POULTRY PRODUCTION

Level - III

Learning Guide -42

Unit of Competence: - Implement feeding plans for intensive poultry production

Module Title: - Implementing feeding plans for intensive poultry production

LG Code: AGR PLP3 M11 LO1-LG-42

TTLM Code: AGR PLP3 TTLM 0120v1

LO 01: Interpret poultry feeding plans

Instruction Sheet	Learning Guide #-42

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- ☞ assessing and recording poultry condition
- ☞ identifying poultry production status
- ☞ Identifying poultry nutritional requirements and the nutritional value of feed stuffs.
- ☞ confirming and adjusting feeding plan

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- ☞ assess and record poultry condition
- ☞ identify poultry production status
- ☞ Identify poultry nutritional requirements and the nutritional value of feedstuffs.
- ☞ confirm and adjust feeding plan

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page -.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You have to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

Information Sheet-1	Assessing and recording poultry condition

Definition of Terms:

There are a number of terms which should be defined before the principles of feeding are discussed further.

Nutrient is any feed constituent or group of feed constituents of the same general chemical composition or a pure chemical compound that aids in the support of life. These consist of carbohydrates, protein, minerals, vitamins and water.

Feedstuff is synonymous with feed, food or fodder although it is broader, covering all materials included in the diet because of their nutritional properties. It includes natural feeds of animal origin, synthetic and other pure nutrients which are added in the natural feeds.

Feed is a mixture of feedstuff blended/processed in a form which is acceptable to animals. It is merely the carrier of nutrient and potential energy in a ration.

Supplement is a feed/feed mixture used with another feed to improve the nutritive balance of total ration and it is intended to be fed undiluted as a supplement to other feeds. It could be: Offered free choice with other parts of the rations separately available. Further diluted and mixed to produce a complete feed.

A ration is an allowance of feed given to an animal over a specified period of time, e.g. daily ration or weekly ration. It should furnish the entire nutrient required in adequate amount.

Poultry farming is the form of animal husbandry which raises domesticated birds such as chickens, ducks, turkeys and geese to produce meat or eggs for food. Chickens raised for eggs are known as layers, while chickens raised for meat are called broilers.

1.1. Assessing poultry condition

Poultry condition should be assessed by weighing, and body condition. And it helps to feed the chicken according to their body condition. Feeding program should be scheduled based on age, poultry condition & production level**.** In the case of commercial poultry keeping practice feed cost accounts about 70% of operational cost. Feed is required by birds for Maintenance; Production; Reproduction & Growth processes.

1.2. Poultry production according to enterprise requirement

People decide to keep chicken for different purpose. Specialized aspect of poultry keeping ranges from enterprises that have been development to replace functions that the poultry men used to perform. The farmer who is starting poultry production must be decided what he wants to produce: eggs from the layer, chickens or broiler.

Nutrition of layer type of chickens

Pullet growth initially most sensitive to dietary protein and amino acids whereas energy intake becomes more critical as the bird approaches maturity. Energy intake may be the limiting factor for growth of egg strain birds .Manipulation of energy intake is there for best considered in relation to feeding management and in particular method of stimulating feed intake.

Minute quantities of vitamins and minerals should be added for the wellbeing of the layer because deficiency may cause a drop of egg production.

Nutrition of broiler type chickens

Broiler chickens have been selected for rapid rate gain and efficient utilization of feed. Considerable importance is laid on the lysine and methionine along with provision of high energy feeds.

Trace mineral and vitamins addition must be made in pre-starter, starter and ration.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is ration?(5 pts)
2. What is the different between feed and feedstuff?(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

2. _____

_____

Information Sheet-2	Identifying poultry production status

2.1. Egg production

Good quality of hatching eggs are required in enormous number, hence most of the hatchery men have breeding stock to produce the egg. Cleanliness in the hatcheries is essential for continued success in producing high quality chicks.

Layer poultry farming means raising egg laying poultry birds for the purpose of commercial egg production. Layer chickens are such a special species of hens, which need to be raised from when they are one day old. They can produce about one kg of eggs by consuming about 2.25 kg of food during their egg laying period.

Laying cycle of a chicken flock usually covers a span of about 12 months. Egg production begins when the birds reach about 18–22 weeks of age, depending on the breed and season. Flock production rises sharply and reaches a peak of about 90%, 6–8 weeks later

Feed intake will increase to a steady level of 100-105 grams per day and hen body weight will reach a mature level of 1700-1800 grams.

2.2 Production of broilers

In this case farmers buy broiler chicks which grow quickly in very short time 10 to 12 week. Broiler production is becoming very important aspect of poultry production because scarcity of meat in some countries. Cockerel chicks from allaying stocks are also used to produce meat but they grow less quality.

Broiler breeder farms, which are operated by broiler hatching egg farmers, raise female (hens) and male (roosters) birds who are the parents of broiler chickens. These hens and roosters mate to produce fertilized eggs (not the same as the table eggs we eat), which are sold to broiler hatcheries for incubation.

One meat chicken will eat about 15 pounds of food in the course of their life. Hopefully that will help you plan ahead as you estimate how much chicken feed you'll need.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Define the production status of poultry production(10pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

Information Sheet-3	Identifying poultry nutritional requirements and the nutritional value of feedstuffs.

Nutrient requirement of birds is the quantity of protein /*essential amino acid* /, energy, mineral /calcium and phosphorus supplement/; vitamin / vitamin. A; vitamin B- complex / Additive & salt required by the bird per day depending on *age, level of production and type of stock.*

Energy requirement (carbohydrates & fats)

Functions of carbohydrates:-

- Provides energy.
- Body heat maintenance.
- Synthesis of fat stored in the body and egg i.e. excess carbohydrate is stored as fat (both in the body and egg).

Deficiency of carbohydrate results in poor growth rate of the chicks.

Sources of carbohydrate

Maize, wheat, barley (cereals), Wheat short: - Fine bran, portion of the (germ) & some endosperm of wheat and Wheat bran: -coarse by product with husk part of wheat milling.

Fats

Functions of Fats:

- ✓ Helps to increase energy density in the rations.
- ✓ Essential fatty acids like linoleic acid are important for growth & better hatchability.
- ✓ Deficiency of linoleic acid results in poor growth, poor hatchability and small egg size, Liver fat accumulation, susceptibility to respiratory disease.

