****

**THE REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**BROILER PRODUCTION OPERATIONS**

**LEVEL 4**



TVET CDACC

P.O. BOX 15745-00100

NAIROBI

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# FOREWORD

Agriculture plays an important role in Kenya’s economy. This importance is reflected in the positive correlation between growth in the agricultural sector and that of the national economy. Kenya’s economy registered a growth of 3.3% between 2013 and 2014 with agriculture sector being the leading sector contributing 27.3% to the Gross Domestic Product (GDP) in 2014.In this regard, crops, animal production, fishing and aquaculture contributed 19.7%, 4.9% and 0.8% of the GDP respectively totalling 25.4%, while the balance of 1.9% came from forestry and other support activities. Like most countries in Africa, majority (61%) of Kenya’s population rely on agriculture for employment despite the challenges of climate change, soil degradation and increasing population pressure. In order to enhance the productivity of the work force and ensure a productive and innovative agricultural sector, as well as food security, meaningful education and training of all people involved is of utmost importance.

In the past Agricultural Technical and Vocational Education and Training (ATVET) did not always receive adequate attention from policy-makers. The current education system emphasizes on acquiring knowledge rather than skills development. This resulted to most farmers and the stakeholders in agriculture lacking the requisite skills. Current reforms in the education system aim at addressing this challenge by reforming the agriculture training curriculum, its delivery and assessment. These reforms can only be achieved through Competency Based Education and Training (CBET) approach. The reforms demands for a competency based curriculum which is a tool that will aid in the development of skills, knowledge and attitudes of the farmers. Such training will improve crop and animal husbandry skills which will in turn contribute to increased productivity and improvement of agriculture in the country. Ideally, this education and training will not only include farmers, but all professions involved in agriculture.

This curriculum for the poultry subsector presents us with a unique approach to training which will allow the trainees to gain skills required in their occupation/jobs. It will also allow them to train on their areas of interest without necessarily undertaking all the modules in the curriculum; this permits flexibility in training with multiple entries and exits. It is therefore the curriculum that will revolutionalize the Agriculture sector in Kenya.

**PRINCIPAL SECRETARY,
STATE DEPARTMENT OF LIVESTOCK**

**MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND IRRIGATION**

# PREFACE

Poultry farming has been on the increase in the last ten years due to high population density, diminishing land sizes, and the escalating un-employment levels in formal sector. Poultry farming contributes to the lives of 21 million Kenyans and 6.1% of agricultural GDP. There are approximately 32 million birds in Kenya out of which 76% are free ranging indigenous chicken, 8% are broilers and 14% commercial layers. The indigenous poultry production involves 75% of rural households. As of 2011, it was reported that approximately 71% of eggs and poultry meat in Kenya are derived from indigenous poultry. In 2006, it was reported that commercial poultry production constitutes 23.8% of the total poultry population, with broilers representing 16.2% and layers another 7.8%. Other poultry species such as ducks, guinea fowls, Quails and turkeys comprise about 2.2% of the total poultry population .The industry is therefore supposed to play a strategic role in the ongoing socio economic pillar under the vision 2030.

However the industry has seen slow growth over the past years due to lack of skills and increasing costs of production. This is despite the fact that the sub-sector contributes positively to wealth creation, poverty alleviation, and gender equity especially in the rural areas. The industry contributes to the macro economy by generating incomes for the value chain actors, creation of employment opportunities for rural people and provision of source of protein for poor families and manure for their gardens.

To address the challenge of lack of skilled labour, a Competency Based curriculum development process was initiated. Using the DACUM methodology Job Analysis Chart and Occupation standards were developed in collaboration with the industry players and guided by Curriculum Development Assessment and Certification Council (CDACC). Eleven Jobs/Occupations were identified,

Job Analysis Charts were further analysed through Task Analysis and the information generated used to develop Occupation Standards. The information generated from the task analysis was also used to develop the Units of competences for each job. The result was to the realization of 11 curricula for the poultry subsector. This was done by experts drawn from Technical training institutions, Universities and industry representatives.

The curricula were presented to the Poultry Sector Skills Advisory Committee (PSSAC) who made recommendations for improvement of the curricula and adopted the curricula for its progression to the next stages of approval by the CDACC. The curricula development process was a rigorous exercise that involved wide consultations with various stakeholders with the aim of enriching it and promoting its acceptance. The end product is a rich and well thought tool that will be used to deliver Competence Based Training and produce competent graduates that can employed, entrepreneurs or self-employed in the poultry industry.

This curriculum has been developed following the CBET framework policy; the CBETA Standards and guidelines provided by the TVET Authority and the Kenya National Qualification framework designed by the Kenya National Qualification Authority.

**CHAIRPERSON**

**TVET CDACC.**

# ACKNOWLEDGEMENTS

This Curriculum was developed through the combined efforts of different stakeholders in the poultry subsector namely the state department of livestock, private practitioners and regulators. Institutions in the State Departments of Livestock led the process of this curriculum development and key among them were the Dairy Training Institute (DTI), and, Animal Health and Industry Training Institutes (AHITIs). We wish to acknowledge the invaluable contribution received from the private sector industry players who provided inputs towards the development of occupational standards against which this curriculum was developed.

With the Occupational Standards in hand, the stakeholders provided technical inputs towards the development and completion of this curriculum. They sat through many hours putting together all the knowledge, skills and attitudes that a Poultry industry worker would require in effectively performing his / her duties and tasks as per the Occupational Standards developed.

We are most sincerely thankful to the heads of these institutions who released their staff to join in this important course. Our gratitude goes to the various facilitators that moderated several workshops and ensured that all deliberations and outputs were captured and compiled. These persons did not only demonstrate patience, but also provided leadership by motivating and guiding the groups towards the finalization of this curriculum. We cannot forget to thank the government agencies that regulate the Technical and Vocational Education and Training (TVET) system namely TVET Authority and CDACC through whom guidance and support was provided on this curriculum development.

