DEPARTMENT OF ANIMAL SCIENCE
UNIVERSITY OF CALABAR

AGA 311: NON-RUMINANT ANIMAL PRODUCTION

INTRODUCTION

What are Non-Ruminants?

Non-ruminant animals are those animals that have simple stomach. They possess no rumen, reticulum and omasum. They have abomasum as the only true stomach. Examples include Poultry, Rabbits and Pigs.

Meaning of poultry

Poultry generally refers to domesticated birds that are used mainly as food to man. These include domestic fowl, ducks, turkeys, guinea fowl, pheasant, quails, ostrich, pigeons, doves etc. many species, breeds and strains of poultry are used in the service of man. Some of these species are of limited importance. Examples are guinea fowl, goose, ducks and the ostrich, others and particularly Gallus domesticus (domestic fowl) have assume a Worldwide importance.

Domestic fowl are believed to have been domesticated in Asia around 2500BC. Geese in Egypt 1500BC, turkey in Mexico 2500BC, ducks in China 2500BC, Muscovey ducks were found in Peru in the sixteenth century and were probably domesticated at about that time. Most modern breeds of poultry were developed from 1850 onwards. Modern breeding programmes to produce hybrids started in 1950s and 1960s.

Taxonomy of the domestic fowl

Below is the taxonomy of the domestic chicken:

Kingdom - Animalia
Phylum - Chordata
Class - Aves
Subclass - Neomithes
Order - Galliformes
Family - Phasinidae
Genus - Gallus
Specie - Gallus domesticus

Advantages of poultry keeping

1. They have comparatively small body size which makes it reasonably possible to be raised in a confinement. The success of the extensive range of systems and methods that have been developed to produce chickens in widely varying environment is an important step to the success of poultry keepers.

2. There is a low cost of production and quick return from poultry compared to other farm animals.
3. Poultry meat and eggs are high quality animal protein sources. Eggs are the most nutritive and have the best acid profile known to man.
4. Poultry are efficient feed converters to meat and egg (i.e. they have high feed efficiency).
5. Poultry production can be used to minimize the protein intake imbalance in Nigeria.
6. There is excellent product acceptance with respect to social and religious traditions, in other words, no strong taboo against the eating of poultry product, thereby ensuring ready market for the products.
7. Curative and preventive drugs are available for the most poultry diseases.
8. Poultry birds assist in scientific research.
9. Poultry also gives useful by-product like feathers and droppings (faeces). Their droppings contain more nitrogen, phosphorus, and potassium than other animal wastes.
10. From a genetic standpoint, the short inter-generation interval of this species (about 1 year) has favoured the rapid selection of breeds which meet more of the specific demands of consumers.

Disadvantages of keeping poultry

1. The digestive tract of birds is relatively short compared to other farm animals and can only utilize high quality concentrate feeds. These are also use as feed for human making them to be in direct competition with man.
2. They are highly susceptible to extreme weather conditions and diseases.

Problems or constraint of poultry production in Nigeria

1. Because of the competition with man the cost of feed ingredient is high.
2. Housing, diseases and parasitic problems.
3. The nutrient composition of available feed ingredient not well understood.
4. The nutrient requirement of birds for maintenance and production is not well known.
5. Unavailability of adoptable egg laying and broiler birds.

Guidelines to improve poultry production

1. Farmers should provide balance ration to improve the bird's diet.
2. Farmers should follow sound management practices.
3. Farmers should adopt proper vaccination programmes and effective diseases control measures.
4. Farmers should renew their stock regularly.
5. Farmers should raise birds of imported breed that are more productive.

MANAGEMENT OF BREEDING STOCK

A group of birds based on their genetic and phenotypic differences is known as Breed.

Breeds of chicken and their characteristics

All breeds and varieties of chicken are due to natural selection. Many are commercially exploited. These include:

Egg Type

These are breeds raise for egg production. They have small body size and slow growth rate. Examples are Harco, Ancona, Rhode Island Red, black leghorn and white leghorn.