Source of Fat: - Animal origin: - by product of meatpacking e.g. tallow & lard

-Plant origin: - ground nuts, soya beans.

Protein requirement

Excess protein is broken down & used as energy source whereas excess nitrogen is excreted as uric acid. Amino Acids that make up protein are essential nutrients than the protein molecule itself. Hence each amino acid should be considered individually.
Proteins are important for synthesis of body tissue, for promoting growth, for body repair, and for egg formation.

The synthesis of protein in the body requires an adequate supply of about 20 different amino acids. Ten of which cannot be synthesized by the bird and must be provided in the diet which is known as essential amino acid. E.g. Lysine, methionine**,** Lucien and tryptophan are some of essential amino acid required by birds. And those amino acids which are synthesized in the chickens' body are known as non-essential amino acid.

Vitamins

Vitamins' are organic compounds which are required in very small amount in poultry diet.

Functions: - - it act as a co**-**enzymes or regulators and metabolism
-helps for protection against disease

There are two types of vitamins

- Fat soluble vitamins: - Vitamin. A, Vitamin D, Vitamin. E, and Vitamin. K
- Water soluble vitamins: - Vitamin C and Vitamin B-complex

Fat-soluble Vitamins likely to be deficient in poultry diet are Vitamin. A & Vitamin. D.

Minerals

Functions of minerals**:-**

- ✓ Important for skeletal tissue development
- ✓ Egg formation e.g. Ca & P
- ✓ Physiological functions (digestion, Absorption, oxidation of food)

There are two types of minerals:-

- Major elements (Ca, P, Mg, Na, K, Cl)
- Trace elements (Fe, Mn, Cu, Mo, Ze, Se)

Water

- Water is normally provided *Adlibitum* for birds.
- Potable (safe) water should also be provided for birds

Functions of water

- Regulates body temperature
- Waste excretion
- Nutrient absorption
- Medium for physiological & chemical process

Sources of water **--**Water from the feed
--Metabolic water
--Drinking water.

Factors affecting water intake

I. Feed intake

- Chickens consume twice (2x) as much water as fed /body weight (WI = 2FI)
- It also depends on salt content of feed: **↑salt => ↑Water intake**

Feed in take decrease if birds are restricted not to drink water for some hours; if water intake of birds is restricted for long period; production declines and birds do not recover with in short periods.

II. ***Environmental temperature: -*** Birds consume more water at high ambient temp than at lower ambient temperature

III. ***Age***: -Adult birds like Layers/breeders need more water than very young chicks.

Table: Nutrient Requirement of birds at different class

Class of Poultry	Protein %	Energy kj/g	Ca %	P %	Lys %	Met %	Vit %
Chick starters (0-8weeks)	20	11	1	0.5			
Growers (9-20weeks)	18	10.5	1	0.43			
Broiler starter (0-8weeks)	23	12.5	1	0.43			
Broiler finisher (8-12 weeks)	20	13	0.8	0.40			
Pullet (8-22wks)	12	10.5	0.8	0.40			
Layer (>22wks)	16	11.5	3.5	0.50			

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the nutrient required by poultry (5%)
2. List the factor that affects the feed intake of poultry (5%)

Note: **Satisfactory rating - 6points** **Unsatisfactory - below 6points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

2. _____

_____

_____

Information Sheet-4	confirming and adjusting feeding plan

4.1. Poultry nutritional requirements

Nutrient requirement of poultry is

- ☞ The quantity of protein */essential amino acid*
- ☞ Energy
- ☞ Mineral :calcium and phosphorus supplement
- ☞ Vitamins: vitamin. A; vitamin B- complex
- ☞ Additive & salt depending on *age, level of production and type of stock.*

- ➢ Vitamins and minerals in general should be supplemented in small amount.
- ➢ High level of protein is required by very young chicks & broiler starters when they are laying down tissues
- ➢ Layers need more protein & more Calcium than energy-feed
- ➢ Pullets should be provided with low level of protein& calcium to prevent early maturity & egg production
- ➢ Broiler finisher need high level of energy feed to put on fat on their body hence they should be provided with a high-energy ration called broiler finisher mash.

4.2. Chicken ration formulation and feeding

The major production cost incurred in intensive chicken production system is feed and feed related costs which account 60-70%. Therefore, there should be proper utilization of the feed since it determines the profitability and the sustainability of the farm. The type and amount of ration given should be safe for their production or growth.

Improved chicken breeds can express their potential if they are provided with balanced ration and if they are fed properly. The importance of provision of balanced ration include for maintenance, growth, production, disease prevention, to produce well and have good resistance against diseases, etc. Young chickens should be fed separately from the adult chickens. They will often have a special diet and it is best for them not to have to compete with the adults for food. Laying hens should have easy access to calcium rich food that may be supplemented by calcium-rich sources such as crushed snail or egg shells. Do not hatch

new chicks if you don't have enough feed for them. If you hatch too many chicks, they may die from starvation or malnutrition, or their resistance to diseases may be reduced.

A broody hen should be separated from the flock to prevent other hens from disturbing her. Keep the hen in a separate nest with free access to fresh water and feed within a short distance. Supplementary feed and clean water should be given at least early in the morning and again in the evening when the chicken are returning to the house for the night

- Chicken must receive the proper amounts of nutrients in the right proportion to efficiently produce meat, eggs**,** etc.
- A ration is said to be balanced when it provides the nutrient needs of the animal in the proper proportions.
- Strictly speaking, a ration is the amount of feed given to an animal to meet its needs during a 24-hour period; however, in common practice, the term may refer to feed provided without reference to a time period.
- ✓ Ration must taste good.
- ✓ Mold, insect & weather damage all lower palatability

Characteristics of Ration

- Animals need proper nutrition to efficiently produce meat, milk, eggs, wool, work, etc.
- A ration is the amount of feed given to an animal to meet its needs during a twenty-four hour period
- A balanced ration is one that has all the nutrients the animal needs in the right proportions & amounts.
- Diet refers to the ration without reference to a specific time period.

Factors to be considered during formulation of balance ration are:-

- ✓ Age
- ✓ Sex
- ✓ Body Size
- ✓ Type of production
- ✓ Intensity of production
- ✓ Feed cost

- ✓ Processing cost
- ✓ Transportation cost
- ✓ Storage cost
- ✓ Antioxidant

General procedures of ration formulation

There are several approaches in formulating rations, but the choice of a method will usually depend on the number of feed ingredients & requirements of nutrients to be considered. However, the following general procedure is valid whatever approach is used.

