

**REPUBLIC OF KENYA**

**COMPETENCY BASED MODULAR CURRICULUM**

**FOR**

**ANIMAL PRODUCTION**

**LEVEL 4**

**PROGRAMME ISCED CODE: 0811 354 A**

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FOREWORD

The provision of quality education and training is fundamental to the Government’s overall strategy for social and economic development. Quality education and training contribute to the achievement of Kenya’s development blueprint and sustainable development goals.

Reforms in the education sector are necessary to achieve Kenya Vision 2030 and meet the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution, and this resulted in the formulation of the Policy Framework for Reforming Education and Training in Kenya (Sessional Paper No. 14 of 2012). A key feature of this policy is the radical change in the design and delivery of TVET training. This policy document requires that training in TVET be competency-based, curriculum development be industry-led, certification be based on demonstration of competence, and the mode of delivery allow for multiple entry and exit in TVET programmes.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that this curriculum has been developed. For trainees to build their skills on foundational hands-on activities of the occupation, units of learning are grouped in modules. This has eliminated duplication of content and streamlined exemptions based on skills acquired as a trainee progresses in the up-skilling process, while at the same time allowing trainees to be employable in the shortest time possible through the acquisition of part qualifications.

It is my conviction that this curriculum will play a great role in developing competent human resources for the Animal Sector’s growth and development.

**PRINCIPAL SECRETARY**

**STATE DEPARTMENT FOR TVET**

**MINISTRY OF EDUCATION**

# PREFACE

Kenya Vision 2030 aims to transform Kenya into a newly industrializing middle-income country, providing high-quality life to all its citizens by the year 2030. Kenya intends to create globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through lifelong education and training. TVET has a responsibility to facilitate the process of inculcating knowledge, skills, and worker behaviour necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency-Based Education and Training (CBET).

TVET Act, CAP 210A and Sessional Paper No. 1 of 2019 on Reforming Education and Training in Kenya for Sustainable Development emphasized the need to reform curriculum development, assessment, and certification. This called for a shift to CBET to address the mismatch between skills acquired through training and skills needed by industry, as well as increase the global competitiveness of the Kenyan labour force.

This curriculum has been developed in adherence to the Kenya National Qualifications Framework and CBETA standards and guidelines. The curriculum is designed and organized into Units of Learning with Learning Outcomes, suggested delivery methods, learning resources, and methods of assessing the trainee’s achievement. In addition, the units of learning have been grouped in modules to concretize the skills acquisition process and streamline upskilling.

I am grateful to all expert trainers and everyone who played a role in translating the Occupational Standards into this competency-based modular curriculum.

# ACKNOWLEDGMENT

This curriculum has been designed for competency-based training and has independent units of learning that allow the trainee flexibility in entry and exit. In developing the curriculum, significant involvement and support were received from expert trainers, institutions and organizations.

I recognize with appreciation the role of the National Agriculture Sector Skills Committee (NSSC) in ensuring that competencies required by the industry are addressed in the curriculum. I also thank all stakeholders in the Agriculture sector for their valuable input and everyone who participated in developing this curriculum.

I am convinced that this curriculum will go a long way in ensuring that individuals aspiring to work in the Agriculture Sector acquire competencies to perform their work more efficiently and effectively.

# ACRONYMS

|  |  |
| --- | --- |
| PPEs | Personal Protective Equipment |
| ISCED | International Standard Classification of Education |
| TVET | Technical and vocational education and training |

# KEY TO UNIT CODE

Sector / Industry

Sub Sector

Occupational Area

Version Control

Unit of Competence Number

ISCED level, Programme Orientation and Level of Completion

xx

x

xxx

x

x

x

# TABLE OF CONTENTS

Contents

[FOREWORD III](#_Toc197038488)

[PREFACE IV](#_Toc197038489)

[ACKNOWLEDGMENT V](#_Toc197038490)

[ACRONYMS VI](#_Toc197038491)

[KEY TO UNIT CODE VII](#_Toc197038492)

[TABLE OF CONTENTS VIII](#_Toc197038493)

[MODULE 1 12](#_Toc197038494)

[LIVESTOCK FEEDS PRODUCTION 13](#_Toc197038495)

[DAIRY CATTLE MANAGEMENT 18](#_Toc197038496)

[BEEF CATTLE MANAGEMENT 30](#_Toc197038497)

[MODULE II 40](#_Toc197038498)

[SHEEP PRODUCTION 41](#_Toc197038499)

[GOAT PRODUCTION 49](#_Toc197038500)

[PIG PRODUCTION 57](#_Toc197038501)

[POULTRY PRODUCTION 69](#_Toc197038502)

**CURICULUM OVERVIEW**

The Animal Production Technician level 4 consists of competencies that an individual must have to perform animal production. The units of learning comprising animal production technician level 4 include:

**SUMMARY OF UNITS OF COMPETENCY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit**  **Category** | **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factors** |
| **MODULE 1** | | | | |
| CORE | 0811 351 01 A | Livestock feeds production | 100 | 10 |
| CORE | 0811 351 02 A | Dairy Cattle management | 120 | 12 |
| CORE | 0811 351 03 A | Beef Animals management | 80 | 8 |
| **Total 1** | | | **300** | **30** |
| **MODULE 2** | | | | |
| CORE | 0811 351 05 A | Sheep Production | 80 | 8 |
| CORE | 0811 351 06 A | Goat Production | 80 | 8 |
| CORE | 0811 351 07 A | Pig Production | 100 | 10 |
| CORE | 0811 351 08 A | Poultry Production | 120 | 12 |
| **Industrial training** | | | **320** | **32** |
| **Grand total** | | | **1000** | **100** |

**Entry Requirements**

An individual entering this course should have any of the following minimum requirements:

1. Kenya Certificate of Secondary Education (KCSE) and one subsidiary or an equivalent qualification
2. or KNQF Level 3 qualification in animal production or related field

**Or**

1. Equivalent qualification as may be determined by the Technical and Vocational Education and Training Authority (TVETA).