Meat Type

They are raised for meat production. They have large body size, they are also heavy breed, and they have faster growth rate. Examples are Light Sussex, White Sussex, White Wyandotte, Plymouth Rock and Anak.

Dual Purpose

These are birds that are raised for both meat and egg production. Examples are Light Sussex, Rhode Island Red and Plymouth Rock, New Hamphire etc. For example the cocks are used for meat production and the hens for the production of both eggs and meat. Both are considerably older when slaughtered than the broilers and therefore, have more flavour.

Rhode Island Red

The Rhode Island Red originates from America the feather is red with some black feather in part of the wing. It has yellow skin and lays large brown eggs.

Leghorn

The white leghorn has white feather and is used mainly for egg production. It is small in size and lays over 300 white shell eggs in a year. The brown leghorn produces brown shells eggs and is not as productive as the white leghorn.

Light Sussex

It is an important English breed which grows rapidly. It is large with good fleshing property. It is good as a broiler but poor as a layer.

Barred Plymouth Rock

The feather colour is grayish black with white underneath, while the sides are black with prominent streaks of white spots. They are heavy breeds and are used for dual purpose. They lay brown eggs.

Harco

Harco is a heavy American breed that has been commonly used to develop the present day breeders. It is a good egg laying bird. Other breeds like the Ancona, Andalusian and Spanish white are all of the Mediterranean origin and are early maturing between 150-160 days, producing 240-250 white shell eggs per year.

Local Breeds

These are breeds peculiar in the West African sub-region; they are generally small with tough flesh. They are poor layers but good brooders. Their feather varies in colour from white to black including multi-colour mixtures.

Hybrids

They are commonly seen and use in commercial farms. They are generally high yielding in both meat and egg production. They are fast replacing most standard birds.

MANAGEMENT OF BREEDERS

Chickens are also kept as breeders for production of day-old chicks.
Breeding stock should be reared far apart from other poultry stock.

Breeder may either be for the production of broiler chicks for meat production or for production of pullets for egg. Breeding chickens are mainly reared on floors. From the rearing to adult stage, they are given more floor space, more feeds and water.

To prevent indiscriminate mating, males and females are managed in the flock are: ∞ 1 male to 12 females – for light birds, ∞ 1 male to 10 females – for medium sized birds, ∞ 1 male to 8 females – for meat type birds. Breeders may be revaccinated for IBDV at 14 – 16 weeks of age.

If movement to separate house is necessary, they are moved at 10 to 12 weeks. Movement at a young age prevents stress and ensures possible breaks in Mycoplasma gallisepticum and Mycoplasma synoviae clean status.

The enclosure where the birds (males and females) are kept (though separately) should be made of wire netting so that the birds can see and get used to themselves.

The males should be introduced into the female pens about one hour before one hour before dark in order to allow little time for fighting that may ensue.

Note that cockerels (male birds) attain peak fertility at 24 to 26 weeks of age. Only intact males are used for breeding.

The first eggs for incubation should be collected at least 2 weeks after the onset of egg production. Hatching eggs weighing between 50 – 54g should be collected and fumigated immediately.

The diets of the males and females are changed to breeder's diet (15% CP & 2850kcal/kg ME) at maturity (24 weeks for male and point of lay of fem).