1. Prepare a list of the requirements of all nutrients to be considered under the given circumstances & target animals.
2. Determine the feeds that are available for the formulation & consult available information on their use.
3. Prepare a listing of the nutrient composition of the feeds to be used.
4. Obtain feed costs at the site of mixing

RATIONS FOR GROWING CHICKENS

STARTER RATIONS:

Young chicks require a diet rich in protein and certain vitamins, with a carefully balanced mineral content. Two pounds of chick starter dry mash will feed one chick up to about six weeks of age. After that, in the case of the birds to be reared to maturity, a cheaper ration with increasing amounts of whole grain may be used. Birds to be killed as broilers, however, should be kept on a more concentrated diet to promote the rapid growth essential to profit in broiler raising.

While one may mix chick starter at home, the simplest plan is to purchase 200 pounds of commercial chick starter mash for each 100 chicks. Choose a brand that is flaky or mealy, avoiding the less palatable finely ground mixtures that tend to paste inside the chick's mouth. The dry mash should be stored in a cool dry place and fed fresh daily.

RATIONS FOR LAYING HENS

Egg production, to be profitable, must continue at a reasonably high level through most of the year. Hens turned loose to forage in the spring and only grain fed, soon lay themselves thin, cease laying, and molt and spend the summer and fall growing new feathers; moreover any eggs they lay are likely to be of "barnyard" quality and low grade. Laying hens require some form of protein supplement in addition to grain and chop. Similarly they need more vitamin and mineral materials than grains contain. A farm supplied with wheat and coarse grains, well-cured alfalfa or clover hay, and plenty of skim milk, provides practically everything required in the laying diet. Some form of Vitamin D supplement is needed for indoor conditions. Hens aren't likely to drink enough milk in cold weather to supply their protein requirement; this may be met by the use of laying concentrates or balancers, meat meal, fish meal, cooked meat or fish, etc. In any case the flock should have an ample daily feeding of alfalfa or clover leaves, or else limited pasture. Laying hens require a constant supply of oyster shells or limestone grit; also bone meal in a separate hopper when milk is used as the main protein supplement. Provide fresh clean drinking water at all times, or as soon as the daily amount of milk is consumed.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is starter ration? (5pts)
2. What are the factors that should be considered during ration formulation(5pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
2. _____
   _____

References

- http://www.poultryhub.org/nutrition/nutrient-requirements/
- https://www.google.com/search?q=poultry+condition&rlz=1C1AVFC_enET881ET881&oq=poultry+condition&aqs=chrome..69i57.59660j0j7&sourceid=chrome&ie=UTF-8

POULTRY PRODUCTION

Level - III

Learning Guide -43

Unit of Competence: - Implement feeding plans for intensive poultry production

Module Title: - Implementing feeding plans for intensive poultry production

LG Code: AGR PLP3 M11 LO2-LG-43

TTLM Code: AGR PLP3 TTLM 0120v1

LO 02: Prepare for feeding

Instruction Sheet	Learning Guide #-43

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Interpreting work to be undertaken from feeding plan.
- Deciding dietary elements concerning particular rations.
- Identifying OHS hazards, assessing risk and implementing suitable controls.
- Selecting, using and maintaining suitable personal protective clothing and equipment.
- Selecting, checking, and maintaining tools and equipment.
- Identifying environmental implications, assessing outcome and taking responsible action

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Interpret work to be undertaken from feeding plan.
- Decide dietary elements concerning particular rations.
- Identify OHS hazards, assess risk and implement suitable controls.
- Select, use and maintain suitable personal protective clothing and equipment.
- Select, check, and maintain tools and equipment.
- Identify environmental implications, assess outcome and taking responsible action

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
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3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
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5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You have to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

Information Sheet-1	Interpreting work to be undertaken from feeding plan

Generally the poultry ration contains 8-10 ingredients along with vitamin –trace mineral premix which is considered as one; these ingredients are maize, barely, soya bean meal, meat meal, fish meal, wheat bran, limestone, salt and premix

Maize, milo, and barely are the major coarse grain used for feeding poultry , occasionally surplus wheat or frost damaged wheat is sufficiently low priced to compete with coarse cereal grains.

Most feed formulator use soya bean meal, rape seed meal, sun flower seed meal and ground nut meal as protein source. This clearly shows that soya bean meal protein will support the best growth as it supplies essential amino acid likely to be critical in practical diet.

Regarding the source of animal protein fish meal, meat and bone meal are mentioned. Fish meal is an excellent source of protein for poultry. Since it contains adequate quantities of all essential amino acids and especially good source of lysine.

Poultry diets must be formulated to provide all of the bird's nutrient requirements if optimum growth and production is to be achieved. There are six classes of nutrients:

1. **Carbohydrates** – the major source of energy for poultry. Most of the carbohydrate in poultry diets is provided by cereal grains.
2. **Fats** – provide energy and essential fatty acids that are required for some bodily processes.
3. **Proteins** – required for the synthesis of body tissue (particularly muscle), physiological molecules (such as enzymes and hormones), and feathers and for egg production. Proteins also provide a small amount of energy.
4. **Vitamins** – organic chemicals (chemicals containing carbon) which help control body processes and are required in small amounts for normal health and growth.
5. **Minerals** – inorganic chemicals (chemicals not containing carbon) which help control body processes and are required for normal health and growth.
6. **Water**.

