanks or simple water storage facilities.									
	1.5	Recognize dirty or contaminated water by simple observation									
LO 2: Carry out basic sanitation activities	2.1	Clean simple farm tools, equipment and work areas after use									
	2.2	Maintain cleanliness of animal pens, pond surroundings, crop handling areas and apiary surroundings									
	2.3	Dispose waste according to farm procedure									
	2.4	Prevent contamination of feed, water, harvested produce and equipment									
LO 3: Observe simple biosecurity procedures	3.1	Use hand washing, footbath and restricted movement procedures									
	3.2	Clean boots, clothing and tools before entering sensitive farm areas									
	3.3	Follow farm rules for movement between crop, animal, pond and apiary units									
	3.4	Report disease outbreak suspicion, unusual mortality or contamination promptly									
LO 4: Maintain hygiene in precision agriculture operations	4.1	Maintain personal cleanliness before and after farm operations									
	4.2	Keep water handling equipment clean									
	4.3	Avoid mixing dirty materials with clean materials or farm produce									
	4.4	Follow hygiene instructions during routine work activities									
Learner's Signature:			Date:								

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		



Unit 013: IDENTIFICATION AND SIMPLE ASSEMBLY OF BEEHIVE COMPONENTS

Unit reference number:	AGR/PAG/013/L1
NSQ level:	1
Credit value:	2
Guided learning hours:	20
Practice time:	60

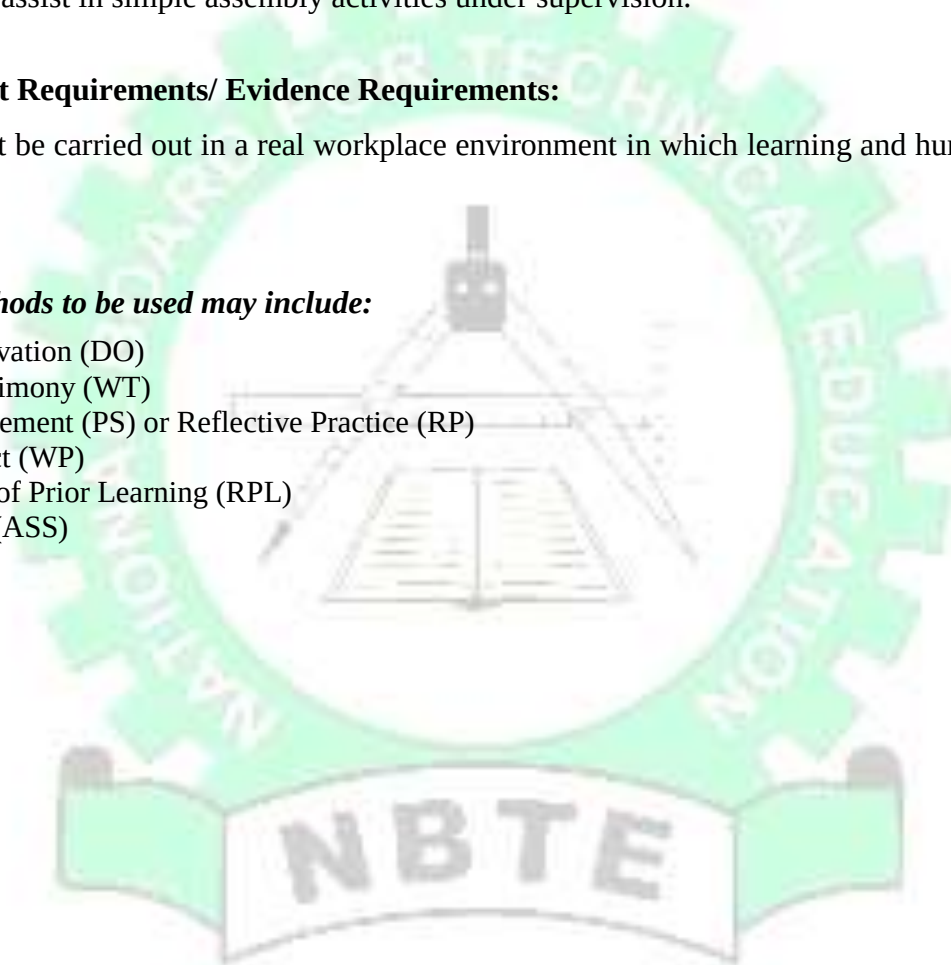
Unit Purpose: This unit is designed to equip the learner with the basic skills required to identify beehive components and assist in simple assembly activities under supervision.

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 013: IDENTIFICATION AND SIMPLE ASSEMBLY OF BEEHIVE COMPONENTS

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
LO 1: Identify common hive types and hive components	1.1	Identify common hive types			
	1.2	Identify basic hive components such as hive body, cover, stand and entrance			
	1.3	State the function of basic hive components			
LO 2: Identify tools and materials used in hive assembly	2.1	Identify simple tools used in beehive assembly			
	2.2	Identify wood, nails, wire mesh and other materials used for hive preparation			
	2.3	State the uses of the identified tools and materials			
	2.4	Arrange tools and materials properly before work begins			
LO 3: Support simple beehive assembly activities	3.1	Take measurements of beehive components using simple tools under supervision.			
	3.2	Prepare beehive components for assembly under supervision.			
	3.3	Assemble beehive components using approved methods under supervision.			
	3.4	Place assembled beehive units in designated locations.			
LO 4: Observe safety and care of materials during hive assembly	4.1	Handle assembly tools safely during hive work			
	4.2	Use protective clothing where required during hive assembly activities			
	4.3	Keep tools and materials properly after use			
	4.4	Report damaged tools or poorly assembled hive parts to the supervisor			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

NATIONAL SKILLS QUALIFICATION (NSQ)

LEVEL 2

PRECISION AGRICULTURE

JUNE 2026



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals seeking to develop a career in **PRECISION AGRICULTURE** at the NSQ Level 2. It is aimed at producing **Precision Agriculture Operative** capable of performing precision agriculture tasks under minimal supervision, using digital tools, mobile applications, GPS devices, and basic sensors to improve farm productivity and sustainability.

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

QUALIFICATION PURPOSE

The NSQ Level 2 Precision Agriculture qualification is designed for the job roles of a Precision Agriculture Operative, Farm Assistant, Field Scout, Agricultural Data Enumerator, and General Farm Operative in the agricultural sector.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least sixteen (16) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Completion of level 1 precision agriculture NSQ or relevant field experience
- Other nationals should present International passport, residence permit or Parent work permit.
- Vetted
- Ability to carry out routine practical tasks with minimal supervision.

QUALIFICATION OBJECTIVES

Learners will develop competencies to carry out routine precision agriculture operations using basic tools and simple digital systems under supervision

1. Apply safe work practices to maintain a safe and healthy precision agriculture workplace.
2. Demonstrate effective and accurate communication using appropriate oral, written, and digital methods in agricultural workplaces.
3. Collaborate effectively and work productively as a member of agricultural teams.
4. Produce and manage horticultural crops using recommended agricultural practices.
5. Establish, manage, and harvest arable crops using good agricultural practices.
6. Establish, manage, and maintain tree crop plantations for sustainable production.
7. Identify and control weeds using integrated and environmentally sustainable practices.
8. Apply precision agriculture technologies and management practices to improve the productivity, health, welfare, and sustainability of small ruminant systems.

9. Apply precision agriculture technologies and management practices to enhance the productivity, health, reproduction, welfare, and sustainability of large ruminant systems.
10. Collect, record, manage, and utilize agricultural data for informed decision-making.
11. Inspect, maintain, and safely operate basic smart farm equipment and tools.
12. Monitor crop performance, identify field problems, and record observations to support timely farm management decisions.
13. Prepare and implement appropriate poultry feeding practices for optimum productivity.
14. Brood, rear, and manage poultry using recommended husbandry practices.
15. Install, manage, and maintain beehives for sustainable apiculture production.

ENTRY REQUIREMENTS

The entry requirement into this qualification shall be any of the following:

1. Completion of basic education / junior secondary education;
2. Ability to read, write and communicate at a functional level;
3. Interest in agricultural production and related support operations;



NATIONAL SKILLS QUALIFICATION (NSQ) TABLE

Mandatory Units

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Practice Hours	Remark
1.	AGR/PAG/001/L2	Work Safely in Precision Agriculture Environment	1	10	30	Mandatory
2.	AGR/PAG/002/L2	Communicate Effectively in Precision Agriculture	1	10	30	Mandatory
3.	AGR/PAG/003/L2	Team Work in Precision Agriculture	1	10	30	Mandatory
4.	AGR/PAG/004/L2	Horticultural Crop Production	3	30	90	Mandatory
5.	AGR/PAG/005/L2	Arable Crop Production	3	30	90	Mandatory
6.	AGR/PAG/006/L2	Tree Crop Plantation Management	3	30	90	Mandatory
7.	AGR/PAG/007/L2	Integrated Weed Management	3	30	90	Mandatory
8.	AGR/PAG/008/L2	Small Ruminant Production Using Precision Agriculture	3	30	90	Mandatory
9.	AGR/PAG/009/L2	Large Ruminant Production Using Precision Agriculture	3	30	90	Mandatory
10.	AGR/PAG/010/L2	Agricultural Data Collection and Recording	3	30	90	Mandatory
11.	AGR/PAG/011/L2	Maintenance of Smart Farm Equipment	3	30	60	Mandatory
12.	AGR/PAG/012/L2	Crop Monitoring and Field Scouting	3	30	90	Mandatory
TOTAL			30	300	870	
Optional Unit						
13.	AGR/PAG/013/L2	Poultry Feed and Feeding Practices	2	20	60	Optional
14.	AGR/PAG/014/L2	Poultry Brooding and Rearing	2	20	60	Optional
15.	AGR/PAG/015/L2	Beehive Installation	2	20	60	Optional

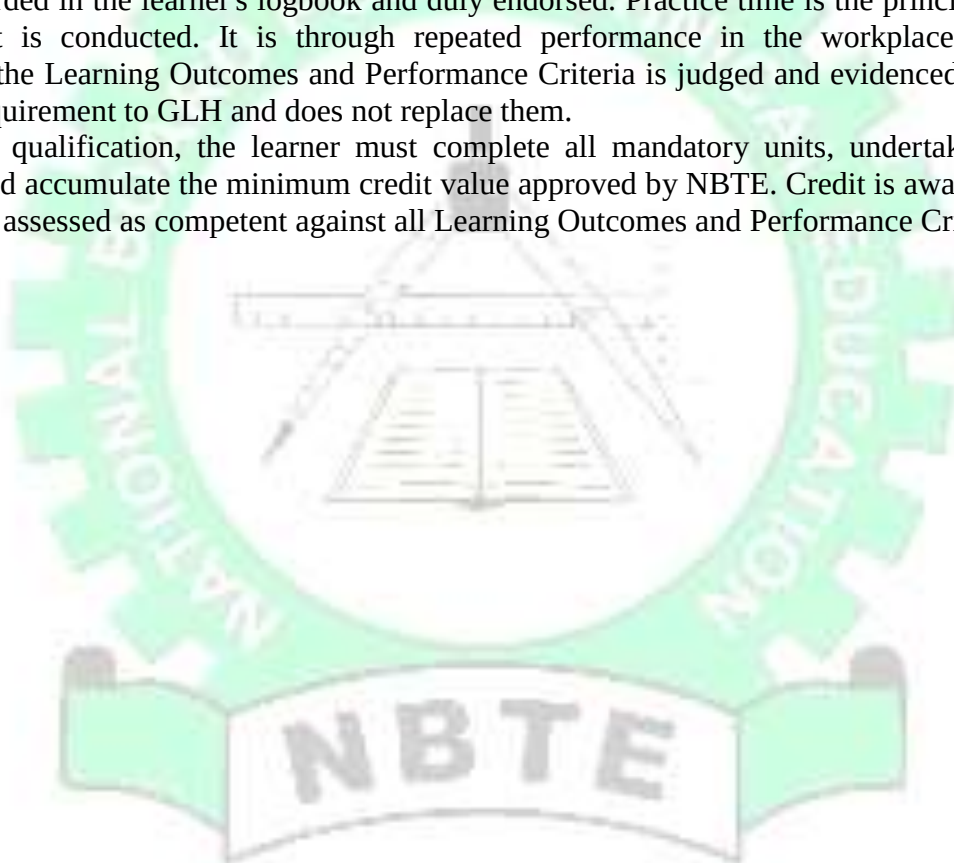
		and Management				
TOTAL			6	60	180	

QUALIFICATION STRUCTURE

This qualification comprises a total of fifteen (15) Mandatory and Optional Units, with a credit value of **6** and **60** 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.

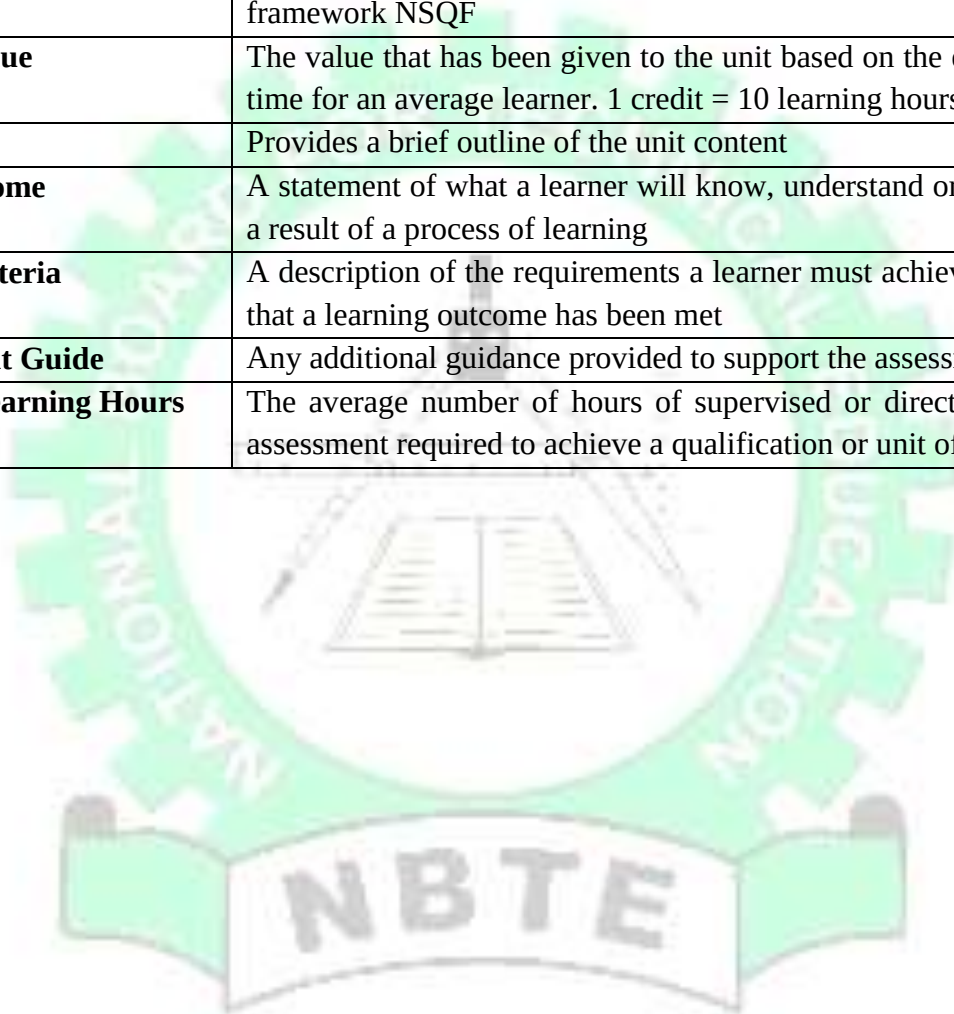
In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, 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 Guide	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: Work Safely in Precision Agriculture Environment**Unit Reference Number:** AGR/PAG/001/L2**NSQ Level:** 2**Credit Value:** 1**Guided Learning Hours:** 10**Practice time:** 30

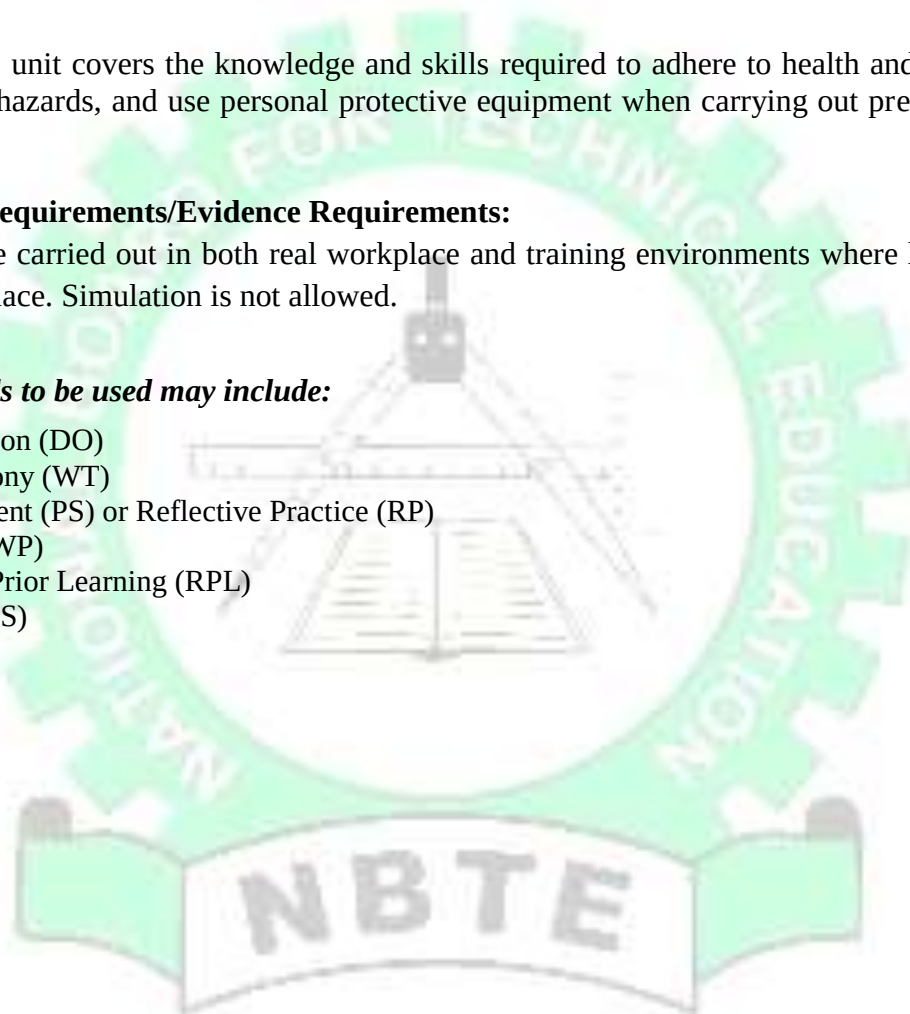
Unit Purpose: This unit covers the knowledge and skills required to adhere to health and safety practices, identify workplace hazards, and use personal protective equipment when carrying out precision agriculture activities.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments where learning and skill development take place. Simulation is not allowed.

