****

**THE REPUBLIC OF KENYA**

**COMPETENCY BASED MODULAR CURRICULUM**

**FOR**

**POULTRY *(KIENYEJI* *CHICKEN*) PRODUCTION**

**KNQF LEVEL 4**

**ISCED PROGRAMME 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 Agriculture 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 Agriculture National 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.

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**ABBREVIATIONS AND ACRONYMS**

|  |  |
| --- | --- |
| CAADP | Comprehensive Africa Agricultural Development Programme |
| CAD | Computer Assisted Drawing |
| CBET | Competency Based Education and Training |
| EMS | Environmental Management Systems |
| FSDRP | Food Security and Drought Resilience Programme |
| FSP | Food Security Project |
| GDP | Gross Domestic Product |
| GMP | Good Manufacturing Practices |
| ICT | Information Communication Technology |
| KNQF | Kenya National Qualifications Framework |
| MoALF&I | Ministry of Agriculture, Livestock, Fisheries and Irrigation |
| MoE | Ministry of Education |
| PPE | Personal Protective Equipment |
| PSSAC | Poultry Sector Skills Advisory Committee |
| AU - IBAR | African Union – InterAfrican Bureau for Animal Resources |
| OS | Occupational Standard |
| PPE | Personal Protective Equipment |

**KEY TO ISCED UNIT CODE**



**COURSE OVERVIEW**

Poultry Kienyeji Chicken Production Level 3 qualification consists of competencies that an individual must have to produce kienyeji chicken. It involves constructing kienyeji chicken structures, managing kienyeji chicken breeding flock, managing Kienyeji chicken health and welfare. It also involves managing broody hen, managing artificial incubation, managing artificial chick brooding and managing Kienyeji chicken growers and

The units of learning comprising Poultry Kienyeji Production Level 3 qualification include:

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| **MODULE I** | | | |
| 0732 341 01A | Construction *of Kienyeji* Chicken Structures | 100 | 10.0 |
| 0811 341 02A | Management *of Kienyeji* Chicken Breeding Flock | 80 | 8.0 |
| 0811 341 03A | *Kienyeji* Chicken Health and Welfare Management | 100 | 10.0 |
|  | **TOTAL** | **280** | **28** |
| **MODULE II** | | | |
| 0811 341 04A | Broody Hen Management | 40 | 4 |
| 0811 341 05A | Artificial Incubation Management | 80 | 8.0 |
| 0811 341 06A | Artificial Chick Brooding Management | 100 | 10.0 |
| 0811 341 06A | *Kienyeji* Chicken Growers Management | 60 | 6.0 |
|  | Industry Training | 320 | 32.0 |
| **Grand total** | | **880** | **80** |

**Entry Requirements**

1. Kenya Certificate of Secondary Education Certificate

or

1. Poultry production Level 3

**Or**

1. Equivalent qualifications as determined by relevant regulatory body

**Trainer Qualifications**

Qualifications of a trainer for this course include:

1. Possession of Poultry Production Level 5 or level 5 in related trade area;
2. License by TVETA.

**Industry Training**

An individual enrolled in this course will be required to undergo industry training for a minimum period of 320 hours in *Kienyeji* Poultry production farm. 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**

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 the Kenya National TVET Certificate in Poultry Kienyeji Production Level 4, the candidate must demonstrate competence in all the Units of Competency as given in the qualification pack. Statement of Attainment certificate may be awarded upon demonstration of competence in certifiable element within a unit.

These certificates will be issued by Qualification Awarding Institution.