Factors affecting the nutrient requirements of poultry

The nutrient requirements of poultry are affected by a large number of factors, including:

- **Genetics** (the species, breed or strain of bird) – Different species, breeds or strains of birds have different average body sizes, growth rates and production levels and will absorb and utilize nutrients from feed with different levels of efficiency. Therefore, they will require feed with different nutrient compositions. The genetics of commercial poultry is constantly changing, and as a result, so are their nutrient requirements. Consequently, breeders of commercial poultry provide information on the specific nutrient requirements for the birds they sell.
- **Age** – nutrient requirements are related to both body weight and the stage of maturity in bird.
- **Sex** – prior to sexual maturity, the sexes have only small differences in their nutrient requirements and males and females can usually be fed the same *compromise* diet to achieve acceptable growth rates. Differences in nutrient requirements are larger following the onset of sexual maturity and significantly different diet formulations are then required for each sex.
- **Reproductive state** – the level of egg production in hens and sexual activity in males will affect nutrient requirements.
- **Ambient temperature** – poultry have increased energy requirements to maintain normal body temperature in cold ambient temperatures and the opposite in hot ambient temperatures. Food digestion processes produce body heat, the amount of which will vary according to the nutrient composition of the diet. This is called the heat increment of the diet. In cold temperatures it may be desirable to formulate a diet with a higher heat increment and the opposite in hot temperatures.
- **Housing system** – the type of housing system will influence the level of activity of the birds and therefore their energy requirements.
- **Health status** – birds experiencing a disease challenge may benefit from an increase in the intake of some nutrients, most commonly vitamins.
- **Production aims** – the optimal nutrient composition of the diet will vary according to production aims, such as optimizing weight gain or carcass composition, egg numbers or

egg size. Poultry that are raised for breeding purposes may need to have their energy intake restricted to ensure that they do not become obese.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the right raw material for feeding plan?

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

Information Sheet-2	Deciding dietary elements concerning particular rations

The following factors to be considered when deciding on the purchase and use of alternative feed ingredients**.**

- Composition and Quality
- Nutrient Digestibility/Availability
- Relative Value
- Suitability or Form of Material
- Anti-Nutritional Factors
- Palatability
- Free of Hazards
- Handling and Storage

Ration formulation involves the selection and allocation of feed ingredients in such a way that the cost of the ration is kept low while sufficient nutrients are supplied to the animal for its maintenance and for its desired production level.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is dietary element of the rations?(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____

Information Sheet-3	Identify OHS hazards, assess risk and implement suitable controls.

3.1. Identifying OHS hazards

Occupational Health and Safety hazards related to the daily operations of the poultry sector can be grouped into five categories:

- ❖ Physical hazards
- ❖ Confined spaces
- ❖ Exposure to chemical hazards
- ❖ Exposure to organic dust
- ❖ Exposure to biological agents

Work task is provided according to Occupational Health and Safety (OHS) requirements and supervisor instructions

- Apply OHS requirements in accordance with regulations/codes of practice and enterprise safety policies and procedures. This may include:
  - Using of relevant protective clothing and equipment,
  - Use of tooling and equipment,
  - Workplace environment and safety handling of material,
  - First aid kit
  - Hazard control and hazardous materials and substances.
  - Following Occupational health and safety procedure designated for the task
  - Checking and fulfilling required safety devices before starting operation
- Apply safe operating procedures regarding:
  - Electrical safety,
  - Machinery movement and operation,
  - Working in proximity to others and site visitors.
- Apply emergency procedures:
  - Emergency shutdown and stopping of equipment,
  - First aid application and site evacuation. electrical safety,
  - Machinery movement and operation,
- Working in proximity to others and site visitors

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are Occupational Health and Safety hazards related to the daily operations of the poultry sector(10pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

Information Sheet-5	**Selecting, using and maintaining suitable personal protective equipment**

5.1. Selecting and Checking Suitable Personal Protective Equipment

There are different types of materials, tools and equipments and supplies to perform different activities in poultry raising activity. Therefore, identifying, selecting, using and preparing facilities, supplies according to the working activity are very important aspect in poultry work.

Personal protective equipment include:

- Overalls
- Gloves
- Safety goggles
- plastic boots/shoes
- respirator or face mask
- Protective eyewear/ear wear
- Sun protection (sun hat, sun screen).

Protective clothing should be selected to prevent skin contact with contaminated materials or environments. Consideration should be given to the type of work being performed by the worker when selecting personal protective clothing.

. 

Figure 2a. Glove Figure 2b. Safety shoes Figure 2c.Overalls

Figure 2d.Hearing protection

Figure 2e. Eyewear

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write main purpose of Personal Protective Equipments (15%)
2. What is the main purpose of Personal Protective Equipments? (5%)

Note: **Satisfactory rating – 20 points** **Unsatisfactory - below 20 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
2. _____
   _____

Information Sheet-6	Identifying environmental implications, assessing outcome and taking responsible action

Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

Environmental impact is defined as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services. The purpose of the EIA process is to inform decision-makers and the public of the environmental consequences of implementing a proposed project. The EIA document itself is a technical tool that identifies, predicts, and analyzes impacts on the physical environment, as well as social, cultural, and health impacts.

Self-Check -6	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is environmental impact assessment ?(5pts)
2. What is purpose of environmental Impact assessment?(5pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
   _____
2. _____
   _____
   _____

References

- https://www.google.com/search?q=dietary+elements+concerning+particular+rations&rlz=1C1AVFC_enET881ET881&oq=dietary+elements&aqs=chrome.1.69i57j69i59l2j0l5.4739j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=ohs+hazards+in+agriculture&rlz=1C1AVFC_enET881ET881&oq=OHS+hazards&aqs=chrome.3.0l8.6047j0j7&sourceid=chrome&ie=UTF-8

Poultry production

Level-III

Learning Guide -44

Unit of Competence: -Implement feeding plan for intensive production system

Module Title: -Implementing with feeding plan for intensive production system

LG Code: AGR PLP3 M11 LO3-LG-44

TTLM Code: AGR PLP3 TTLM 0120v1

LO 03: Mix feed

Instruction Sheet	Learning Guide #-44

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- ☞ Calibrating Scales and containers.
- ☞ Identifying ingredients from instructions.
- ☞ Measuring ingredients in the specified ratios and quantities.
- ☞ Blending ingredients adequately and hygienically.
- ☞ Conducting milling.
- ☞ Identifying OHS hazards, assessing risk and implementing suitable controls.
- ☞ Selecting, using and maintaining suitable personal protective equipment

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- ☞ Calibrate Scales and containers.
- ☞ Identify ingredients from instructions.
- ☞ Measure ingredients in the specified ratios and quantities.
- ☞ Blend ingredients adequately and hygienically**.**
- ☞ Conduct milling.
- ☞ Identify OHS hazards, assess risk and implement suitable controls.
- ☞ Select, use and maintain suitable personal protective equipment

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page -.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You have to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

Information Sheet-1	Calibrating Scales and containers

Calibration of a scale is a procedure in which a certified scale technician uses known weight certified by the State of North Carolina Bureau of Weights and Measures, to adjust the response of a mechanical or electronic weighing system to the following tests; the indicator must show zero when there is no weight.

