

# **DUCK PRODUCTION IN NIGERIA**

Extension Bulletin No. 133

Poultry Series No 7

NATIONAL AGRICULTURAL EXTENSION AND RESEARCH LIAISON  
SERVICES

AHMADU BELLO UNIVERSITY

P.M.B. 1067

ZARIA NIGERIA.

## **ACKNOWLEDGMENT**

Published information on duck raising is scarce in Nigeria. In fact, this is the first Extension Bulletin publication on duck keeping produced by NAERLS. The burden for this work arose from the need to look inwards and focus on the neglected, but vital sources of animal protein for household diets. This bulletin therefore, is intended to provide useful information on the various aspects of duck production, create awareness and thus motivate Nigerian poultry farmers to get more involved into duck raising ventures for eggs, meat and profit.

My sincere appreciation goes to all the Scientists, Researchers, Scholars whose work was consulted and all the staff of NAERLS for the contributions in making this Bulletin a success.

**E.I. Ikani**

Extension Specialist (Poultry).

<b>CONTENTS</b>	<b>Page</b>
Acknowledgment.....	i
Contents.....	ii
Introduction .....	1
Common Ducks varieties in Nigeria.....	3
Duck Raising Systems in Nigeria.....	7
Integrated Duck-fish-snail Production.....	9
Duck Breeding .....	11
Housing and Equipment .....	16
Feeding .....	18
.Health Care of Ducks .....	23
Duck Carcass Processing and Product Utilization .....	26
Duck Marketing .....	28
Duck Production Records .....	29
Summary of Duck Management Practices .....	32
Glossary of Words .....	33
Bibliography .....	34

## **INTRODUCTION**

The domestic ducks are water-fowls. They are raised mainly in regions of high rainfall, deltas, riverine areas and coastal districts of the tropics. A number of advanced countries in temperate climates also keep ducks in commercial quantities.

In Nigeria, local ducks are raised on free range along side with the domestic chickens. Even though ducks are hardier and more resistant to diseases and environmental hazards they are fewer than the chickens due basically to cultural beliefs which tend to portray ducks as mystique birds. However, development in research and technology has increasingly eliminated these cultural barriers and enhanced productivity of the birds. Nigeria can thus take advantage of the economic and nutritional benefits of ducks to improve on the short fall in the animal protein supply in family diets.

### **Importance of Duck Farming**

1. Ducks are mini-livestock and raising them does not require elaborate houses. They require little space and can be sheltered in simple sheds at night and let loose during the day.
2. Ducks are rarely affected by the common disease problems prevalent among chickens. They are hardier and more resistant to environmental hazards, therefore, better as scavenger birds in developing countries like Nigeria.
3. They are comparable in meat qualities to chickens as shown in Table 1 below:

**Table1: Meat quantities of duck versus chicken**

<b>Meat Quality</b>	<b>Duck</b>	<b>Local Chicken</b>	<b>Broiler</b>
Appearance	7.2	8.2	6.5
Juiciness	6.8	7.2	8.7
Tenderness	6.3	5.6	8.5
Flavor	8.2	8.8	6.9
Overall*	9.0	9.5	7.1

**Source:** Oluyemi and Ologhobo (1997)

4. Ducks are able to digest fibre and protein food relatively more efficiently than chickens. This is an advantage considering recent emphasis on non-conventional feedstuffs to bring down cost of feed-inputs in the poultry Industry.
5. Integrated farming system is very feasible with duck raising e.g. Duck-fish-snail farming and Duck-swampy rice production.
6. Duck keeping requires little labour since their eggs are laid at night or early in the morning. The eggs can be collected in the morning before leaving the ducks loose on free-range during the day.
7. Profitable small backyard poultry project is more feasible with ducks than with chickens, because ducks have longer productive (egg laying) period . Generally, the farmer needs only to replace the laying flock twice every three years. While for optimum egg production, chickens require stock replacement after every one season of lay

### **COMMON DUCK VARIETIES IN NIGERIA.**

There are many duck breeds raised in countries of the world, kept both for ornamental and domestic reasons. But the small farmer is mainly concerned with getting meat and eggs from his ducks. The most popular varieties of ducks found common in Nigeria, include:

#### **1. The Muscovy Duck**

The Muscovy duck is the most popular variety in Nigeria. The duck is believed to have originated in Central America.