MANAGEMENT OF GROWING AND YOUNG ANIMALS

Before the chicks arrive

1. All used equipment (drinkers, feeders, brooders, lamps etc.) should be moved out of the house, thoroughly washed with suitable detergent, (Omo, surf, elephant power, key soap, tempo, tide rinsed with clean water and scrubbed with a powerful disinfectant (Izal, Dettol, Z germicide etc.), equipment should be checked to ensure that they are in good order and any necessary repairs to equipment should be effected.
2. Old litter material and manure should be removed from inside and around the house. Cobwebs should be removed from rafters, walls, wire netting and other parts of the house. The walls and floors of house should then be thoroughly washed with any suitable detergent. After this, all surfaces should be disinfected with a suitable disinfectant like Izal, Dettol, pine, etc. disinfecting the house before washing is a waste since disinfectants are inactive in the presence of dirt. The house may be sealed off and fumigated if necessary. All repairs to the house should be effected; an area of about 1.2m (4 feet) wide around the house should also be cleaned and disinfected.
3. All doors and windows should be left open. The house and equipment should be allowed to dry and air out for at least ten to fourteen days before putting new birds into the house.
4. A pan or dip containing diluted disinfectant (which should be renewed daily) should be placed at the entrance to the house. Everyone must be made to pass through this dip before entering the poultry house. This would reduce reintroduction of disease organism into the house.
5. After washing, disinfecting and air – drying, the open sided portion of the house should be covered with plastic or polythene material, mat, clean feed bags or similar material at least a day before the birds are due to arrive. A small portion of about 15cm on top of the wire mesh should be left open for ventilation.
6. Mold free dry litter material such as wood shavings (other litter materials are saw dust, shredded dry corn cobs, groundnut hulls, rice hulls) should be spread evenly on the floor to a height of about 5 to 7.5cm (2 to 3 inches), at least two days before the birds arrive. The litter should be thoroughly checked to ensure that no sharp materials (wood pieces, nails) are within the litter.
7. The cleaned and disinfected brooders, feeders and drinkers should be installed in their proper positions at least two days before the bird arrive. The brooder (the heat source) should then be surrounded by a brooder guard (which should be 60 to 90cm high) at a distance of about 60 to 90cm from the edge of the brooder. Wire

mesh (1/2") may be used as brooder guard during the hot months of the year while stronger materials like cardboard or even cement blocks may be used as brooder guards during the harmattan season. The brooder guard may be removed after 7 days of brooding. Feeders and drinkers chick guard and should be arranged alternatively.

8. The heating units (kerosene lamps, stoves, electric bulbs, and infrared lamps) should be checked to ensure that everything is in order. The heating system should be started at least two hours before the young birds arrive, this period (2 to 4 hours) should be enough to get right temperature of 35°C at litter level below the brooder, before the birds arrive. Brooder heat started more than 12 hours before the birds arrive tend to dry litter too much resulting in dehydration of the birds on the first day, when the birds are in the house, the droppings will add moisture to the litter and thus reduce dehydration due to brooder heat.
9. Water should be provided in the drinkers at least one hour before the chickens arrive. Feed should be on hand.
10. Advice should be sought in advance of the vaccination schedule. All necessary medicants should be on hand.

AFTER THE CHICKS ARRIVE

1. The chicks boxes used for transporting the birds should be unloaded quickly, distributed in the house and the lids of the boxes removed.
2. The chicks should be carefully counted into the house near the source of heat. The chicks that appear weak are in coma should be resuscitated by dipping their beaks into water and forcing water down their throats. Very weak birds, crippled birds, and those with unabsorbed yolk should be discarded. These may not survive. The number of good birds should be recorded immediately.
3. Some of the chick boxes may be opened up and placed on the floor if no feeding trays are available to serve as the first feeders (first 2 days). Two chick boxes or two egg trays or two plastic trays should be provided per 100 chicks. Alternatively, clean newspaper may be spread on the floor. Feed should be spread on these. Polythene materials are not suitable for use as first feeders.
4. The rest of the boxes should be removed and burnt.
5. Feeds should be supplied to the birds after 2 to 3 hours of being put in the pen. Research has shown that better growth, feed conversion and liability are obtained when feed is introduced after majority of birds have learnt to drink (1st 2 to 3 hours)
6. For the first few hours, the birds should be watched to ensure that they are drinking and eating and the temperature is right for them. The behaviour of the birds should indicate whether they are comfortable or not (Fig 3).

7. Daily observation of feed and water consumption, stock appearance, noise patterns and mortality should be made. Cases of disease outbreak and deviations from normal should be reported immediately to relevant authorities.
8. Entry of visitors into the house should be minimized. Personnel working in the house and visitors (if they must enter) should be made to pass through a footpath of disinfectant before entering the house.
9. Entry into any poultry house should be gradual. Forced entry into the house may scare birds resulting in losses due to pilling at corners. It is good practice to tap slightly on the door to alert the birds before entering any poultry house.
10. Adequate records of mortality, feed consumption, vaccinations, etc. must be kept. By keeping adequate records, troubles can easily be spotted.
11. Dead birds should be disposed of properly, burning o deep burying are suitable means of disposal of dead birds.