Scale calibration is a procedure that ensures that a weighing scale or balance delivers correct, accurate weighing results to the degree specified on the scale. The accuracy of weighing scales can diminish over time through regular use, dust build-up or age; a process often referred to as ‘drift’. For this reason, it is important that scales and balances are regularly maintained

Procedure for Calibrating the Scale

- Place the scale on a flat surface in a room at normal room temperature.
- Turn on the scale. Wait until the scale reads 0.
- Press and hold the calibrate key, which is marked "CAL."
- Wait until "CAL" is displayed on the LCD screen.
- The calibration display will then read the zero point, "0.0."
- Press the "CAL" key again and hold it for two to three seconds to wait for the scale to calibrate the zero point and display the full capacity.
- The LCD screen should read the full capacity for that scale, such as "500 g."
- Place a weight on the scale equal to the full capacity of the scale. For instance, if the full capacity is 500 grams, place a 500-gram weight on the scale.
- Wait three seconds and press "CAL." The LCD should read "PASS" and the mass of the weight used, such "500 g." Calibration is completed.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How do you calibrate scales?(5pts)
2. What is calibration?(5pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

2. _____

_____

Information Sheet-2	Identifying ingredients from instructions

Generally the poultry ration contains 8-10 ingredients along with vitamin –trace mineral premix which is considered as one; these ingredients are maize barely soya bean meal, meat meal, fish meal, wheat bran, limestone, salt and premix.

Maize, milo, and barely are the major coarse grain used for feeding poultry occasionally surplus wheat or frost damaged wheat is sufficiently low priced to compete with coarse cereal grains.

Most feed formulator use soya bean meal, rape seed meal, sun flower seed meal and ground nut meal as protein source. This clearly shows that soya bean meal protein will support the best growth as it supplies essential amino acid likely to be critical in practical diet.
Regarding the source of animal protein fish meal, meat and bone meal are mentioned. Fish meal is an excellent source of protein for poultry. Since it contains adequate quantities of all essential amino acids and especially good source of lysine.

Table .1. **Feed ingredients**

S.No.	**feed ingredient**	amount required per quintal(100KG)	
		layer	pullet
1	yellow corn	37	42
2	wheat bran	18	16
3	Noug seed cake	30	33
4	blood meal	9	5
5	bone meal	4	2
6	lime stone	1	1
7	salt	0.5	0.5
8	vitamin premix	0.5	0.5
		100	100

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the feed ingredients used in poultry ration?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

_____

_____

Information Sheet-3	Measuring ingredients in the specified ratios and quantities.

3.1. Composition of Feed stuffs Used in Poultry Diets.

Feed formulation involves the judicious use of feed ingredients to supply in adequate amounts and proportions the nutrients required by poultry. Therefore Ingredients should be selected on the basis of availability, price, and the quality of the nutrients they contain.

The process from raw material intake to finished feed pellets include many steps: It starts with dosing/weighing, followed by grinding, mixing, conditioning, expansion and pelleting. When the pellet has left the pelletizer it will be transported to the cooler, sifter and coater. Prior to the mixing process, the feed ingredients have been weighed and grinded and the vitamins and minerals have been added to the feed compound. The next step is then for all the ingredients to be mixed together.

3.2. How to measure ingredients properly

- ✓ Dry ingredients (like flour and sugar) should be measured using flat-cup measures.
- ✓ Spoon measures must be measured with the correct sized spoons. A level spoon is essential.
- ✓ Liquid ingredients should be measured in jugs. Set the jug on a flat surface and check at eye level.

The three basic tools used to measure ingredients are:

- ➢ Measuring spoons.
- ➢ Dry measuring cups.
- ➢ Liquid measuring cups

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the basic tools used to measure ingredients?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

_____

Information Sheet-4	Blending ingredients adequately and hygienically.

A feed ingredient is a component part or constituent or any combination/mixture added to and comprising the feed. Feed ingredients might include grains, milling byproducts, added vitamins, minerals, fats/oils, and other nutritional and energy sources.

Main Feed ingredients for Chickens are:

- Alfalfa meal (high protein, good for winter)
- Corn (a mainstay for chickens, store whole)
- Field peas (for protein, to avoid soybean use)
- Wheat.
- Oats and/or barley (less than 15 percent of the total diet together)

What Is The Purpose of Blending?

Industrial blending is used in a multitude of industries, and for a wide variety of reasons. Blending and mixing can be used to improve the quality of products, evenly coat particle materials, disperse liquids, or fuse materials.

Basically, mixing (or homogenizing), means to transport the individual particles to an exact position in relation to other particles and thereby avoid segregation. It is very important to have all the ingredient mixed together properly to achieve a good feed pellet quality. Optimum mixing of the feed ingredients will ensure uniform distribution of nutrients, vitamins and minerals, which will result in a homogeneous nutrient content in each feed pellet. Further, it will ensure optimum growth of the animals.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What Is the Purpose of Blending?(5pts)
2. What are the main Feed ingredients for Chickens?(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

   _____

2. _____

   _____

Information Sheet-5	Conducting milling.

5.1. Milling of poultry feed

Bone meal and meat and bone meal, which are milled. Other Ingredients in solid form are ground and all of them are thoroughly mixed; using; a mechanical miller; grinder & mixer repetitively.

While mixing the proportion of mixing various ingredients is important as this determines the extent to which the diet is balanced.

To ensure that an even mix is obtained the ingredients should be put in to the mixer in the following order.

1. Cereal **2**. Vitamins. **3**. Protein **4**. Cereals **5**. Mineral **6**. Cereals.

Milling is an important process of manufacturing technology and basically it refers to the removal of metal from the work piece using a tool which has several cutting points and is rotating about its axis. There are two major classes of milling process: In face milling, the cutting action occurs primarily at the end corners of the milling cutter. Face milling is used to cut flat surfaces (faces) into the work piece, or to cut flat-bottomed cavities.

Milling is a process performed with a machine in which the cutters rotate to remove the material from the work piece present in the direction of the angle with the tool axis. With the help of the milling machines one can perform many operations and functions starting from small objects to large ones

5.2. Milling of poultry feed

You should measure all your ingredients ahead of time. Measure out the amount needed of each grain and set aside. Get your container ready. It's not necessary but it is a good idea if your container or tub has a lid to protect from mice.