We are greatly indebted to the Food Security and Drought Resilience Programme (FSDRP) with support of the German Development Cooperation (GIZ), which enabled the implementation of this curriculum development process through the Food Security Project (FSP). In the same breath, we are indebted to the National Coordinator of the GIZ Comprehensive Africa Agricultural Development Programme (CAADP) ATVET project who was instrumental in enabling the smooth and close cooperation between the project and the key government ministries namely Ministry of Agriculture, Livestock, Fisheries and Irrigation (MoALF&I) and Ministry of Education (MoE).

Last but not least, we are grateful to any other person, institution, organization or company who played any role in making this process successful but has not been mentioned. We dearly acknowledge your contribution and support.

**COUNCIL SECRETARY/CEO**

**TVET CDACC**

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# ABBREVIATIONS AND ACRONYMS

|  |  |
| --- | --- |
| 2D | 2 Dimensional |
| 3D | 3 Dimensional |
| AHITI | Animal Health and Industry Training Institute |
| ATVET | Agricultural Technical and Vocational Education and Training |
| AU - IBAR | African Union – InterAfrican Bureau for Animal Resources |
| CAADP | Comprehensive Africa Agricultural Development Programme |
| CAD | Computer Assisted Drawing |
| CBET | Competency Based Education and Training |
| CDACC  | Curriculum Development Assessment and Certification Council |
| CEO | Chief Executive Officer |
| DACUM | Develop a Curriculum |
| DTI | Dairy Training Institute |
| DVS | Director of Veterinary Services |
| EMCA | Environmental Management and Conservation Act |
| EMS | Environmental Management Systems |
| FSDRP | Food Security and Drought Resilience Programme |
| FSP | Food Security Project |
| GDP | Gross Domestic Product |
| GMP | Good Manufacturing Practices |
| HACCP | Hazard Analysis Critical Control Point |
| ICT | Information Communication Technology  |
| IM | Intra Muscular |
| KCSE | Kenya Certificate of Secondary Education |
| KNQA  | Kenya National Qualifications Authority |
| KNQF | Kenya National Qualifications Framework |
| KSPCA | Kenya Society for the Care and Protection of Animals |
| LCD | Liquid Crystal Display |
| MAP | Modified Atmosphere Packaging |
| MoALF&I | Ministry of Agriculture, Livestock, Fisheries and Irrigation |
| MoE | Ministry of Education  |
| NCA | National Construction Authority |
| NEMA | National Environmental Management Authority |
| NEPAD | New Partnerships for African Development |
| NGO | Non-Governmental Organization |
| NPCA | NEPAD Planning and Coordinating Agency |
| OIE | World Organization for Animal Health |
| OS | Occupational Standard |
| OSH | Occupational Safety and Health |
| PPE | Personal Protective Equipment |
| PSSAC | Poultry Sector Skills Advisory Committee |
| SOP | Standard Operation Procedures |
| TVET | Technical and Vocational Education and Training |
| TVETA | Technical and Vocational Education and Training Authority |

#

# **KEY TO UNIT CODE**

 **POL /CU/ BR /BC /01/ 4/ A**

Industry or sector

Occupational Standards

Occupational area

Type of competency

Competency number

Competency level

Version control

###

#  COURSE OVERVIEW

Broiler Production Operation Level 4 qualification consists of units of learning that a person must achieve to construct poultry structures, manage broiler chick brooding, manage broiler finishers, produce broiler feeds and manage poultry health and welfare.

The units of learning comprising Broiler Production Operation Level 4 qualification include the following:

**Basic Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor**  |
| POL/CU/BR/BC/01/4/A | Communication Skills | 20 | 2 |
| POL/CU/BR/BC/02/4/A | Numeracy Skills | 25 | 2.5 |
| POL/CU/BR/BC/03/4/A | Digital Literacy | 35 | 3.5 |
| POL/CU/BR/BC/04/4/A | Entrepreneurial Skills | 60 | 6 |
| POL/CU/BR/BC/05/4/A | Employability Skills | 30 | 3 |
| POL/CU/BR/BC/06/4/A | Environmental Literacy | 20 | 2 |
| POL/CU/BR/BC/07/4/A | Occupational Safety and Health Practices | 20 | 2 |
| **Total** | **210** | **21** |

**Core Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| POL/CU/BR/CR/01/4/A | Construction of Poultry Structures  | 48 | 5 |
| POL/CU/BR/CR/02/4/A | Management of Broiler Brooding  | 96 | 10 |
| POL/CU/BR/CR/03/4/A | Management of Broiler Finishers  | 96 | 10 |
| POL/CU/BR/CR/04/4/A | Production of Broiler Feeds  | 32 | 3 |
| POL/CU/BR/CR/05/4/A | Broiler Health and Welfare Management  | 48 | 5 |
|  | Industrial Attachment  | 300 | 30 |
| **Total** | 620 | 62 |
| **Grand total**  | 830 | 83 |

**Industrial Attachment**

It is envisaged that the trainee will have undergone a field training and assessment with a recognized broiler production farm which is a prerequisite for completion of this training course.

**Entry Requirements**

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

1. Broiler Production Operator, artisan certificate Level 3

**Or**

1. Layer Production Operator, artisan certificate Level 3
2. *Kienyeji* Chicken Production Operator, artisan certificate Level 3

**Or**

1. KCSE certificate

**Or**

1. Equivalent qualifications as determined by Kenya National Qualifications Framework (KNQF)

**Trainer qualification**

A trainer for this course should have a higher qualification than the level 4.

**Assessment**

The course will be assessed at two levels: internally and externally. Internal assessment is continuous and is conducted by the trainer who is monitored by an accredited internal verifier while external assessment is conducted by accredited external assessors appointed by TVET CDACC.

**Certification**

A candidate will be issued with a Certificate of Competency on demonstration of competence in a unit of competency. To attain a National Certificate in Broiler Production Operation **Level** 4, the candidate must demonstrate competence in all the units of competency as given in qualification pack. These certificates will be issued by TVET CDACC in conjunction with training provider.