Assessment methods to be used may include:

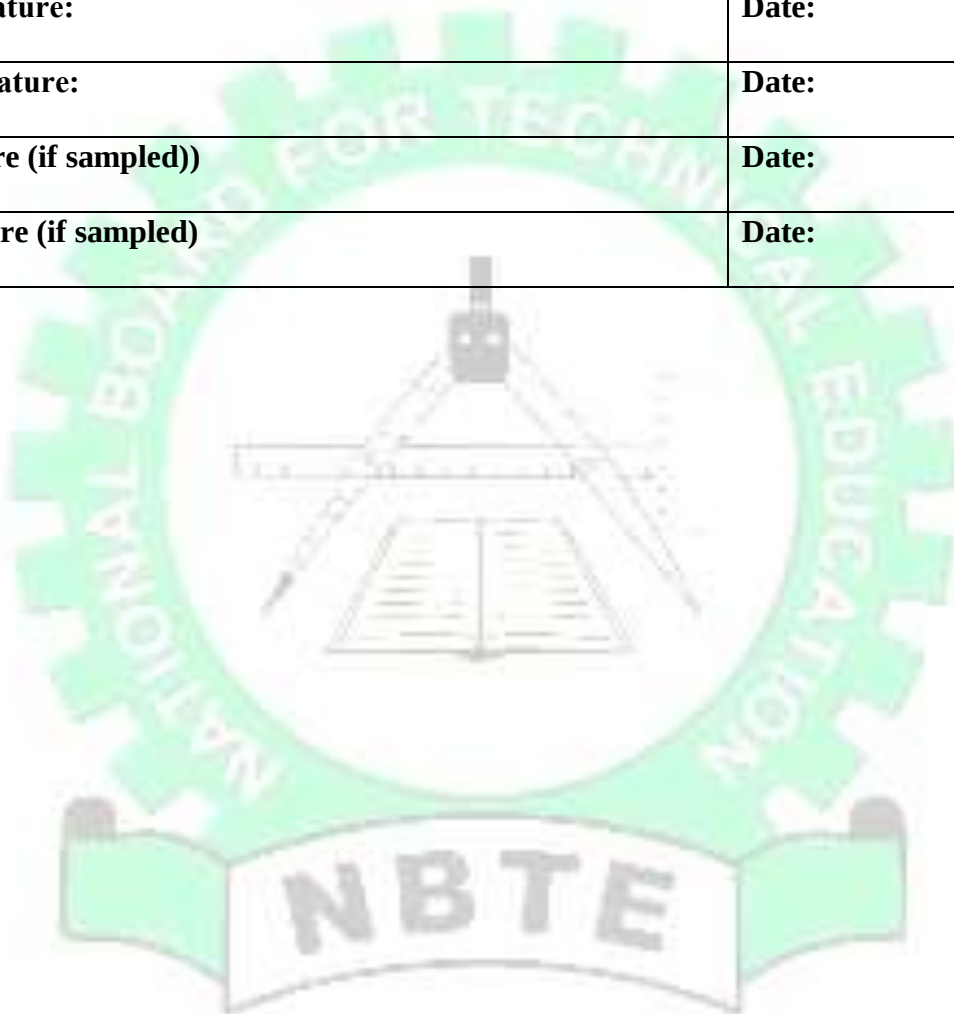
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 001: WORK SAFELY IN PRECISION AGRICULTURE ENVIRONMENT

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Describe safe work practices in precision agriculture	1.1	Explain the importance of following safety rules when using farm tools and digital devices			
	1.2	Identify safety signs and symbols found in farm workplaces			
	1.3	Demonstrate safe handling of farm tools and equipment			
	1.4	Follow supervisor's safety instructions when carrying out tasks			
LO 2: Describe workplace hazards	2.1	Describe common hazards in the farm environment			
	2.2	Identify hazards related to using electronic devices			
	2.3	Report hazards to the supervisor immediately			
	2.4	Follow safety standards when working with farm chemicals and fertilisers			
LO 3: Use appropriate Personal Protective Equipment (PPE)	3.1	Identify different types of PPE needed for farm work			
	3.2	Select the correct PPE for each task			
	3.3	Use PPE correctly			
	3.4	Clean PPE after use			
	3.5	Store PPE after use			
LO 4: Respond to accidents and emergencies	4.1	Locate the first aid kit and emergency contact numbers			
	4.2	Use basic first aid materials for minor injuries			
	4.3	Report any accident or injury to the supervisor			
	4.4	Follow emergency evacuation routes and procedures			
LO 5: Maintain a clean and safe work environment	5.1	Use tools and equipment safely			
	5.2	Return tools, equipment, and unused materials to proper storage			
	5.3	Carry out general housekeeping of the work area			
	5.4	Dispose of waste materials properly			
	5.5	Clean equipment according to health and safety practices			
LO 6: Apply safe lifting and	6.1	Identify correct lifting techniques for different loads			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.			
The learner will:		The learner can:									
<i>stacking techniques</i>	6.2	Demonstrate safe lifting of materials without assistance									
	6.3	Describe safe lifting and loading techniques with mechanical assistance									
	6.4	Stack materials safely and securely									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled))			Date:								
EQAM Signature (if sampled)			Date:								



UNIT 002: Communicate Effectively in Precision Agriculture**Unit Reference Number:** AGR/PAG/002/L2**NSQ Level:** 2**Credit Value:** 1**Guided Learning Hours:** 10**Practice time:** 30

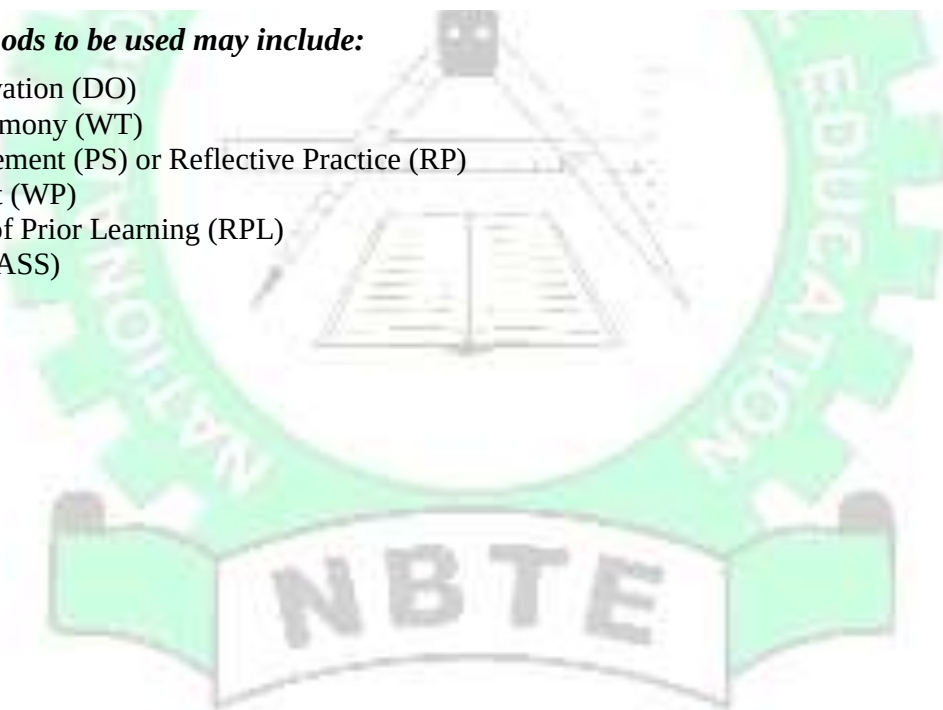
Unit Purpose: This unit covers the knowledge and skills required to communicate effectively in a precision agriculture workplace, including using basic communication tools and digital devices.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments. Simulation is not allowed.

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: COMMUNICATE EFFECTIVELY IN PRECISION AGRICULTURE

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type						Evidence Ref. No.	Page
The learner will:		The learner can:								
LO 1: Use verbal and non-verbal communication in the workplace	1.1	Use spoken words to pass on necessary information to colleagues and supervisors								
	1.2	Use gestures, signs, and body language to convey information								
	1.3	Interpret symbols, signs, and colour codes used on the farm								
	1.4	Listen carefully and respond to instructions given by the supervisor								
LO 2: Communicate information in a work environment	2.1	Identify sources of information in the workplace								
	2.2	Relate effectively with colleagues and supervisors to obtain information								
	2.3	Use different information flow systems in the workplace								
	2.4	Use information gathered to avoid mistakes in work tasks								
	2.5	Report findings and observations to the supervisor								
	2.6	Use simple communication devices like mobile phones and two-way radios								
LO 3: Apply various means of communication in the workplace	3.1	Locate communication equipment in the workplace								
	3.2	Use communication equipment effectively								
	3.3	Pass information to the right person at the right time								
	3.4	Follow instructions in line with workplace ethics and culture								
LO 4: Use digital communication tools for farm work	4.1	Use a mobile phone to take photos of field conditions								
	4.2	Send text messages or voice notes to report observations								
	4.3	Use a basic farm app to record simple data								
	4.4	Share information with team members using digital tools								
Learner's Signature:			Date:							
Assessor's Signature:			Date:							
IQAM Signature (if sampled))			Date:							

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. No.	Page
The learner will:		The learner can:			
EQAM Signature (if sampled)			Date:		



UNIT 003: TEAM WORK IN PRECISION AGRICULTURE

Unit Reference Number:	AGR/PAG/003/L2
NSQ Level:	2
Credit Value:	1
Guided Learning Hours:	10
Practice time:	30

Unit Purpose: This unit covers the knowledge, skills, and understanding required to develop team spirit, work cooperatively with colleagues, and contribute effectively to team goals in a precision agriculture workplace.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real practical work environment. Simulation is not allowed.

Assessment Methods to be Used Include:

1. Observation
2. Work Product
3. Professional Discussion
4. Question and Answer



UNIT 003: Team Work in Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Develop positive working relationship with colleagues	1.1	Identify the need for developing positive working relationship with colleagues			
	1.2	Recognise the importance of treating other people with respect and courtesy			
	1.3	Assist team members when they need help			
	1.4	Report to the supervisor when a request for help is outside your responsibility			
	1.5	Communicate information to colleagues about your own work that may affect team performance			
LO 2: Take responsibility within the team	2.1	Recognise your own role and responsibilities within the team			
	2.2	Perform individual tasks in line with the team's rules and regulations			
	2.3	Participate effectively in teamwork activities			
	2.4	Share precision agriculture data and observations with team members			
LO 3: Comply with organisational policies and standards	3.1	Explain the organisational code of conduct			
	3.2	Work in line with organisational standards and procedures			
	3.3	Use the organisational code of practice in daily work			
	3.4	Adhere strictly to instructions given by management			
	3.5	Support new team members in learning farm procedures			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		

UNIT 004: HORTICULTURAL CROP PRODUCTION IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/004/L2**NSQ Level:** 2**Credit Value:** 3**Guided Learning Hours:** 30

Unit Purpose: This unit covers the knowledge and skills required to produce vegetables, fruits and ornamental crops using precision agriculture techniques, including soil preparation, planting, harvest and crop management.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Simulation is not allowed.

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: Horticultural Crop Production

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.	Page
The learner will:		The learner can:				
LO 1: Explain horticultural crop production principles	1.1	Identify common vegetables, fruits and ornamental crops				
	1.2	Explain the stages of plant growth from seed to harvest				
	1.3	Describe different propagation methods using sexual and asexual methods				
	1.4	Explain the importance of soil preparation for horticultural crops				
	1.5	Identify common pests and diseases affecting horticultural crops				
LO 2: Demonstrate soil preparation and growing areas	2.1	Test soil pH using a simple testing kit				
	2.2	Add compost or organic matter to improve soil fertility				
	2.3	Prepare raised beds or garden plots for planting				
	2.4	Level rows for planting				
	2.5	Mark rows for planting				
	2.6	Use a simple GPS or phone app to measure and mark plot boundaries				
LO 3: Establish horticultural crops	3.1	Sow seeds at the correct depth and spacing				
	3.2	Transplant seedlings into prepared beds				
	3.3	Apply inorganic fertiliser at planting time				
	3.4	Water newly planted crops correctly using precision irrigation tools such as drippers				
	3.5	Record planting dates and varieties using digital tools such as Fieldbook apps				
LO 4: Maintain horticultural crops	4.1	Apply irrigation using watering cans, hoses or drip systems				
	4.2	Apply inorganic fertiliser according to crop needs				
	4.3	Carry out weeding using hand tools or mulches				
	4.4	Prune plants where needed				
	4.5	Stake plants where needed				
	4.6	Monitor plants for pests and diseases and report findings to supervisor				
LO 5: Harvest horticultural produce	5.1	Identify signs of crop maturity and harvest readiness				
	5.2	Gather crops using correct techniques				
	5.3	Sort harvested produce by quality				

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.	Page
The learner will:		The learner can:				
	5.4	Grade harvested produce by size				
	5.5	Weigh harvest yields				
	5.6	Record harvest yields				
	5.7	Handle produce carefully for storage or market				
LO 6: Perform post-harvest handling of horticultural produce	6.1	Identify post-harvest handling requirements for horticultural produce.				
	6.2	Handle horticultural produce using appropriate post-harvest practices.				
	6.3	Sort horticultural produce according to quality standards.				
	6.4	Package horticultural produce using suitable packaging materials.				
	6.5	Store horticultural produce under recommended conditions.				
	6.6	Maintain hygiene during post-harvest operations				
Learner's Signature:			Date:			
Assessor's Signature:			Date:			
IQAM Signature (if sampled))			Date:			
EQAM Signature (if sampled)			Date:			

UNIT 005: ARABLE CROP PRODUCTION IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/005/L2**NSQ Level:** 2**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90

Unit Purpose: This unit covers the knowledge and skills required to produce field crops (cereals, root and tuber crops and legumes) using precision agriculture techniques, including soil preparation, planting, crop care, and harvesting.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Simulation is not allowed for this unit.

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 005: Arable Crop Production

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Explain arable crop production systems	1.1	Identify major arable crops grown locally			
	1.2	Explain the importance of crop rotation for soil health			
	1.3	Describe different tillage methods and their purposes			
	1.4	Explain the role of nutrients in crop growth			
	1.5	Identify common weeds, pests, and diseases in arable crops			
LO 2: Prepare land for arable crops	2.1	Clear land of weeds and crop residues			
	2.2	Till soil using the appropriate tools and machines			
	2.3	Apply manure or compost to improve soil fertility			
	2.4	Create ridges or beds for planting			
	2.5	Use GPS or phone app to mark field boundaries and rows			
LO 3: Plant arable crops using precision methods	3.1	Select appropriate seed varieties for local conditions using seed codex			
	3.2	Calibrate a seed planter for correct seeding rate			
	3.3	Plant seeds at the correct depth and spacing			
	3.4	Apply starter fertilizer dose before or at planting time			
	3.5	Record planting details (date, variety, rate, zone) using digital tools			
LO 4: Care for growing arable crops	4.1	Apply fertiliser according to crop needs and soil test results			
	4.2	Control weeds using mechanical or chemical methods			
	4.3	Monitor soil moisture using soil probes and schedule irrigation			
	4.4	Scout fields for pests and diseases			
	4.5	Report findings to supervisor			
	4.6	Keep records of crop care activities			
LO 5: Harvest arable crops using precision equipment	5.1	Identify signs of crop maturity for different crops			
	5.2	Assist with harvesting equipment such			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
		as combines harvester			
	5.3	Weigh harvest yields from different zones			
	5.4	Record harvest yields from different zones			
	5.5	Clean harvesting equipment			
LO 6: Handle arable crops using precision equipment	6.1	Identify precision equipment used for arable crop handling.			
	6.2	Operate basic precision equipment used in arable crop handling.			
	6.3	Handle arable crops using appropriate post-harvest procedures.			
	6.4	Sort arable crops according to quality requirements.			
	6.5	Dry grains properly			
	6.6	Cure roots properly			
	6.7	Store arable crops using recommended storage practices.			
	6.8	Maintain handling equipment according to instructions.			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		

UNIT 006: TREE CROP PLANTATION MANAGEMENT IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/006/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 20**Practice time:** 60

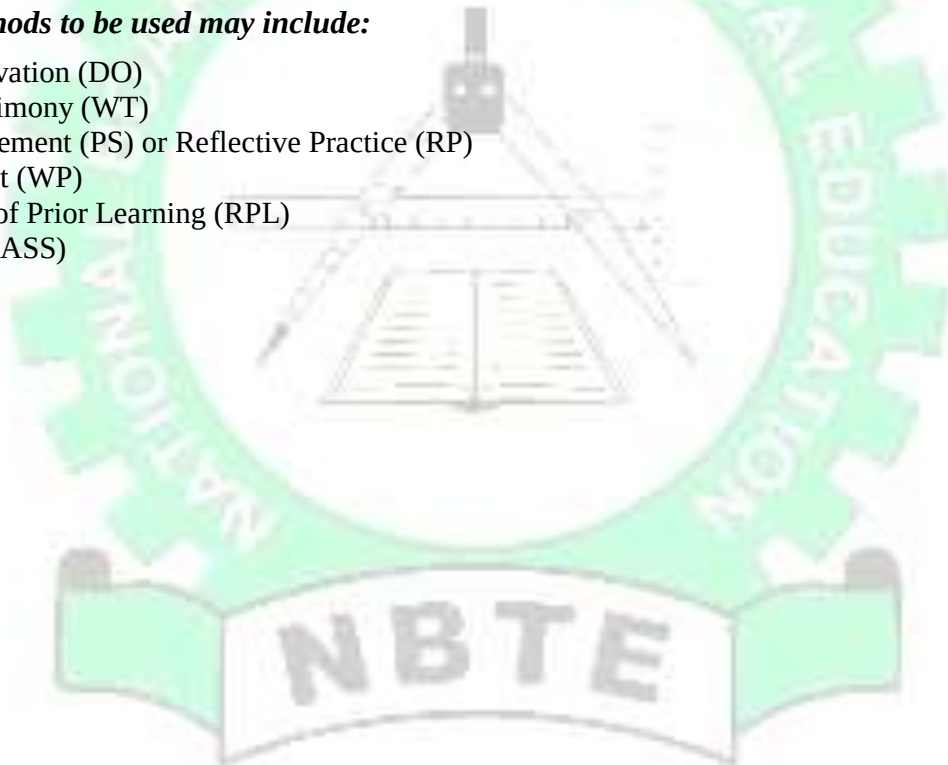
Unit Purpose: This unit covers the knowledge and skills required to establish and manage tree crop plantations (orchards) for fruits, nuts, and other tree crops using precision agriculture techniques.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Simulation is not allowed.