# **CONSTRUCTION OF KIENYEJI CHICKEN STRUCTURES**

**UNIT CODE:** 0732 241 01A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Construct *Kienyeji* Chicken Structures

**Duration of Unit**: 100 hours

**Unit Description**

This unit specifies the competencies required to construct kienyeji chicken structures. It involves preparations to construct Kienyeji chicken structures, construction of Kienyeji chicken structures and equipping the Kienyeji chicken structures.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Prepare to construct *Kienyeji* chicken structures | 40 |
|  | Construct *Kienyeji* chicken house structures | 40 |
|  | Equip *Kienyeji* chicken house | 20 |
| **Total** | | **100** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare and plan to construct *Kienyeji* chicken structures | * 1. Personal Protection Equipment and Apparel (PPEs) required in Kienyeji chicken house construction.   2. Occupational safety and health procedures in Kienyeji chicken house construction.   3. Structures site preparation   4. Types of Kienyeji chicken structures   5. Factors determining type of *Kienyeji* chicken house      1. Type of birds      2. Production system      3. Cost      4. Climatic conditions   6. Construction materials      1. Types      2. Quality      3. Storage   7. Construction records | * Written tests * Observation * Oral questions * Third party report |
| 1. Construct and install *Kienyeji* chicken house structures | 1. *Kienyeji* chicken house layout  * Area measurement * Pegging  1. *Kienyeji* chicken house foundation  * Excavation * Mixing ratios of mortar * Stone laying  1. Construction of *Kienyeji* chicken house parts  * Floor * Wall * Roof  1. Construction of Security and Biosecurity measures  * Footbath * Predators barriers * vehicle and human traffic controls  1. Construction of accessory structures  * Perches * Laying boxes * Brooder  1. Kienyeji poultry waste management structures. 2. Site waste material disposal  * Importance * Debris disposal  1. Work inspection 2. Critical house requirements | * Written tests * Observation * Oral questions * Third party report * Project and report writing |
| 1. Equip *Kienyeji* chicken house | 1. Equipment and materialnecessary in a *Kienyeji chicken* house  * Feeders * Waterers * Heaters * Coolers  1. Installation of movable poultry house structures 2. Factors considered in installation of equipment and materials in *Kienyeji* chicken house  * Time * pattern * Safety precautions * Number of birds | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Instruction**

* Demonstration
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction
* Case studies
* Simulation
* Audio-visual aids
* Modelling

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional *Kienyeji* chicken farm with the following:** | | |
| * *Kienyeji chicken* house * Equipments   + Waterers   + Feeders   + Bedding materials   + Grit / shell container   + Sand bath * Accesory structures | * Sand * Saw * Stones * Cement * Ballast * Timber * Slashers * Crowbar | * Hammer * Nails * Wooden pegs * Tape measures * Barbed/chain link * Hoe * Shovels * Wheel barrow |