#

# BASIC UNITS OF LEARNING

# COMMUNICATION SKILLS

**UNIT CODE:** POL/CU/BR/BC/01/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 20 Hours

**Unit Description**

This unit covers the competencies required demonstrate communication skills. It involves obtaining and conveying workplace information, completing relevant work-related documents, communicating information about workplace processes, leading workplace discussion and communicating workplace issues.

**Summary of Learning Outcomes**

1. Obtain and convey workplace information
2. Complete relevant work-related documents
3. Communicate information about workplace processes
4. Lead workplace discussions
5. Identify and communicate issues arising in the workplace

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Obtain and convey workplace information
 | * Communication process
* Modes of communication
* Medium of communication
* Effective communication
* Barriers to communication
* Flow of communication
* Sources of information
* Types of questions
* Organizational policies
* Workplace etiquette
* Ethical work practices in handling communication
 | * Interview
* Third party reports
 |
| 1. Complete relevant work-related documents
 | * Types and purposes of workplace documents and forms
* Methods used in filling forms and documents
* Recording workplace data
* Process of distributing workplace forms and documents
* Report writing
* Types of workplace reports
 | * Interview
* Third party reports
 |
| 1. Communicate information about workplace processes
 | * Communication process
* Modes of communication
* Medium of communication
* Effective communication
* Barriers to communication
* Flow of communication
* Sources of information
* Organizational policies
* Organization requirements for written and electronic communication methods
* Report writing
* Effective questioning techniques (clarifying and probing)
* Workplace etiquette
* Ethical work practices in handling communication
 | * Interview
* Portfolio
 |
| 1. Lead workplace discussion
 | * Methods of discussion e.g.
	+ Coordination meetings
	+ Toolbox discussion
	+ Peer-to-peer discussion
* Solicitation of response
 | * Interview
* Third party reports
 |
| 1. Identify and communicate issues arising in the workplace
 | * Identification of problems and issues
* Organizing information on problems and issues
* Relating problems and issues
* Communication barriers affecting workplace discussions
 | * Interview
* Portfolio
 |

**Suggested Methods of Instruction**

* Direct instruction
* Demonstration
* Practice assignment
* Discussion
* Role play
* Brainstorming

**Recommended Resources**

* Desktop computers/laptops
* Internet connection
* Projectors
* Telephone
* Report writing templates

# NUMERACY SKILLS

**UNIT CODE:** POL/CU/BR/BC/02/4/A

**Relationship to Occupational Standards:**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

**Duration of Unit:** 25hours

**Unit Description**

This unit covers the competencies required to demonstrate numeracy skills. It involves identifying and using whole numbers and simple fractions, decimals and percentages for work, identifying, measuring and estimating familiar quantities for work, reading and using familiar maps, plans and diagrams for work, identifying and describing common 2D and some 3D shapes for work, constructing simple tables and graphs for work using familiar data and identifying and interpreting information in familiar tables, graphs and charts for work.

**Summary of Learning Outcomes**

1. Identify and use whole numbers and simple fractions, decimals and percentages for work
2. Identify, measure and estimate familiar quantities for work
3. Read and use familiar maps, plans and diagrams for work
4. Identify and describe common 2D and some 3D shapes for work
5. Construct simple tables and graphs for work using familiar data
6. Identify and interpret information in familiar tables, graphs and charts for work

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify and use whole numbers and simple fractions, decimals and percentages for work
 | * Whole numbers
* Simple fractions
* Decimals
* Percentages
* Sizes
* Problem solving methods
* Calculations using the 4 operations
* Recording and communicating numerical information
 | * Written
* Practice assignments
*
 |
| 2. Identify, measure and estimate familiar quantities for work | * Measurement information
* Units of measurement
* Estimate familiar and simple amounts
* Selection of appropriate measuring equipment
* Calculate using familiar units of measurement
* Check measurements and results against estimates
* Using informal and some formal mathematical and general language
* Record or report results
 | * Written
* Practice assignments
 |
| 3. Read and use familiar maps, plans and diagrams for work | * Maps, plans and diagrams
* Locate items and places in familiar maps, plans and diagrams
* Recognize common symbols and keys in familiar maps, plans and diagrams
* Direction and location of objects, or route or places
* Use of informal and some formal oral mathematical language and symbols
 | * Practical test
* Written
 |
| 4. Identify and describe common 2D and some 3D shapes for work | * Common 2D shapes and 3D shapes
* Classification of common 2D shapes and designs
* Description of Use informal and some formal language to describe common two-dimensional shapes and some common three-dimensional shapes
* Construction of common 2D shapes
* Match common 3D shapes to their 2D sketches or nets
 | * Written
* Practical test
 |
| 5. Construct simple tables and graphs for work using familiar data | * Types of graphs
* Determination of data to be collected
* Selection of data collection method
* Collection of data
* Determination of variables from the data collected
* Order and collate data
* Construct a table and enter data
* Construct a graph using data from table
* Check results
* Report or discuss graph information related to work using informal and some formal mathematical and general language
 | * Written
* Practical test
 |
| 6. Identify and interpret information in familiar tables, graphs and charts for work | * Tables construction and labeling
* i.e. title, headings, rows and columns
* Interpreting information and data in simple tables
* Relaying information of relevant workplace tasks on/in a table
* Identify familiar graphs and charts in familiar texts and contexts
* Locate title, labels, axes, scale and key from familiar graphs and charts
* Identify and interpret information and data in familiar graphs and charts
* Relate information to relevant workplace tasks
 | * Written
* Practical test
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Projectors
* Writing boards
* Mathematical tables

# DIGITAL LITERACY

**UNIT CODE:** POL/CU/BR/BC/03/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 35 hours

**Unit Description**

This unit covers the competencies required to demonstrate digital literacy in a working environment. It entails identifying computer software and hardware, applying security measures to data, hardware, software, applying computer software in solving task sand applying internet and email in communication at workplace.