**Trainer qualification**

A trainer for any of the Units of Competency in this course MUST:

1. Have at least a minimum qualification of level 5 in Animal Production Technology or related course.
2. Be licensed by TVETA.

**Industrial attachment**

An individual enrolled in this course will be required to undergo Industry training for a minimum period of 320 hours in animal production sector. The industrial training may be taken after completion of all units for those pursuing the full qualification or be distributed equally in each unit for those pursuing part qualification. In the case of dual training model, industrial training shall be as guided by the dual training policy.

**Assessment Requirements**

The course shall be assessed formatively and summatively:

1. During formative assessment all performance criteria shall be assessed based on performance criteria weighting.
2. Number of formative assessments shall minimally be equal to the number of elements in a unit of competency
3. Assessment of basic and common competencies shall be integrated in the core units
4. Theoretical assessment shall be integrated in practical assessment and conducted orally in both formative and summative assessments.
5. Theoretical and practical weight shall be 10:90 respectively for each unit of learning.
6. Formative and summative assessments shall be weighted at 60% and 40% respectively in the overall unit of learning score
7. Assessment performance rating for each unit of competency shall be as follows:

|  |  |
| --- | --- |
| **MARKS** | **COMPETENCE RATING** |
| 80 -100 | Attained Mastery |
| 65 - 79 | Proficient |
| 50 - 64 | Competent |
| 49 and below | Not Yet Competent |
| Y | Assessment Malpractice/irregularities |

1. Assessment for Recognition of Prior Learning (RPL) may lead to award of part and/or full qualification.

**Certification**

A candidate will be issued with a Certificate of Competency upon demonstration of competence in a unit of competency. To be issued with Kenya National TVET Certificate in Animal Production Technology Level 4, the candidate must demonstrate competence in all the units of competency as given in qualification pack. Statement of Attainment certificate may be issued upon demonstration of competence in a certifiable element within a unit.

This qualification shall be awarded by Qualification Awarding Institution.

# MODULE 1

# LIVESTOCK FEEDS PRODUCTION

**UNIT CODE:** 0811 351 01 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Produce Livestock Feeds

**Duration of Unit: 100 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to produce livestock feeds. It involves producing livestock forage, conserving livestock forage, and formulating livestock feed rations.

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
| 1. | Produce livestock forage | 40 |
| 2. | Conserve livestock forage | 20 |
| 3. | Formulate livestock rations | 40 |
| **Total** | | **100** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Produce livestock forage | * 1. Forage production tools and equipment      1. Grass cutters      2. Generator      3. Water pump with hose      4. Tractors (optional)      5. Plough and harrow      6. Shovel      7. Hoe      8. Water sprinklers      9. Planter      10. Wheelbarro      11. Hole digger      12. Fencing materials   2. Propagation materials      1. Seeds      2. Seedlings      3. Cuttings      4. Splits      5. Tubers   3. Land preparation      1. Good Agricultural Practices (GAP)         1. Liming         2. Mulching   4. Establishing propagation materials      1. Direct sowing      2. Broadcasting      3. Transplant   5. Forage management      1. Pastures      2. Fodder crops   6. Harvesting of forage. | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 2.Conserve livestock forage | * 1. Quality assessment of forage   2. Conservation of forages      1. Silage      2. Hay   3. Storage of forage   4. Forage production record   5. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Formulate livestock rations | * 1. Feed formulation tools and equipment   2. Animal feeds ingredients      1. Feed additives,      2. Bran      3. Mineral premixes   3. Sourcing of animal feeds ingredients   4. Weighing of animal feed ingredients   5. Feed formulation methods      1. Pearson square      2. Trial and error      3. Computation method   6. Packaging and storage of formulated feeds   7. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 5 | | 1:5 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | National Pig Development Programme Manual | | updated | 5 | | 1:5 | |
|  | Breeder’s manuals by breeders like Cobb and Issa Brown | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Forage farm | 1 | | 1 | | 1:25 | |
|  | machinery | Tractor, mowers  balers | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Wheelbarrow | Any model | | | 1 | | 1:25 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades | In good condition | | | 5 | | 1:5 |
| **F** | **Specimens** |  | | |  | |  |
|  | forage | Rhodes grass, lucerne | | | 5each type | | 1:5 |

# DAIRY CATTLE MANAGEMENT

**UNIT CODE:** 0811 351 02 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Manage Dairy Cattle

**Duration of Unit: 120 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to manage dairy cattle which involves construction dairy cattle structures, feeding of dairy cattle, breeding of dairy cattle, managing of dairy calf, production of clean milk, Performing dairy cattle routine management practices and marketing of dairy products