Due to the fact that duck raising is still not well developed in this country, the variety is most commonly kept on free-range and at backyard level. The plumage could be black, white or a combination of both colours. Muscovy may be easily recognised by the fleshy out growths, red in colour, found round the eyes and beaks. See figure.1 below..



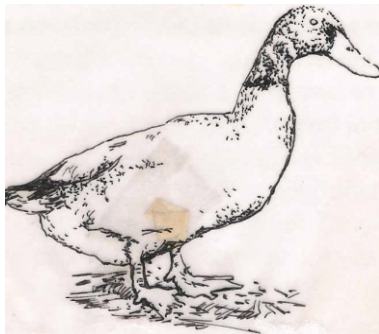
**Figure. 1 Muscovy duck**

Muscovy duck is popular due to the high adaptation to scavenging conditions. They are excellent mothers and good egg sitters. Muscovy ducks are able to hatch and care for an average of 30 ducklings (young ducks) annually per bird. The egg weighs between 55-60gm each

Under the scavenging conditions the duck can lay between 60-80 eggs per year and about 100-125 per bird per year on modern farms. As scavengers, the adult female weighs 1.5kg while the male weighs 2.2.kg. The Muscovy is recommended for the Nigerian poultry farmers purely for its readiness to hatch not only its own eggs but also any other egg set under it. The muscovy duck makes a good, if rather gamey, table bird. However, they are great fliers and it may be necessary to clip their wings. They are found numerous in the Southern States along the coastal part of Nigeria. The qualities of the Muscovy duck makes it easy to be the water fowl of choice for Nigerian poultry farmers and it is recommended..

## 2 **The Campbell**

This variety is also found on some modern and Government/Research farms in Nigerian. The Campbell (fig 2) is the most popular egg type variety in most parts of the world. The duck is of the average size and more compact in posture than the Muscovy.



**Figure.2 The Campbell duck**

Eggs from Campbell duck are fairly large, thick shelled and weigh about 60-70gm each. The ducks are not valued for their meat. The matured male bird weighs less than 2kg and the female about 1kg on free range. Campbell is known to produce up to 300 eggs a year per bird if properly fed and housed on modern farms. The appearance of the bird is “Khaki” Coloured and therefore, the name Khaki Campbell duck.

## 3 **Other Activities**

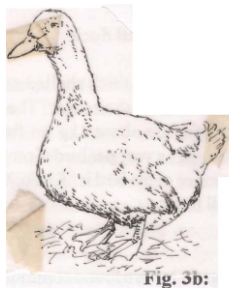
Other varieties not popular in Nigeria but are found common in other parts of the world include:

- **Pekin:** This Originated from China and now the premier table duck in North America and Australia. The duck is completely white and of the meat-type with very rapid growth. The male weighs 4kg while the female 3.5kg on modern farms.

- **Aylesbury** - This variety dominated the table duck trade in Britain for years, until recently when it was ousted by the Welsh Harlequin duck and later by strains of pekin. Aylesbury duck can lay up to 100 eggs a year. It is a snow-white, heavy bird weighing up to 4.5kg when fully matured.
- **Indian Runner:** The breed Originated from Malaya and was introduced to Britain as egg type duck. It was one of the most widely kept before being ousted by Khaki Campbell. The bird can lay an average of 180 eggs a year and are easily recognised by their characteristic upright stance. See figure 3a, b & c )



**Figure. 3a Pekin duck**



**Figure 3b Aylesbury**





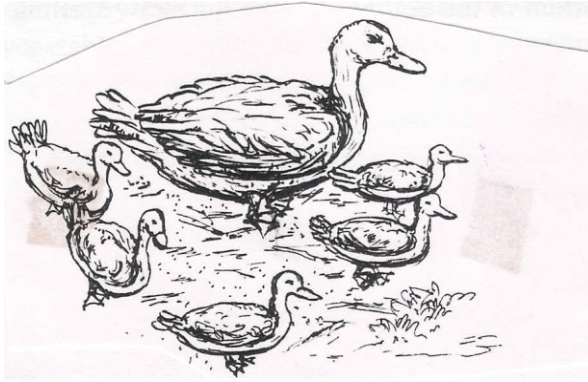
**Figure. 3c Indian Runner**

## **DUCK RAISING SYSTEMS IN NIGERIA**

The common systems of duck husbandry in Nigeria are:

