Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

ANHRF402

RABBIT FARMING OPERATIONS

CARRY OUT RABBIT FARMING OPERATIONS

Competence

RQF Level:4

Learning Hours

50

Credits: 5

Sector: Agriculture and food processing

Trade: Animal health

Module Type: Specific

Curriculum: TVET Certificate IV in Animal health

Issue Date: May,2023

<table>
<tr><td>Purpose statement</td><td colspan="5">This module describes the skills, knowledge and attitudes required for learners to be competent in Rabbit farming. At the end of this module, participants will be able to determine Construct rabbit hutches, management of production, Control diseases and predators and record keeping</td></tr>
<tr><td>Learning assumed to be in place</td><td colspan="5">N.A</td></tr>
<tr><td rowspan="6">Delivery modality</td><td colspan="2">Training delivery</td><td>100%</td><td colspan="2">Assessment</td><td>Total 100%</td></tr>
<tr><td colspan="2">Theoretical content</td><td>30%</td><td rowspan="4">Formative assessment</td><td>30%</td><td rowspan="4">50%</td></tr>
<tr><td colspan="2">Practical work:</td><td rowspan="3">70%</td><td rowspan="3">70%</td></tr>
<tr><td>Group project and presentation</td><td>….%</td></tr>
<tr><td>Individual project /Work</td><td>….%</td></tr>
<tr><td colspan="3"></td><td colspan="2">Summative Assessment</td><td>50%</td></tr>
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Elements of Competence and Performance Criteria

Elements of competence	Performance criteria
1. Construct rabbit hutches	1.1. The hutch site is properly selected according to the standards.
	1.2. Hutches are appropriately sketched based on the standard.
	1.3. Hutches are properly constructed according to the standards.
2. Apply rabbit rearing techniques	2.1. The breed is properly selected according to rearing purpose.
	2.2. Rabbits are methodically stocked according to age and sex.
	2.3. Feeding is adequately provided based on nutritional requirements.
	2.4. The reproduction process is correctly monitored based on the production plan.
3. Control diseases and predators	3.1. Hygienic measures are suitably applied according to biosecurity principles.
	3.2. Chemo-prophylaxis is properly applied according to the prevention plan.

	3.3. Rabbits are properly protected against predators according to their types

Knowledge, Skills, and Attitude

Knowledge	✓ Skills	Attitude
✓ Research rabbit breeds and their characteristics. ✓ Understand rabbit nutrition and dietary requirements. ✓ Learn about rabbit health and disease management. ✓ Recognize optimal rabbit housing and ventilation practices. ✓ Comprehend rabbit reproduction and breeding techniques. ✓ Know government regulations and standards for rabbit farming. ✓ Familiarize yourself with market trends and demand for rabbit products	✓ Select and procure healthy rabbit breeding stock. ✓ Design and construct suitable rabbit hutches or cages. ✓ Formulate and provide balanced rabbit diets. ✓ Administer vaccinations and medication when necessary. ✓ Manage and maintain rabbit health records. ✓ Implement breeding and kindling management. ✓ Handle and care for baby rabbits (kits). ✓ Market and sell rabbit meat or products effectively	✓ Prioritize animal welfare and humane treatment in rabbit farming. ✓ Demonstrate patience and attention to detail in daily care. ✓ Take responsibility for rabbit health and well-being. ✓ Embrace adaptability to changing market conditions. ✓ Respect and comply with animal welfare and environmental regulations. ✓ Commit to continuous learning in rabbit farming practices. ✓ Exhibit dedication and a proactive approach to successful rabbit production

Course content

Learning outcomes	At the end of the module the learner will be able to: 1. Construct rabbit hutches 2. Apply rabbit rearing techniques **3.** Control diseases and predators
Learning outcome 1: Construct rabbit hutches	Learning hours: 10

Indicative content

Selection of hutch site

- Hutch Site selection criteria:
  - ✓ Location of site
    - Distance from waste disposal site
    - Distance from human habitation
    - Noise and vibration
    - Code and regulation
    - Basic infrastructure and services
      - Main road
      - Feed suppliers
      - Available market
      - Water supply
      - Power source
  - ✓ Soil structure
    - Type of soil
  - ✓ Ecological condition
    - Temperature
    - Humidity
    - Rain fall
    - Vegetation is suitable
    - Sun light
    - Wind
    - Altitude

Sketching hutches

- Design different Types of hutches
  - ✓ Outdoor colonies
    - Ground hutch
      - Breeding
      - fattening
    - Cage hutch
      - Breeding
      - fattening
    - Battery hutch
      - Breeding
      - fattening
  - ✓ Indoor colonies
    - Wooden
    - Breeding