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
| 1. | Construct dairy cattle structures | 40 |
|  | Feed dairy cattle | 10 |
|  | Breed dairy cattle | 10 |
|  | Manage dairy calf | 20 |
|  | Produce clean milk | 10 |
|  | Perform dairy cattle routine management practices | 30 |
| **Total** | | **120** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| * + - 1. Construct dairy cattle structures | * 1. Dairy production tools and equipment      1. Milking machine      2. Milking parlor      3. Buckets   2. Site selection of dairy cattle structures      1. Crushes      2. Milking parlor      3. Barn      4. Feeding facility      5. Cattle shed      6. Cattle dips      7. Feed storage facility      8. Farm office   3. Designing of dairy cattle structures   4. Construction of dairy cattle structures   5. Maintenance of dairy cattle structures      1. Repairing      2. Cleaning      3. Dusting      4. creasing   6. Dairy structure maintenance records   7. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| * + - 1. Feed dairy cattle | * 1. Tools and equipment   2. Identification of dairy cattle feeds      1. Carbohydrates      2. Proteins      3. Vitamins      4. Minerals      5. Fats/ lipids      6. Water   3. Grouping of dairy cattle based on nutritional requirements      1. Young      2. Dry      3. Lactating      4. In calf      5. steers   4. Dairy cattle feeding regime   5. Feeding dairy cattle   6. Dairy feed intake evaluation.   7. Feed conversion efficiency evaluation   8. Dairy cattle feeding records   9. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| * + - 1. Breed dairy cattle | * 1. Breeding tools and equipment      1. AI Kit      2. Semen straws   2. Dairy cattle breeds      1. Friesian      2. Aryshire      3. Sahiwal      4. Jersey      5. Brown Swiss   3. Selection methods      1. Pedigree      2. Sibling      3. Family      4. Progeny   4. Heat signs in dairy cattle   5. Flushing   6. Breeding methods and technologies      1. Artificial insemination      2. Natural method      3. Cross breeding      4. Pure breeding      5. Inbreeding      6. Embryo transfer      7. Surrogate   7. Gestation management   8. Care of In-calf dairy cows   9. Steaming up   10. Parturition management   11. Breeding records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| * + - 1. Manage dairy calf | * 1. Calf management tools, equipment and materials   2. Preparing calf pen   3. Handling of calf at birth   4. Feeding calf on colostrum   5. Fostering of orphaned calves   6. Preparation of artificial colostrum   7. Calf identification      1. Ear tagging      2. Ear notching      3. Branding      4. Neck chains      5. Straps with numbers   Ear tattooing   * 1. Calf housing   2. Introduction of calf to roughage feeding   3. Disbudding of calf a and removal of extra mammary teats   4. Calf weighing   5. Monitoring of calf growth rate   6. Calf weaning   7. Management and disposal of waste | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| * + - 1. Produce clean milk | * 1. Milking materials and equipment      1. Cups      2. Herd Test Buckets      3. Thermometer      4. Separator   2. Assembling of milking cows   3. Restraining of milking cows   4. Cleaning and pre-dipping of udder   5. Carrying out of mastitis test      1. CMT      2. Strip cup   6. Stimulation of milk let down   7. Milking techniques      1. Hand milking      2. Milking machine   8. Milking   9. Disinfecting of udder hindquarters   10. Releasing of Milked cow   11. Sieving and weighing milk   12. Storage of milk and cooling   13. Maintenance of milk production records   14. Cleaning of milking equipment   15. Cleaning of milking parlor   16. Storage of re-usable materials   17. Management and disposal of waste | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 6. Perform dairy cattle routine management practices | * 1. Identification method      1. Ear tagging      2. Ear notching      3. Branding      4. Neck chains      5. Straps with numbers      6. Ear tattooing   2. Dehorning and disbudding of cattle   3. Trimming of overgrown hooves   4. Culling of dairy cattle   5. Control of external and internal parasites methods      1. Dipping      2. Bush clearing      3. Dusting      4. Spraying      5. Deworming      6. Drenching   6. Vaccination   7. Cattle isolation and quarantine to control notifiable diseases   8. Provision of clean water ad-libitum to dairy cattle | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 7. Market dairy cattle products | 7.1 Conducting market survey   * 1. Dairy cattle products      1. Milk      2. Hides      3. Hooves      4. Cream.      5. Butter.      6. Fermented.      7. Yogurt.      8. Cheese   2. Dairy cattle transportation   3. Maintenance of marketing records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 5 | | 1:5 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | National Pig Development Programme Manual | | updated | 5 | | 1:5 | |
|  | Breeder’s manuals by breeders like Cobb and Issa Brown | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Drinkers | 1 | | 1 | | 1:25 | |
|  | Feeding trough | 1 | | 1 | | 1:25 | |
|  | Grass | 1 | | 1 | | 1:25 | |
|  | Shrub | Well equipped | | 1 | | 1:25 | |
|  | * Crushes * Milking parlor * Barn * Crushes, Feeding facility * Cattle shed, Cattle dips * Feed storage facility * dairy farm * Farm office * Pasture forage * Hay, Silage * Straw * Grain by-products | In good condition | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| 3. | Dairy cattle feeds | * Carbohydrates * Proteins * Vitamins * Minerals * Fats/ lipids * Water | | Adequate | |  | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Wheelbarrow | Any model | | | 5 | | 1:5 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades | In good condition | | | 5 | | 1:5 |
|  | Ear Notchers | In good condition | | | 5 | | 1:5 |
|  | Milking machine | In good condition | | | 1 | | 1:25 |
|  | * Animal Restraint * Cleaning * Cups * Herd Test Buckets * Thermometer * Separator * CMT * Strip cup * Milking machine * Ear tattooing |  | | | 5 in each category | | 1:5 |
|  | Ear tags | In good condition | | | 5 | | 1:5 |
|  | Neck chains | In good condition | | | 5 | | 1:5 |
|  | Straps with numbers | In good condition | | | 5 | | 1:5 |
|  | Branding |  | | |  | |  |
|  | Herd Test Buckets  Thermometer |  | | |  | |  |
| **F** | **Specimens** |  | | |  | |  |
| 1. | Dairy breeds | * Dairy Cattle * Friesian * Ayrshire * Sahiwal * Jersey   Brown Swiss | | | 1each type | | 1:5 |