Start by pouring your corn and soybeans into your tub. With your hands mix them together well. There should be close to a 50/50 mix when you scoop a handful out.

Next, mix your oats, alfalfa, and fish meal into your base mix. This is where you might need your small shovel to reach the bottom of the container.

Finally mix in your aragonite and poultry nutri-balancer. Continue to mix until all ingredients are mixed evenly throughout.

Feed this mix in place of your regular chicken feed. Feed at the rate of 3 pounds for every five birds per day.

Figure: Miller

Figure: Horizontal mixer

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the order of mixing poultry ration?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

Information Sheet-6	Identifying OHS hazards, assessing risk and implementing suitable controls.

6.1. Identifying OHS hazards

Occupational Health and Safety hazards related to the daily operations of the poultry sector can be grouped into five categories:

- ❖ Physical hazards
- ❖ Confined spaces
- ❖ Exposure to chemical hazards
- ❖ Exposure to organic dust
- ❖ Exposure to biological agents

Work task is provided according to Occupational Health and Safety (OHS) requirements and supervisor instructions

- Apply OHS requirements in accordance with regulations/codes of practice and enterprise safety policies and procedures. This may include:
  - Using of relevant protective clothing and equipment
  - Use of tooling and equipment
  - Workplace environment and safety handling of material,
  - First aid kit
  - Hazard control and hazardous materials and substances.
  - Following Occupational health and safety procedure designated for the task
  - Checking and fulfilling required safety devices before starting operation
- Apply safe operating procedures regarding:
  - Electrical safety
  - Machinery movement and operation
  - Working in proximity to others and site visitors.
- Apply emergency procedures:
  - Emergency shutdown and stopping of equipment
  - First aid application and site evacuation. electrical safety,
  - Machinery movement and operation
- Working in proximity to others and site visitors

Self-Check -6	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are Occupational Health and Safety hazards related to the daily operations of the poultry sector(10pts)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

Information Sheet-7	**Selecting, using and maintaining suitable personal protective equipment**

6.2. Selecting and Checking Suitable Personal Protective Equipment

There are different types of materials, tools and equipments and supplies to perform different activities in poultry raising activity. Therefore, identifying, selecting, using and preparing facilities, supplies according to the working activity are very important aspect in poultry work.

Personal protective equipment include:

- Overalls
- Gloves
- Safety goggles
- plastic boots/shoes
- respirator or face mask
- Protective eyewear/ear wear
- Sun protection (sun hat, sun screen).

Protective clothing should be selected to prevent skin contact with contaminated materials or environments. Consideration should be given to the type of work being performed by the worker when selecting personal protective clothing.

. 

Figure 2a. Glove Figure 2b. Safety shoes Figure 2c.Overalls

Figure 2d.Hearing protection

Figure 2e. Eyewear

Self-Check -7	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write main purpose of Personal Protective Equipments (15%)
2. What is the main purpose of Personal Protective Equipments (5%)

Note: **Satisfactory rating – 20 points** **Unsatisfactory - below 20 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

_____

2._____

_____

References

- https://www.google.com/search?q=Milling+of+poultry+feed&rlz=1C1AVFC_enET881ET881&oq=Milling+of+poultry+feed&aqs=chrome..69i57j0.1965j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=ohs+hazards+in+agriculture&rlz=1C1AVFC_enET881ET881&oq=OHS+hazards&aqs=chrome.3.0l8.6047j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=ppe+equipment&rlz=1C1AVFC_enET881ET881&oq=p&aqs=chrome.1.69i60j69i59l3j69i57j69i60l3.5140j0j7&sourceid=chrome&ie=UTF-8

Poultry production

Level-III

Learning Guide -45

Unit of Competence: -Implement feeding plan for intensive production system

Module Title: -Implementing with feeding plan for intensive production system

LG Code: AGR PLP3 M11 LO4-LG-45

TTLM Code: AGR PLP3 TTLM 0120v1

LO 04: Conduct hygiene and administration activities

Instruction Sheet	Learning Guide #-45

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- ☞ Cleaning equipment.
- ☞ Undertaking information gathering, collation and presentation.
- ☞ Completing records and documentation

This guide will also assist you to attain the learning outcome stated in the cover page.
Specifically, upon completion of this Learning Guide, you will be able to –

- ☞ Clean equipment.
- ☞ Undertake information gathering, collation and presentation.
- ☞ Complete records and documentation.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page -.
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Information Sheet-1	Cleaning equipment

1.1. Commercial Cleaning Equipment

Commercial cleaning equipment is essential in keeping your restaurant, bar, hotel, hospital or school not just spotlessly clean, but germ-free. Whether you need high level tools for window cleaning, protective gloves, cleaning carts or a quick restock of cloths, squeegees and sponges, you're sure to find the perfect cleaning tools right here.

This selection of industrial cleaning equipment from top brands such as Rubbermaid, Scot Young, Numatic and Karcher will help you achieve the highest standards of food hygiene and ensure a clean, sanitary working environment for your staff and guests. From grouted tiling to carpets and polished wooden floors, find the best professional cleaning equipment you need to tackle all areas of your establishment here, including rotary cleaners, powerful vacuum cleaners, pressure washers and scrubber driers.

Color coded cleaning equipment is vital to help avoid the risks of cross contamination, allowing you to separate tools and equipment for specific cleaning areas. Read our guide to color coded cleaning for more information on how to use this system to your advantage.

Here are the best cleaning tools you need to have in your home today:

- Broom, dustpan and mop.
- Scrub brush.
- Spray bottle.
- Microfiber cleaning cloths.
- Vacuum cleaner.

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Dustpan

- is a cleaning tool commonly used to scoop the dirt and wastes on the floor.

Sponge

- is characterized by readily absorbing water and becoming soft when wet while retaining toughness: used in bathing, in wiping or cleaning surfaces, etc.

Liquid Detergent

- is a detergent in liquid form used for cleaning tools and equipment.

Cleaning Cloth

- is used to wipe the cleaning tools and equipment.