**Summary of Learning Outcomes**

1. Identify computer software and hardware
2. Apply security measures to data, hardware and software
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify computer hardware and software
 | * Meaning of a computer
* Functions of a computer
* Components of a computer
* Classification of computers
 | * Written tests
* Oral
* Observation
 |
| 1. Apply security measures to data, hardware and software
 | * Data security and control
* Security threats and control measures
* Types of computer crimes
* Detection and protection against computer crimes
 | * Written tests
* Oral presentation
* Observation
* Projects
 |
| 1. Apply computer software in solving tasks
 | * Operating system
* Word processing
* Spread sheets
* Data base
 | * Oral questioning
* Observation
* Project
 |
| 1. Apply internet and email in communication at workplace
 | * Computer networks
* Uses of internet
* Electronic mail (e-mail) concept
 | * Oral questioning
* Observation
* Oral presentation
* Written report
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical assignment
* Viewing of related videos
* Project
* Group discussions

**Recommended Resources**

* Desktop computers
* Laptop computers
* Other digital devices
* Printers
* Storage devices
* Internet access
* Computer software

# ENTREPRENEURIAL SKILLS

**UNIT CODE:** POL/CU/BR/BC/04/4/A

**Relationship to occupational standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 60 hours

**Unit description**

This unit covers the competencies required for creating and maintaining small scale business, establishing small business customer base, managing and growing a micro/small-scale business.

**Summary of Learning Outcomes**

1. Create and maintain small scale business
2. Establish small scale business customer base
3. Manage small scale business
4. Grow/expand small scale business

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Create and maintain small scale business
 | * Starting a small business
* Legal regulatory requirements in starting a small business
* SWOT/ PESTEL analysis
* Conducting market/industry survey
* Generation and evaluation of business ideas
* Matching competencies with business opportunities
* Forms of business ownership
* Location of a small business
* Legal and regulatory requirement
* Resources required to start a small business
* Common terminologies in entrepreneurship
* Entrepreneurship in national development
* Self-employment
* Formal and informal employment
* Entrepreneurial culture
* Myths associated with entrepreneurship
* Types, characteristics, qualities & role of entrepreneurs
* History, development and importance of entrepreneurship
* Theories of entrepreneurship
* Quality assurance for small businesses
* Policies and procedures on occupational safety and health and environmental concerns
 | * Individual/group assignments
* projects
* Written
* Oral
 |
| 1. Establish small scale business customer base
 | * Good staff/workers and customer relations
* Marketing strategy
* Identifying and maintain new customers and markets
* Product/ service promotions
* Products / services diversification
* SWOT / PESTEL analysis
* Conducting a business survey
* Generating Business ideas
* Business opportunities
 | * Individual/group assignments
* projects
* Written
* Oral
 |
| 1. Manage small scale business
 | * Organization of a small business
* Small business’ business plan
* Marketing for small businesses
* Managing finances for small business
* Production/ operation process for goods/services
* Small business records management
* Book keeping and auditing for small businesses
* Business support services
* Small business resources mobilization and utilization
* Basic business social responsibility
* Management of small business
* Word processing concepts in small business management
* Computer application software
* Monitoring and controlling business operations
 | * Oral
* Individual/group assignments
* projects
* Written
 |
| 1. Grow/expand small scale business
 | * Methods of growing small business
* Resources for growing small business
* Small business growth plan
* Computer software in business development
* ICT and business growth
 | * Individual/group assignments
* projects
* Written
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practice by trainee
* Role play
* Case study

**Recommended Resources**

* Case studies for small businesses
* Business plan templates
* Lap top/ desk top computer
* Internet
* Telephone
* Writing materials

# EMPLOYABILITY SKILLS

**UNIT CODE:** POL/CU/BR/BC/05/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 30 hours

**Unit Description**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating critical safe work habits, demonstrating workplace learning and workplace ethics.

**Summary of Learning Outcomes**

1. Conduct self-management
2. Demonstrate critical safe work habits
3. Demonstrate workplace learning
4. Demonstrate workplace ethics

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Conduct self-management
 | * Self-awareness
* Formulating personal vision, mission and goals
* Strategies for overcoming life challenges
* Emotional intelligence
* Assertiveness
* Expressing personal thoughts, feelings and beliefs
* Developing and maintaining high self-esteem
* Developing and maintaining positive self-image
* Articulating ideas and aspirations
* Accountability and responsibility
* Good work habits
* Self-awareness
* Self-development
* Financial literacy
* Healthy lifestyle practices
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate critical safe work habits
 | * Stress and stress management
* Punctuality and time consciousness
* Interpersonal communication
* Sharing information
* Leisure
* Integratingpersonal objectives into organizational objectives
* Resources utilization
* Setting work priorities
* HIV and AIDS
* Drug and substance abuse
* Handling emerging issues
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate workplace learning
 | * Personal training needs identification and assessment
* Managing own learning
* Contributing to the learning community at the workplace
* Cultural aspects of work
* Variety of learning context
* Application of learning
* Safe use of technology
* Identifying opportunities
* Workplace innovation
* Performance improvement
* Handling emerging issues
* Future trends and concerns in learning
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate workplace ethics
 | * Meaning of ethics
* Ethical perspectives
* Principles of ethics
* Values and beliefs
* Ethical standards
* Organization code of ethics
* Common ethical dilemmas
* Organization culture
* Corruption, bribery and conflict of interest
* Privacy and data protection
* Diversity, harassment and mutual respect
* Financial responsibility/accountability
* Etiquette
* Personal and professional integrity
* Commitment to jurisdictional laws
* Emerging issues in ethics
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |

**Suggested Methods of Instruction**

* Simulation/Role play
* Group Discussion
* Presentations
* Q&A
* Case studies
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors

# ENVIRONMENTAL LITERACY

**UNIT CODE:** POL/CU/BR/BC/06/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 20hours

**Unit Description**

This unit specifies the competencies required to demonstrate environmental literacy. It involves controlling environmental hazard, controlling environmental pollution, demonstrating sustainable resource use and evaluating current practices in relation to resource usage.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental pollution
3. Demonstrate sustainable use of resources
4. Evaluate current practices in relation to resource usage