POULTRY HOUSING

Reasons for providing suitable housing for poultry

1. To protect the birds from bad weather.
2. To protect the birds from thieves and predators.
3. To be able to control the birds.
4. To be able to keep the birds in age group.

General Principles of Poultry Housing in the Tropics

In a tropical environment the design and construction of poultry houses must take into consideration the climatic and weather conditions of the environment. The guiding principle is to keep poultry productive throughout their producing life. This involves the provision of optimum conditions of temperature, humidity, ventilation and light. Another important principle relates to cost and durability. Poultry house should be structurally strong, durable and cheap.

General Guidelines

The following guidelines will help a poultry farmer in providing simple and adequate housing for poultry under tropical conditions.

1. External wall should be low (about 0.6m – 1m) with a chicken wire mesh (1-2cm) extending from the wall to height of 2m leaving some margin under the roof for unimpeded or free air flow.
2. The roof should be corrugated material or thatched.
3. There should be enough roof overhangs to prevent rain from entering the pens.
4. Internal partitions when necessary should be made of wire mesh to aid unrestricted air circulation.

5. The poultry house should be clear of other buildings or structures which may obstruct the free flow of air.
6. The poultry house should not be too wide (more than 9m) as this tends to cut down fresh air movement in and out of the pen.
7. The house should be constructed in an east west direction, to protect the birds from the direct rays of the sun.
8. Water reservoir should be located under shades to prevent excessive heat up of water during the hot days.
9. Stocking density for tropical areas should be 10 - 20% lighter than the temperature environment.
10. Poultry houses should be located on a well-drained ground to prevent flood.
11. The poultry house should be accessible by road to facilitate evacuation of produce or delivery of feed and other supplies.

1.0 Poultry Equipment

It is very important that food troughs should not be overfilled and neither should the tube feeders be too widely opened, the construction of the food trough is also important and there exist types that reduce spillage and so reduce food wastage by up to 20 percent. Food wastages can turn a profitable enterprise into one making a considerable loss.

Floor space and trough space requirement per 100 chicks

Age (weeks)	Floor space (m2)	Trough space (m)
0 – 4	4	1.5
5 – 8	9	3.0
9 – 20	12	6.0

For drinkers and food troughs the requirements are:

1. It should be impossible to tilt over.
2. It should have adequate size and depth.
3. It should discourage scratching out of contents.
4. It must not cause injury to the bird.
5. It should be cheap and can be constructed locally.
6. It should allow the bird full access and not limit food intake.

OTHER EQUIPMENTS INCLUDE:

1. Brooding equipment or Brooders – Provides heat to keep the birds warm e.g. electric bulbs or kerosene lamp.
2. Nest or Battery cages – for laying birds.

3. Small items of equipment: includes; hoes, cutlasses, knives for clearing, buckets for fetching water, drums/tanks for storing water, brooms for sweeping and cleaning.
4. Egg crates, cartoons and trays for storing eggs.
5. Debeakers for removal of part of the beak.
6. Specialized equipment – needed in specialized poultry enterprise or large poultry units they include;
   (a) Egg coolers – for egg storage to retain egg quality
   (b) Egg sizing & washing machine – for grading eggs into sizes and washing dirty table eggs.
   (c) Incubator and hatcher – for hatching day old chicks.
   (d) Feed mixing equipment – for mixing feed.
   (e) Feed ingredient storage equipment – bulk feed tank silos.
   (f) Poultry processing equipment.

MAINTENANCE OF POULTRY EQUIPMENT

Proper maintenance includes the following:

- Cleaning of feeders and drinkers and emptying them every day in case of deep litter system.
- Complete cleaning using soap and water, if possible disinfectants. This should be followed by complete drying and disinfection in direct sunlight.