# BEEF CATTLE MANAGEMENT

**UNIT CODE:** 0811 351 03 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Manage Beef Animals

**Duration of Unit: 80 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to manage beef animals. It involves constructing beef cattle structures, carrying out beef cattle feeding, carrying out beef cattle breeding carrying out calf management, performing beef cattle routine management practices managing fattening stock slaughtering beef cattle and marketing beef products

products

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
| 1. | Construct beef cattle structures | 20 |
|  | Carry out beef cattle feeding**.** | 5 |
|  | Carry out beef cattle breeding | 10 |
|  | Carry out calf management | 15 |
|  | Perform beef cattle routine management practices | 15 |
|  | Manage fattening stock | 10 |
|  | Slaughter beef cattle | 5 |
| **Total** | | **80** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| Construct beef cattle structures | * 1. Tools and equipment   2. Beef structures      1. Crushes      2. Milking parlor      3. Barn      4. Feeding facility      5. Cattle shed      6. Cattle dips      7. Feed storage facility      8. Farm office   3. Designing of beef structures   4. Construction of beef structures   5. Maintenance of beef structures   6. Beef structure maintenance records   7. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out beef cattle feeding | * 1. Tools and equipment   2. Beef cattle feeds      1. Pasture forage      2. Hay      3. Silage      4. Straw      5. Grain by-products   3. Grouping of beef cattle based on nutritional requirements      1. Young stock      2. Steers      3. Fatteners      4. Finishers   4. Beef cattle feeding regime   5. Beef cattle feeding based on their nutritional requirements   6. Feed supplements      1. Minerals      2. Premixes      3. salts   7. Beef feed intake evaluation   8. Feed conversion efficiency evaluation   9. Beef cattle feeding records   10. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out beef cattle breeding | * 1. Breeding tools and equipment   2. Beef cattle breeds      1. Angus      2. Hereford      3. Charolais      4. Simmental   3. Signs of heat   4. Estrus synchronization   5. Flushing   6. Beef cattle servicing   7. Breeding methods and technologies      1. Artificial insemination      2. Natural method      3. Cross breeding      4. Pure breeding      5. Inbreeding      6. Embryo transfer   8. Surrogate   9. Care for In-calf beef   10. Steaming up   11. Parturition management   12. Breeding records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out calf management | * 1. Calf management tools, equipment and materials   2. Preparation of calf pen   3. Handling of calf at birth   4. Feeding calf on colostrum   5. Fostering of orphaned calves   6. Preparation of artificial colostrum   7. Methods of calf identification      1. Ear tagging      2. Ear notching      3. Branding      4. Neck chains      5. Straps with numbers   8. Calf housing   9. Introduction of calf to roughage feeding   10. Disbudding of calf a and removal of extra mammary teats   11. Calf weighing   12. Monitoring of calf growth rate   13. Calf weaning   14. Management and disposal of wastes | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 5.Perform beef cattle routine management practices | * 1. Beef cattle identification methods      1. Ear tagging      2. Ear notching      3. Branding      4. Neck chains      5. Straps with numbers      6. Ear tattooing   2. Dehorning and disbudding of beef cattle      1. Hot iron      2. Use of chemicals      3. Use of Saws      4. Electric method      5. Disbudding rod      6. Dehorning wire   3. Castration of beef cattle   4. Hoof trimming of beef cattle   5. Culling   6. Control of internal and external parasites      1. Dipping      2. Bush clearing      3. Dusting      4. Spraying      5. Deworming      6. Drenching   7. Vaccination   8. Cattle isolation and quarantine   9. Provision of clean water ad-libitum | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 6.Manage fattening stock | * 1. Tools and equipment   2. Preparation of Feedlot facilities      1. Feedlot pens      2. Feed storage      3. Feed processing mill      4. Feed mixing/batching      5. Feed bunks   3. Selection of fattening stock   4. Management practices for Fattening stock      1. Vaccination      2. Hoof care      3. Deworming      4. Disease and parasite control   5. Monitoring of fattening stock   6. Marketing of fattening stock   7. Record keeping   8. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 7. Slaughter beef cattle | * 1. Slaughtering tools, equipment and materials      1. Knives      2. Stunners      3. Sculding tanks      4. Gabrel and hoists      5. Cutting boards and tables   2. Preparation of slaughter house slab   3. Pre-slaughter handling of beef cattle   4. Humane slaughter of beef cattle   5. Dressing of carcass   6. Cleaning of the offal   7. Preservation of dressed meat   8. Transportation of dressed meat   9. Handling of beef by-products   10. Disposal of condemned waste materials   Any parts of the animal that are deemed unfit for human consumption   * 1. Cleaning of slaughterhouse and equipment   2. Maintenance of slaughter house structures   3. Record keeping | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 8.Market beef products | * 1. Conducting market survey   2. Transportation of cattle   3. Beef products   4. Marketing records maintenance | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources for 25 trainees**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 5 | | 1:5 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | Breeder’s manuals by breeders like Cobb and Issa Brown | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Drinkers | 1 | | 1 | | 1:25 | |
|  | Feeding trough | 1 | | 1 | | 1:25 | |
|  | Grass | 1 | | 1 | | 1:25 | |
|  | Shrub | Well equipped | | 1 | | 1:25 | |
|  | * Crushes * Milking parlor * Barn * Crushes, Feeding facility * Cattle shed, Cattle dips * Feed storage facility * dairy farm * Farm office * Pasture forage * Hay, Silage * Straw * Grain by-products | In good condition | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| **D** | **Tools And Equipment** | | | | | | |
| 2 | Wheelbarrow | Any model | | | 1 | | 1:25 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades | In good condition | | | 5 | | 1:5 |
|  | Ear Notchers | In good condition | | | 5 | | 1:5 |
|  | Ear tags | In good condition | | | 5 | | 1:5 |
|  | Neck chains | In good condition | | | 5 | | 1:5 |
|  | Straps with numbers | In good condition | | | 5 | | 1:5 |
|  | Branding iron |  | | | 5 | | 1:5 |
|  | * Herd Test Buckets * Thermometer |  | | | 5  5 | | 1:5  1:5 |
| **F** | **Specimens** |  | | |  | |  |
| 1. | beef breeds | * + Angus   + Hereford   + Charolais   + Simmental | | | 1 each type | | 1:5 |