### **Scavenging (Free-range) System**

The scavenging system of duck production is the predominant form of duck husbandry in developing countries. It is the traditional method of rearing which accounts for the majority of duck raised. Under this system, flocks comprise of 5 to 20 ducks which are allowed to free-range over part of the village area. The ducks return to home yard in the evenings of their own accord. The system is cheap as it requires little investment and requires minimum management. No special housing other than for night shelter is required and there is minimum disease control. Supplementary feed such as kitchen wastes, by products (e.g. rice bran), fish, water snails, etc are usually supplied, to the scavenger ducks (fig 4).



**Figure 4: Free Rang Ducks**

This method of providing supplementary feeding makes the ducks come back home daily to the farmer. The local breed of ducks predominate the scavenging system of production. However, the disadvantages of this system are numerous. Mortality is high due to toxins from decaying flesh or insecticides and snakes Productivity is low due to uncontrolled breeding and erratic supply of food. In dry areas, lack of water becomes a serious problem to duck production. The free-range system of duck husbandry is of major interest in developing countries like Nigeria, not only as an important production system of the moment but because they provide an appropriate context in which to evaluate the potential of the local breeds. Other systems which are used in raising ducks include:

**Semi-enclosed.**

From the third week ducklings can be released to have access to grasses, to limit the fouling of the enclosures and avoid formation of mud.

Ducks can easily be led in flocks and this practice is in common use in the rice growing regions of the world, particularly in the South

East Asia. The system entails allowing ducks to forage during the day time and are normally housed to lay eggs at night.

### **The Straw Yards**

This system of production has much advantage to recommend it, particularly for fattening table ducks which do not need access to water for swimming. A house opens into an area which is fenced off, and this is kept covered with a layer of clean, dry straw. It is advisable to have planks along the bottom of the netting, to stop the straw spilling out beyond the run.

The system naturally depends on a cheap source of straw, which is regularly added as the existing straw becomes spoiled. The whole lot is periodically removable excellent source of compost. See figure 5



**Figure. 5: Duck Straw Yard**

### **Raising Ducks indoors (Intensive)**

This is a common practice in commercial (modern) duck production in advanced countries. The floor of the rearing house is partly covered with litter and partly with wooden slats or wire mesh. The litter is renewed daily which makes a considerable work and expense for the farmer. The density of the ducks should not exceed 6-8 per square meter.

## **Integrated Duck-Fish-Snail Production**

This involves the building of a duck house on the side and extending over the water of the fish-snail pond (fig 6). The duck house could be built before or after letting water into the pond. In this integrated farming, the ducks make use of the pond water surface and the adequate food found in the shallow part of the pond. The open pond serves as rearing surface for ducks while their excreta could be spread by wave action into the body of water.

The fish and the snail thrive on the droppings of ducks. The advantage of duck excreta is that it has high nitrogenous, phosphorus and organic compounds which are suitable for primary production in ponds. Ducks also control aquatic vegetation by digging the bottom of shallow water and consuming the aquatic vegetables. The digging action also helps in stirring up nutrients concealed in mud thereby releasing them and increasing primary productivity. Food distributed to fish could also serve the ducks and the unconsumed ones will obviously sink into the bottom of the pond. Ducks also feed on the snails (fig 6) resulting in a food chain as shown in Fig 6b below:



**Fig 6: Duck fish Snail Farm**

About 25kg of duck droppings will be needed for each kilogram of fish-flesh. One duck can produce about 72kg of droppings in a year. Therefore, 500 ducks kept in one hectare pond will produce 36 tonnes of manure in a year which is sufficient to yield 1400kg of fish.

For a pond area of 50sqm about 12-15 ducks are sufficient to feed the fish/snail in the pond. The duck house for this number of ducks could be made of a floor with an area of 4sqm which should be made of wooden slats.