NUTRIENTS REQUIREMENT OF POULTRY

Nutrition

Nutrition is the process which provides nourishment to a living organism. This implies the provision of certain food elements (nutrients) which the body of the organism absorbs and uses to perform its normal function associated with life as well as storing the excess in its tissue. The nutrients required by poultry include; (i) Energy (ii) Protein (iii) Vitamins (iv) Minerals (v) Water

Energy

Energy requirement by poultry are supplied from carbohydrate and lipids in adverse condition, protein can also be broken down to supply energy. The energy in poultry is normally expressed in unit of metabolizable energy per unit weight e.g. kilo joule/gram (KJ/G) or requirement in terms of metabolizable energy per day (KJ/day). The metabolizable energy refers to that portion of the feed which is available to the bird for the production of meat and egg and for the maintenance of vital function and body temperature.

Birds are usually given free access to feed and they eat to satisfy their energy requirement. The more increase in energy value of feed the less its intake and the reverse is true.

Sources of energy

Maize, sorghum, millet, wheat, barley, maize bran, wheat bran, brewers dried grain (BDG), cassava, yam, vegetable oil (groundnut, coconut, soybean, cotton seed etc.)

Protein

Proteins are nitrogen containing compounds. They promote growth and flesh formation. Proteins are made up of units of amino acids. The synthesis of proteins in the body requires about twenty different amino acids. Ten of these amino acids cannot be synthesize by the birds and must be provided in the diet. These are termed essential amino acids. Examples include: Phenyl, alanine, valine, threonine, tryptophan, isoleucine, methionine, histidine, arginine, leucine, and lysine.

The non – essential amino acids are:

Alamine, Aspartic acid, Glycine, Proline, Hydroxyl, Pratine, Tyrosine, Serine, Cysteine, Cysteine, Glutamine.

Of all the essential amino acids, lysine, methionine and tryptophan are called critical amino acids because they are the most limiting amino acids in feed stuff. In general, deficiency of essential amino acids leads to poor growth, poor egg production and low feed utilization.

Sources of proteins

Sources are two types, plants and animal sources.

Plant sources

Sunflower meal, palm kernel meal, soya bean, Bambara nut, cotton seed cake, bean seed meal, Bambara nut meal, locust bean meal, shear butter meal, groundnut cake, soya bean meal, cowpea etc.

Animal sources

Fish, meat, meat meal, maggot meal, termite meal, chicken offal meat, grasshopper meal, feather meal, meat and bone meal, blood meal, etc.

Water

Water is the most important nutrient of farm animals. The body of chicken is composed of at least 70% of water so also the egg. It is usually made freely available

to poultry. The water intake of birds varies with age, temperature, size, diet and rate of egg production.

Estimated water intake (at 21-C of chicken of various ages

Age (week)	Water intake/100 birds (litre/day)
0 – 2	4 – 5
2 – 5	7 – 10
5 – 10	15
10 – 20	18 – 22
Adult layers	20 – 30

Lack of water can seriously retard growth rate and impaired egg production. In tropical countries water deprivation can lead to death within a very short period of time.

Minerals

Minerals are inorganic substances required by farm animals to build their skeleton and perform various metabolic functions in the body. Minerals are classified into two groups based on their level of requirement.

1. Macro or major elements which are minerals required in relatively large quantity which are calcium, potassium, magnesium, sodium, chlorine and sulphur.
2. Micro of minor elements which are required in small quantities. These are iron, zinc, copper, molybdenum, selenium, iodine, manganese, cobalt and fluorine. The major minerals in poultry feeding are calcium and phosphorus. The common sources of minerals include:

Bone meal
Oyster shell
Limestone
Di calcium phosphate
Common salt
Wood ash
Green grass etc.

The micro minerals are usually incorporated as premix in which form they contain most of the trace minerals in the right proportion required by the various classes of chicken.

Vitamins

Vitamins are organic compounds not synthesize by the body but essential for normal growth and good health. They are required in small amount. There are thirteen vitamins required by poultry. They are the fat soluble and water soluble vitamin.