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: Tree Crop Plantation Management in Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Explain tree crop production principles	1.1	Identify major tree crops			
	1.2	Explain the requirements for site selection for tree crops			
	1.3	Describe different propagation methods (sexual and asexual) for tree crops			
	1.4	Explain the importance of spacing and pruning in orchards			
	1.5	Identify common pests and diseases of tree crops			
LO 2: Nursery establishment for tree crops	2.1	Select an appropriate nursery site with shade and water access			
	2.2	Prepare nursery beds with suitable growing media			
	2.3	Sow tree seeds at the correct depth and spacing			
	2.4	Care for seedlings			
	2.5	Perform propagation techniques			
	2.6	Record nursery activities and seedling growth using digital tools			
LO 3: Establish tree crop plantation	3.1	Prepare land for orchard establishment			
	3.2	Mark planting positions at appropriate spacing			
	3.3	Transplant seedlings or grafted plants			
	3.4	Apply mulch and water after transplanting			
	3.5	Use GPS or phone app to map orchard layout			
LO 4: Manage tree crop plantation	4.1	Apply fertilizer and organic matter around trees			
	4.2	Control weeds in the orchard			
	4.3	Prune young trees to develop proper shape			
	4.4	Monitor trees for pests and diseases			
	4.5	Record tree growth measurements			
LO 5: Harvest tree crops	5.1	Identify harvest maturity for different tree crops			
	5.2	Harvest fruits or nuts using correct techniques			
	5.3	Handle harvested produce carefully to avoid damage			
	5.4	Sort and grade produce by size and quality			
	5.5	Record harvest yields from different			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
		sections of the orchard			
LO 6: Perform post-harvest handling of tree crops using precision agriculture practices	6.1	Identify post-harvest handling requirements for tree crops.			
	6.2	Select appropriate tools and equipment for tree crop handling activities.			
	6.3	Handle harvested tree crops using recommended post-harvest procedures.			
	6.4	Sort harvested tree crops according to quality requirements.			
	6.5	Apply suitable storage practices for harvested tree crops.			
	6.6	Record post-harvest activities using approved farm records.			
	6.7	Identify post-harvest handling requirements for tree crops.			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled)			Date:		
EQAM Signature (if sampled)			Date:		

UNIT 007: INTEGRATED WEED MANAGEMENT IN PRECISION AGRICULTURE

Unit Reference Number:	AGR/PAG/007/L2
NSQ Level:	2
Credit Value:	2
Guided Learning Hours:	20
Practice time:	60

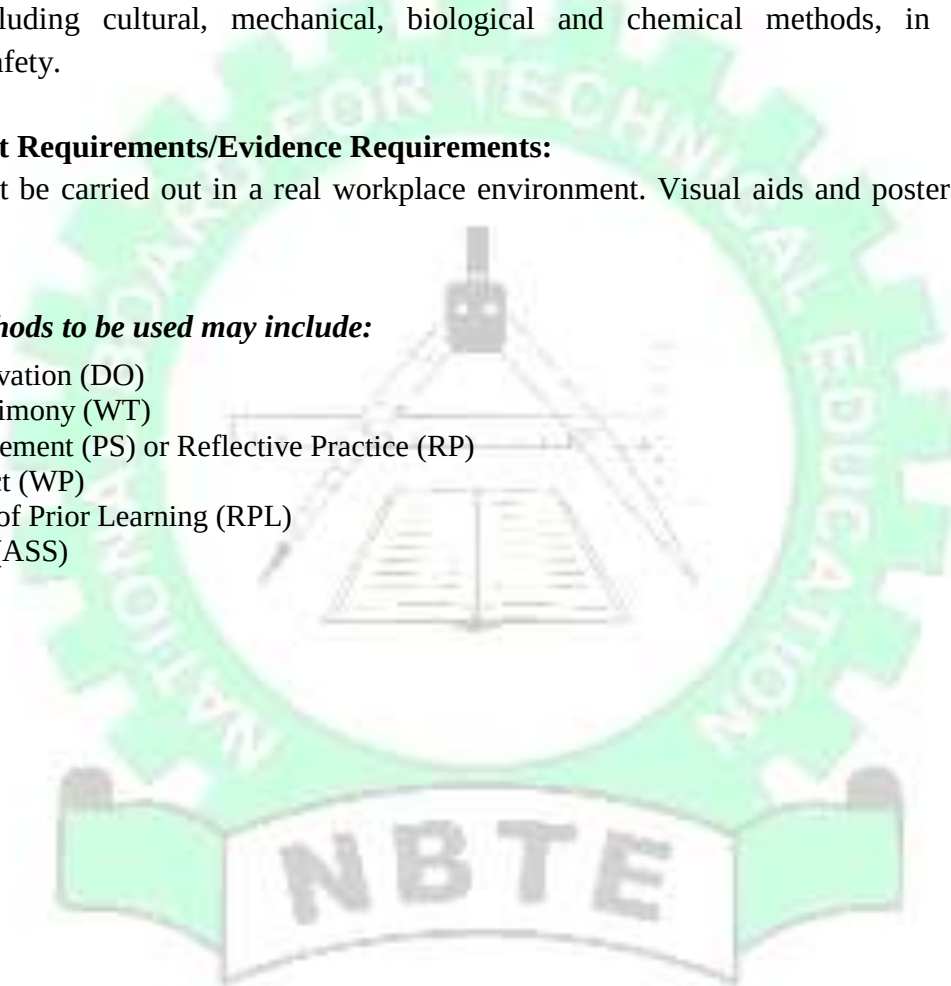
Unit Purpose: This unit covers the knowledge and skills required to manage weeds using integrated approaches, including cultural, mechanical, biological and chemical methods, in accordance with environmental safety.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Visual aids and posters may be used to support learning.

Assessment methods to be used may include:

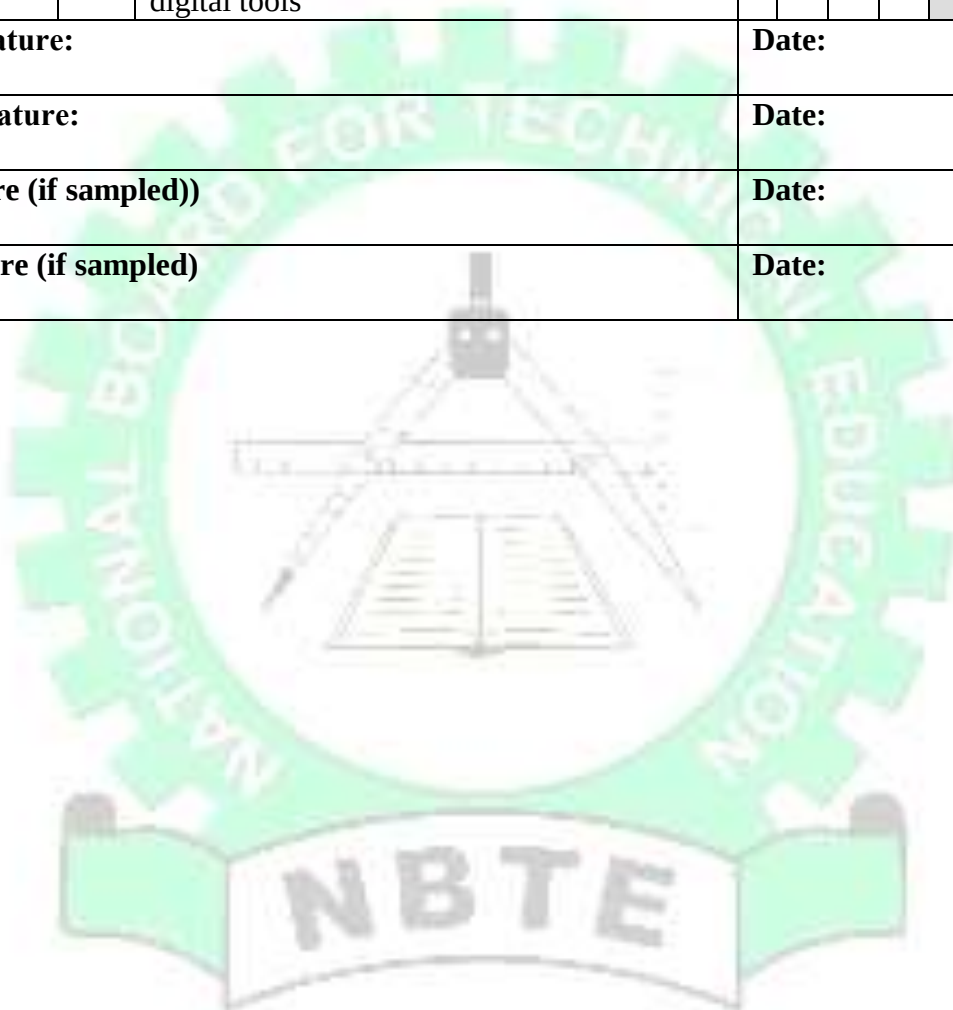
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 007: Integrated Weed Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify common weeds and describe their biology	1.1	Identify common weeds found in farms			
	1.2	Explain the life cycles of different weed types			
	1.3	Describe how weeds compete with crops for resources			
	1.4	Use a weed identification chart or app to identify weeds			
	1.5	Record weed types and densities in different field zones using digital tools			
LO 2: Apply cultural weed control methods	2.1	Explain the role of crop rotation in weed management			
	2.2	Apply mulches to suppress weeds			
	2.3	Use competitive planting to reduce weed establishment			
	2.4	Practice sanitation to prevent weed seed spread			
	2.5	Use cover crops for weed suppression where appropriate			
	2.6	Record nursery activities and seedling growth			
LO 3: Apply mechanical weed control methods	3.1	Use hand tools to remove weeds			
	3.2	Operate mechanical weeders or cultivators			
	3.3	Manage weed timely to ensure effectiveness			
	3.4	Practice shallow tillage to avoid bringing weed seeds to the surface			
	3.5	Use mowing or slashing for large weed areas			
LO 4: Apply chemical weed control methods safely	4.1	Identify different types of herbicides			
	4.2	Read herbicide labels correctly			
	4.3	Interpret herbicide labels correctly			
	4.4	Calibrate a knapsack sprayer, drones and boom sprayer for accurate application			
	4.5	Apply herbicides safely with appropriate PPE			
	4.6	Follow proper disposal procedures for herbicide containers			
LO 5: Develop integrated weed management plans	5.1	Explain the principles of integrated weed management			
	5.2	Apply the principles of integrated weed management			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.			
The learner will:		The learner can:									
	5.3	Monitor weed populations and adjust control methods as needed									
	5.4	Avoid weed resistance by integrated weed management practices									
	5.5	Record weed management activities using digital tools									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								



UNIT 008: SMALL RUMINANT PRODUCTION USING PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/008/L2**NSQ Level:** 2**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90**Unit Purpose:**

This unit covers the knowledge and skills required to manage sheep and goats using precision agriculture principles and technologies.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments.

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: Small Ruminant Production Using Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.	Page
The learner will:		The learner can:				
LO 1: Explain small ruminant production systems and precision livestock farming concepts	1.1	Identify common breeds of small ruminant animals				
	1.2	Explain the importance of sheep and goat production				
	1.3	Define precision livestock farming and its applications in small ruminant production				
	1.4	Identify digital tools used in monitoring small ruminants				
	1.5	Explain the benefits of precision technologies in improving productivity and animal welfare				
LO 2: Manage feeding and watering of small ruminants	2.1	Identify common feed resources for sheep and goats				
	2.2	Provide feed according to animal age and physiological status				
	2.3	Operate automated or semi-automated feeding and watering systems				
	2.4	Monitor feed and water intake using simple recording tools				
	2.5	Maintain cleanliness of feeding and watering equipment				
LO 3: Monitor animal health and welfare using precision tools	3.1	Identify signs of healthy and unhealthy animals				
	3.2	Record animal behaviour and movement patterns				
	3.3	Use simple digital devices or mobile applications to record health observations				
	3.4	Identify common diseases and parasites affecting animals				
	3.5	Report abnormal animal conditions promptly to supervisors or veterinarians				
LO 4: Manage housing and environmental conditions	4.1	Maintain clean and hygienic housing facilities				
	4.2	Monitor environmental conditions within animal housing				
	4.3	Use sensors or simple monitoring devices to assess temperature and humidity				
	4.4	Ensure adequate ventilation and space allowance for animals				
	4.5	Dispose of manure and waste materials				

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.	Page
The learner will:		The learner can:				
		safely				
LO 5: Record and report small ruminant production data	5.1	Record animal identification information accurately				
	5.2	Record feed consumption, health treatments, births, and mortalities				
	5.3	Use mobile devices or record sheets for data entry				
	5.4	Prepare simple digital tools for generating livestock production reports				
	5.5	Use production records to support farm management decisions				
Learner's Signature:			Date:			
Assessor's Signature:			Date:			
IQAM Signature (if sampled))			Date:			
EQAM Signature (if sampled)			Date:			

UNIT 009: LARGE RUMINANT PRODUCTION USING PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/009/L2**NSQ Level:** 2**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90**Unit Purpose:**

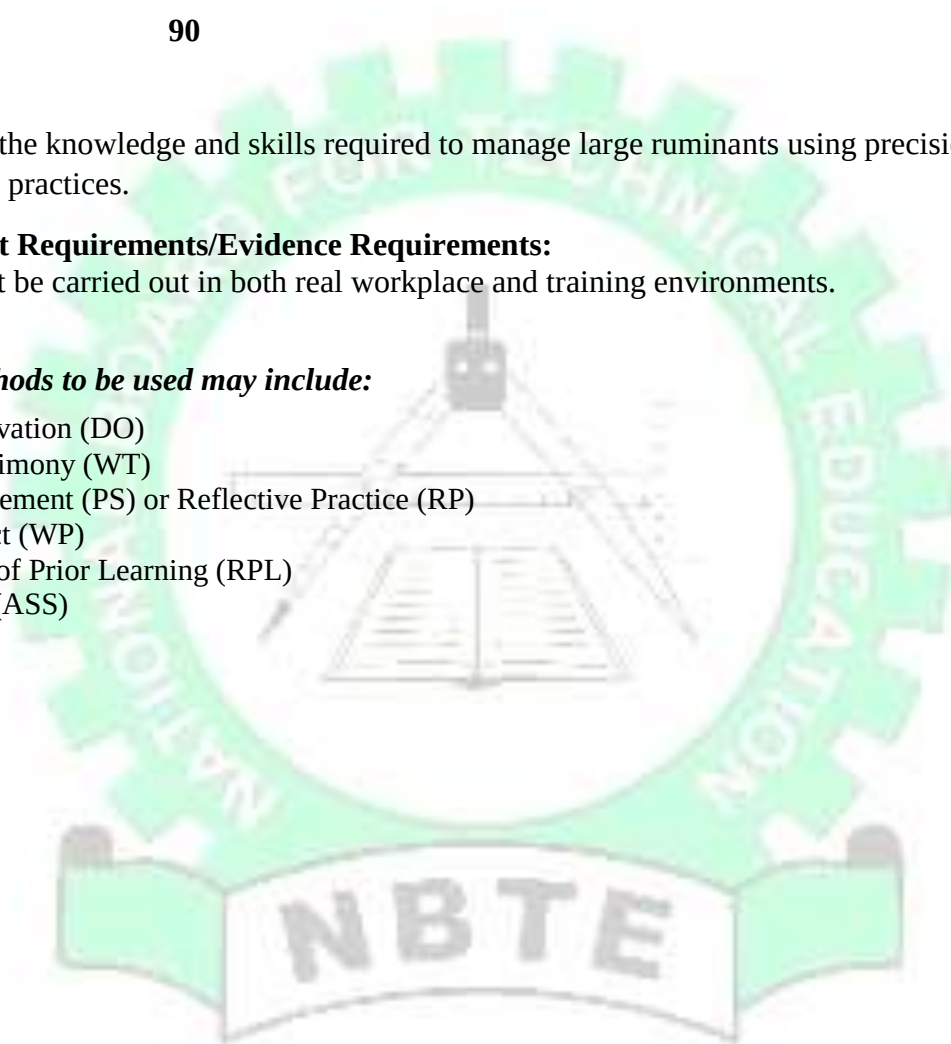
This unit covers the knowledge and skills required to manage large ruminants using precision agriculture technologies and practices.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments.