## **DUCK BREEDING**

### **i. Selection of Breeding stock:**

Selection of breeding stock is one of the first decisions to be made in any breeding programme. The selection of ducks for breeding purposes should be done as early as the 8th week and again at the 4th and 5th months before placing the breeders in the breeding pens. By the 5th month all healthy ducks should show well developed bodies. Selection criteria usually include: body size, posture, feather, colour, bill shape and also the drakes should be the same age as the females or even a month older. They should be raised separately from the females and put together only when they are ready for matmg.

Stock Selection: Buy breeding stock from reliable duck raisers in your locality. It is advisable to start with day-old ducklings. But be sure to buy those birds which have the following characteristics:

- a. Steady Legs
- b. Alert eyes
- c. Healthy looking down feathers
- d. No physical defects

Do not buy ducklings which seem to be “sleepy.” If the requirement for ducklings is for egg production, try to purchase from a farmer who has good egg production record from his flocks.

### **ii. Sexing Ducklings**

The act of separating males from females is called sexing or ducklings, this should be done right after you get them from the seller. Male ducklings, unlike day-old chickens possess a well developed copulate organ (penis). Day old ducklings can be sexed by the so called Japanese or vent method.

This is easily done by carefully holding the duckling gently but firmly, so as to expose the vent. With the finger and thumb of the other hand, push back gently on either side, so that the vent is extended and opened. In a male bird, the penis will be seen as a small organ (which looks like a point of a ball pen) attached to the inside top of the event. See illustration as shown in Fig 7 below.

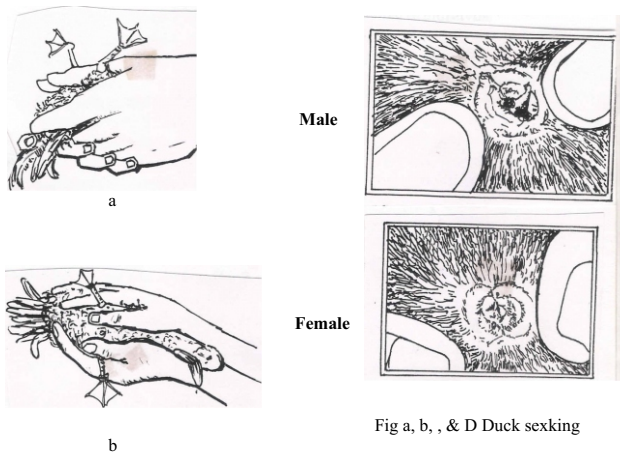


Fig a, b, , & D Duck sexing

### Figure 7: Duck sexing

#### iii. Mating Ducks

Local duck raisers generally allow one male to every six laying ducks. With this ratio, a high percentage of fertility is obtained in the eggs produced. Experiment has reported that the more laying ducks are exposed to drakes beyond ten, the lower the fertility of the eggs obtained. Eggs produced up to the fourth day after the removal of the drakes from the breeding pens may be considered fertile to a profitable degree. The ratio of male to females depends on the purpose of keeping ducks and the availability of the males. However, farmers commonly keep one drake to about 10-12 females, in commercial duck production. Ducks will mate both on land and in water usually after the head bobbing or nodding.

#### **Iv. Egg Production and Hatching**

Ducks lay eggs at night and early in the morning. It is therefore, advisable to gather the eggs immediately after releasing the layers for early morning feeding. The ducks that are still laying should be allowed to continue which could be collected later.

Modern ducks of egg laying strains can produce as many eggs as productive laying hen, giving flock average in excess of 270 eggs per year. They start to lay at about 18 weeks of age. The local breeds can only produce about 60-80 eggs per bird per year. At the backyard farms local materials such as empty cartons could be provided as egg nests. Such nest should be placed in secluded place to avoid disturbance to the laying duck.

Under the free range system of production the reproductive cycle of duck comprises of 3 phases:

- a. Laying phase: 15 days
  - b. Incubation phase 28-30 days
  - c. Brooding phase 60.65 days

#### **Duck Egg Hatching**

Egg hatching at the backyard level is by the use of mother duck or could be hatched under broody hens. However, for commercial hatching of fertile eggs the farmer must be sure the eggs come from mated birds, and to select those eggs that are far from defects. Do not set eggs with shells that are cracked, thin porous or dirty. Thin, porous eggs or cracked shells can be detected by inspection or by listening to the sound emitted when the egg is gently tapped with the finger. A distinct resonant sound is heard from good shells, a dull and hollow sound is heard from defective shells which seldom hatch. They are usually not from

- bacterial or fungal infection which may contaminate other good eggs. The incubation period for duck egg is about 28 days.