# **MANAGEMENT OF KIENYEJI CHICKEN BREEDING FLOCK**

**UNIT CODE:** 0811 241 02A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage *Kienyeji* Chicken Breeding Flock

**Duration of Unit:** 80 hours

**Unit Description**

This unit specifies the competencies required to manage Kienyeji chicken chicken breeding flock. It involves performing chicken breeding, feeding breeding flock, maintaining general cleanliness, monitoring Kienyeji chicken performance and handling Kienyeji chicken eggs.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Perform chicken breeding | 10 |
|  | Feed breeding flock | 20 |
|  | Maintain general cleanliness | 10 |
|  | Monitor *Kienyeji* chicken performance | 20 |
|  | Handle *Kienyeji* chicken eggs | 20 |
| **Total** | | **80** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Perform chicken breeding | * 1. Kienyeji chicken strains and eco-types   2. The desirable meat and egg production traits in Kienyeji chicken.   3. Selection of males and females based on traits of economic importance   4. Male to female ratio.   5. Artificial Insemination in poultry   6. Breeding record | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Feed breeding flock | * 1. Personal Protection Equipment and Apparel (PPEs) required in chicken feed.   2. Types of *Kienyeji* chicken feed      1. Locally available      2. Commercial feeds   3. Feed quality control   4. Feed mixing ratios      1. Production ration.      2. Maintenance ration.      3. Balanced ration.      4. Weaning ration.   5. Feed mixing   6. Feed storage conditions   7. Feeding schedule   8. Feeding standard.   9. Water      1. Quality      2. Quantity   10. Feed waste disposal   11. Feeding record keeping. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain general cleanliness | * 1. Suitable detergents for cleaning   2. Cleaning of feeding and watering equipment   3. Sanitation procedure for house, equipment and personnel | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Monitor *Kienyeji* chicken performance | * 1. *Kienyeji* chicken vices      1. Nutritional      2. Parasites      3. Stocking rate      4. structure   2. Problem indicators      1. Predisposing factors.      2. Signs of a sick bird.   3. Performance record   4. Culling criteria | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Handle *Kienyeji* chicken eggs | * 1. Suitable egg collection equipment   2. Egg collection precautions      1. Time of collection      2. Collect in a dry bucket      3. Clean dirty eggs.   3. Eggs sorting      1. Size      2. Physical conformity.   4. Eggs storage for incubation      1. Conditions of storage      2. Duration   5. Egg production records | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested methods of instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional *Kienyeji* chicken unit with the following:** | | |
| * Shovel * Broom * Wheel burrow * Sanitizing agents * Brush * Detergents * Knapsack sprayer * Litter * Rake * Hammer | * Saw * Catching hook * Weighing scale * Timber * Nails * Jerry can * Crates * Feeders * Drinkers * Grit container | * Multivitamins * Syringe * Needles * Grit * Water * Feed * Vaccine * Cool box * Freezer * Disinfectant |

# **KIENYEJI CHICKEN HEALTH AND WELFARE MANAGEMENT**

**UNIT CODE:** 0841 241 03A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage *Kienyeji* Chicken Health

**Duration of Unit:** 100 hours

**Unit Description**

This unit specifies the competencies required to manage *Kienyeji* chicken health. It involves farm biosecurity, parasite control, vaccination, control of diseases and vices

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Maintain *Kienyeji* chicken farm biosecurity | 20 |
|  | Manage *Kienyeji* chicken vaccination | 20 |
|  | Control *Kienyeji* chicken parasites | 30 |
|  | Manage *Kienyeji* chicken diseases and vices | 30 |
| **Total** | | **100** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Maintain *Kienyeji* chicken biosecurity | * 1. Personal Protection Equipment      1. Gloves      2. Dust coat/overall      3. Gumboots      4. Goggles      5. Face mask.   2. Biosecurity structures and equipment      1. Boundary fence (electric or stone wall)      2. Gate      3. Entry showers, both at the gate and at the house sites      4. Foot bathes and vehicle sprayers      5. Hand washing gadgets      6. Post mortem rooms      7. Mortality disposal pits      8. Rodent and pest control traps   3. Biosecurity measures in a chicken farm   4. Chicken waste management      1. Litter (droppings, feathers, spilt feed, dead birds)      2. Other wastes (plastics, glass, paper, metals and fluids)   5. Biosecurity records | * Written tests * Observation * Oral questions * Third party report * Interviewing * Case study reports |
| 1. Manage *Kienyeji* chicken vaccination | 1. Bird handling methods 2. Vaccination schedule 3. Vaccine handling 4. Vaccination sites and routes 5. Vaccines abnormal reactions 6. Vaccination records | * Observation * Written tests * Oral questions * Interviewing * Third party report |
| 1. Control *Kienyeji* chicken parasites and predators | 1. Economic importance of parasites and predictors. 2. Parasites and predictors predisposing factors 3. External and internal chicken parasites  * Internal (round worms) * External (mites, soft ticks, fleas)  1. Prevention and control measures 2. Chicken pests and predators  * Types * Control measures  1. Kienyeji chicken parasites and predator’s management records. | * Observation * Written tests * Oral questions * Interviewing * Third party report |
| 1. Manage *Kienyeji* chicken diseases and vices | 1. Economic importance of chicken diseases and vices 2. Chicken diseases and vices predisposing factors 3. General signs of ill health in chicken 4. General disease prevention and control measures  * Chicken vices * Types of vices  1. Chicken diseases and vices prevention and control measures 2. Chicken diseases and vices management records | * Observation * Written tests * Oral questions * Interviewing * Third party report |