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: Large Ruminant Production Using Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. No.	Page			
The learner will:		The learner can:									
LO 1: Explain large ruminant production systems and precision livestock concepts	1.1	Identify common breeds of large ruminants									
	1.2	Explain the economic importance of large ruminant production									
	1.3	Describe principles of precision livestock farming in large ruminants									
	1.4	Identify technologies used in monitoring large ruminants									
	1.5	Explain the advantages of precision technologies in livestock management									
LO 2: Manage feeding and watering of large ruminants	2.1	Identify common feed resources for large ruminants									
	2.2	Provide feed according to production stage and animal requirements									
	2.3	Operate automated or semi-automated feeding and watering facilities									
	2.4	Monitor feed and water consumption using recording tools									
	2.5	Maintain feeding and watering facilities in hygienic condition									
LO 3: Monitor animal health, behaviour, and welfare	3.1	Identify signs of healthy and unhealthy large ruminants									
	3.2	Record animal behaviour and activity patterns									
	3.3	Use simple digital devices to monitor animal performance									
	3.4	Identify common diseases, parasites, and stress indicators in large ruminants									
	3.5	Report disease symptoms and abnormal behaviour promptly									
	3.6	Provide emergency feed (sugar syrup) after observation									
LO 4: Manage housing, grazing, and environmental conditions	4.1	Maintain clean and hygienic housing and grazing areas									
	4.2	Monitor environmental conditions affecting animal comfort									
	4.3	Use sensors or monitoring devices to assess temperature and humidity									
	4.4	Ensure adequate housing space, ventilation, and shade									
	4.5	Apply safe manure and waste management									

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. No.	Page No.
The learner will:		The learner can:				
		practices				
LO 5: Report large ruminant production data	5.1	Record animal identification and inventory data accurately				
	5.2	Record health treatments, breeding, milk yield, growth, and mortality data				
	5.3	Use digital or manual systems for livestock data entry				
	5.4	Prepare simple livestock performance reports				
	5.5	Use production records to support management decisions				
Learner's Signature:			Date:			
Assessor's Signature:			Date:			
IQAM Signature (if sampled))			Date:			
EQAM Signature (if sampled)			Date:			

UNIT 010: AGRICULTURAL DATA COLLECTION AND RECORDING IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/010/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 20**Practice time:** 60

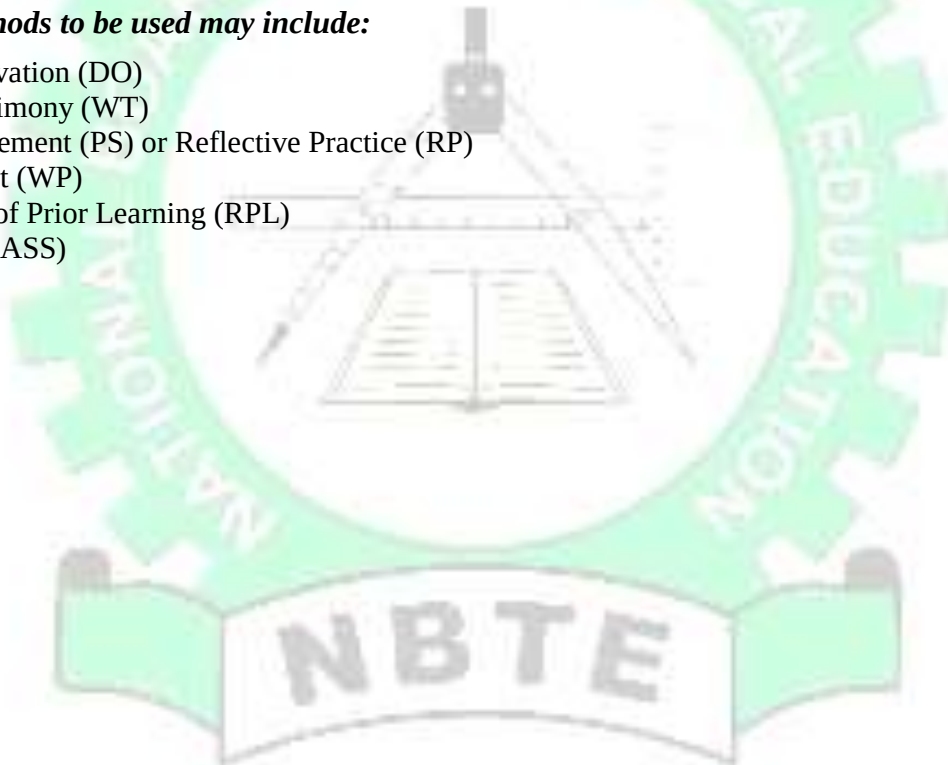
Unit Purpose: This unit covers the knowledge and skills required to collect, record, and report agricultural data using both manual and digital methods to support farm decision-making.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments.

Assessment methods to be used may include:

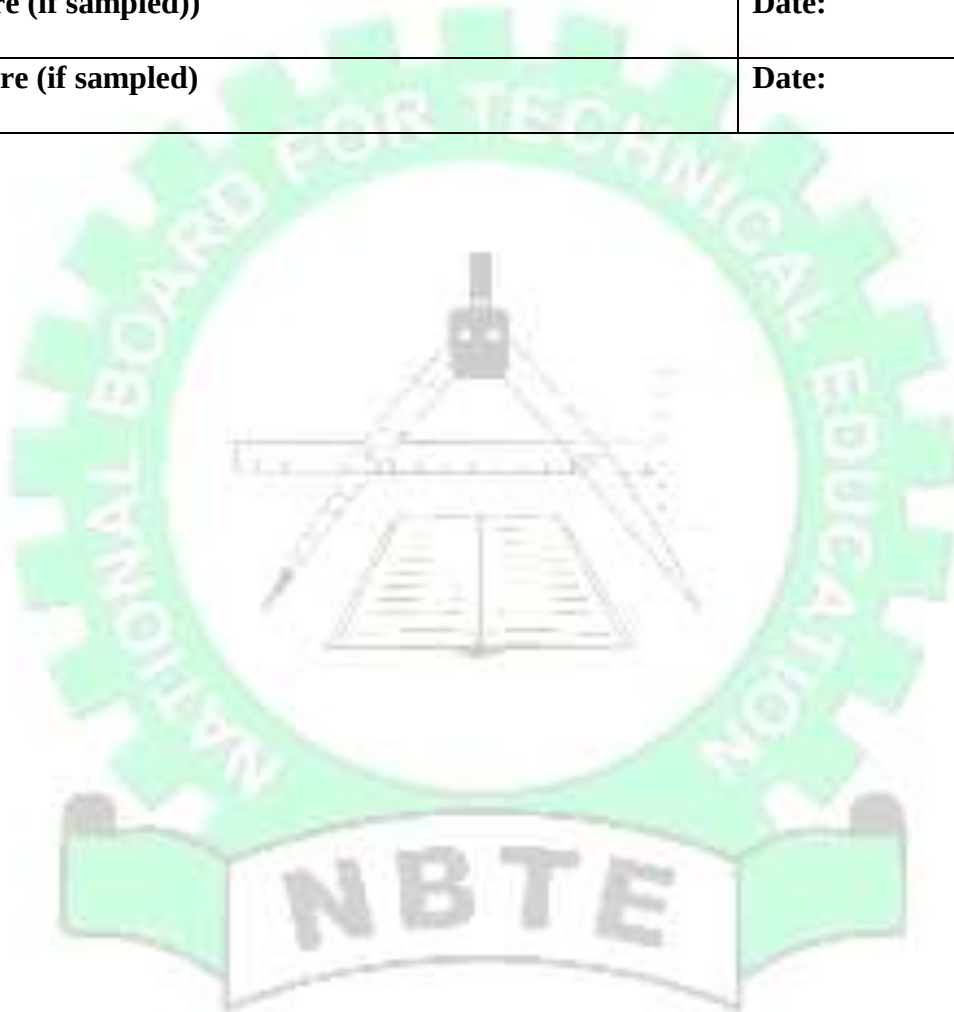
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 010: Agricultural Data Collection and Recording

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Explain the importance of agricultural data	1.1	Explain why farmers need to collect and keep records			
	1.2	Identify different types of agricultural data			
	1.3	Distinguish between quantitative and qualitative data			
	1.4	Explain how data helps farmers make better decisions			
	1.5	Identify sources of agricultural data			
LO 2: Collect field data using various tools	2.1	Use measuring tools correctly			
	2.2	Use a thermometer and rain gauge to collect weather data			
	2.3	Collect soil samples from different zones using appropriate methods			
	2.4	Conduct plant counts using appropriate methods			
	2.5	Use a smartphone to take photos and record observations			
LO 3: Record data accurately	3.1	Use a field notebook to record observations systematically			
	3.2	Label samples and data with correct information (date, location, zone)			
	3.3	Use correct units of measurement (kg, ha, litres)			
	3.4	Use a mobile app or spreadsheet for basic data entry			
	3.5	Check data for errors and correct mistakes			
LO 4: Present data accurately	4.1	Organise data into simple tables			
	4.2	Create simple charts or graphs from data			
	4.3	Calculate basic statistics			
	4.4	Prepare a simple data report for the supervisor			
	4.5	Use data to make simple recommendations			
LO 5: Use basic GPS and mapping tools for precision agriculture activities	5.1	Use a GPS device or phone app to mark field boundaries			
	5.2	Record GPS coordinates for sampling points			
	5.3	Create a simple field sketch map with data points			
	5.4	Use a mapping app such as Google Earth to view field boundaries			
	5.5	Link field observations to locations on a			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
		map			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



UNIT 011: BASIC MAINTENANCE OF SMART FARM EQUIPMENT IN PRECISION AGRICULTURE

Unit Reference Number: AGR/PAG/011/L2

NSQ Level: 2

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: This unit covers the knowledge and skills required to carry out routine inspection, cleaning, calibration, basic troubleshooting, and maintenance of smart farm equipment and digital agricultural devices.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments.

Assessment methods to be used may include:

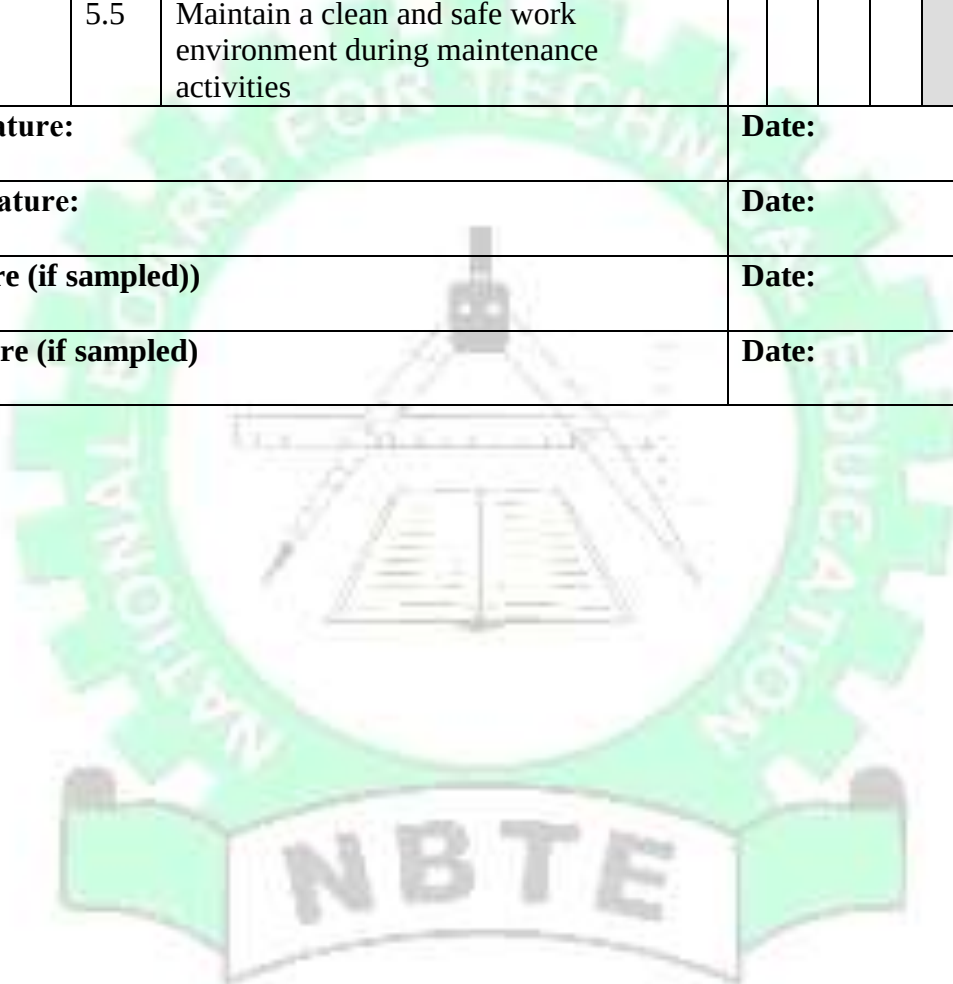
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 011: Basic Maintenance of Smart Farm Equipment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify smart farm equipment and their functions	1.1	Identify different types of smart farm equipment used in precision agriculture			
	1.2	Describe the functions of GPS devices, sensors, drones, weather stations, and mobile devices			
	1.3	Explain the importance of maintaining smart farm equipment			
	1.4	Identify common causes of equipment malfunction			
	1.5	Describe manufacturer's guidelines for equipment use and maintenance			
LO 2: Carry out routine inspection and cleaning of smart farm equipment	2.1	Inspect equipment for visible damage before and after use			
	2.2	Remove dust, dirt, and debris from sensors and electronic devices safely			
	2.3	Check cables, connectors, and batteries for wear and damage			
	2.4	Store equipment safely according to manufacturer's recommendations			
LO 3: Perform basic calibration and functionality checks	3.1	Check battery charge levels and power supply status			
	3.2	Calibrate GPS devices and sensors following supervisor's instruction			
	3.3	Verify that equipment is functioning correctly before use			
	3.4	Update software or mobile applications under supervision			
	3.5	Test equipment performance and record observations under supervision			
LO 4: Recognise equipment faults	4.1	Recognise common faults in smart farm equipment			
	4.2	Apply basic troubleshooting procedures to identify problems			
	4.3	Isolate faulty equipment to prevent further damage			
	4.4	Report equipment faults to supervisors or technicians promptly			
	4.5	Maintain records of equipment faults and maintenance activities			
LO 5: Apply safety procedures during	5.1	Wear appropriate PPE during maintenance activities			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.			
The learner will:		The learner can:									
equipment maintenance	5.2	Follow electrical and electronic safety procedures when handling equipment									
	5.3	Dispose of damaged batteries and electronic waste safely									
	5.4	Observe safe handling procedures for drones and other digital devices									
	5.5	Maintain a clean and safe work environment during maintenance activities									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled))			Date:								
EQAM Signature (if sampled)			Date:								



UNIT 012: CROP MONITORING AND FIELD SCOUTING IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/012/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 20**Practice time:** 30

Unit Purpose: This unit covers the knowledge and skills required to monitor crop growth, identify field problems, conduct field scouting activities, and record observations using precision agriculture tools to support timely farm management decisions.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in both real workplace and training environments.

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 012: Basic Crop Monitoring and Field Scouting

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Explain the principles of crop monitoring and field scouting	1.1	Explain the importance of crop monitoring in agricultural production			
	1.2	Define field scouting and its role in precision agriculture			
	1.3	Identify different crop growth stages for selected crops			
	1.4	Explain how crop monitoring supports timely farm decision-making			
	1.5	Identify factors affecting crop growth and development			
LO 2: Conduct field scouting activities	2.1	Prepare field scouting materials and equipment before field visits			
	2.2	Follow a field scouting pattern during field inspection			
	2.3	Observe crop establishment and plant population			
	2.4	Identify visible symptoms of crop stress during scouting			
	2.5	Use smartphones or other digital tools to capture field observations			
LO 3: Identify common crop problems using precision tools	3.1	Identify common insect pests affecting crops			
	3.2	Identify symptoms of major crop diseases			
	3.3	Recognise common weed species present in crop fields			
	3.4	Identify symptoms of nutrient deficiencies and toxicities in crops			
	3.5	Distinguish between biotic and abiotic causes of crop damage			
LO 4: Report field observations	4.1	Record crop observations systematically in a field notebook or digital device			
	4.2	Document pest, disease, and weed incidence using standard formats			
	4.3	Label observations with date, location, and crop stage			
	4.4	Prepare a simple field scouting report for a supervisor			
	4.5	Communicate field observations accurately			
LO 5: Use precision tools in crop	5.1	Use a smartphone or tablet to record field observations			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
<i>monitoring</i>	5.2	Use a GPS device or mobile application to identify scouting locations			
	5.3	Capture geo-referenced photographs of crop conditions using precision tools			
	5.4	Use simple digital applications to store and retrieve scouting data			
	5.5	Link field observations to specific locations within a field			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		

UNIT 013: POULTRY FEED AND FEEDING PRACTICES IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/013/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 60

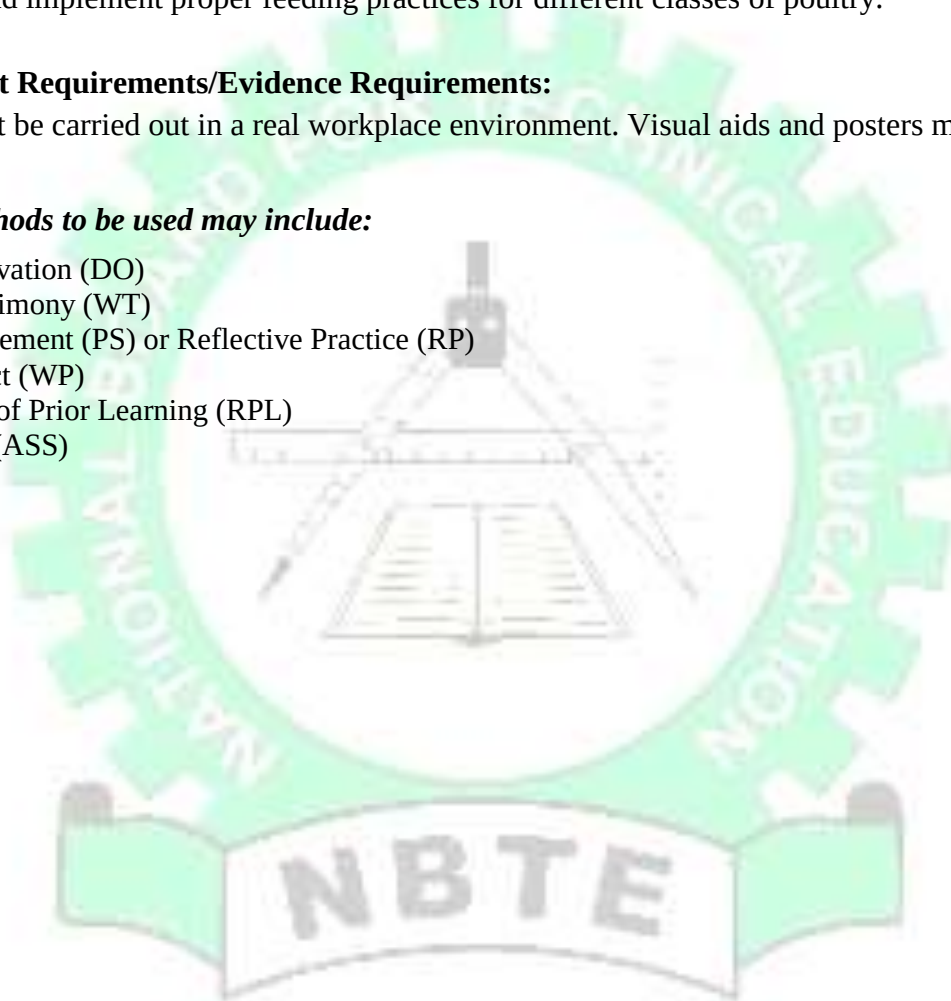
Unit Purpose: This unit covers the knowledge and skills required to understand poultry nutrition, select and prepare feeds, and implement proper feeding practices for different classes of poultry.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Visual aids and posters may be used to support learning.