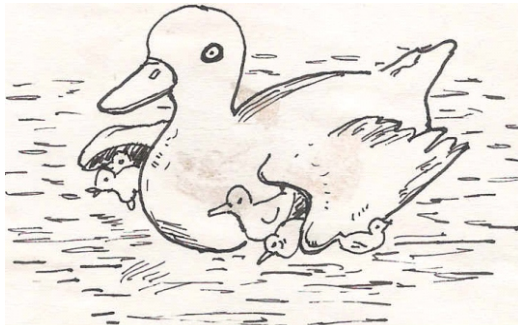
## **BROODING DUCKLINGS**

Brooding is the process of providing ducklings with outside heat and intensive care to assist them in maintaining their body temperature and healthy growth.

The most critical period in the life of duckling is the first 3 weeks. During this time, any slight disturbance would cause them to stampede around in a corner resulting in the death of the weaker ones. It is therefore, important to approach them with extra care during brooding. There are two methods of brooding;

### **Natural Brooding**

This is the oldest and traditional method where the mother duck or Muscovy duck are used to furnish from their bodies the additional heat needed by the ducklings this method is rarely used in the commercial sale production and it is most practical for the backyard duck producer. (Figure 8)



**Fig. 8: Natural Brooding**

### **Artificial Brooding**

This is the practice in commercial duck farms where brooding of



ducklings is done with out the mother duck or Muscovy duck Artificial brooder are used instead. The egg type ducks like the khaki Campbell and the Indian Runner are non sitters and poormothers, thus it is necessary for the ducklings to be brooded artificially. While a Muscovy duck can brood at most only about 15 ducklings, artificial brooders can be used for hundreds of ducklings at a time. Today, there are many types of artificial brooders. They vary depending on design, fuel used to supply heat and size. Some brooders can accommodate 50 ducklings while others can brood as many as several thousands at a time (fig 9 a & b)

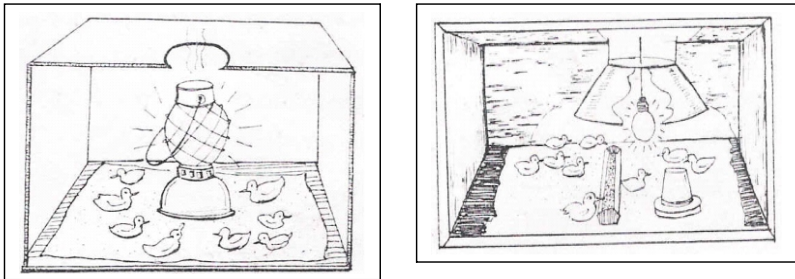


Fig 9a: Artificial brooding (Kerosine Lamp) Fig 9b Artificial brooding (Electric bulb)

A simple - shed type house can be used as brooder house. The house should protect the ducklings from predators. Also proper ventilation is essential in brooding, however, this does not mean exposing ducklings to rains and strong winds.

When brooding ducklings, the temperature should be 34°C in the first week, 21 °c in the second week 16°C in the third week and 14°C in the succeeding weeks. The behaviours of the ducklings is a good indicator of whether the brooding temperature is right. They huddle close together when the temperature is low and scatter or spread out when it is too hot. Adequate space should be provided in the brooder for this behaviour as in table 2 below.

Table 2 Recommended minimum floor spaced in the brooder

<b>Age (weeks)</b>	<b>Floor space/bird (Cm<sup>2</sup>)</b>
Day-old one	0.03
1-2	0.05
2-3	0.07
3-4	0.09

## **DUCK BOUSING AND EQUIPMENTS**

Duck like any other form of livestock that are kept for production will only give its best if it is adequately sheltered. During resting time the duck needs a dry, sheltered resting place like any other bird. Ducks do not like strong wind, nor can they cope with too much hot sun. A sheltered, shady place is therefore necessary. The basic housing requirements are thus protection against wind, rain and sun; adequate ventilation and a dry bed.