# MODULE II

# SHEEP PRODUCTION

**UNIT CODE:** 0811 351 05 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Carry Out Sheep Production

**Duration of Unit:80 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to carry out sheep production. It involves constructing sheep structures, carrying out sheep feeding, carrying out sheep breeding, carrying out lamb management, performing sheep routine management practices and marketing sheep products.

products

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Construct sheep structures | 20 |
|  | Carry out Sheep feeding | 10 |
|  | Carry out sheep breeding | 10 |
|  | Carry out lamb management | 15 |
|  | Perform sheep routine management practices | 20 |
|  | Market sheep products | 5 |
| **Total** | | **80** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Construct sheep structures | * 1. construction tools, equipment and materials   1.1.1 tools   * Hammer * Screw drivers * Tape measures * level * saw * drill * pliers * chisel   1.1.2 equipment   * Bulldozer * Cranes * Dump trucks * Mixer * Forklifts   1.1.3 materials   * Cement * Sand * Blocks * Quary dust   1. Selection of site of sheep structures   2. Designing sheep structures   3. Construction of sheep structures   4. Maintenance of sheep structures   5. Sheep structures construction and record maintenance   6. Wate management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out Sheep feeding | * 1. Feeding tools, equipment and materials   2. Types of sheep feeds * Proteins * Carbohydrate * Additives * minerals   1. Provision of basal rations at various physiological stages   2. Feed supplements offered according to dietary requirement   3. Identification of grazing management   4. Determination of grazing capacity of the pasture   5. Feed intake evaluation   6. Evaluation of feed conversion efficiency   7. Sheep feeding record   8. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out sheep breeding | * 1. Breeding management tools, equipment and materials   2. Sheep breeds   + Hampshire Sheep   + Dorset Sheep   + Merino Sheep   + Corriedale Sheep   + Maasai sheep   + Doper   + Black head Persian   1. Selection of sheep breeds   2. heat signs in ewes * restlessness * loss of appetite * mounting others * frequent urination   1. Flushing   2. Raddling   3. Crutching and ringing   4. Servicing   5. Breeding methods and technologies   + Artificial insemination   + Natural method   + Embryo transfer   + Surrogate   1. Provision of care for pregnant ewes   + Steaming up   1. Lambing management   2. Breeding records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out lamb management | * 1. Handling of lamb at birth   2. Feeding lamb on colostrum   3. Fostering of orphaned lambs   4. Lamb identification methods   5. Docking   6. Lamb weighing   7. Monitoring of lamb growth rate   8. Waste management | * Practical * Projects * Demonstrations * Direct instructions * Written assessment * Oral questioning |
| 1. Perform sheep routine management practices | * 1. Sheep identification method   + Ear Tagging   + Ear Notching   + Neck Chains or Straps   1. Sheep castration   + **Closed castration**   + **Surgical Castration**   1. Trimming of overgrown hooves   2. Wigging   3. Shearing   4. Culling   5. Control of internal and external parasites * Dipping * Bush clearing * Dusting * Spraying * Deworming * Drenching   1. Isolation and quarantine   2. Control of notifiable diseases * Vaccination * quarantine * Burning of carcass * Burring of carcass * disinfection   1. Provision of clean water ad-libitum   2. Record keeping | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Market sheep products | * 1. Conducting market survey   2. Sheep products * Mutton * wool * hooves   1. Sheep transportation   2. Marketing records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources for 25 trainees**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 5 | | 1:5 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | Breeder’s manuals | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Drinkers | 1 | | 1 | | 1:25 | |
|  | Feeding trough | 1 | | 1 | | 1:25 | |
|  | Grass | 1 | | 1 | | 1:25 | |
|  | Shrub | Well equipped | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Wheelbarrow | Any model | | | 1 | | 1:25 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades | In good condition | | | 5 | | 1:5 |
|  | Ear Notchers | In good condition | | | 5 | | 1:5 |
|  | Ear tags | In good condition | | | 5 | | 1:5 |
|  | Neck chains | In good condition | | | 5 | | 1:5 |
|  | Straps with numbers | In good condition | | | 5 | | 1:5 |
| **F** | **Specimens** |  | | |  | |  |
| 1. | sheep breeds | * Hampshire Sheep * Dorset Sheep * Merino Sheep * Corriedale Sheep * Maasai sheep * Doper * Black head Persian | | | 1 each type | | 1:25 |

# 

# GOAT PRODUCTION

**UNIT CODE:** 0811 351 06 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Carry Out Goat Production

**Duration of Unit: 80 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to carry out goat production. It involves constructing goat structures, carrying out goat breeding, carrying out goat feeding, performing goat routine management practices, carrying out kid management and marketing goat products.