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 013: Poultry Feed and Feeding Practices

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify poultry nutritional requirements	1.1	Identify the main nutrients needed by poultry			
	1.2	Explain the different feed requirements for poultry			
	1.3	Identify common feed ingredients			
	1.4	Recognise signs of nutritional deficiencies in poultry			
	1.5	Explain the importance of clean water for poultry			
LO 2: Prepare poultry feeds	2.1	Measure feed ingredients accurately			
	2.2	Prepare appropriate feed for different classes of birds under supervision			
	2.3	Identify different feed forms			
	2.4	Mix simple rations using available ingredients under supervision			
	2.5	Store feed properly to prevent spoilage and rodent damage			
LO 3: Implement proper feeding practices	3.1	Place feeders at the correct level for different bird ages			
	3.2	Fill feeders at the correct height for different bird ages			
	3.3	Follow correct feeding schedules for different classes of poultry			
	3.4	Calculate daily feed requirements for a flock			
	3.5	Measure feed consumption and record intake			
	3.6	Clean feeders and drinkers regularly			
LO 4: Monitor feed efficiency and bird performance	4.1	Monitor feed intake and bird weight gain using digital tools			
	4.2	Identify factors affecting feed intake			
	4.3	Adjust feeding practices based on bird performance			
	4.4	Keep records of feed use and costs using digital tools			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
EQAM Signature (if sampled)			Date:		



UNIT 014: POULTRY BROODING AND REARING IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/014/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 20**Practice time:** 60

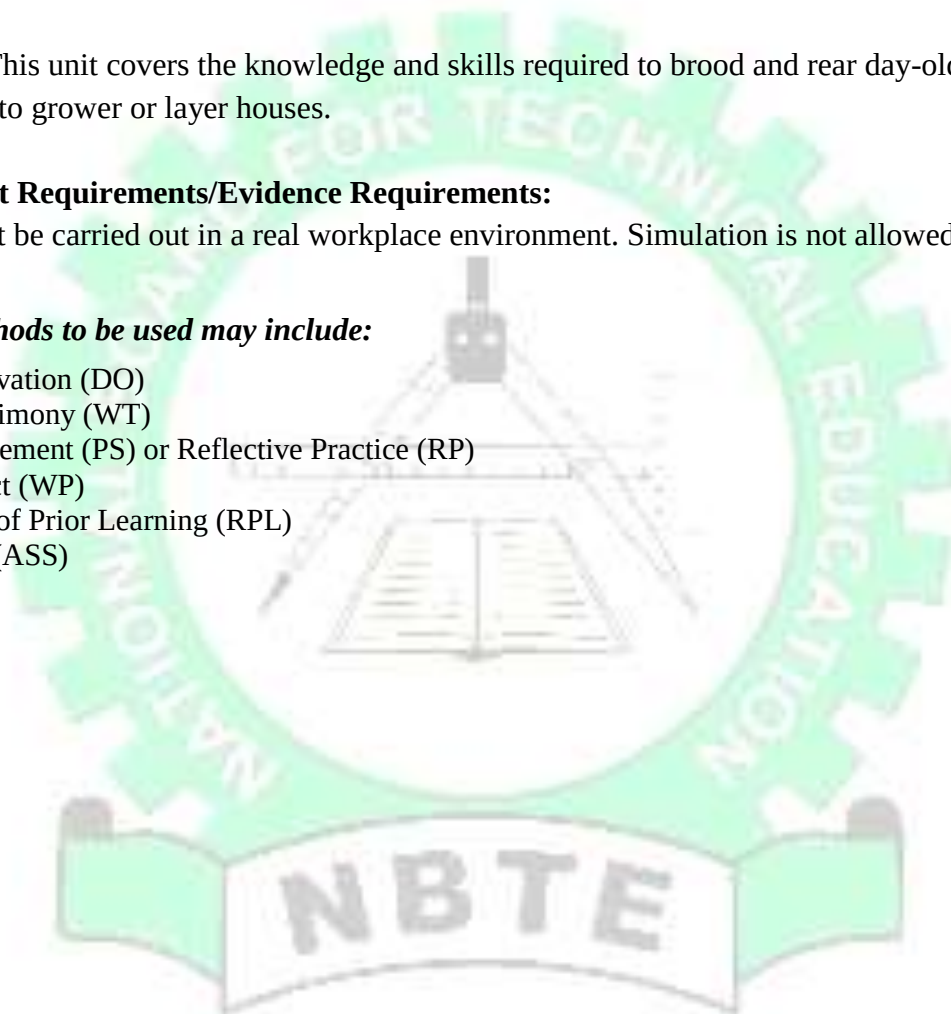
Unit Purpose: This unit covers the knowledge and skills required to brood and rear day-old chicks to the point of transfer to grower or layer houses.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Simulation is not allowed.

Assessment methods to be used may include:

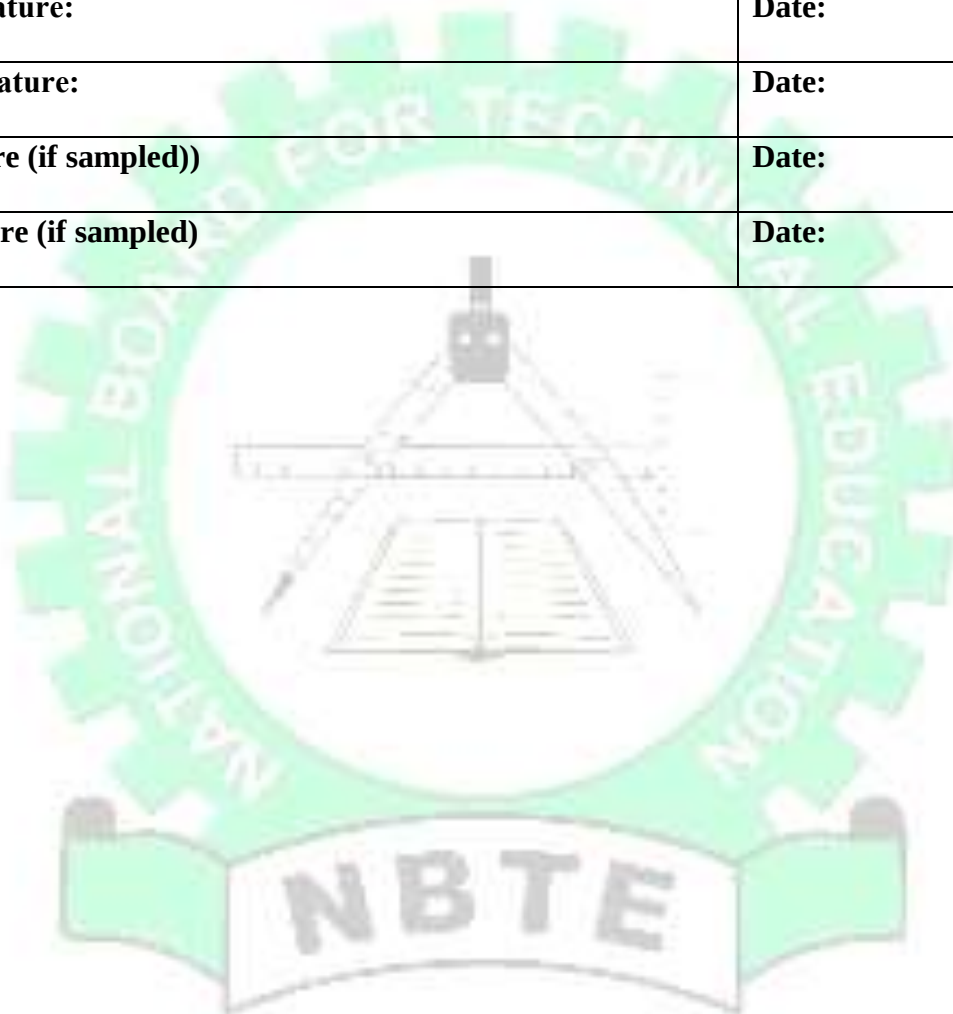
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 014: Poultry Brooding and Rearing

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: Explain brooding requirements	1.1	Explain the importance of brooding for day-old chicks								
	1.2	Describe an ideal brooder environment								
	1.3	Identify brooding equipment								
	1.4	Explain the temperature requirements for chicks								
	1.5	Recognise signs of heat or cold stress in chicks using digital tools								
LO 2: Prepare the brooder house	2.1	Clean the brooder house before chick arrival								
	2.2	Disinfect the brooder house before chick arrival								
	2.3	Spread clean litter material to proper depth								
	2.4	Observe testing of heat lamps or brooders								
	2.5	Place feeders and drinkers at appropriate height								
	2.6	Set up chick guards around the brooder area								
LO 3: Care for chicks during the brooding period	3.1	Observe inspection of day-old chicks on arrival								
	3.2	Provide clean water with vitamins or electrolytes and starter feed								
	3.3	Monitor temperature and adjust heat sources as instructed								
	3.4	Identify chick behaviour, symptoms of stress or disease								
	3.5	Remove dead chicks and maintain hygiene								
LO 4: Manage chicks through the rearing period	4.1	Regulate temperature gradually as chicks grow								
	4.2	Increase space and move feeders/drinkers as birds grow								
	4.3	Administer vaccines according to the vaccination schedule								
	4.4	Monitor bird growth and weight gain using precision tools								
	4.5	Record daily mortality, feed consumption, and health observations using precision tools								
LO 5: Transfer birds to grower or layer houses	5.1	Identify when birds are ready to leave the brooder depending on the conditions								
	5.2	Prepare the grower or layer house for receiving birds								

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.			
The learner will:		The learner can:									
	5.3	Transport birds safely									
	5.4	Place birds in the new house with appropriate feeders and drinkers									
	5.5	Monitor birds during the transition period using digital tools									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled))			Date:								
EQAM Signature (if sampled)			Date:								



UNIT 015: BEEHIVE INSTALLATION AND MANAGEMENT IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/015/L2**NSQ Level:** 2**Credit Value:** 2**Guided Learning Hours:** 20**Practice time:** 60

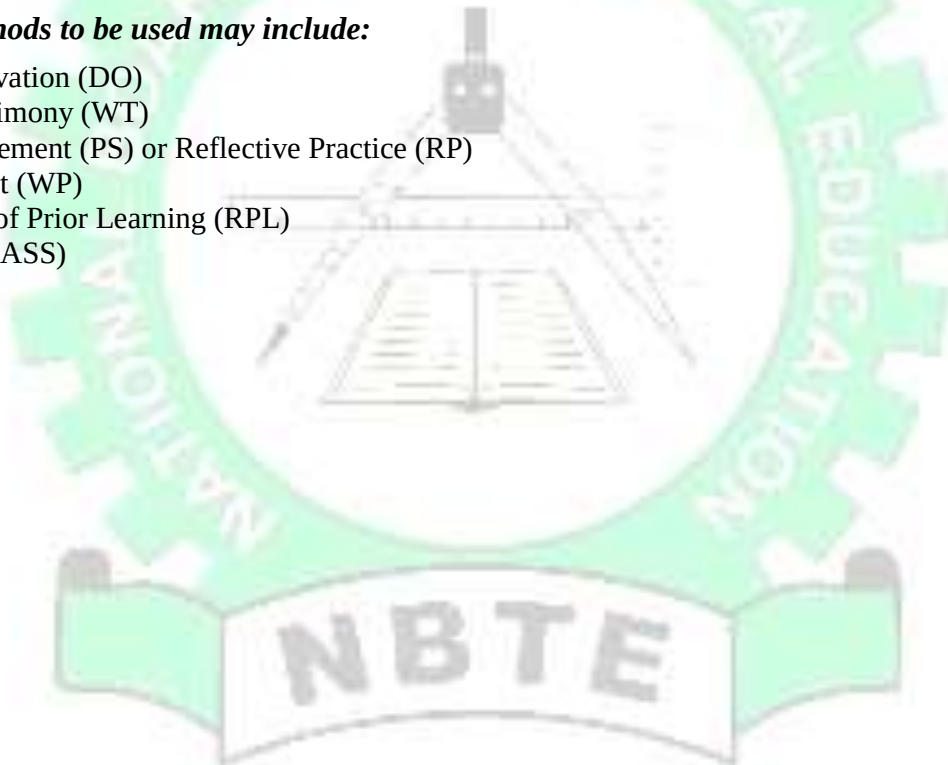
Unit Purpose: This unit covers the knowledge and skills required to install and manage beehives for honey production, pollination, and environmental sustainability.

Unit Assessment Requirements/Evidence Requirements:

Assessment must be carried out in a real workplace environment. Simulation is not allowed.

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 015: Beehive Installation and Management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: Explain beekeeping principles	1.1	Explain the importance of bees in agriculture								
	1.2	Identify the different types of bees in a colony								
	1.3	Describe the roles of each bee type in the colony								
	1.4	Identify different types of hives								
	1.5	Explain the equipment needed for beekeeping								
LO 2: Prepare a hive site	2.1	Select an appropriate site for hive placement								
	2.2	Prepare the hive stand								
	2.3	Assemble hive components								
	2.4	Insert foundation into frames								
	2.5	Paint or treat hive boxes for weather protection								
LO 3: Install bees into a new hive	3.1	Identify appropriate sources for obtaining bees								
	3.2	Put on protective clothing								
	3.3	Use a smoker to calm bees during installation								
	3.4	Transfer bees into the hive using correct methods								
	3.5	Release or introduce the queen to the hive								
	3.6	Provide emergency feed (sugar syrup) after installation								
LO 4: Perform basic hive management	4.1	Conduct regular hive inspections								
	4.2	Identify bee symptoms of stress or disease								
	4.3	Add supers (boxes) when the hive becomes crowded								
	4.4	Manage pests appropriately								
	4.5	Record hive activities and observations using precision tools								
LO 5: Harvest hive products	5.1	Identify when honey is ready for harvest								
	5.2	Remove supers and extract honey safely								
	5.3	Filter and package honey for storage market.								
	5.4	Handle beeswax from the hive								
	5.5	Clean equipment properly after use								
	5.6	Store equipment properly after use								
Learner's Signature:			Date:							

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



NATIONAL SKILLS QUALIFICATION (NSQ)

LEVEL 3

PRECISION AGRICULTURE



JUNE 2026

GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals seeking to develop a career in **PRECISION AGRICULTURE** at NSQ Level 3. It is aimed at producing Precision Agriculture Technician capable of performing precision agriculture tasks unsupervised using digital tools, mobile applications, GPS devices, and basic sensors to improve farm productivity and sustainability.

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

QUALIFICATION PURPOSE

The qualification is designed to produce competent technical manpower with knowledge, skills, and attitude required to perform routine beef cattle production activities under 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
- Complete NSQ level 2 or relevant qualification
- 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 practical tasks independently and to guide the work of others.

QUALIFICATION OBJECTIVES

This qualification is intended to equip learners with competencies to perform technical precision agriculture tasks independently and manage routine farm data activities.

1. Apply occupational health and safety practices in precision agriculture
2. Apply effective communication skills in an agricultural work environment
3. Demonstrate teamwork and practice proper work ethics
4. Operate and manage smart irrigation systems
5. Apply post-harvest technology and manage cold chain systems
6. Implement farm data management and analyze telematics data
7. Apply and optimize precision livestock fattening technologies
8. Implement AI technology and evaluate reproductive performance
9. Design and construct precision fish ponds
10. Operate, manage, and evaluate automated dairy production and processing systems
11. Apply and optimize automation technologies in poultry management

NATIONAL SKILLS QUALIFICATION (NSQ) TABLE

Mandatory Units

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Practice Hours	Remark
1.	AGR/PAG/001/L3	Occupational Health and Safety in Precision Agriculture	3	30	90	Mandatory
2.	AGR/PAG/002/L3	Communication in Agricultural Work Environment	3	30	90	Mandatory
3.	AGR/PAG/003/L3	Team Work and Work Ethics	3	30	90	Mandatory
4.	AGR/PAG/004/L3	Smart Irrigation Systems Operation	5	50	150	Mandatory
5.	AGR/PAG/005/L3	Post-Harvest Technology and Cold Chain Management	4	40	120	Mandatory
6.	AGR/PAG/006/L3	Farm Data Management and Telematics	3	30	90	Mandatory
7.	AGR/PAG/007/L3	Precision Livestock Fattening Technology	3	30	90	Mandatory
8.	AGR/PAG/008/L3	Artificial Insemination (AI) Technology and Reproductive Monitoring	5	50	150	Mandatory
9.	AGR/PAG/009/L3	Precision Fish Pond Design and Construction	3	30	90	Mandatory

10.	AGR/PAG/010/L3	Automated Dairy Production and Processing	3	30	90	Mandatory
11.	AGR/PAG/011/L3	Automation in Poultry Management	4	40	120	Mandatory
TOTAL			39	390	1170	

QUALIFICATION STRUCTURE

This qualification comprises a total of eleven (11) Mandatory and Optional Units, with a credit value of **39** and **390** 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.