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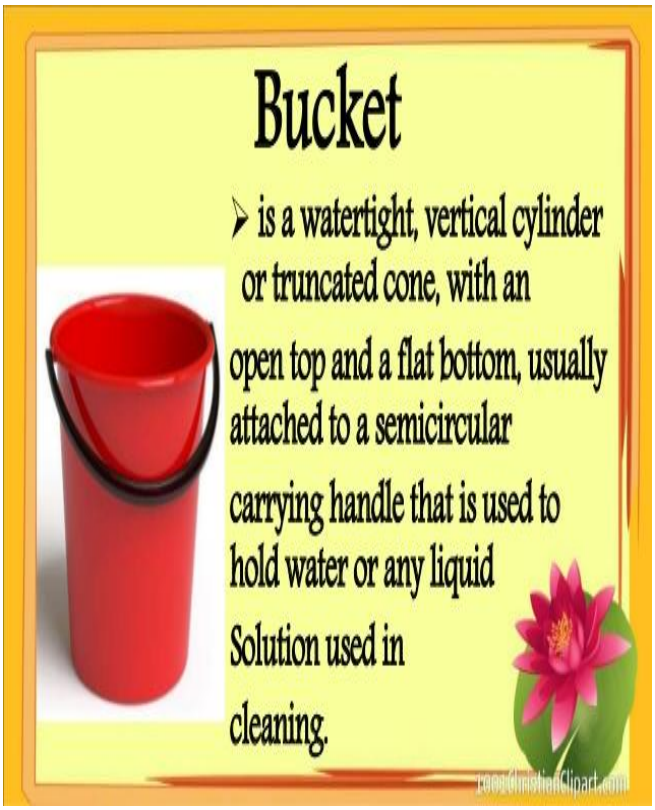

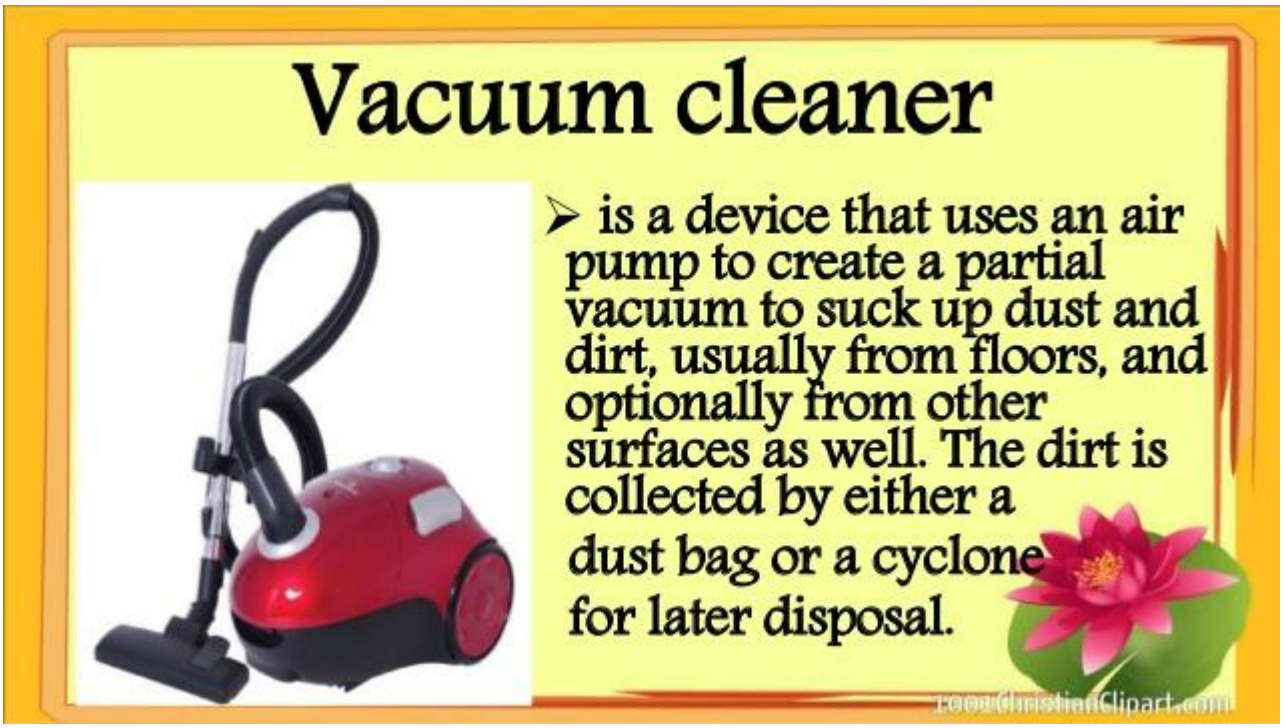

Figure: Cleaning Equipments

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the Commercial cleaning equipment in poultry production?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

_____

Information Sheet-2	**Undertaking information gathering, collation and presentation**.

Traditional methods of gathering information include:

- Interviews.
- Questioning.
- Questionnaires.
- Observation.
- Study of existing organizational documents, forms and reports

Qualitative data collection methods

- Open-Ended Surveys and Questionnaires
- One to one (face-to-face) Interviews
- Focus groups
- Direct observation
- Sources of information

Primary sources are original materials on which other research is based, including: original written works – poems, diaries, court records, interviews, surveys, and original research/fieldwork, and research published in scholarly/academic journals.

What does it mean collate information?

To bring together different pieces of written information so that the similarities and differences can be seen: to collect and arrange the sheets of a report, book, etc., in the correct order.

E.g. the photocopier will collate the documents for you. Collecting and amassing.

Data presentation

Presenting the data includes the pictorial representation of the data by using graphs, charts, maps and other methods. These methods help in adding the visual aspect to data which makes it much more comfortable and quicker to understand. Various methods of data presentation can be used to present data and facts.

Methods of data presentation

The techniques of data and information presentation in textual, tabular, and graphical forms are introduced. Text is the principal method for explaining findings, outlining trends, and providing contextual information.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the qualitative data collection methods(5pts)
2. Mention methods of gathering information(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

   _____

2. _____

   _____

Information Sheet-3	Completing records and documentation.

Documents are written policies, process descriptions, and procedures used to communicate information. In other words, after data, information, or results are recorded onto a form, label, etc., then it becomes a record. Documents and records may be paper or electronic.

Difference between a Document and a Record

Documents and records may sound alike but there is a big difference between the two. Documents are created by planning what needs to be done and records are created when something is done. Documents can change and records don't (must not) change.