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Construct goat structures | 20 |
|  | Carry out goat feeding | 10 |
|  | Carry out goat breeding | 10 |
|  | Perform goat routine management practices | 20 |
|  | Carry our kid management | 10 |
|  | 1. Market goat products | 10 |
| **Total** | | **80** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Construct goat structures | * 1. Tools, equipment and materials   1.1.1 tools   * hammer * screw drivers * tape measures * level * saw * drill * pliers * chisel   1.1.2 equipment   * Bulldozer * Cranes * Dump trucks * Mixer * Forklifts   1.1.3 materials   * Cement * Sand * Blocks * Quary dust   1. Selection of site for goat structure   2. Construction of goat structures   3. Maintenance of goat structures   4. Construction and maintenance of goat structure records   5. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out goat feeding | * 1. Feeding tools, equipment and materials   2. Goat feeds   + Grass   + Shrubs   + Commercially formulated feeds   1. provision of basal rations   2. feed supplements   + Vitamins   + Minerals   + Hormones   + Medicants   1. Grazing management   2. Pasture grazing capacity   3. Evaluation of feed intake   4. Evaluation of feed conversion efficiency   5. Goat feeding records   6. waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out goat breeding | * 1. Breeding management tools, equipment and materials   2. Goat breeds   + Angora, Alpine   + Toggenburg   + Saanen, Jamnapuri   + Boar, Anglo-Nubian   + Somali/ Galla   1. Selection of goat breeds   2. Heat signs in does   3. Flushing   4. Servicing   5. Natural mating   6. Artificial insemination   7. Provision of care to pregnant does   8. Steaming up   9. Management of kid   10. Breeding records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Perform goat routine management practices | * 1. Goat identification methods   + Tattooing   + Ear-tagging   + Ear notching,   + Microchips   + Naming   4.2 Goat castration methods   * + Rubber ringing   + Open castration   4.3Hoof trimming   * 1. Shearing   2. Culling   3. Control of internal and external parasites * Dipping * Bush clearing * Dusting * Spraying * Deworming   Drenching   * 1. Vaccination   2. Isolation and quarantine   3. Provision of clean water ad-libitum   4. Records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry our kid management | * 1. Handling of kids at birth   2. Feeding kids on colostrum   3. Fostering of orphaned kids   4. Kid identification methods   + Ear Tagging   + Ear Notching   + Neck Chains or Straps   1. Weighing of kids   2. Monitoring of kid growth rate   3. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Market goat products | * 1. Conducting Market survey   2. Goat products * Milk * Wool * Shoven * Skin * Hooves   1. Goat transportation   2. Goat products marketing   3. Marketing records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources for 25 trainees**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 5 | | 1:5 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | Breeder’s manuals | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Drinkers | 1 | | 1 | | 1:25 | |
|  | Feeding trough | 1 | | 1 | | 1:25 | |
|  | Grass | 1 | | 1 | | 1:25 | |
|  | Shrub | Well equipped | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Wheelbarrow | Any model | | | 1 | | 1:25 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades | In good condition | | | 5 | | 1:5 |
|  | Ear Notchers | In good condition | | | 5 | | 1:5 |
|  | Ear tags | In good condition | | | 5 | | 1:5 |
|  | Neck chains | In good condition | | | 5 | | 1:5 |
|  | Straps with numbers | In good condition | | | 5 | | 1:5 |
| **F** | **Specimens** |  | | |  | |  |
| 1. | Goat breeds | Angora,  Alpine  Toggenburg  Saanen  Jamnapuri  Boar  Anglo-Nubian  Somali/ Galla | | | 5each type | | 1:5 |

# PIG PRODUCTION

**UNIT CODE:** 0811 351 07 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Carry Out Pig Production

**Duration of Unit: 100 Hours**

**UNIT DESCRIPTION**

This unit describes competencies required to carry out pig production. It involves feeding pigs, carrying out breeding, carrying out piglet rearing, performing routine management practices and performing pig slaughter.