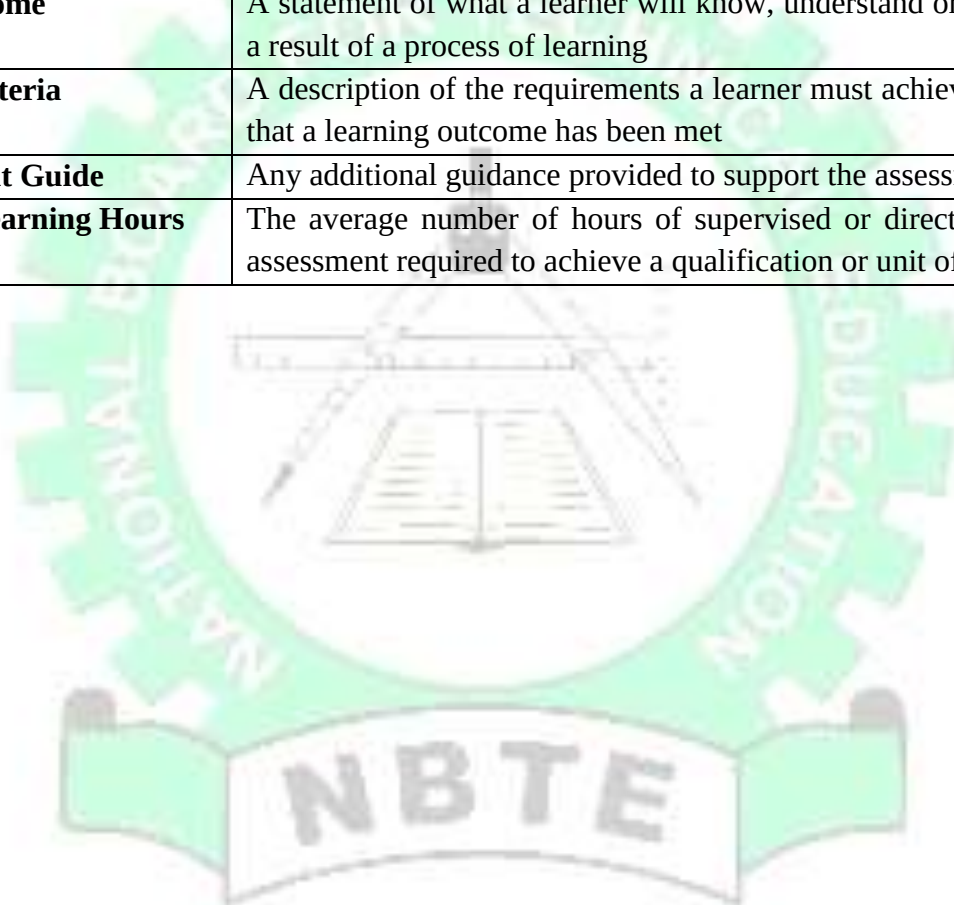
In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, 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 Guide	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 in Precision Agriculture**Unit Reference Number:** AGR/PAG/001/L3**NSQ Level:** 3**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90

Unit Purpose: This unit is on the adherence to health and safety precaution and avoidance of environmental hazards associated with Precision agricultural working environment.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in both real workplace and training 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 001: occupational health and safety in precision agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: <i>Work safely in a farm environment.</i>	1.1	Explain safe work practices in precision agriculture								
	1.2	Identify safety signs and symbols in precision operations								
	1.3	Display safety signs and symbols correctly								
	1.4	Describe safe work practices and instructions in agricultural facilities								
LO 2: <i>Comply with farm safety standards</i>	2.1	Identify work environment hazards								
	2.2	State types of hazards and risks associated with agricultural facilities								
	2.3	State safety standards in precision agricultural operations								
	2.4	Use safety tools, materials and equipment								
LO 3: <i>Use personal protective equipment (PPE) in agricultural work environment</i>	3.1	Identify the types of PPEs								
	3.2	Select appropriate PPE								
	3.3	Demonstrate the use of PPE								
	3.4	Maintain PPE before and/or after use								
LO 4: <i>Respond to accidents/injury in agricultural work environment</i>	4.1	Locate first aid facility								
	4.2	Use basic dressing materials								
	4.3	Respond to supervisor given instructions								
	4.4	Report accident/injury to the appropriate supervisor								
LO 5: <i>Maintain clean and safe work habit</i>	5.1	Use safe access and exit routes in the work environment								
	5.2	Identify appropriate working tools, materials and equipment								

	5.3	Use tools and equipment safely in accordance with the supervisor's instructions									
	5.4	Return all tools, equipment and unused materials for appropriate storage									
	5.5	Carry out general housekeeping of work environment									
	5.6	Dispose of all wastes appropriately to designated waste facilities									
LO 6: Comply with logistics procedure in agricultural facilities	6.1	Describe lifting techniques in loading and offloading of materials without assistance									
	6.2	Identify stacking techniques									
	6.3	Describe lifting and loading techniques with mechanical assistance									
	6.4	Stack materials correctly									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								

UNIT 002: Communication in Agricultural Work Environment

Unit Reference Number: AGR/PAG/002/L3

NSQ Level: 3

Credit Value: 3

Guided Learning Hours: 30

Practice time: 90

Unit Purpose: This unit is about simple communication techniques in precision agricultural working environment.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in both real workplace and training 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 in Agricultural Work Environment

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Use verbal and non-verbal communication system in a work environment	1.1	Use a verbal means to pass on necessary information								
	1.2	Use non-verbal means to convey necessary information								
	1.3	Interpret symbols and signs appropriately								
LO 2: Seek workplace information in a work environment	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 procedures in the work environment								
	2.6	Use simple communication gadget								
LO 3: Apply various means of communication in a work environment	3.1	Locate the various communication equipment in the work environment								
	3.2	Use effectively the various communication equipment in a work environment								
	3.3	Pass information effectively to the right personnel								
	3.4	Obey instructions in line with ethics of the work environment								
Learner's Signature:			Date:							
Assessor's Signature:			Date:							

IQAM Signature (if sampled))	Date:
EQAM Signature (if sampled)	Date:



UNIT 003: TEAM WORK AND WORK ETHICS IN PRECISION AGRICULTURE

Unit Reference Number: AGR/PAG/003/L3

NSQ Level: 3

Credit Value: 3

Guided Learning Hours: 30

Practice time: 90

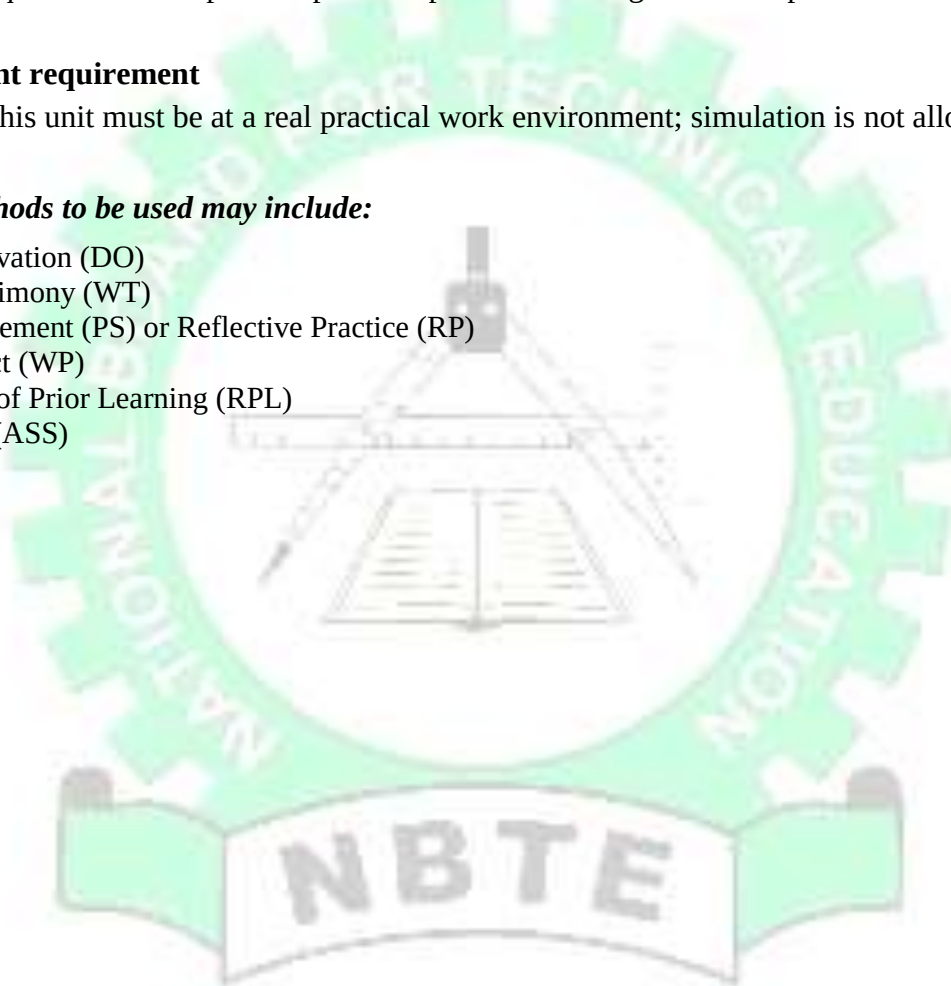
Unit Purpose: The purpose for this unit is to impact into the learner the necessary skills, knowledge and understanding required to develop team spirit and positive working relationship with colleagues.

Unit Assessment requirement

Assessment of this unit must be at a real practical work environment; simulation is not allowed.

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: Team Work and Work Ethics in Precision Agriculture

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref Page number			
LO 1: Maintain effective working relationships with colleagues	1.1	Identify the need for developing working relationship with colleagues									
	1.2	Recognize the importance of relating with other people									
	1.3	Assist team members as required.									
	1.4	Report to the appropriate personnel when requested for assistance.									
	1.5	Communicate information to colleagues about individual work that may affect team work.									
LO 2: Take responsibility within the team	2.1	Recognize own role and responsibilities within a team									
	2.2	Perform individual tasks in line with the team's rules and regulations.									
	2.3	Participate effectively in teamwork.									
LO 3: Comply with policy of organisation	3.1	Explain organizational code of conduct									
	3.2	Work in line with organizational standard									
	3.3	Use organizational code of practice									
	3.4	Adhere strictly to instructions given by the Management									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								

IQAM Signature (if sampled))	Date:
EQAM Signature (if sampled)	Date:



UNIT 004: SMART IRRIGATION SYSTEMS OPERATION IN PRECISION AGRICULTURE

Unit Reference Number: AGR/PAG/004/L3

NSQ Level: 3

Credit Value: 5

Guided Learning Hours: 50

Practice time: 150

Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding and concept of Smart irrigation systems operation under precision agriculture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

Assessment methods to be used may include:

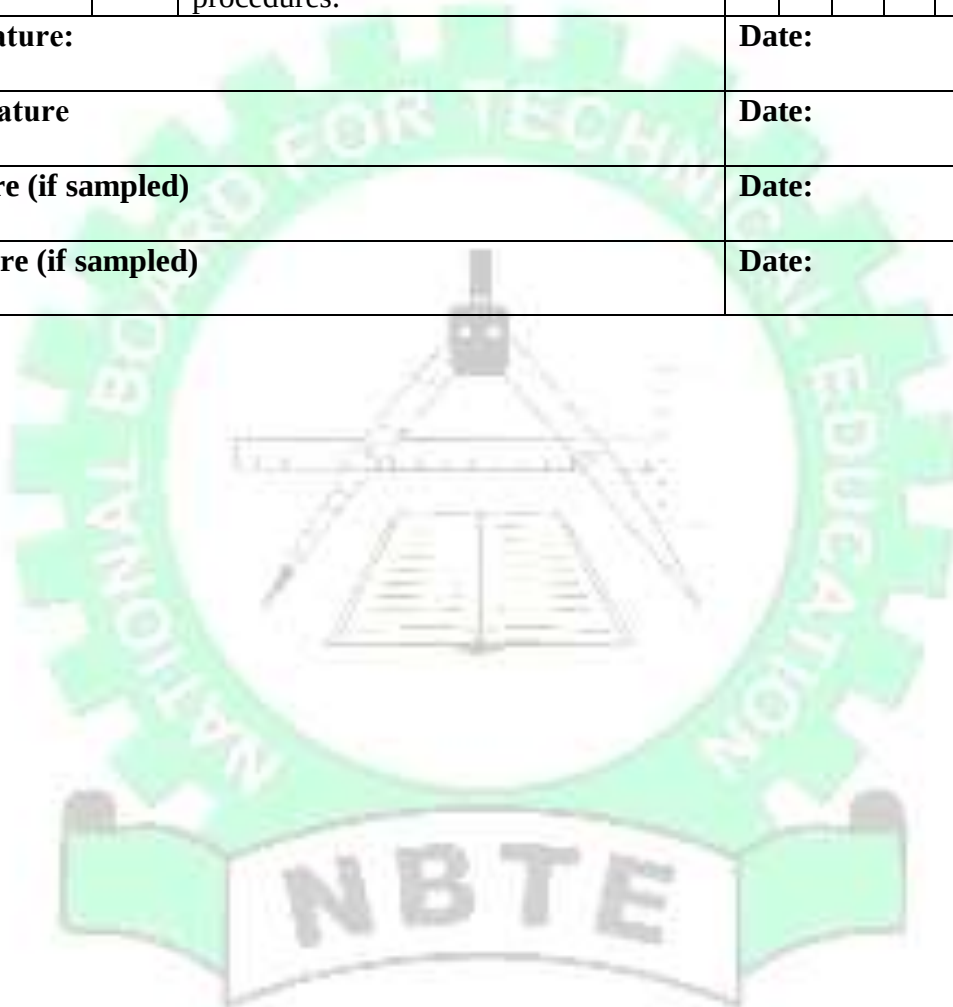
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 004: Smart Irrigation Systems Operation in Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Set up precision irrigation hardware and field assets.	1.1	Assemble precision irrigation hardware			
	1.2	Set up automated water control systems and fertilizer injectors (fertigation units)			
	1.3	Maintain precision irrigation hardware and field assets			
LO 2: Operate precision irrigation hardware and field assets.	2.1	Inspect smart irrigation components			
	2.2	Calibrate digital tools for measurement			
	2.3	Operate precision irrigation systems			
LO 3: Manage data-driven irrigation schedules and telemetry monitoring.	3.1	Monitor live soil moisture telemetry and hydraulic pressure data through a centralised mobile or desktop dashboard portal.			
	3.2	Adjust irrigation water application volumes according to crop growth stages and real-time evapotranspiration (ET _o) requirements.			
	3.3	Record precision irrigation water consumption volumes using approved data logging tools.			
	3.4	Identify water-use efficiency (WUE) trends and report irrigation system abnormalities to the technical supervisor.			
LO 4: Perform first-line maintenance on smart irrigation networks.	4.1	Diagnose communication drops between field telemetry nodes, wireless gateway systems, and the cloud dashboard portal.			
	4.2	Rectify physical blockages, pressure losses, and electrical wiring faults in automated manifold solenoid valves.			
	4.3	Perform routine high-pressure backwashing of filtration units and acid-flushing of drip laterals to dissolve mineral scaling.			
LO 5: Comply with Safety, Environmental, and Water Regulatory	5.1	Apply water backflow prevention procedures in accordance with regulatory requirements.			
	5.2	Perform fertigation operations			

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Page No.				Ref.
The learner will:		The learner can:									
Standards		following workplace safety procedures and manufacturer specifications.									
	5.3	Dispose of unserviceable irrigation components using approved environmental waste management procedures.									
Learner's Signature:			Date:								
Assessor's Signature			Date:								
IQAM Signature (if sampled)			Date:								
EQAM Signature (if sampled)			Date:								



UNIT 005: Post-harvest Technology and Cold Chain Management in Precision Agriculture

Unit Reference Number: AGR/PAG/005/L3

NSQ Level: 3

Credit Value: 4

Guided Learning Hours: 40

Practice time: 120

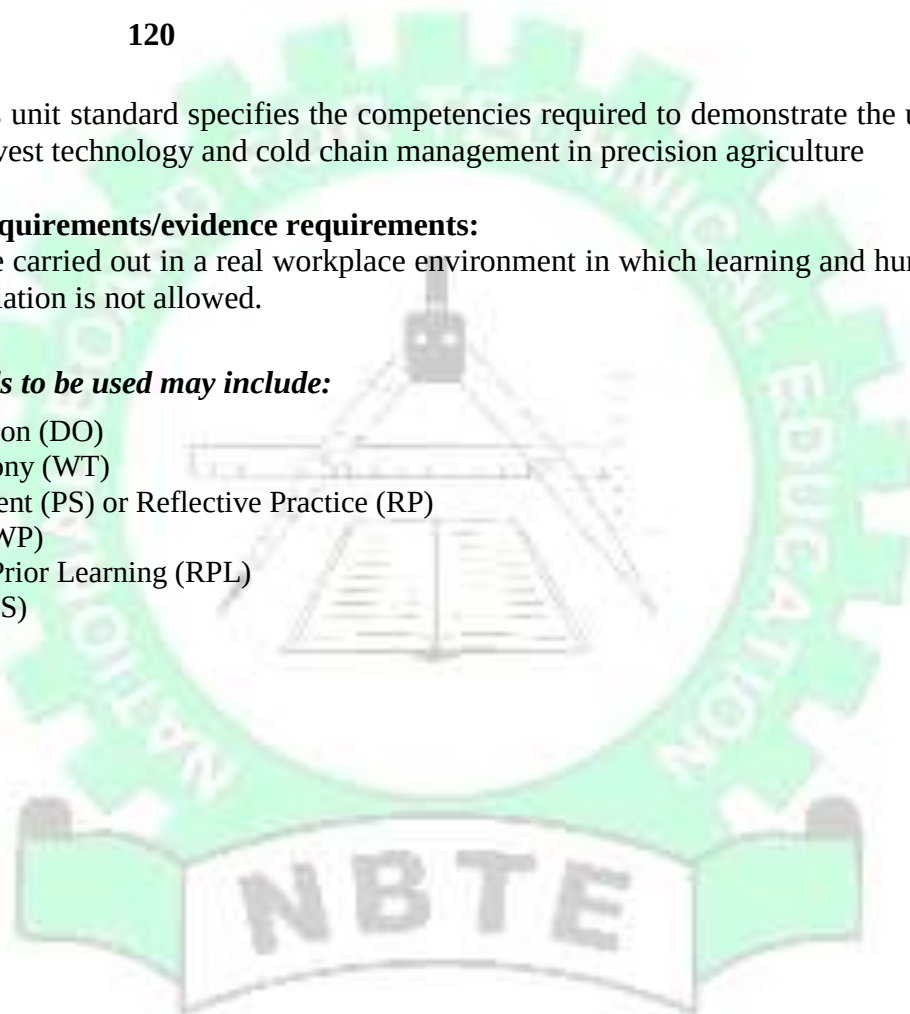
Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding the concept of Post-harvest technology and cold chain management in precision agriculture