Record keeping systems used may be either paper-based or digital and information will be recorded into logbooks or other records. All chemical usage should be recorded as well as any necessary recording of vehicle and equipment use in logbooks. Additionally, any assessment of pests and weeds, quality, module weights, breakdowns and yield should be recorded appropriately.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is Difference between a Document and a Record?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
   _____

References

- https://www.google.com/search?q=Cleaning+Equipment&rlz=1C1AVFC_enET881ET881&oq=Cleaning+Equipment&aqs=chrome..69i57j69i59l2j0l2j69i60l3.1826j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=data+presentation&rlz=1C1AVFC_enET881ET881&oq=Data+presentation&aqs=chrome.0.35i39j0l7.4775j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=Document+and+a+Record&rlz=1C1AVFC_enET881ET881&oq=Document+and+a+Record&aqs=chrome..69i57j0l7.2667j0j7&sourceid=chrome&ie=UTF-8

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MINISTRY OF AGRICULTURE

Federal TVET Agency

Poultry production

Level-III

Learning Guide -46

Unit of Competence: -Implement feeding plan for intensive production system

Module Title: -Implementing with feeding plan for intensive production system

LG Code: AGR PLP3 M11 LO5-LG-46

TTLM Code: AGR PLP3 TTLM 0120v1

LO 05: Order and store feed and ingredients

ATTSVE

Instruction Sheet	Learning Guide #-46

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- ☞ Ordering ingredients previously selected.
- ☞ Storing ingredients and feed safely.
- ☞ Ordering stock rotated and replacements to arrive.
- ☞ Completing records and documentation

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- ☞ Order ingredients previously selected.
- ☞ Store ingredients and feed safely.
- ☞ Order stock rotated and replacements to arrive.
- ☞ Complete records and documentation

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page -.
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6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

Information Sheet-1	Ordering ingredients previously selected

On a product label, the ingredients are listed in order of predominance, with the ingredients used in the greatest amount first, and followed in descending order by those in smaller amounts.

Different Methods of ingredients ordering/ purchasing

- Open Market Purchase
- Purchasing by contract
- Centralized Purchasing
- Standing order purchase
- Periodical purchasing/ fortnightly quotation list/ purchasing bi weekly

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write Methods of ingredients ordering feed ingredients?(10pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

_____

Information Sheet-2	Storing ingredients and feed safely.

All types of ingredient, as well as completed compound feeds, require special care during storage to prevent deterioration in quality, and loss. Additionally they are very valuable commodities and need to be subjected to careful stock control to prevent theft. Stock control is also essential to enable you to fulfill the feed needs of your animals adequately and to ensure that you have enough, but not excess, of each ingredient available for manufacture when needed.

Good storage is essential because the value of the feed that you present to your animals depends on it. Feed spoils during storage -whether it deteriorates quickly or slowly depends partly on its quality when you receive it but very largely on how you store it on your farm

Many problems can occur during feed storage. Some deterioration is inevitable. Thus ingredients should be stored for as short a period as possible and compounded feeds used quickly, especially in tropical conditions. The method of storage depends on the type of ingredient. Some specific suggestions are given in this sub-section of the manual followed by some 'do's' and 'don'ts' on storage generally.

Factors that affect feed storage:

- **Temperature:** The temperature at which food is stored is very critical to shelf life.
- **Moisture**: It is recommended to remove moisture when storing foods.
- **Oxygen:** Foods store best when oxygen free.
- **Light:** Light is a form of energy that can degrade the food value of foods.

To maintain the nutritional value of feed, store it:

- away from direct sunlight and out of the rain
- in a ventilated space
- in a cool environment, and
- Off the ground (to prevent condensation, i.e. the growth of mould).

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the factors that affect feed storage?(5pts)
2. How do you store feed to maintain its nutritional value?(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
   ___
2. _____
   _____
   ___

Information Sheet-3	**Ordering stock rotated and replacements to arrive**.

To rotate stock means to arrange the oldest units in inventory so they are sold before the newer units. For example, a grocery store will restock its shelves by putting the oldest units in the front part of the shelves.

Benefits to Maintaining Good Stock Control

- Increases productivity and efficiency.
- Creates a more organized warehouse.
- Helps save time and money.
- Improves accuracy of inventory orders.
- Keeps customers coming back for more.

It is important to rotate stock in all areas: retail display area, warehouse, factory, etc. The reason to rotate stock is to reduce the losses from deterioration and obsolescence. Ideally, when a company rotates its stock the units are physically flowing first-in, first-out (FIFO).

The golden rule in stock rotation is **FIFO** 'First In, First Out'. If feed is taken out of storage or put on display, it should be used in rotation. Feed stock rotation consists in using products with an earlier use-by-date first and moving products with a later sell-by date to the back of the shelf.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the benefits to maintaining Good Stock Control?(5pts)
2. What is feed stock rotation?(5pts)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____

   _____

2. _____

   _____

Information Sheet-4	Completing records and documentation.

4.1. **What is record documentation?**

The purpose of complete and accurate feed record documentation is to foster quality and continuity of animal care. It creates a means of communication between providers and between providers and members about health status, preventive health services, treatment, planning, and delivery of care.

An updated records inventory ensures speed and accuracy when dealing with and responding to clients. Knowing which records are available and where to find them helps customer service reps handle inquiries promptly and fill orders efficiently, which gives clients a better impression of the organization.

In computer hardware and software product development, documentation is the information that describes the product to its users. The term is also sometimes used to mean the source information about the product contained in design documents, detailed code comments, white papers, and blackboard session notes.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is record documentation?(5pts)
2. What is the purpose of record documentation?(5pts)

Note: **Satisfactory rating - 6 points** **Unsatisfactory - below 6 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1. _____
   _____
   _____
2. _____
   _____
   _____

References

- https://www.google.com/search?q=Ordering+stock+rotated+and+replacements+to+arrive&rlz=1C1AVFC_enET881ET881&oq=Ordering+stock+rotated+and+replacements+to+arrive&aqs=chrome..69i57.1848j0j7&sourceid=chrome&ie=UTF-8
- https://www.google.com/search?q=record+documentation&rlz=1C1AVFC_enET881ET881&oq=record+documentation&aqs=chrome..69i57j0l7.9357j0j7&sourceid=chrome&ie=UTF-8

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