**Suggested Methods of Instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction
* Electronic audio-visual presentations
* Simulations

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| * Stationery (pen and sketching books) * Chicken shackles * Scapels * Cleaning materials and equipment * Disinfectants * Sanitizers * Disposal pits * Weighing scales * Debeaking machine * Wing stab needles * Strategic chicken drugs – preventative and emergency | * Automatic vaccination syringes * Syringes and needles * Vaccines * Chicken dewormers * Coccicidals * Chicken acaricides * Chicken dusts * Footbaths * Spayers * Waste management equipment and material * Litter rakes * Litter bins * Rodenticides * Rodent control traps | * Flock health records * Water * PPEs * Standard work place procedures * Animal diseases act Cap 365, legal notice 47 of 1985 * NEMA regulations and audits * Livestock Production Manual |

# **BROODY HEN MANAGEMENT**

**UNIT CODE:** 0811 241 04A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage broody hen

**Duration of Unit:** 40 hours

**Unit Description**

This unit specifies the competencies required to manage broody hen. It involves preparing to incubate eggs, performing natural egg incubation, feeding the broody hen and controlling chicken vermin and predators.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Prepare to incubate eggs | 15 |
|  | Perform natural egg incubation | 5 |
|  | Feed broody hen | 5 |
|  | Control chicken vermin | 5 |
|  | Control chicken predators | 10 |
| **Total** | | **40** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare to incubate eggs | * 1. Suitable eggs for incubation are selected.      1. Size      2. Duration      3. Fertilized.   2. Nest preparation      1. Suitable nest      2. Suitable bedding materials   3. Hen preparation      1. Brooding hen selection      2. dusting   4. Suitable incubation environment   5. Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Perform natural egg incubation | 1. Eggs setting  * Time * Number  1. Monitoring the incubating hen  * Nesting behaviour * Time spent in nest * Egg turning * Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Feed broody hen | * 1. Suitable feeds      1. Commercial      2. Local feed materials      3. Quantity      4. Quality   2. Water      1. Quality      2. Quantity   3. Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Control chicken vermin. | 1. Economic importance of vermin invasion. 2. Types of vermin 3. Vermin control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Control chicken predators. | * 1. Economic importance of predictors.   2. Types of predators   3. Predator control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional *Kienyeji* chicken unit with the following:** | | |
| * Shovel * Broom * Wheel burrow * Sanitizing agents * Brush * Detergents * Knapsack sprayer * Litter * Rake * Grit container | * Saw * Catching hook * Weighing scale * Jerry can * Hammer * Timber * Nails * Crates * Feeders * Drinkers | * Multivitamins * Syringe * Needles * Cool box * Grit * Water * Feed * Vaccine Freezer * Disinfectant |

# **ARTIFICIAL INCUBATION MANAGEMENT**

**UNIT CODE:** 0811 241 05A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Artificial Incubation

**Duration of Unit:** 80 hours

**Unit Description**

This unit specifies the competencies required to manage artificial incubation. It involves operating egg incubators, managing egg hatching, managing hatchery biosecurity and maintaining hatchery records.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Operate egg incubators | 30 |
|  | Manage egg hatching | 30 |
|  | Manage hatchery bio-security measures | 10 |
|  | Maintain hatchery records | 10 |
| **Total** | | **80** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Operate egg incubators | * 1. Incubator chamber parameters      1. Temperature      2. Humidity      3. Air quality and flow      4. Egg inclination   2. Parts of the incubator      1. Setting trays      2. Setting trolleys      3. Incubation chamber   3. Eggs fumigation   4. Suitable eggs for incubation   5. Egg setting in trays | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Manage egg hatching | 1. Steps in hatching and time duration  * Removal from incubator * Candling * Transfer to hatching baskets * Transfer into hatching chamber / machine  1. Monitoring the hatching process 2. Removal from the hatching chamber 3. Evaluation of chicks 4. Vaccination 5. Sexing of day-old chicks 6. Transfer of chicks to chick cartons / crates  * Personal finances management * Simple book keeping (sales, purchases debts, and profits) * Budgeting * Savings management | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Manage hatchery biosecurity measures | 1. Biosecurity structures and equipment and guidelines. 2. Standard operational procedures. 3. Occupational safety and health procedures. 4. Environmental protection measures (EMCA act 1999) 5. Cleaning, disinfection and fumigation of the hatchery buildings and equipment. 6. Hatchery waste management | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Maintain hatchery records | 1. Data entry and monitoring  * Daily * Weekly * Monthly  1. Hatchery record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing |

**Suggested Methods of Instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction
* Electronic audio-visual presentations
* Simulations

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional hatchery farm with the following:** | | |
| * Hatchery unit * Biosecurity structures and materials (gate barriers, foot baths, spray races / showers, disinfectants, sanitizers, detergents, fumigants, water and vaccination kits) * Labels or labelling materials for egg trays, trolleys, chick baskets and packaging material | * Hatchery equipment and tools (fumigators, sprayers, refrigirators, hatching machines, setters / incubators, candling machines, egg crates and trays, egg trolleys, hatching baskets, chick boxes, chick labels, identification kits, macerators and renderers, gas cylinders, vacuum cleaners) * Standby power generator | * Stationery * Calculators and / or computers * Hatchery pest and predator control equipment and materials * Hatchery operations manuals * Livestock production manuals * Journal of *Kienyeji* chicken scienceChick feed * Feed stores |

# **ARTIFICIAL CHICK BROODING MANAGEMENT**

**UNIT CODE:** 0811 241 06A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Artificial Chick Brooding

**Duration of Unit:** 100 hours

**Unit Description**

This unit specifies the competencies required to manage artificial chick brooding. It involves preparing chick brooder, acquiring day-old chicks, feeding brooding chicks, managing brooder house micro climate and maintaining brooder hygiene. It also entails performing chick vaccination, controlling poultry vermin, controlling poultry predators and monitoring chick performance.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Prepare chick brooder | 20 |
|  | Acquire day old chicks | 10 |
|  | Manage brooder house micro climate | 20 |
|  | Maintain brooder hygiene | 10 |
|  | Perform chick vaccination | 10 |
|  | Control *Kienyeji* chicken predators | 10 |
|  | Control *Kienyeji* chicken vermin | 10 |
|  | Monitor chick performance | 10 |
| **Total** | | **100** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare day old chick brooder | * 1. Suitable brooder construction materials      1. Cardboard      2. Wooden pegs      3. Litter material   2. Brooder assembly guidelines   3. Cleaning and disinfection of brooder   4. Types of bedding materials   5. Suitable bedding materials   6. Sterilization of bedding materials   7. Chick brooder equipment      1. Brooder thermometer      2. Charcoal jiko      3. Infra-red bulb      4. Gas burner      5. Kerosene lamb      6. Chick feeder      7. Chick drinker      8. Hygrometer   8. Cleaning and sterilization of brooder equipment.   9. Installation of brooder equipment      1. Types of brooder equipment      2. Standard operation of the equipment      3. Time schedule for placement of various equipment   10. Test-running the equipment | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Acquire day-old chicks | 1. Handling of day-old chicks 2. Preparing for transportation 3. Transportation of chicks  * Cages for transportation * Time of transportation * Safety during transportation | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Feed day old chicks | 1. Suitable feeds for day-old chicks  * Feed forms (mash or crumbs) * Types of feeds  1. Feeding day old chicks  * Amount * Feeding schedule  1. Water requirements of chicks  * Quality * Quantity  1. Feeding records | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Manage brooder house micro climate | 1. Methods of assessing micro-climatic variations in brooder house  * Use of tools and equipment * Animal behaviour * Human senses * Non-conventional aids  1. Corrective measures for micro-climate variations  * Temperature * Humidity * Ventilation * Lighting  1. Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Maintain brooder hygiene | * 1. Brooder predisposing factors   2. Bio-safety practices required in brooding   3. Bio-safety Structures and facilities | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Perform chick vaccination | 1. Chick handling 2. Chick vaccination schedule 3. Equipment, tools and materials required for vaccination. 4. Vaccination procedures.  * Pre- vaccination preparation * Actual vaccination * Post vaccination management.  1. Chick vaccination records | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Control *Kienyeji* chicken vermin | 1. Economic importance of vermin invasion 2. Types of predators 3. Predator control measures for brooder house 4. Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Control *Kienyeji* chicken predators | 1. Economic importance of vermin invasion. 2. Identification of vermin  * Lice * Mites * Fleas  1. Vermin control measures  * Chemical * Structural related * Cultural practices  1. Record keeping. | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Monitor chick performance | 1. Growth and development pattern in chicks  * Feathering * Weight gain  1. Chick behaviour  * Feeding behaviour * Activity * Methods of assessing growth performance of chicks * Weighing * Physical appearance  1. Performance assessment equipment and tools. 2. Chicken vices  * Types * Control measure  1. Culling of chicks  * Culling criteria * Stages of culling  1. Record keeping | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |