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

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 005: Post-harvest Technology and Cold Chain Management in Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Operate automated sorting, grading, and post-harvest optical machinery.	1.1	Set up precision grading systems according to market standards.			
	1.2	Calibrate precision grading system as mentioned in 1.1 above			
	1.3	Start weight-based grading systems as mentioned in 1.1 above			
	1.4	Monitor machinery to identify mechanical bottlenecks.			
	1.5	Execute standard sanitation protocols and preventative first-line maintenance			
LO 2: Manage smart storage environments	2.1	Operate Controlled Atmosphere (CA) storage profiles and cold-room climate control nodes.			
	2.2	Track gas buildup using digital devices			
	2.3	Oversee a precise First-In, First-Out (FIFO) batch dispatch workflow			
LO 3: Maintain cold chain continuity	3.1	Isolate structural seal failures			
	3.2	Check thermal telemetry alarms.			
	3.3	Adjust thermostats to match what each crop needs to stay fresh			
	3.4	Clean condensation drain lines in cold rooms			
LO 4: Troubleshoot thermal deviations	4.1	Perform basic verification testing on data loggers			
	4.2	Backup power-transfer switches during simulated grid failures.			
	4.3	Adjust the thermostat based on each product requirement.			
LO 5: Enforce food packing protocol.	5.1	Carry out proper sanitization routines			
	5.2	Audit personal hygiene indicators and protective work wear compliance among packing floor workers.			
	5.3	Isolate damaged, pest-ridden, or pathogen-compromised crop batches			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



UNIT 006: Farm Data Management and Telematics in Precision Agriculture**Unit Reference Number: AGR/PAG/006/L3****NSQ Level: 3****Credit Value: 3****Guided Learning Hours: 30****Practice time: 90**

Unit Purpose: This unit standard specifies the competencies required to demonstrate understanding the concept of farm data management and telematics in precision agriculture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

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: Farm Data Management and Telematics in Precision Agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Collect and harmonise field-level geospatial and telematics data.	1.1	Operate high-accuracy Global Navigation Satellite System(GNSS)/ Global Positioning System (GPS) hardware to map field boundaries			
	1.2	Operate GPS to map crops performance			
	1.3	Harmonize diagnostic and operational logs			
	1.4	Validate digital field data logs for discrepancies			
LO 2: Utilize Farm Management Information Systems (FMIS) for operational recording.	2.1	Input daily records into FMIS software.			
	2.2	Use the software to generate yield maps and baseline statistical graphs			
	2.3	Maintain strict adherence to digital data security protocols.			
LO 3: Identify basic data and hardware issues in precision agriculture systems	3.1	Check basic connections of field devices and equipment.			
	3.2	Identify common errors in farm data collection systems.			
	3.3	Report data and equipment problems to the supervisor.			
	3.4	Assist in correcting simple field equipment issues under supervision.			
	3.5	Check basic connections of field devices and equipment.			
LO 4: Enforce data privacy and information governance rules.	4.1	Use appropriate, multi-tiered user profile access levels			
	4.2	Comply with local data privacy acts			
	4.3	Identify details from corporate data registries			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



UNIT 007: LIVESTOCK FATTENING TECHNOLOGY IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/007/L3**NSQ Level:** 3**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90

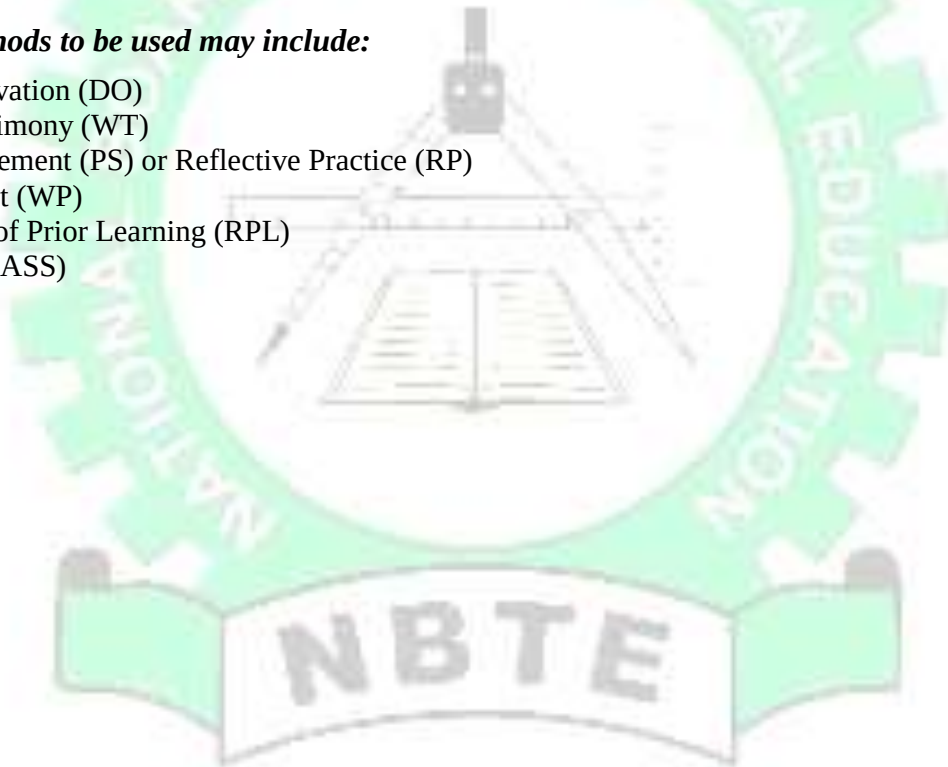
Unit Purpose: This unit standard specifies the competencies required to demonstrate understanding of the concept of Precision livestock fattening technology.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

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: Precision Livestock Fattening Technology in precision agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Page No.				Ref.
The learner will:		The learner can:									
LO 1: Manage automated feed formulation systems.	1.1	Calibrate automated feed mixers.									
	1.2	Identify individual animal feed requirement.									
	1.3	Monitor Electronic Identification (EID) ear-tag readers									
LO 2: Track growth performance indicators	2.1	Calibrate automated walk-over-weighing (WOW) scale									
	2.2	Operate automated walk-over-weighing (WOW) systems									
	2.3	Extract biotelemetry data from ruminants collars									
	2.4	Interpret biotelemetry data from ruminant collars									
	2.5	Log individual Body Condition Scores (BCS) into the herd dashboard									
	2.6	Isolate sick livestock based on automated deviation alert logs.									
LO 3: Troubleshoot and calibrate precision animal husbandry assets.	3.1	Clear jammed automated feed distribution augers									
	3.2	Adjust load-cell sensors on automated grain dispensers.									
	3.3	Swap out dead internal batteries and broken antennas on low-frequency corridor gates.									
	3.4	Push firmware updates to local yard terminals.									
LO 4: Apply animal welfare, biosecurity and clinical record in feedlots.	4.1	Sort animal in low-stress and injury-free pathways using collar and/ ear tags.									
	4.2	Sanitize routine operating tools									
	4.3	Store veterinary inputs safely in designated area									
	4.4	Record medication batch using digital files.									
Learner's Signature:			Date:								
Assessor's Signature:			Date:								

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



UNIT 008: ARTIFICIAL INSEMINATION (AI) TECHNOLOGY AND REPRODUCTIVE MONITORING IN PRECISION AGRICULTURE

Unit Reference Number: AGR/PAG/008/L3

NSQ Level: 3

Credit Value: 5

Guided Learning Hours: 50

Practice time: 150

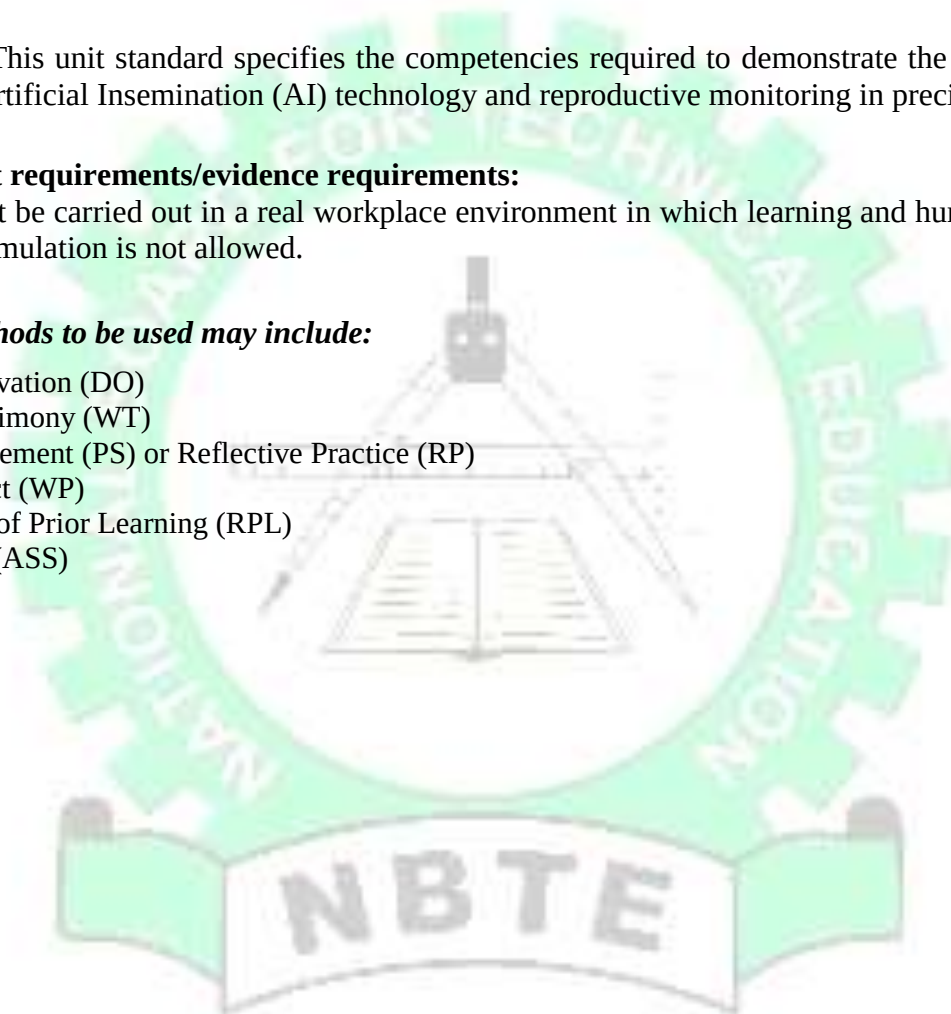
Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding of the concept in Artificial Insemination (AI) technology and reproductive monitoring in precision agriculture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

Assessment methods to be used may include:

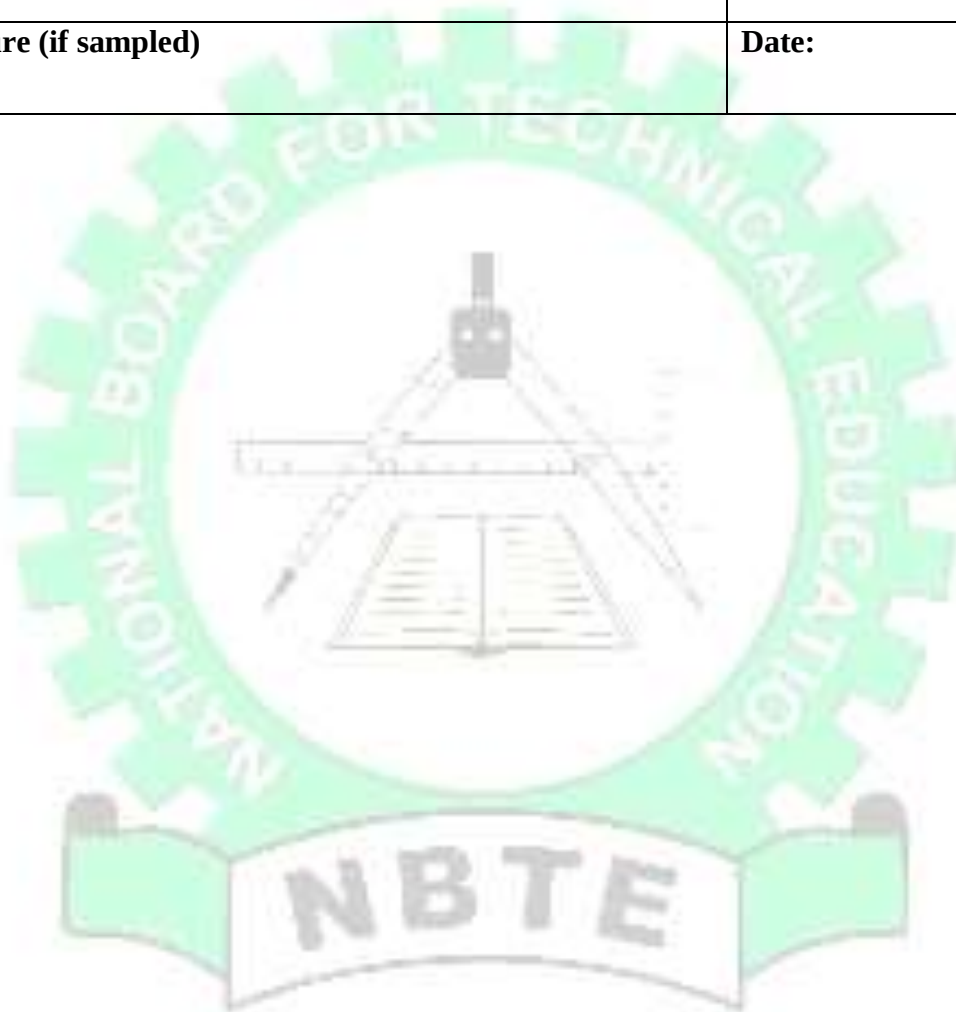
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 008: Artificial Insemination (AI) Technology and Reproductive Monitoring in precision agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Maintain the cryo-preservation of semen assets.	1.1	Use calibrated digital dip-stick to monitor liquid nitrogen levels and thermal stability inside semen cryogenic storage tanks			
	1.2	Perform precise thawing protocols using temperature-controlled water baths			
	1.3	Evaluate post-thaw progressive sperm motility using a digital field microscope.			
	1.4	Record post-thaw sperm quality findings using appropriate recording formats.			
LO 2: Perform precision artificial insemination using digital oestrus detection data.	2.1	Identify the optimal physiological standing heat window based on automated activity monitors			
	2.2	Perform the recto-vaginal insemination technique safely			
	2.3	Maintain strict biosecurity and animal welfare standards.			
	2.4	Record insemination events.			
LO 3: Maintain reproductive monitoring sensor gear.	3.1	Clean wearable animal-mounted monitoring devices correctly.			
	3.2	Resolve any wireless connection issue between animal and receiving stations.			
	3.3	Disinfect insemination guns, heating blocks, and digital optical tools after field runs.			
	3.4	Store all insemination tools after field runs.			
LO 4: Implement clear bio-containment and safe handling protocols.	4.1	Dispose of soiled single-use AI sheaths and gloves to prevent biological hazards			
	4.2	Work through structural footbaths and change lab wear before crossing into distinct breeding barns.			
	4.3	Apply low-stress restraint techniques within standard AI crushes			
Learner's Signature:			Date:		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



**UNIT 009: PRECISION FISH POND DESIGN AND CONSTRUCTION IN
PRECISION AGRICULTURE****Unit Reference Number:** **AGR/PAG/009/L3****NSQ Level:** **3****Credit Value:** **3****Guided Learning Hours:** **30****Practice time:** **90**