- fattening
- Wire mesh
- Breeding
- fattening
- Slit cage
- fattening
- Breeding

- Consideration of categories of rabbit hutch
  - ✓ Lactating doe
  - ✓ Grower
  - ✓ Fattening
  - ✓ Young female rabbit
  - ✓ Dry does
  - ✓ buck cage
  - ✓ Annexes of hutch:
    - Office
    - Store of feed and drugs
    - Feed preparation room

Construction of hutches

- Selection Criteria for rabbit hutch tools and equipment
  - ✓ Cost
  - ✓ Strength
  - ✓ durability
  - ✓ Availability
  - ✓ Hygiene
  - ✓ Safety
  - ✓ Vermin protection
  - ✓ maintenance
- Types of construction materials selection
  - ✓ Wooden materials
  - ✓ Metallic materials
  - ✓ Fired bricks
  - ✓ Cement and cement bricks
  - ✓ Concrete and stone
- Parts of rabbit hutch
  - ✓ Roof
  - ✓ wall
  - ✓ Floor

- Specific equipment of hutch.
  - ✓ Mangers
  - ✓ Drinkers
  - ✓ Nest

Resources required for the learning outcome	
Equipment	• None
Materials	• Wire Mesh, Hinges and Latches, corrugated metal, plywood
Tools	Measuring tape, ruler, and carpenter's square , Saw, circular saw, or jigsaw Hammer, screwdriver, drill, and nails or screws
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, similation • Practical exercise
Formative assessment methods	• Written assessment • Oral question • Performance assessment

Learning outcome 2: Apply rabbit rearing techniques	**Learning hours: 20**
Indicative content	

Selection of breed

- Common Rabbit breed
  - ✓ Local rabbit
  - ✓ Californian
  - ✓ New Zealand white
  - ✓ Fauve de Bourgogne
  - ✓ Angora
  - ✓ Dutch rabbit
  - ✓ Flemish Giant
  - ✓ Chinchilla rabbit
- Factors to consider in rabbit breed characterization
  - ✓ Coat color
  - ✓ Eye color
  - ✓ Origin

- ✓ Body conformation
- ✓ Weight
- ✓ Ear position
- ✓ Adaptability
- ✓ Litter size
- ✓ Prolificacy

- Element to consider in selection of rabbit to rear
  - ✓ Productivity of parent
  - ✓ Age
  - ✓ Productivity
  - ✓ Adaptability
  - ✓ Physical appearance
  - ✓ Feed conversion rate
  - ✓ Health temperament
  - ✓ status
  - ✓ Resistance against disease
  - ✓ Maturity period
  - ✓ Fecundity
- Method of selection
  - ✓ Mass selection
  - ✓ Pedigree selection
  - ✓ Selection on offspring/Progeny testing
  - ✓ Collateral relative selection
  - ✓ Tandem selection
- Rabbit rearing system
  - ✓ Intensive system
  - ✓ Semi-intensive system
  - ✓ Extensive system
- Rabbit handling methods
  - ✓ Correct way to pick up rabbit
  - ✓ Holding a young rabbit head down
- Identification methods
  - ✓ Tagging
  - ✓ Tattooing
  - ✓ Ear notching

Stock rabbit

- Categories of rabbit stock
  - ✓ Lactating doe
  - ✓ Grower
  - ✓ Fattening

- ✓ Young female rabbit
- Factors to consider in stocking rabbit
  - ✓ Categories of rabbit
  - ✓ Types of breed
  - ✓ Welfare requirement types of housing
  - ✓ Air flow and draught
  - ✓ feeding system
  - ✓ Types of flooring and drainage

Feeding rabbit

- Types of Rabbit food
  - ✓ forage
    - grasses
    - Legumes
    - Grains
  - ✓ Concentrates
  - ✓ Identification of poisoning plant
    - grasses
    - Legumes
    - Grains
- Particularity of rabbit digestive
  - ✓ Caecotrophy/ coprophagy
- Feeding practices
  - ✓ Lactating does
  - ✓ Grower
  - ✓ Fattening
  - ✓ Young female rabbit
  - ✓ Watering
  - ✓ Teeth overgrowth control
- Feeding records
  - ✓ Technical sheet
  - ✓ Feeding data collection
  - ✓ Cost ratio analysis
  - ✓ Collection and presentation

Monitoring reproduction of rabbit

- Management of Rabbit sexing
  - ✓ Rabbit genitalia (young buck, adult, young does, adult does)
- Management of rabbit reproduction of buck
  - ✓ Puberty time
  - ✓ Mating
  - ✓ Mating ratio
  - ✓ Culling
- Management of does and young female