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Control environmental hazard
 | * Purposes and content of Environmental Management and Coordination Act 1999
* Purposes and content of Solid Waste Act
* Storage methods for environmentally hazardous materials
* Disposal methods of hazardous wastes
* Types and uses of PPE in line with environmental regulations
* Occupational Safety and Health Standards (OSHS)
 | * Written tests
* Oral questions
* Observation of work procedures
 |
| 1. Control environmental Pollution
 | * Types of pollution
* Environmental pollution control measures
* Types of solid wastes
* Procedures for solid waste management
* Different types of noise pollution
* Methods for minimizing noise pollution
 | * Written tests
* Oral questions
* Observation of work procedures
* Role play
 |
| 1. Demonstrate sustainable resource use
 | * Types of resources
* Techniques in measuring current usage of resources
* Calculating current usage of resources
* Methods for minimizing wastage
* Waste management procedures
* Principles of 3Rs (Reduce, Reuse, Recycle)
* Methods for economizing or reducing resource consumption
 | * Written tests
* Oral questions
* Observation of work procedures
 |
| 1. Evaluate current practices in relation to resource usage
 | * Collection of information on environmental and resource efficiency systems and procedures,
* Measurement and recording of current resource usage
* Analysis and recording of current purchasing strategies.
* Analysis of current work processes to access information and data
* Identification of areas for improvement
 | * Written tests
* Oral questions
* Observation of work procedures
 |
| 1. Identify Environmental legislations/conventions for environmental concerns
 | * Environmental issues/concerns
* Environmental legislations /conventions and local ordinances
* Industrial standard /environmental practices
* International Environmental Protocols (Montreal, Kyoto)
* Features of an environmental strategy
 | * Written tests
* Oral questions
* Observation of work procedures
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE)

# OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:**  POL/CU/BR/BC/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Occupational Safety and Health Practices

**Duration of Unit:** 20 hours

**Unit Description**

This unit specifies the competencies required to practice safety and health and comply with OSH requirements relevant to work. It involves adhering to workplace procedures for hazards and risk prevention and participating in arrangements for workplace safety and health maintenance.

**Summary of Learning Outcomes**

1. Adhere to workplace procedures for hazards and risk prevention
2. Participate in arrangements for workplace safety and health maintenance

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment****Methods** |
| 1. Adhere to workplace procedures for hazards and risk prevention
 | * Arrangement of work area and items in accordance with Company housekeeping procedures
* Adherence to work standards and procedures
* Application of preventive and control measures, including use of safety gears/PPE
* Study and apply standards and procedures for incidents and emergencies.
 | * Oral questions
* Written tests
* Portfolio of evidence
* Third party report
 |
| 1. Participate in arrangements for workplace safety and health maintenance
 | * Participating in orientations on OSH requirements/regulations of tasks
* Providing feedback on health, safety, and security concerns to appropriate personnel as required in a sufficiently detailed manner
* Practice workplace procedures for reporting hazards, incidents, injuries and sickness
* OSH requirements/ regulations and workplace safety and hazard control procedures are reviewed, and compliance reported to appropriate personnel
* Identification of needed OSH-related trainings are proposed to appropriate personnel
 | * Oral questions
* Written tests
* Portfolio of evidence
* Third party report
 |

**Suggested Methods of Instruction**

* Assigments
* Discussion
* Q&A
* Role play
* Viewing of related videos

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Mask
* Face mask/shield
* Safety bootsn
* Safety harness
* Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat
* Face protection (mask, shield)
* Apron/Gown/coverall/jump suit
* Anti-static suits
* High-visibility reflective vest

# CORE UNITS OF LEARNING

# CONSTRUCTION OF POULTRY SRUCTURES

**UNIT CODE:** POL/CU/BR/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Construct Poultry Structures

**Duration of Unit**: 48 hours

**Unit Description**

This unit specifies the competencies required to construct poultry structures. It involves preparing to construct poultry structures, constructing poultry structures, installing poultry house structures and equipping the poultry house.

**Summary of Learning Outcomes**

1. Prepare to construct poultry structures
2. Construct poultry structures
3. Install poultry house structures
4. Equip poultry house

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare to construct poultry structures
 | * Types of poultry structures
	+ - Brooder
		- Rearing house
		- Store
* Factors determining type of poultry house
	+ - Type of birds
		- Production system
		- Cost
* Factors determining the site of poultry house
* Personal Protection Equipment and Apparel (PPEs) required in poultry house construction
 | * Written tests
* Observation
* Oral questions
* Third party report
 |
| 1. Construct poultry structures
 | * Accessory structures required in a poultry house
	+ - Perches
		- Foot bath
		- Cages
* Various designs of poultry structures.
* Occupational safety and health procedures in poultry house construction.
* Environmental protection measures observed during poultry house construction.
	+ - NEMA certification
* Construction materials
	+ - Types
		- Quality
		- Storage
* Factors considered in the choice of construction materials
	+ - Poultry house design
		- Cost
		- Availability
		- Life span
		- Environmental factors
		- Farmers preference
* Records required on poultry house construction.
 | * Written tests
* Observation
* Oral questions
* Third party report
 |
| 1. Install poultry house structures
 | * Poultry house layout
	+ - Area measurement
		- Pegging
* Poultry house foundation
	+ - Excavation
		- Mixing ratios of mortar
		- Stone laying
* Construction of poultry house parts
* Floor
	+ - Wall
		- Roof
* Construction of Security and Biosecurity measures
	+ - Predators barriers
		- Vehicle and human traffic controls
* Construction of accessory structures
	+ - Perches
		- Foot bath
* Factors to consider in installation of accessory structures
	+ - Type of birds
		- production system
		- time of use
		- space requirements
* Site clearing
	+ - importance
		- Debris disposal
* Work inspection
* critical house requirements
 | * Written tests
* Observation
* Oral questions
* Third party report
* Project
 |
| 1. Equip poultry house
 | * Equipment and materia**l** necessary in a poultry house
	+ Types and use
	+ Specifications and quantity
* Factors determining the choice of equipment and materials for poultry house
	+ Production system
	+ Cost
	+ Availability
* Factors considered in installation of equipment and materials in poultry house
	+ Time
	+ Pattern
	+ Safety precautions
	+ Number of birds
* Testing-running of the equipment
	+ Heat source
	+ Waterers
	+ Feeders
	+ Ventilation
* Lighting
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |

**Suggested Methods Of Instruction**

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

**Recommended Resources**

|  |
| --- |
| Functional poultry farm with the following: |
| * Poultry house
* Equipments
	+ - Brooder
		- Brooder thermometer
		- Hygrometer
		- Waterers
		- Feeders
		- Complete Battery cage system
		- Bedding materials
		- Buckets
		- Grit / shell container
* Sand bath
 | * Brooder
* Store
* Aceesory structures
* Saw
* Stones
* Sand
* Cement
* Ballast
* Timber
* Slashers
* Crowbar
 | * Hammer
* Nails
* String
* Wooden pegs
* Tape measures
* Barbed/chain link
* Hoe
* Shovels
* Wheel burrow
* Stationery
* Whiteboard
 |

# MANAGEMENT OF BROILER BROODING

**UNIT CODE:** POL/CU/BR/CR/02/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Poultry Brooding

**Duration of Unit:** 96 hours

**Unit Description**

This unit specifies the competencies required to manage poultry 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**

1. Prepare chick brooder
2. Acquire day-old chicks
3. Feed brooding chicks
4. Manage brooder house micro climate
5. Maintain brooder hygiene
6. Perform chick vaccination
7. Control poultry vermin
8. Control poultry predators
9. Monitor chick performance

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare chick brooder
 | * Factors determining choice of brooder construction materials
* Brooder construction guidelines.
* Cleaning and disinfection of brooder
* Types of bedding materials
* Factors determining the Choice of bedding materials
	+ - Type
		- Availability
		- Cleanliness
		- Moisture absorption ability
		- Cost
* Sterilization of bedding materials
* Cleaning and sterilization of brooder equipment.
* Installation of brooder equipment
	+ - Types of brooder equipment
		- Standard operation of the equipment
		- Factors determining the number of equipment
		- Time schedule for placement of various equipment
* Test-running the equipment
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Acquire day-old chicks
 | * Factors considered in choice of chick source
	+ - distance
		- Reputation of hatchery
		- price
		- freedom from diseases
* Specifications required in ordering of chicks
	+ - sex
		- breed / type
		- date
* Factors to consider during transportation of day old chicks
	+ - Packaging of day old chicks
		- Mode of transport
		- Time duration
		- Route of transport
* Factors considered during placement of day old chicks.
	+ - Time of placement
		- Inspection of chicks
		- Provision of water and laxative
		- brooder temperature
* brooder ventilation
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Feed brooding chicks
 | * Feeding requirements of chicks
	+ - Nutritional quality of feed
		- Amount
		- Feeding schedule
* Factors considered in choice of feed
	+ - Type of birds
		- Nutritive value of feed
		- Form of feed
		- Cost
* Factors that enhance feeding
	+ - *ad libitum* feeding
		- light schedule
* Water requirements of chicks
	+ - quality
		- quantity
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Manage brooder house micro climate
 | * Micro-climatic requirements in brooding
	+ - Ventilation
		- Humidity
		- Temperature
		- Light
* Methods of assessing micro-climatic variations in brooder house
* Use of tools and equipment
* Animal behaviour
* Human senses
* Non-conventional aids
* Corrective measures for micro-climate variations
	+ - Temperature
		- Humidity
		- Ventilation
* Lighting.
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Maintain brooder hygiene
 | * Biosafety structures/ facilities to consider in brooding
* Biosafety practices required in brooding
* Assessment of Bio-safety conformity
	+ Staff Monitoring
	+ Structures and facilities
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Perform chick vaccination
 | * Common diseases affecting brooding chicks
* Chick vaccination schedule
* Handling and storage of vaccines
* Equipment and tools required for vaccination.
* Vaccination procedures.
	+ - Types of vaccines
		- Pre- vaccination preparation
		- Actual vaccination
* Post-vaccination behaviour in chicks
	+ - Normal
		- Abnormal
* Chick vaccination records
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Control poultry vermin
 | * Types of vermin and their identification
	+ - Lice
		- Mites
		- Fleas
* Vermin control measures
	+ - Chemical
		- Structural related
* Cultural practices
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Control poultry predators
 | * Types of predators and their identification
	+ - Man
		- Cats
		- Dogs
		- Mongoose
		- Hawks
		- Rats
* Predator control measures for brooder house
	+ - Chemical
		- Mechanical
		- Biological
* Structural –related controls
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Monitor chick performance
 | * Factors influencing growth in chicks
	+ - Genetics
		- Feeding
		- Health
		- Micro-climate
* Growth and development pattern in chicks
	+ - Feathering
		- Weight gain
* Chick behaviour
	+ - Feeding behaviour
		- Activity
* Methods of assessing growth performance of chicks
	+ Weighing
	+ Physical appearance
* Performance assessment equipment and tools.
* Poultry vices
* Types
	+ - Causes
		- Control measure
* Culling of chicks
	+ - Reasons for culling.
* Stages of culling
 | * 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
 | * Weighing scale
* Chick feeds
* Water
* Vaccines
* Vaccination equipments
 |

# MANAGEMENT OF BROILER FINISHER

**UNIT CODE:** POL/CU/BR/CR/03/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Broiler Finishers.

**Duration of Unit:** 96 hours

**Unit Description**

This unit specifies the competencies required to manage broiler finishers. It involves feeding broiler finishers, maintaining broiler house hygiene, managing broiler health, monitoring broiler performance and maintaining broiler production records. It also includes managing broiler dispatch and sanitizing poultry house and equipment.