**Suggested methods of instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional Brooder house with the following:** | | |
| * Day old chicks * Heat source * Chick feeders * Chick drinkers * Light source | * Brooder guard * Curtains * Brooder thermometer * Hygrometer * Beddings | * Chick feeds * Weighing scale * Water * Vaccines * Vaccination equipments |

# **KIENYEJI CHICKEN GROWERS’ MANAGEMENT**

**UNIT CODE:** 0811 241 07A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage *Kienyeji Chicken* Growers

**Duration of Unit:** 60 hours

**Unit Description**

This unit specifies the competencies required to manage *Kienyeji chicken* growers. It involves feeding and monitoring growing *Kienyeji chicken* and controlling poultry predators and vermin.

**Summary of Learning Outcomes**

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

|  |  |  |
| --- | --- | --- |
| **S/No** | **Learning Outcomes** | **Duration (Hours)** |
|  | Feed growing *Kienyeji* chicken growers | 20 |
|  | Monitor growing *Kienyeji* chicken | 20 |
|  | Control *Kienyeji* chicken vermin | 10 |
|  | Control *Kienyeji* chicken predators | 10 |
| **Total** | | **60** |

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Feed *Kienyeji* chicken growers | * 1. Feeding tools and equipmen**t**      1. Weighing scale      2. Grower feeder      3. Drinker      4. Feed scoop   2. Types of feed      1. Locally available feeds      2. Commercial feeds   3. Water      1. Quality      2. Quantity   4. Feeding regime   5. Feeding records | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Monitor growing *Kienyeji* chicken | * Grower behaviour * Feeding behaviour * Activity * Vices * Grower vices * Types * Causes * Control measures * Methods of assessing growth performance of chicks * Weighing * Physical appearance * Gait * Behaviour * Growth monitoring records * Culling process | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Control *Kienyeji* chicken vermin | 1. Economic importance of vermin invasion. 2. Types of vermin 3. Vermin control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project |
| 1. Control *Kienyeji* chicken predators | 1. Economic importance of vermin invasion. 2. Types of predators 3. Predator control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing |

**Suggested Methods of Instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| **Functional *Kienyeji* chicken unit with the following:** | | |
| * Shovel * Broom * Wheel burrow * Sanitizing agents * Brush * Detergents * Knapsack sprayer * Litter * Rake * Hammer | * Saw * Catching hook * Weighing scale * Jerry can * Crates * Feeders * Drinkers * Grit container * Timber * Nails | * Multivitamins * Syringe * Needles * Cool box * Freezer * Disinfectant * Grit * Water * Feed * Vaccine |