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Construct pig structures | 20 |
|  | Carry out pig feeding | 10 |
|  | Carry out pig breeding | 10 |
|  | Carry our piglet rearing | 10 |
|  | Perform pig routine management practices | 20 |
|  | Perform pig slaughter | 10 |
|  | Process pig products and by- products | 10 |
|  | Market pig products | 10 |
| **Total** | | **100** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Construct pig structures | * 1. Construction tools, equipment and materials   1.1.1 tools   * hammer * Screw drivers * tape measures * level * saw * drill * pliers * chisel   1.1.2 equipment   * Bulldozer * Cranes * Dump trucks * Mixer * Forklifts   1.1.3 materials   * Cement * Sand * Blocks * Quary dust   1. Site selection for pig structure   2. Construction of pig structure   3. Maintenance of pig structures   4. Construction and maintenance of pig structure records   5. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out pig feeding | * 1. Feeding tools, equipment and materials * Feed basins * Feed mixer * Hay feeders * Mineral feeders   1. Pig feeds * Sow and weaner * Pig finisher * Pig starter * Creep feeds   1. Provision of basal rations   2. Feed supplements * Wheat bran * Creep feed * Mineral licks * Feed additives   1. Evaluation of feed intake   2. Evaluation of feed conversion efficiency   3. Pig feeding records   4. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry out pig breeding | * 1. Pig breeding management tools, equipment and materials * Heat detection devices * Insemination guns   3.2 Pig breeds   * Large white * Landrace * Duroc jersey * Berkshire   1. Selection of pig breeds   2. Heat signs in Does   3. Flushing   4. Breeding methods and technologies * A.1 * Synchronization * Cross breeding * Pure breeding * Inbreeding   1. Provision of care to pregnant does   2. Steaming up   3. Farrowing management   4. Breeding records | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Carry our piglet rearing | * 1. Assembling of tools, equipment and materials   2. Nutritional management applied on suckling sow and piglets * Flushing * Steaming up * Fattening * Creep feeding   1. Environmental conditions maintained in piglet pens * Temperature * Cleanliness * Humidity * Light   1. Health monitoring and management   2. Piglets handling   3. Preparation of Artificial colostrum   4. Weighing of piglets   5. Vaccination   6. Iron supplementation   7. Teeth clipping   8. Docking   9. Weaning management conduction   10. Record maintenance   11. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Perform pig routine management practices | * 1. Pig identification methods   + Ear tags   + Ear notching   + Neck chains   + Straps with numbers   1. Grooming performance   2. Hygiene and sanitation   3. Culling   4. Control of internal and external parasites * Dipping * Bush clearing * Dusting * Spraying * Deworming   Drenching   * 1. Vaccination   2. Isolation and quarantine   3. Provision of clean water ad-libitum   4. Records preparation   5. Pig farm bio-security practices * Foot bath * Quarantine * Pen disinfection * Equipment sterilization * Fencing | Written assessment  Practical  Projects  Third party report  Portfolio of evidence  Oral questions |
| 1. Perform pig slaughter | * 1. Slaughter tools, equipment and materials * Knives * Stunners * Sculding tanks * Gabrel and hoists * Cutting boards and tables   1. Preparation of slaughter house/slab   2. Pre-slaughter handling of pigs   3. Perform humane slaughter of pigs   4. Carcass dressing   5. Offal cleaning   6. Preservation of dressed meat   7. Transportation of dressed meat   8. Food safety and hygiene measures   9. Handling of by-products   10. Disposal of condemned materials and wastes * Parasite infested organs * Dead foetus * Hydrated infested liver * Whole carcass   1. Cleaning of slaughter house and equipment   2. Maintaining slaughter structures   3. Record keeping | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Process pig products and by-products | * 1. Data collection tools   2. Conducting market survey   3. Preparation of market survey report   4. Pig products * Sausages * Bacon * Lard * Cuts * Brawn * Smokies   Burger   * 1. Permits and certificates * Movement permits * No objection permits * Meat inspection permits * Food and hygiene certificate * Meat transportation permit   1. Tools, equipment and materials for slaughter * Knives * Stunners * Sculding tanks * Gabrel and hoists * Cutting boards and tables   1. Production schedules development   2. PPEs identification   3. Identification of carcass for processing   4. Processing of pig products   5. Food safety and hygiene   6. Packaging and storage of pig products   7. Report on pig product and by-products marketing   8. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Market pig products | * 1. Market survey   2. Identification of marketing channels   3. Development and implementation of marketing strategy   4. Identification of products competitive advantage   5. Product price   6. Product outlets   7. Contractual agreements undertaking * Verbal * Written   1. Marketing strategy   2. Report on pig products | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources for 25 trainees**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 50 | | 1:1 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | National Pig Development Programme Manual | | updated | 5 | | 1:5 | |
|  | Breeder’s manuals | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Drinkers | 1 | | 1 | | 1:25 | |
|  | Feeding trough | 1 | | 1 | | 1:25 | |
|  | Grass | 1 | | 1 | | 1:25 | |
|  | Shrub | Well equipped | | 1 | | 1:25 | |
|  |  | sufficient | |  | |  | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Wheelbarrow | Any model | | | 1 | | 1:25 |
|  | Scissors | LED.LCD, Laser | | | 5 | | 1:5 |
|  | Hand drill | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Panga | Any five | | | 5 | | 1:5 |
|  | Measuring tape | Any five | | | 5 | | 1:5 |
|  | Spade | Any five | | | 5 | | 1:5 |
|  | String/line | Any five | | | 5 | | 1:5 |
|  | Surgical blades |  | | |  | |  |
|  | Ear Notchers |  | | |  | |  |
|  | Ear tags |  | | |  | |  |
|  | Neck chains |  | | |  | |  |
|  | Straps with numbers |  | | |  | |  |
| **F** | **Specimens** |  | | |  | |  |
| 1. | Pig breeds | large white, landrace, duroc,new humpshire | | | 5each type | | 1:5 |

# POULTRY PRODUCTION

**UNIT CODE:** 0811 351 08 A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Carry Out Poultry Production

**Duration of Unit: 120 Hours**

**UNIT DESCRIPTION**

This unit specifies competencies required to carry out poultry production. It involves constructing poultry structures, carrying out chick brooding, managing layer poultry, managing meat poultry, managing poultry slaughter, managing poultry breeding and marketing poultry products.

**Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Construct poultry structures | 30 |
|  | Carry out chick brooding | 20 |
|  | Manage Layer Poultry | 20 |
|  | Manage meat poultry | 10 |
|  | Manage poultry slaughter | 20 |
|  | Manage breeding poultry | 10 |
|  | Market poultry products | 10 |
| **Total** | | **120** |

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Construct poultry structures | * 1. Construction tools, equipment and materials   1.1.1 tools   * hammer * Screw drivers * tape measures * level * saw * drill * pliers * chisel   1.1.2 equipment   * Bulldozer * Cranes * Dump trucks * Mixer * Forklifts   1.1.3 materials   * Cement * Sand * Blocks * Quary dust   1. Selection of site for poultry structure   2. Designing of poultry structure   3. Construction of poultry structures   4. Construction and maintenance of poultry structure records   5. Waste management   6. Poultry house equipment and material * Waterers * Feeders * Thermometer * Heat sources * Litter material * Curtains * False ceilings * Hygrometer   1. Installation of poultry house equipment and materials   2. Poultry production manuals   + National Poultry Development Programme Manual   + Breeder’s manuals by breeders like Cobb and Issa Brown | * + Written assessment   + Practical   + Projects   + Third party report   + Portfolio of evidence   + Oral questions |
| 1. Carry out poultry brooding | * 1. Chick brooder tools, equipment and materials * Brooder thermometer * Charcoal jiko * Infra-red bulb * Gas burner * Kerosene lamp * Chick feeder * Chick drinker * Hygrometer   1. Brooder construction   2. Brooder and brooder Equipment disinfection   3. Setting of chick brooder equipment   4. Monitoring of microclimate   5. Feeding of brooding chicks   6. Bio-safety structures/facilities. * Foot bath * Sanitizer * Fence   1. Vaccination of brooding chicks   2. Execution of predator control   3. Chick brooding records   4. Waste management | * + Written assessment   + Practical   + Projects   + Third party report   + Portfolio of evidence   + Oral questions |
| 1. Manage Layer Poultry | * 1. Poultry layer tools, equipment and materials * Waterers * Feeders * Thermometer * Litter material * Curtains * False ceilings * Hygrometer   1. Layers house sanitization procedures   2. Micro climate monitoring   3. Feeding of Layer poultry   4. Layer poultry vaccination   5. Monitoring of post-vaccination behaviour   6. Collection of Table poultry eggs   7. Sorting and grading of Table poultry eggs.   8. Cleaning of table poultry eggs   9. Packaging of table poultry eggs   10. Branding of table poultry eggs   11. Recording of poultry layers   12. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Manage meat poultry | * 1. Assembling of tools, equipment and materials   2. Sanitization of meat poultry house   3. Monitoring of microclimate   4. Feeding of meat poultry   5. Vaccination   6. Post-vaccination behaviour monitoring   7. Catching of meat poultry   8. Weighing meat poultry   9. Packaging and loading of meat poultry   10. Recording of meat poultry   11. Dispatching meat poultry   12. Recording of meat poultry   13. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Manage poultry slaughter | * 1. Poultry slaughter tools, equipment and materials * Knives * Stunners * Sculding tanks * Gabrel and hoists * Cutting boards and tables   1. Selection of poultry for slaughter   2. Ante-Morten inspection   3. Slaughtering of poultry   4. Cleaning eviscerated poultry carcass   5. Chilling and grading of poultry carcass   6. Packaging of portioned poultry meat   7. Poultry slaughter records   8. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Manage breeding poultry | * 1. Poultry breeding tools,   equipment and materials   * housing * feeders * heaters * incubators * brooders * health monitoring tools   1. Designing mating and breeding system   2. Selection of breeding poultry   3. Mating of selected breeding poultry   4. Feeding of breeding poultry   5. Vaccination   6. Post-vaccination behaviour monitoring   7. Collection of eggs   8. Sorting and storage of eggs   9. Selection of eggs for hatching   10. Breeding poultry records   11. Waste management | * Written assessment * Practical * Projects * Third party report * Portfolio of evidence * Oral questions |
| 1. Market poultry products | * 1. Market survey   2. Poultry products * Eggs * Poultry meat * Feathers * Manure * Offal   1. Transportation of poultry products   2. Record keeping | * + Written assessment   + Practical   + Projects   + Third party report   + Portfolio of evidence   + Oral questions |