**Summary of Learning Outcomes**

1. Feed broiler finishers
2. Maintain broiler house hygiene
3. Manage broiler house micro-climate
4. Feed meat producing poultry
5. Maintain broiler house hygiene
6. Maintain suitable litter condition
7. Manage broiler health
8. Monitor broiler performance
9. Manage broiler dispatch
10. Sanitize poultry house and equipment
11. Maintain poultry production records

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Feed broiler finishers
 | * Types of feed and growth stages in broilers
	+ - Nutritional content
		- Feeding schedule
* Factors considered in choice of feed
	+ - stage of growth
		- Nutritive value of feed
		- Form of feed
		- Cost
* Factors that enhance feeding
* Feed and feeding factors
* Poutry factors
* Environmental factors
* Water requirements of broilers
* Quality
* Quantity
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Maintain broiler house hygiene
 | * Biosafety structures/ facilities to consider in broiler house
* Biosafety practices required in broiler house
* Assessment of Bio-safety conformity
	+ Staff Monitoring
	+ Structures and facilities
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Monitor broiler performance
 | * Factors influencing growth in broilers
	+ - Genetics
		- Feeding
		- Health
		- Micro-climate
* Growth and development pattern in broilers
	+ - Feathering
		- Weight gain
* Broiler behaviour
	+ - Feeding behaviour
		- Activity
* Methods of assessing growth performance of broilers
	+ - Weighing
		- Physical appearance
* Performance assessment equipment and tools.
* Poultry vices
* Types
	+ - Causes
* Control measure
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Maintain poultry records
 | * Importance of poultry records
* Types of poultry records
* Storage of poultry records
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Manage broiler dispatch
 | * Catching of meat birds
	+ methods
	+ tools
* precautions
* Weighing and sorting
	+ - Weighing methods
		- Weighing equipment
		- Sorting criteria
* Packaging and loading of meat poultry
	+ - Packaging materials
		- Packaging methods
		- Packaging precautions
		- Animal welfare guidelines
* Factors to consider during transportation
	+ - Mode of transport
		- Time duration
		- Route of transport
* Animal welfare guidelines
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Sanitize poultry house and equipment
 | * Factors to consider in litter disposal
	+ - Various uses of litter
		- Methods of disposal
		- Disease precautions
		- Equipment and tools
* Factors to consider in house cleaning
	+ - Suitable detergents
		- Cleaning procedure
		- Tools and equipment
		- Health of the flock
* House disinfection
	+ - Types of disinfectants
		- Methods of disinfection
		- Disinfection procedures
		- Personal protection equipment
* Cleaning procedures for feeders and waterers
* Types of detergents and sanitisers for feeders and waterers
* Methods of sanitising
* Heat
* Steam
* Hot water
* Chemical
* Sun drying
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Manage broiler house micro climate
 | * Micro-climatic requirements in brooding
	+ - Ventilation
		- Humidity
		- Temperature
		- Light
* Methods of assessing micro-climatic variations in brooder house
	+ - Use of tools and equipment
		- Animal behaviour
		- Human senses
		- Non-conventional aids
* Corrective measures for micro-climate variations
	+ - Temperature
		- Humidity
		- Ventilation
* Lighting.
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Maintaining suitable litter condition
 | * Role of litter in poultry house
* Factors determining choice of litter material
* Common litter defects
	+ Wet litter
	+ Dusty litter
* Wet litter
	+ Causes of wet litter
	+ dangers associated with wet litter
	+ Corrective measures for wet litter
* Dusty litter
	+ Dangers associated with dusty litter
	+ Corrective measures for dusty litter
* General litter maintenance practices
	+ Adequate ventilation
	+ Turning
	+ litter addition
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Project
 |
| 1. Vaccinate broiler finishers
 | * Common diseases affecting broiler finishers
* Broiler vaccination schedule
* Equipment and tools required for vaccination.
* Vaccination procedures.
	+ - Types of vaccines
		- Pre- vaccination preparation
		- Actual vaccination
* Post-vaccination behaviour in broilers
	+ - Normal
		- Abnormal
		- Broiler vaccination records
 | * 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 Broiler unit with the following: |
| * + - Shovel
		- Broom
		- Wheel burrow
		- Sanitizing agents
		- Brush
		- Detergents
		- Knapsack sprayer
		- Litter
		- Rake
		- Hammer
		- Timber
		- Nails
		- Computer
		- Printer
 | * + - Saw
		- Catching hook
		- Weighing scale
		- Jerry can
		- Crates
		- Feeders
		- Drinkers
		- Grit container
		- Grit
		- Water
		- Feed
		- Vaccine
		- Stationery
 | * + - Multivitamins
		- Syringe
		- Needles
		- Cool box
		- Freezer
		- Disinfectant
 |

# PRODUCTION OF BROILER FEEDS

**UNIT CODE:** POL/CU/BR/CR/04/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Produce Broiler Feed

**Duration of Unit:** 32 hours

**Unit Description**

This unit specifies the competencies required to produce broiler feed. It involves acquiring poultry feed ingredients, processing broiler feed ingredients, mixing the processed feed ingredients and storage of the formulated feed.