- ✓ Puberty time
- ✓ Mating
- ✓ kindling interval
- ✓ Culling time

- Conduct mating
  - ✓ Rabbit reproduction cycle
  - ✓ Heat induction methods
  - ✓ Heat detection
  - ✓ Signs of successful mating
- Management of pregnant rabbit
  - ✓ Determining pregnant
  - ✓ Fostering
  - ✓ Climatic condition monitoring
- Management of kindle rabbit
  - ✓ Kindling
  - ✓ Nail trimming
  - ✓ Castration
  - ✓ Weaning
- Rabbit genetic improvement
  - ✓ Cross-breed:
    - Commercial breeding
    - Upgrading
    - Backcrossing,
    - Terminal cross system
- Reproduction record keeping
  - ✓ Reproduction card
  - ✓ Reproduction data entry

Resources required for the indicative content	
Equipment	Feeding Equipment, Feed and Water Containers and Nest Boxes
Materials	Oil can, Grease Gun Hand/Pneumatic
Tools	Grooming Tools, Weighing Scale, Thermometer, Cages or Hutches
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise
Formative assessment methods	• Written assessment • Oral question

	• Performance assessment

Learning outcome 3: Control diseases and predators	Learning hours: 20

Indicative content

Application hygienic measures

- General rabbit hutch hygienic measure
  - ✓ Hygiene in cage and nest
  - ✓ Disinfecting
- Bio-security measures
  - ✓ Isolation
  - ✓ Quarantine
  - ✓ Fencing
  - ✓ Disposal of dead animal
  - ✓ Personnel safety
  - ✓ Internal regulation protocol
- Sanitary record keeping
  - ✓ Technical sheet
  - ✓ Zoo-sanitary card

Application of chemo-prophylaxis

- Selection of Bio-chemical prevention product
  - ✓ Wormicids
  - ✓ Antibiotic
  - ✓ Insecticides
  - ✓ Acaricids
  - ✓ Vaccine
  - ✓ disinfectant
- Establishment of chemo-prophylactic plan
  - ✓ Hutch hygiene schedule
  - ✓ Bio chemical products are systematically used
- Administration techniques of bio-chemical prevention products
  - ✓ Splaying
  - ✓ Injection
  - ✓ Medicated feed

Protecting rabbit against predators

- Identification of rabbit predators
  - ✓ Dogs
  - ✓ Cat
  - ✓ Snake

- ✓ Rodent
- ✓ Ants

- Protection measures of predators
  - ✓ Fence
  - ✓ Traps
  - ✓ Creosote

Resources required for the indicative content	
Equipment	Tractor, Steel Rule, Feeler gauge, Engineer‟s square, Divider spring joint, Drift punch copper, Pick punch, Drill electric hand, Air Compressor, Centre punch, Chisels Cross cut, Chisel cold, Hand reamer adjustable, Cross peen Hammer, Mallets (Wooden/plastic), Ball peen Hammer, Electric arc welding set portable, Horses and wheel choke, Hydraulic jack , T bar and ratchet, Chain and Pulley block, Work bench with 4 bench vices 12 cm jaw, Harrow, Plough, Seed Drill, Land Leveller
Materials	- animals - Building materials - Cleaning materials and products - Clinical materials (castration material) - high-pressure sprayer - Scale - Sketching materials
Tools	- Decameter - Disinfectant - Drugs (antiseptics, antibiotics and vaccines) - Farm cards and records - Farm records tools - Feed stuffs (Creep feed, concentrate, kitchen residues, forage, nutrient supplement, bagger starters and feed additives) - Hygrometer - Kids boxes - Meteorological data - Tattooing tools - **Thermometer**
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, similation • Practical exercise

Formative assessment methods	• Written assessment • Oral question • Performance assessment

Integrated/Summative assessment

Integrated situation

URWIBUTSO Entreprise is a company , located at RULINDO District in Northern Province. This company wants to establish a model rabbit farm for supplying exotic breeeding rabbits to the local community. (Californian, New Zealand white, Fauve de Bourgogne, Angora , Dutch, Chinchilla and Flemish giant).

For better management , URWUBUTSO Entreprise recruit you as veterinary in charge of this rabbit farming project.

You are requested to perform the following tasks:

- ✓ To design rabbit hutch for five rabbit for each breeds in 1 hours
- ✓ Select best quality rabbits to keep in 30 min
- ✓ Establish the feeding and rearing plan in 55min
- ✓ Establish the prophylactic plan in 35min

Be aware that:

All tools, material, equipment, products, land, building and market inventory are assumed to be available.