**Suggested methods of delivery**

* Practical
* Project
* Demonstration
* Group work and Discussions
* Direct instruction

**Recommended Resources**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/No.** | **Category/Item** | | **Description/ Specifications** | **Quantity** | | **Recommended Ratio**  (Item: Trainee) | |
| **A** | **Learning Materials** | | | | | | |
|  | Charts | | Flip Charts  Rules and Regulations | 5 | | 1:5 | |
|  | Markers | | whiteboard markers and permanent markers | 50 | | 1:1 | |
|  | Video clips  Audio tapes | | MP4, MP3 | 5 | | 1:5 | |
|  | Newspapers and Handouts | | Daily | 25 | | 1:1 | |
|  | Business Journals | | Annual, Monthly, Daily | 25 | | 1:1 | |
|  | National Poultry Development Programme Manual | | updated | 5 | | 1:5 | |
| **B** | **Learning Facilities & Infrastructure** | | | | | | |
|  | Lecture/Theory Room | (9\* 8 sq. metres) | | 1 | | 1:25 | |
|  | Internet Connection | WI-FI, Dial-Up, Cable, Fixed-wireless, | | 1 | | 1:25 | |
|  | Brooder | 1 | | 1 | | 1:25 | |
|  | Grower house | 1 | | 1 | | 1:25 | |
|  | Layer’s house | 1 | | 1 | | 1:25 | |
|  | Broiler house | Well equipped | | 1 | | 1:25 | |
|  | Feed store | Well equipped | | 1 | | 1:25 | |
|  | Slated floors | Well equipped | | 1 | | 1:25 | |
|  | Cages | Well equipped | | 1 | | 1:25 | |
|  | Pallets | sufficient | |  | |  | |
|  | Waterers | sufficient | |  | |  | |
|  | Feeders | sufficient | |  | |  | |
|  | Heat sources | sufficient | |  | |  | |
|  | Charcoal jiko | sufficient | |  | |  | |
|  | Infra-red bulb | sufficient | |  | |  | |
|  | Gas burner | Good working condition | | 5 | | 1:5 | |
|  | Kerosene lamp | Good working condition | | 5 | | 1:5 | |
|  | Chick feeder | Good working condition | | 5 | | 1:5 | |
|  | Chick drinker | Good working condition | | 5 | | 1:5 | |
|  | Foot bath | Good working condition | | 5 | | 1:5 | |
|  | Sanitizer | sufficient | | 1 | | 1:25 | |
|  | Fence | In good condition | | 1 | | 1:25 | |
| **C** | **Consumable Materials** | | | | | | |
|  | Flashcards | Alphabet, Numbers, Math | | 25 | | 1:1 | |
|  | Stationery | Printing Papers, and Exercise Books Sizes A4, A3, A2 etc | | 5 reams | | 1:5 | |
| * 1. 47. | Litter material | sufficient | | 5 | | 2:5 | |
| * 1. 48. | Curtains | sufficient | | sufficient | | sufficient | |
| * 1. 49. | False ceilings | sufficient | | sufficient | | sufficient | |
| **D** | **Tools And Equipment** | | | | | | |
|  | Computers/Laptops | Any model | | | 1 | | 1:25 |
|  | Projector | LED.LCD, Laser | | | 51 | | 1:25 |
|  | Whiteboard | Glass, melamine, porcelain | | | 1 | | 1:25 |
|  | Thermometer (maximum – minimum) | Any five | | | 5 | | 1:5 |
|  | Hygrometer | Any five | | | 5 | | 1:5 |
|  | Brooder thermometer | Any five | | | 5 | | 1:5 |
|  | Hygrometer | Any five | | | 5 | | 1:5 |
| **F** | **Specimens** |  | | |  | |  |
| 1. | poultry | Broiler, layers,chicks,pullets | | | 5 each type | | 1:5 |