**Summary of Learning Outcomes**

1. Acquire broiler feed ingredients
2. Process broiler feed ingredients
3. Mix broiler feed ingredients
4. Store broiler feed

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Acquire broiler feed ingredients
 | * Methods of feed formulation
	+ Pearson square
	+ Step by step
	+ Trial and error
	+ Computer simulation
* Factors to consider when sourcing feed ingredients
* Cost
* Availability
* Nutritional values
* Ability to test quality
* Toxins and anti-nutritive factors
* Competition with humans
* Handling and storage methods of feed and feedstuff
* Sources and types of nutrients
* Feedstuff sampling procedures
* Nutrient content of feedstuff
* Appraisal methods for feedstuff quality
* Types of feed packaging materials
* Labelling requirements for feed
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Process broiler feed ingredients
 | * Processing methods for feed ingredients
* Drying
* Roasting or boiling
* Grinding
* Dehulling or dehusking
* Oil extraction (pressing or solvent)
* Types of mills
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Mix processed broiler feed ingredients
 | * Mixing methods
* Manual
* Mechanical
* Types of mixers
	+ Vertical
	+ Horizontal
	+ Transverse
* Forms of feed presentation
* Post mixing processing
* Pelleting
* Crumbing
* Packaging and sealing methods
* Post packaging labelling
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Store broiler feed
 | * Types of feed stores
* Feed storage methods
* Bulked
* Bagged
* Feed storage conditions
 | * Observation
* Written tests
* Oral questions
* Interviewing
 |

**Suggested Methods of Instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction

**Recommended Resources**

|  |
| --- |
| Functional poultry farm or feed processing plant with the following: |
| * Tractors
* Trailer
* Hammer mills
* Grinding mills
* Pelleting machines
* Oil pressers or extraction solvents
* Feed mixers
* Poultry feedstuff
* Detergents
* Fumigants
 | * Water
* Packaging materials
* Labels or labelling material
* Feed stores
* Stationery
* Weighing balances
* Calculators and / or computers
* Pest control equipment and materials
 | * Sampling kits
* Feedstuff nutrient content tables
* Gunny bags
* Sealing twines or threads
* Sealing machines
* PPEs
* Livestock production manuals
* Journal of poultry science
 |

##

# BROILER HEALTH AND WELFARE MANAGEMENT

**UNIT CODE:** POL/CU/BR/CR/05/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Broiler Health

**Duration of Unit:** 48 hours

**Unit Description**

This unit specifies the competencies required to manage poultry health and welfare. It involves maintaining poultry biosecurity, acquiring poultry health equipment and materials, managing poultry vaccination and controlling poultry parasites.

**Summary of Learning Outcomes**

1. Maintain poultry biosecurity
2. Acquire poultry health equipment and materials
3. Manage poultry vaccination
4. Control poultry parasites
5. Manage poultry diseases and vices
6. Maintain poultry health records

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Maintain poultry biosecurity
 | * + Biosecurity in a poultry farm
* Measures
* Regulatory bodies
	+ Designing biosecurity structures and equipment installation
	+ Written standard biosecurity operational procedures in poultry farms
	+ Occupational safety and health procedures in poultry farm
	+ Poultry waste management
* Litter (droppings, feathers, spilt feed, dead birds)
* Other wastes (plastics, glass, paper, metals and fluids)
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
* Case study reports
 |
| 1. Acquire poultry health equipment and materials
 | * Flock health management tools, equipment, materials and supplies
* Types
* Maintenance: cleaning, trouble shooting, servicing and repairs
* Procurement methods
 | * Written tests
* Observation
* Oral questions
* Third party report
* Interviewing
 |
| 1. Manage poultry vaccination
 | * Factors considered when developing poultry vaccination schedule
* Disease prevalence
* Disease severity
* Economic importance
* Poultry Immunology
* Types of vaccines (live attenuated, inactivated, vectored/recombinant)
* Reconstitution of poultry vaccines
* Vaccine handling
* Refrigeration methods
* Record keeping
* Vaccination sites and routes
* Vaccine intake
* Animal welfare regulations
* Poultry handling
* Recording vaccination details
* Type of vaccine
* Type of disease vaccinated against
* Age of poultry
* Date and time of vaccination
* Date of manufacture and expiry of vaccine
* Vaccine source and batch number
* Route of vaccine administration (IM, wing stab, sub cutaneous, intra nasal, intra ocular or spray, follicular swabbing, drinking water application, scarification)
* Number of birds vaccinated
* Identification of birds (flock, type, breed)
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Control poultry parasites, pests and predators
 | * External and internal poultry parasites
* Types - Internal (round worms, tape worms); External(mites, soft ticks, fleas)
* Life cycle
* Symptoms of infestation
* Prevention and control measures
* Poultry pests and predators
* Types
* Control measures
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Manage poultry diseases and vices
 | * Poultry gross anatomy and basic physiology
* Normal poultry behaviour
* General signs of ill health in poultry
	+ Ante mortem observation
	+ Post mortem observation
* Common poultry diseases
	+ Types
	+ Viral: Newcastle, Fowl pox, Gumboro / Infectious Bursal Disease, Mareks Disease, Infectious Bronchitis
	+ Bacterial: Fowl typhoid, Chronic Respiratory Disease complex, Infectious Coryza and Collibacilosis (omphalitis and yolk sac infection)
	+ Protozoal: Coccidiosis
	+ Metabolic / nutritional disorders: Ascites/ water belly, gout and toxic fat syndrome
	+ Poisoning: fungal or chemical
	+ Causes
	+ Symptoms
	+ Prevention and control measures
* Zoonotic poultry diseases: (Sallmonelosis, Listeriosis, Campylobacter)
* Poultry vices
* Types of vices
* Prevention and control measures
* Collection of monitoring and diagnostic samples
* Animal welfare
* Poultry handling and care
* Transportation
* Regulations
 | * Observation
* Written tests
* Oral questions
* Interviewing
* Third party report
 |
| 1. Maintain poultry health records
 | * Importance of records
* Types of health records
* Vaccination
* Deworming
* Treatment
* Routine health management practices –debeaking, culling
* Record keeping procedures
 | * Observation
* Written tests
* Oral questions
* 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**

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| Functional poultry farm with the following: |
| * Stationery (pen and sketching books)
* Poultry shackles
* Scapels
* Cleaning materials and equipment
* Disinfectants
* Sanitizers
* Disposal pits
* Weighing scales
* Debeaking machine
* Wing stab needles
* Strategic poultry drugs – preventative and emergency
 | * Automatic vaccination syringes
* Syringes and needles
* Vaccines
* Poultry dewormers
* Coccicidals
* Poultry acaricides
* Poultry 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
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