Fat soluble vitamins include:
Vitamin A, D, E, K

Water soluble vitamins include:
Thiamine (B1), Riboflavin (B2), Pyridoxine (B6), Pantothenic acid , Nicotinic acid, Biotin, Folic acid, Cobalamine (B 12), Ascorbic acid.

Some of these vitamins are available in green feeds, grains and animal proteins. All are available in synthetic form (vitamin premix).

FEED ADDITIVES

1) **Anti-oxidants:** examples include ethoxyquine or butylated hydroxytoluence at the rate of 112g per ton of feed to prevent oxidation of vulnerable vitamins especially vitamin A.
2) **Coccidiostats:** this is usually introduced at prophylactic levels in broilers diet according to the recommendation of the manufacturers. It is completely withdrawn towards the end of the fattening period.

Types of poultry feed

Classes of poultry	Age (weeks)	Ration
Broilers	0 – 6	Broiler starter
Broilers	7 – 10	Broiler finisher
Layers, breeders & pullets	0 – 8	Chicken starter mash
	9 – 16	Growers mash
	17 and above	Layers mash

Recommended nutrient allowance for poultry under tropical climatic conditions
Nutrient allowance for poultry under tropical climatic condition

Nutrients	Chicken ration	Growers ration	Layers ration	Broiler starter	Broiler finisher
Crude protein (%)	19.5	15.0	16.5	22.0	20.0
Crude fibre (%)	5.0	6.0	5.0	5.5	5.5
Metabolizable energy (kcal/kg)	2700	2650	2600	850	2900
Calcium (5)	1.0	0.80	3.20	1.0	0.80
Phosphate (%)	0.45	0.50	0.50	0.70	0.50
Sodium (%)	0.15	0.10	0.15	0.15	0.12
Vitamin A (iu)	5000	3500	4000	5000	3500
Lysine (%)	100	0.65	0.70	1.30	1.10
Methionine (%)	0.40	0.30	0.35	0.50	0.40
Tryptophan (%)	0.20	0.15	0.18	0.25	0.20

Feed requirement and body weight of broilers

Age (weeks)	Average weight/bird (kg)	Feed requirement/100 birds (kg)	Feed requirement cumulative/100 birds
1	0.036	10	10
2	0.080	18	28
3	0.140	21	49
4	0.200	26	75
5	0.350	39	140
6	0.510	52	166
7	0.90	58	224
8	1.5	67	286
9	2.1	67	358
10	2.5	71	424

GROWTH RATE, FEED INTAKE AND FLOOR SPACE REQUIREMENT OF PULLETS

Growth rate, feed intake and floor space requirement of pullets

Age (weeks)	Body weight (g)	Feed/Bird/Day (gm)	Floor space cm^2/bird
1	45	10	232
2	90	16	232
3	126	22	232
6	270	44	464
10	427	63	0.10
15	652	69	0.18
18	780	75	0.30
20	850	79	0.30

Poultry product and marketing

It is of no value to produce poultry commodities (egg and meat) without serious effort to secure a market for them.

Egg marketing

The egg is a highly perishable product and if not given proper care between the time it is laid and time it is consumed, it may deteriorate markedly in several respects, for example;

- Gross changes in weight as a result of evaporation of moisture through the shell mostly from the albumen.

- Flavour and odour changes also occur in storage either due to internal chemical changes or to the absorption of extraneous odour by the egg.
- Relative changes in size and form of egg components such as yolk and albumen can indicate egg I storage.
- Other changes are inter conversion of minerals and organic contents, specific gravity, permeability, viscosity, gaseous concentration and microbial changes.

Egg grading

The most important point considered in egg for consumption if quality.
In general the interior and exterior factors are considered.

Exterior qualities used for grading eggs

1. Soundness of egg
2. Cleanliness
3. Size
4. Colour
5. Shape and texture

Interior qualities used for grading eggs

1. Condition of the yolk
2. Condition of the shell
3. Condition of the air cell

Egg processing and preservation

Eggs are processed to prolong their keeping or storage life. Methods of prolonging edible life of an egg include:

(i) Prevent contamination with faeces and other dirt.

