REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

AGRI-PRENEUR

LEVEL 6
(CYCLE 3)

OCCUPATIONAL STANDARDS ISCED CODE: 0811 554 A

TVET CDACC
P.O. BOX 15745-00100 NAIROBI

CARRY OUT ANIMAL PRODUCTION

ISCED UNIT CODE: 0811 551 24A

TVETCDACC UNIT CODE: AG/OS/PN/CR/04/6/MA

UNIT DESCRIPTION

This unit specifies the competencies required by Agri-enterprise technologist level 6 to apply principles of ruminant production, non-ruminant production, bee keeping and fish farming

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace functions	**PERFORMANCE CRITERIA** These are assessable statements which specify the required level of performance for each of the elements ***(Bold and italicized terms are elaborated in the range)***
1. Produce ruminant animals	1.2 ***Ruminant animals*** are identified as per animal production manual 1.3 Ruminant animal ***breeding stock selection method*** is applied out as per work requirement 1.4 ***Breeding methods*** are applied as per work procedure 1.5 ***Animals feeding practices*** are applied as per work requirement 1.6 ***Animals routine management practices*** are performed as per work procedure 1.7 ***Animal parasites*** control methods are applied as per work requirement 1.8 ***Animal disease control methods*** are applied as per work

	requirement
2. Produce non- ruminant animals	2.1 ***Non-Ruminant animals*** are identified as per animal production manual 2.2 Non -Ruminant animal breeding stock selection is carried out as per work requirement 2.3 Breeding methods are applied as per work procedure 2.4 Animals feeding practices are applied as per work requirement 2.5 Animals' routine management practices are performed as per work procedure 2.6 Animal parasites control methods are applied as per work requirement 2.7 Animal disease control methods are applied as per work requirement
3.Produce emerging-livestock	3.1 ***Emerging- livestock*** are identified as per animal production manual 3.2 Emerging- livestock breeding stock selection is carried out as per work requirement 3.3 Breeding methods are applied as per work procedure 3.4 Animals feeding practices are applied as per work requirement 3.5 Animals' routine management practices are performed as per work procedure 3.6 Animal parasites control methods are applied as per work requirement 3.7 Animal disease control methods are applied as per work requirement

4. Conduct fish farming	4.1 ***Fish species*** are identified as per fish production manual 4.2 ***Fish farm site selection*** is carried out as per work requirement 4.3 Fish pond is constructed as per work requirement 4.4 ***Fish Pond maintenance practice*** is carried out as per work requirement 4.5 Fish predators and parasites are controlled as per FPM 4.6 ***Fish diseases causes*** are controlled as per work procedures 4.7 Fish pond stocking is carried out as per work requirement
5. Conduct bee keeping	5.1 Apiary site is identified as per work requirement and farm plan 5.2 ***Bee hives*** are constructed as per work procedure 5.3 Apiary site is prepared as per the work procedures 5.4 Bee hives are erected in the apiary as per work requirement 5.5 Bee hives are stocked as per work procedures 5.6 ***Bee products*** are harvested as per the work procedures

RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	**Range**
1. Ruminant animals may include but are not limited to:	• Cattle • Goats • Camel • Sheep • Donkey
2. Breeding stock selection method may include but are not limited to:	• Tandem method • Progeny testing • Random selection • Contemporary comparison

3. Breeding methods may include but are not limited to:	• Natural mating • Artificial insemination • Embryo transplant
4. Animals feeding practices may include but are not limited to:	• Steaming up • Creep feeding • Flushing
5. Animals routine management practices may include but are not limited to:	• Castration • Docking • Hoof trimming • Shearing • Dehorning • Identification • Cleaning animal houses • Disbudding • Vaccination
6. Animals' parasites may include but are not limited to:	• External parasites – keds, tsetsefly, fleas, lice, tick • Internal parasites- roundworm, tapeworm, liver fluke, hookworm.
7. Animal disease control methods may include but are not limited to:	• Quarantine • Vaccination • Isolation • Proper breeding and selection • Proper feeding and nutrition • Proper hygiene • Use of prophylactic drugs • Use of antiseptics
8. Non-Ruminant animals may include but are not limited to:	• Poultry • Rabbit

	• Pigs
9. Emerging animals may include but are not limited to:	• Crocodiles • Ostrich • Snakes • Maggots • Earthworms
10. Fish species animals may include but are not limited to:	• Marine fish • Fresh water fish
11. Fish farm site selection may include but are not limited to:	• Security • Species of fish to be reared • Type of soil • Availability of water • Source of reputable fingerlings • Management skills
12. Fish Pond maintenance practice may include but are not limited to:	• Feeding • Aeration • Water flow rate control • Water quality monitoring • Predator control • Sludge removal • Declogging of drainage system • Cleaning of filters • Harvesting • Growth monitoring • Fingerling/fry grading • Marketing of hatchery products • Fish health monitoring • Fish propagation • Fish stocking

	• Fingerling packaging and transport • De-siltation • Fertilization
13. Fish diseases causes may include but are not limited to:	• Environmental/water quality causes • Hereditary/genetic causes • Microbial/pathogenic causes • Nutritional causes • Physical injury
14. Bee hives may include but are not limited to:	• Lungstroth • Kenya top bar hive • Box hive
15. Bee products may include but are not limited to:	• Honey • Propolis • Bee venom • Creamed honey • Manuka honey • Comb honey • Honeycomb • Beeswax • Bee pollen • Royal jelly

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

Required knowledge

The individual needs to demonstrate knowledge of:

- Genetics
- Numeracy skills

- Digital literacy
- Fish health monitoring techniques
- Livestock routine management practices

Required skills

The individual needs to demonstrate the following skills:

- Quarantine
- Vaccination
- Isolation
- breeding and selection
- Proper feeding and nutrition Water flow rate control
- Water quality monitoring
- Predator control in fish ponds
- Sludge removal in fish ponds

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Applied Ruminant animal breeding stock selection method out as per work requirement 1.2 Applied Breeding methods as per work procedure 1.3 Applied Animals feeding practices as per work requirement 1.4 Performed Animals routine management practices as per work procedure 1.5 Applied Animal parasites control methods as per work

	requirement 1.6 Applied Animal disease control methods as per work requirement 1.7 Carried out Non -Ruminant animal breeding stock selection as per work requirement 1.8 Carried out Emerging- livestock breeding stock selection as per work requirement 1.9 Constructed Fish Pond as per work requirement 1.10 Carried out Fish Pond maintenance practice as per work requirement 1.11 Controlled Fish predators and parasites as per FPM 1.12 Controlled Fish diseases causes as per work procedures 1.13 Carried out Fish Pond stocking as per work requirement 1.14 Constructed Bee hives are per work procedure 1.15 Stocked Bee hives as per work procedures 1.16 Harvested Bee products are per the work procedures
2. Resource implications	The following resources should be provided: 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proposed activities or tasks
3. Methods of Assessment	Competency may be assessed through: 3.1 Practical 3.2 Project 3.3 Third party report 3.4 Portfolio of evidence 3.5 Written tests 3.6 Oral questioning
4. Context of Assessment	4.1 This competency may be assessed in a work place or in a simulated work place.

5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.