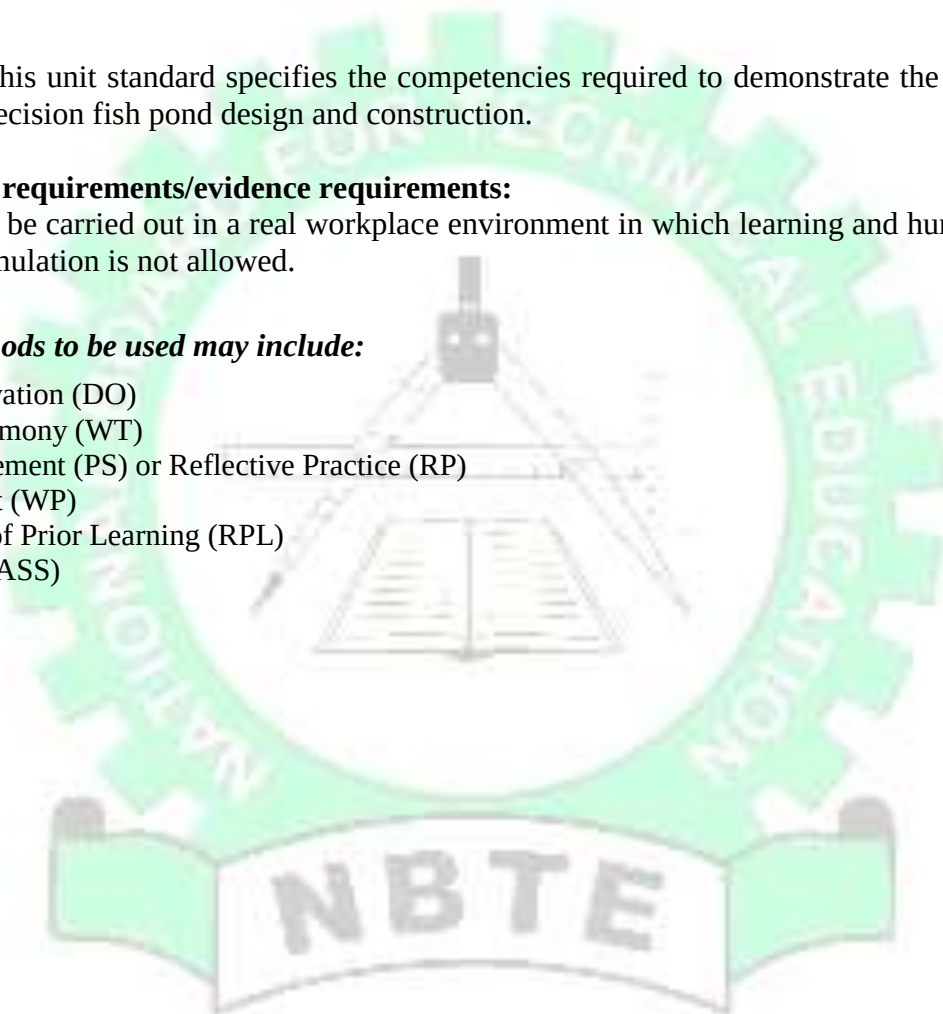
Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding of the concept of Precision fish pond design and construction.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

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: Precision Fish Pond Design and Construction

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Implement precision site surveying and topographic layout.	1.1	Identify total stations and GIS topography maps			
	1.2	Stake out exact pond layout dimensions, dikes, and embankment coordinates			
	1.3	Carry out standard soil core sampling before excavation.			
LO 2: Supervise the installation of smart aquaculture infrastructure	2.1	Supervise the thermal welding and secure placement of High-Density Polyethylene (HDPE) liners			
	2.2	Position automated variable to ensure optimal dissolved oxygen and feed distribution.			
	2.3	Integrate digital multi-parameter smart probes securely into the pond			
LO 3: Monitor telemetry-linked pond equipment.	3.1	Remove bio-fouling film, mineral scale, and algal debris from optical dissolved oxygen (DO) and glass pH sensor tips.			
	3.2	Run mechanical and electrical health checks on automated pond			
	3.3	Trace signalling drops between multi-probe water lines and data loggers.			
	3.4	Fix signalling drops between multi-probe water lines and data loggers.			
LO 4: Execute wastewater drainage and environmental compliance frameworks.	4.1	Log waste water quality data before pumping water out to secure local ecosystem safety.			
	4.2	Install durable barriers and physical filters			
	4.3	Use personal safety gear when working in deep retention ponds.			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		

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



UNIT 010: AUTOMATED DAIRY PRODUCTION AND PROCESSING IN PRECISION AGRICULTURE**Unit Reference Number:** AGR/PAG/010/L3**NSQ Level:** 3**Credit Value:** 3**Guided Learning Hours:** 30**Practice time:** 90

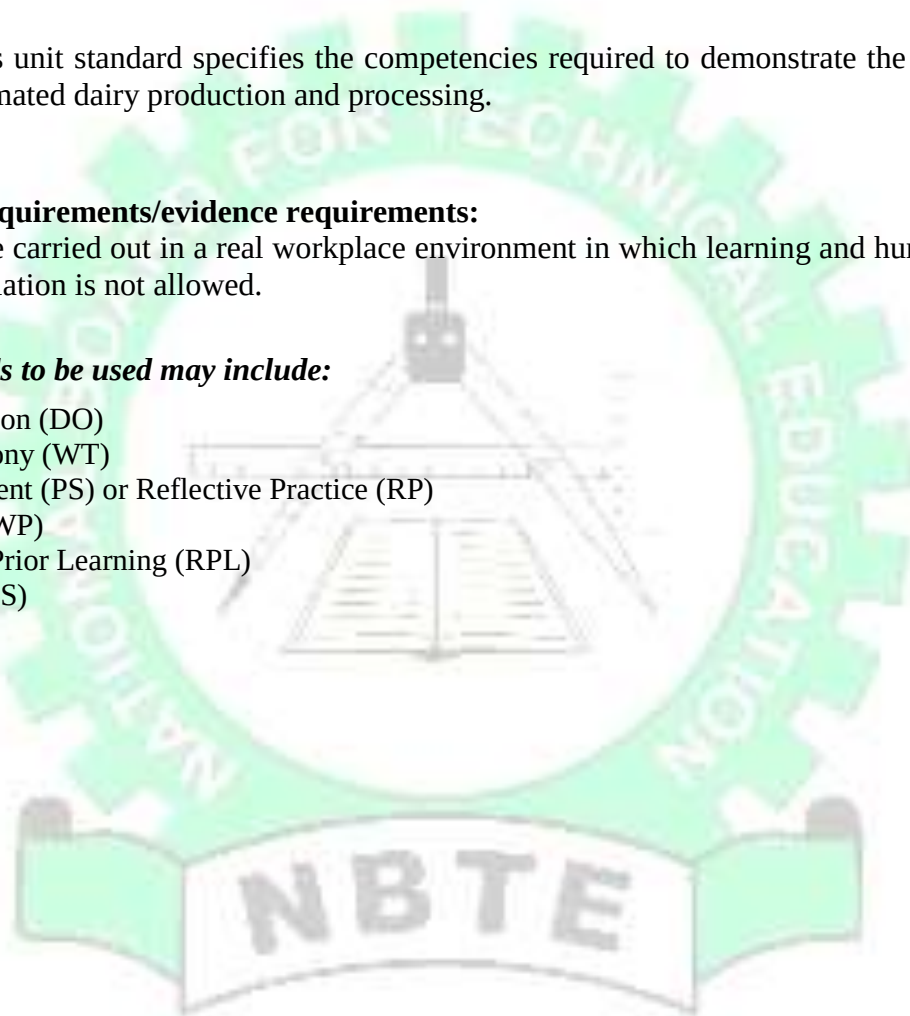
Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding of the concept of automated dairy production and processing.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

Assessment methods to be used may include:

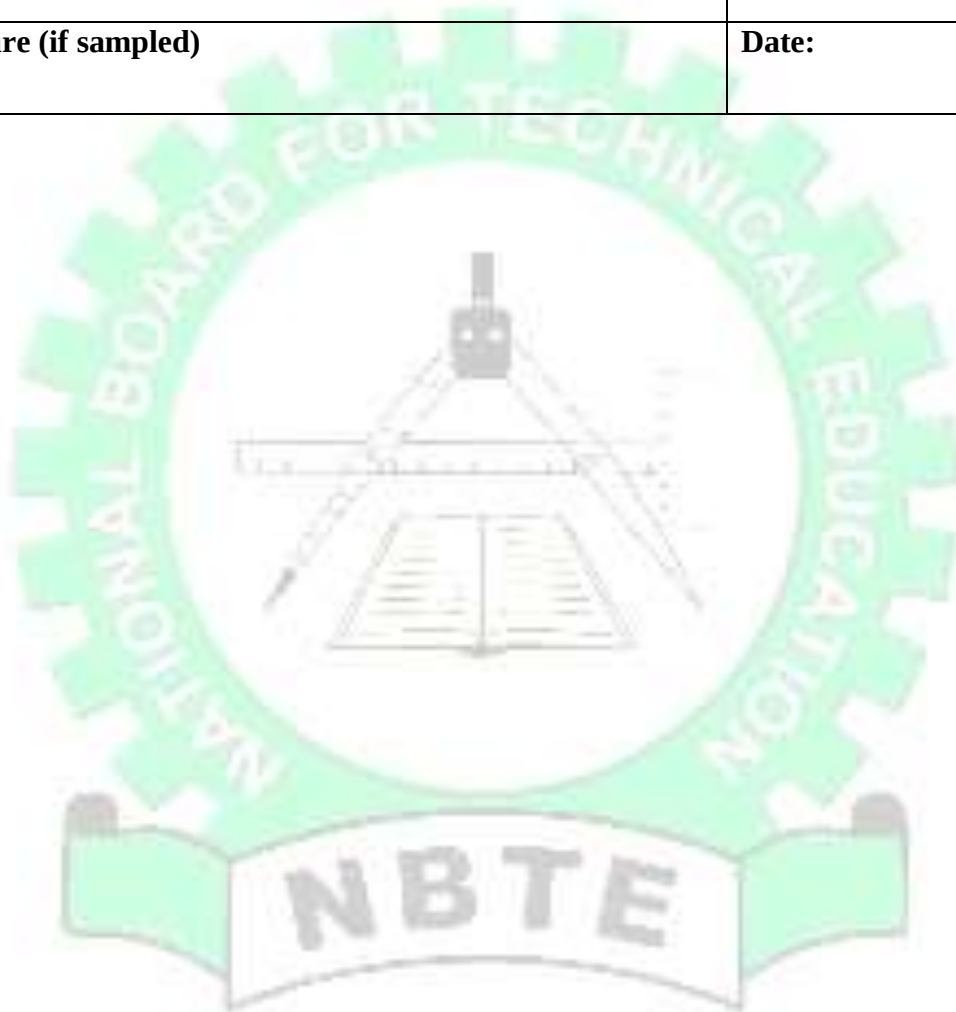
1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 010: Automated Dairy Production and Processing

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Page No.				Ref.
The learner will:		The learner can:									
LO 1: Operate automated/robotic milking systems (AMS).	1.1	Carry out automated pre-milking teat preparation and sanitization									
	1.2	Carry out laser-guided teat-cup attachment processes.									
	1.3	Monitor real-time milk electrical conductivity and somatic cell index variations.									
	1.4	Execute automated Clean-In-Place (CIP) thermal and chemical wash cycles across the milking lines.									
	1.5	Collect dairy product from the automated devices									
LO 2: Operate smart dairy processing lines and integrated cold chain assets.	2.1	Carry out automated High Temperature Short Time (HTST) pasteurizing and inline cooling systems.									
	2.2	Carry out automated bottle filling and pouch-sealing.									
	2.3	Carry out digital logs of batch traceability, tracking milk metrics from raw reception silos to final packaged products.									
LO 3: Conduct first-line repairs and service routines on robotic milking networks	3.1	Swap out old laser-guide tools on automated milking arms.									
	3.2	Calibrate inline precision equipment on the processing floor									
	3.3	Clear conveyor blockages.									
	3.4	Reset sensor coordinates on packaging lines.									
LO 4: Monitor critical food safety point and processing sanitation.	4.1	Record chemical concentrations used during automated wash cycles.									
	4.2	Conduct automated diversion pathways to separate milk batches									
	4.3	Check strict health and safety compliance for processing workers									
Learner's Signature:			Date:								

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
Assessor's Signature:			Date:		
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



UNIT 011: AUTOMATION IN POULTRY MANAGEMENT

Unit Reference Number: AGR/PAG/011/L3

NSQ Level: 3

Credit Value: 4

Guided Learning Hours: 40

Practice time: 120

Unit Purpose: This unit standard specifies the competencies required to demonstrate the understanding of the concept of automation in poultry management in precision agriculture

Unit assessment requirements/evidence requirements:

Assessment must be carried out in a real workplace environment in which learning and human development is carried out. Simulation is not allowed.

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: Automation in Poultry Management in precision agriculture

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
LO 1: Manage smart climate-controlled poultry housing	1.1	Carry out automated control to modulate tunnel equipment based on flock age profiles.			
	1.2	Replace faulty sensor hardware to minimize flock stress and mortality.			
	1.3	Participate in daily dashboard metrics			
LO 2: Carry out automated Poultry house operation (feeding, egg collection, and waste evacuation infrastructure).	2.1	Maintain automated auger-driven feeding circuits and sensors.			
	2.2	Check nipple drinking lines to eliminate waste and prevent wet litter.			
	2.3	Conduct automated egg collection			
	2.4	Operate automated multi-tier manure belt evacuation systems according environmental and bio-security protocols.			
LO 3: Maintain automated structural barn hardware.	3.1	Connect broken feed-delivery cables.			
	3.2	Repair loose auger flights			
	3.3	Clear motor blockages along distribution tubes.			
	3.4	Replace broken nipples pins and clear inline water pressure filters			
	3.5	Run periodic automated tests on backup generator transfer pads and safety shutters			
LO 4: Carry out structural biosecurity and environmental waste audits	4.1	Carry out automated vehicle undercarriage spray-washes.			
	4.2	Carry our personal misting gates at the main facility perimeter.			
	4.3	Track automated mortality counts and move dead birds to secure incineration using biosecurity tools.			
	4.4	Schedule manure belt extraction cycles			
Learner's Signature:			Date:		
Assessor's Signature:			Date:		

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Page No.	Ref.
The learner will:		The learner can:			
IQAM Signature (if sampled))			Date:		
EQAM Signature (if sampled)			Date:		



RECOMMENDED TRAINING FACILITIES / RESOURCES

S/N	MATERIALS, TOOLS & EQUIPMENT	QUANTITY
A. Learning and Training Facilities		
1	Classroom / Training room	1
2	Whiteboard	1
3	Flip chart	1
4	Interactive dashboard	1
5	Farm record sheets	1
6	Data sheets and field books	1
7	Mobile phones	1
8	Relevant digital applications	Various
9	Markers	5 packs
10	Projector	1
11	Laptop	1
12	Desktop computer	1
13	Public address system	1
14	Extension sockets	2
15	Internet access/router	1
16	Agricultural charts and posters	various
17	Precision agriculture training manuals	1
18	Smart television or display screen	1
19	Simulation software for precision agriculture	1
B. Safety and Personal Protective Equipment (PPE)		
1.	Safety boots	20 pairs
2.	Hand gloves	20 pairs
3.	Farm overalls	20 pairs

4.	Nose masks	10 packs
5.	Protective clothing for apiary work	2
6.	First aid kit	1
7.	Fire extinguisher	1
8.	Safety signage	5
9.	Hand sanitizers	1

C. Crop Production and Nursery Resources

1.	Crop production and nursery resources	1
2.	Demonstration farm	1
3.	Nursery beds	Various
4.	Nursery trays or containers	Various
5.	Seeds and planting materials	Various
6.	Watering cans and buckets	Various
7.	Hand tools	Various
8.	Fertilizers and organic manure	Various
9.	Precision irrigation tools and devices	Various
10.	Garden tools	various
11.	Knapsack sprayers	20
12.	Measuring cylinders	20
13.	Fertilizer application tools	various
14.	Plant identification guides	1
15.	Crop pest identification charts	various
16.	Harvest crates and containers	10
17.	Mulching materials	10
18.	Shade nets	10
19.	Greenhouse or shade house facilities	1
20.	Plant growth monitoring tags	20

21.	Plant support materials	10
D. Soil Sampling and Testing Resources		
1.	Soil sampling materials	1
2.	Moisture meter	1
3.	Simple soil testing kits	1
4.	pH strips	10 packs
5.	Tape rule	10
6.	Measuring rope	10
7.	Soil auger	10
8.	Soil sampling bags	20
9.	Soil thermometer	10
10.	Soil sieve	20
11.	Digital soil moisture sensors	1
12.	Electrical conductivity meter	1
E. Precision Agriculture Tools and Digital Technologies		
1.	Precision agriculture tools and devices	various
2.	Handheld GPS devices	various
3.	Workstation tools	various
4.	Thermometer	various
5.	Thermostat	various
6.	Weighing scales	Various
7.	Digital data collection devices	various
8.	Agricultural drones	1
9.	Drone accessories	1
10.	Weather monitoring station	1
11.	Automatic weather station	1
12.	Data loggers	1

13.	Tablet devices for field data collection	1
14.	GIS software	Various
15.	Farm management software	Various
16.	Satellite imagery resources	1
17.	Internet-enabled farm monitoring systems	1
18.	Bluetooth-enabled farm sensors	1

F. Livestock Production Resources

1.	Animal pens or housing units	1 pen /unit per animal
2.	Feeders and drinkers	various
3.	Animal weighing scale	Various
4.	Cleaning materials	Various
5.	Disinfectants	Various
6.	Animal restraint equipment	2
7.	Milking equipment	2
8.	Veterinary examination tools	2
9.	Livestock production manuals	1

G. Aquaculture Resources

1.	Fish ponds (earthen, concrete, and Tarpaulin)	Various
2.	Fish feeding containers	Various
3.	Water testing kits (where available)	10
4.	Pond cleaning tools	Various
5.	Water monitoring devices	Various
6.	Water pH meter	5
7.	Fish identification charts	10
8.	Aeration equipment	1
9.	Fish harvesting tools	10

10.	Fish health monitoring materials	various
11.	Aquaculture record sheets	2

H. Apiculture (Beekeeping) Resources

1.	Demonstration apiary or hive models	1
2.	Hive components and assembly materials	Various
3.	Protective clothing for apiary work	20
4.	Simple hive tools	Various
5.	Bee smoker	2
6.	Hive inspection tools	Various
7.	Bee brush	10
8.	Honey extractor	2
9.	Honey storage containers	5
10.	Protective veil	20
11.	Bee gloves	20
12.	Bee feeding equipment	1
13.	Honey quality testing tools	1
14.	Hive monitoring sensors	1

I. Farm Data Recording and Management Resources

1.	Record books	various
2.	Data sheets	various
3.	Field books	various
4.	Farm record applications	various
5.	Digital farm management tools	various
6.	Mobile applications	various

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