(ii) Chilling at temperature between -0.50°C – 2°C and relative humidity of 88% (can store for 2 – 3 months).

(iii) Chemical treatments aimed at sealing the shell pores and thus preserving the egg contents from environmental changes and gaseous diffusion using example. Vegetable oils, Vaseline, lard, gelatin, agar-agar and alum as coating agents.

(iv) Heat treatment: egg can be momentarily (5 seconds) dipped in boiling water to coagulate the thin film of albumen enclosing the egg membrane.

(v) Dehydration: usually applied to the shelled eggs to produce powered products or flakes.

Marketing table birds

Table birds are broilers, old hens' cockerels and cocks. They can be marketed live or dressed and ready to cook. Consumers in the southern part of Nigeria buy very little live poultry but in the northern part of the country, live birds are commonly sold in the markets.

Processing of table birds

It involves the following stages;

(i) Killing and bleeding
(ii) Scalding
(iii) Plucking and picking
(iv) Dressing and evisceration

Killing

Birds are killed by any of the following methods;

i. By hatching of the head from the live chicken.
ii. By cutting the head off with a knife.
iii. By cutting the jugular vein.

After killing, the chicken is allowed to bleed.

Scalding

Scalding is the use of hot water (50 - 55°C) to soften the skin and facilitate the removal of the feathers.

Picking or plucking

The scalded bird is then de feathered by hand picking, however, in commercial processing units, mechanical pluckers consisting of rotating drums with several stickers usually of rubber or plastics are used.

Dressing and Evisceration

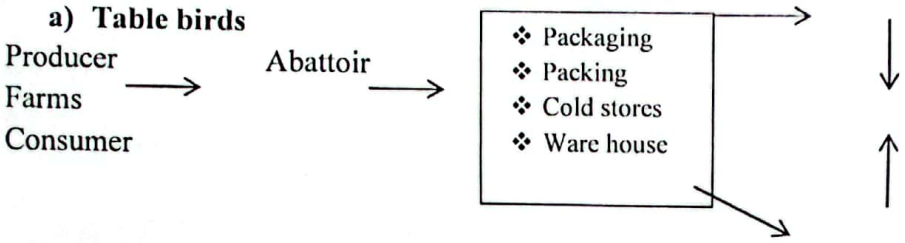
Dressing entails the removal of the head, neck, feet, gizzard, lungs, liver, intestine, crop, legs and other intestinal tissues. The internal evisceration is done by slitting between the end of the knee bone and the rectum and then plunging the hand to remove the contents of the body cavity. The dressed chicken is sold whole or in parts.

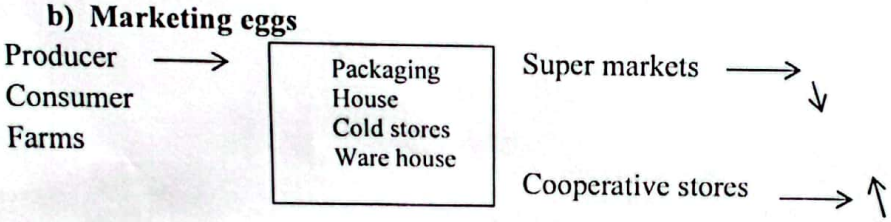
Chilling

Dressed chickens are usually chilled to prevent bacterial growth and enzymatic activities. This is achieved by placing the carcass in a cold chamber with temperature of 1 – 5°C.

Storage

The temperature depends on the length of time that the carcasses are to be stored. For a day or two temperature of 2°C is ideal. If for a long period of time, they should be frozen to -5°C to -18°C. In Nigeria the prices of poultry's products is determine by the forces of demand and supply. A typical market organization of poultry products in a developing economy is as follows:





Diagrammatic representation of marketing table birds and eggs

In undeveloped economy like Nigeria, the scheme represented above does not operate. Consequently there are no accurate trends on production, supply and demand; price changes are violent and difficult to control. Couple with this, the poor cold storage facilities makes the handling of poultry products precarious and the prices unstable.