Resources

Equipment	- Composting system with deep pits - Feeder and drinker - Feeding system facilities - Feeds storage tanks and bin - Footbath - Land and perimeter fence - Wastes disposal facilities - PPE - Pumps

	- Water supply facilities - Weather van
Tools	• <u>Tools</u> - Decameter - Disinfectant - Drugs (antiseptics, antibiotics and vaccines) - Farm cards and records - Farm records tools - Feed stuffs (Creep feed, concentrate, kitchen residues, forage, nutrient supplement, bagger starters and feed additives) - Hygrometer - Kids boxes - Meteorological data - Tattooing tools - Thermometer
Materials/ Consumables	- animals - Building materials - Cleaning materials and products - Clinical materials (castration material) - high-pressure sprayer - Scale - Sketching materials

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
1. Construct rabbit hutches	1.1. The hutch site is properly selected according to the standards.	Assessment Indicator 1: The assessment of whether the hutch site selection process adheres to established standards and guidelines is conducted.			5
		Assessment Indicator 2: The evaluation of whether proper site selection aligns with the specified standards, ensuring a suitable environment for hutch construction and animal welfare, is performed.			5
	1.2. Hutches are appropriately sketched based on the standard.	Assessment Indicator 1: The assessment of whether the hutch sketching process aligns with the prescribed standards and specifications is conducted.			5
		Assessment Indicator 2: The evaluation of whether the hutch			5

		sketches conform to the standard requirements, facilitating accurate construction and optimal functionality, is performed.			
	1.3. Hutches are properly constructed according to the standards.	Assessment Indicator 1: The assessment of the construction of hutches in strict accordance with the specified standards and regulations is conducted.			5
		Assessment Indicator 2: The evaluation of whether hutch construction meets the standards, resulting in structures that are safe, functional, and compliant with animal welfare guidelines, is performed.			5
2. Apply rabbit rearing techniques	2.1. The breed is properly selected according to rearing purpose.	Assessment Indicator 1: The assessment of whether the breed selection process aligns with the specific rearing purpose and objectives is conducted.			5
		Assessment Indicator 2: The evaluation of whether the chosen breed is appropriate for the intended rearing purpose and meets the desired production goals is performed.			5
	2.2. Rabbits are methodically stocked according to age and sex.	Assessment Indicator 1: The assessment of the systematic stocking of rabbits, considering both age and sex, following established stocking protocols is conducted.			5
		Assessment Indicator 2: The evaluation of whether the methodical stocking approach results in efficient and well-organized rabbit populations, contributing to effective management and breeding, is performed.			5
	2.3. Feeding is adequately provided based on nutritional requirements.	Assessment Indicator 1: The assessment of the provision of feeding that aligns with the nutritional requirements of rabbits, as per established guidelines, is conducted.			5
		Assessment Indicator 2: The evaluation of whether adequate			5

		and appropriate feeding practices are implemented, ensuring the optimal health, growth, and productivity of rabbits, is performed.			
	2.4. The reproduction process is correctly monitored based on the production plan.	Assessment Indicator 1: The assessment of the accurate monitoring of the reproduction process in accordance with the predefined production plan and objectives is conducted.			5
		Assessment Indicator 2: The evaluation of whether the correct monitoring of the reproduction process aligns with the production plan and results in the achievement of breeding and production targets is performed.			5
3. Control diseases and predators	3.1. Hygienic measures are suitably applied according to biosecurity principles.	Assessment Indicator 1: The assessment of whether hygienic measures are appropriately implemented, following the principles of biosecurity, is conducted.			5
		Assessment Indicator 2: The evaluation of whether the applied hygienic measures align with biosecurity principles, contributing to the prevention of disease spread and the overall health of the rabbit population, is performed.			5
	3.2. Chemo-prophylaxis is properly applied according to the prevention plan.	Assessment Indicator 1: The assessment of the correct and systematic application of chemo-prophylaxis in accordance with the prescribed prevention plan is conducted.			5
		Assessment Indicator 2: The evaluation of whether chemo-prophylaxis is administered in the appropriate manner as per the prevention plan, ensuring disease prevention and management, is performed.			5
	3.3. Rabbits are properly protected against predators according to their types	Assessment Indicator 1: The assessment of whether suitable protective measures are applied to safeguard rabbits against various types of predators is conducted.			5

		Assessment Indicator 2: The evaluation of whether the protection provided aligns with the specific types of predators and effectively mitigates the risk of predation, ensuring the safety and well-being of the rabbit population, is performed.			5
Total marks					100
Percentage Weightage					100%
Minimum Passing line % (Aggregate): 70%					

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