The dimensions of the house itself will depend on how many ducks are to be housed. A house which is 0.75m high will serve since perches are not needed. The roof itself will need to slope backwards away from the front, and to have an overhang of at least 0.6m. The floor area should provide a minimum of 0.15sqm for each bird. Rammed earth floors are suitable, but must be rat-proof. The floors should be covered with a thick layer of straw or wood shavings which must be clean, dry and hygienic. As much as possible readily available local materials should be used for duck housing, as illustrated in fig. 10.

The door into the duck house should be 0.6m wide to allow for the traffic jam that usually ensues when the ducks are let out in the mornings, especially that ducks are vulnerable to leg injuries. Windows also should be high enough to prevent ducks from seeing outside since sudden movements or disturbance can cause them to panic and trample on each other. Adequate ventilation should be ensured in the duck house while the birds must not be exposed to droughts.

Ducks should be housed in groups based on age to facilitate management and to avoid the quarrels common among ducks of different ages. Old ducks tend to bully out young ones from the feeding troughs.

## Equipment

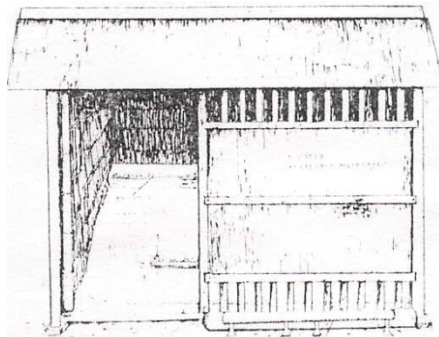
The following items of equipment are required in rearing ducks:

**Egg Nests:** Naturally ducks make temporary egg nests in the litter, however, for clean eggs, simple communal nests should be provided along the wall. This is particularly important for Mus-covy ducks

**Waterers** The standard for watering troughs are nearly the same as those for chickens. It is better to place watering troughs above wire flooring to prevent the floor becoming wet. It is important that waer be made available at all times. Waterers should be near the feeders as the ducks have the habit of gulping the feed and running to the waterers to wash the feed diwn their crop.

## Feeding Troughs:

There are different kinds of feeders. Select the one that will best suit your purpose. The design should be adopted to the housing used. The construction should avoid wastage of feed.



**Fig 10.: Duck House/Equipment**

## **FEEDS AND FEEDING**

In duck raising, feeding is very important. Under the free-range system, birds are reared with minimal attention by the farmer with respect to what the ducks eat. The scavenging ducks feed on grasses, seeds, insects and have access to pond which provide them with natural food in the form of slung water fleas etc. As a general rule the ducks benefit better than the chickens from a relatively energy-poor and cellulose-rich diet. Ducks on free-range are able to balance their nutrients intake, since they are not restricted in movement. But under confinement, the farmer must provide the birds with balance feed for enhanced production. The constituents offeeds that are needed by ducks are called nutrients. These consists of water, carbohydrates, protein, minerals and vitamins. Table 3 below provides information about feedstuffs that can furnish the nutrients mentioned above.

### **Nutrient Requirement.**

The ducks at various stages of growth require specific nutrient levels in their diets.

Table 3: Nutrient composition of some Common Feedstuffs form Duck Ration (as fed basis)

S/NO	ITEM	CP	KCal/Kg	CF	Ash	Ca	P	Lysine	Meth
1.	Bambara	20.6	3500	4.0	-	-	-	-	-
2.	BDG	19.9	2240	18.6	-	.17	0.45	1.10	0.30
3.	Blood Meal	80.13	-	1.1	4.17	.50	0.40	9.08	1.21
4.	Bone Meal	-	-	-	-	28.63	13.1	-	-
5.	Brewers Dried Yeast	44.90	1920	2.1	6.5	.12	1.40	3.3	0.85
6.	Cassava (whole)	3.89	NA	1.60	4.2	-	-	-	-
7.	Cassava Flour	2.90	2900	.70	2.5	.20	.08	.12	0.02
8.	Cassava Peel Meal	6.40	-	9.62	7.16	-	-	-	-
9.	Cotton Seed Cake	29.94	-	23.50	5.16	-	-	-	-
10.	Fish Meal (Local)	61.00	2866.0	2.50	-	3.0	2.00	5.44	2.08
11.	GNC	44.81	2820	2.52	6.7	-	-	1.84	0.62
12.	Limestone	-	-	-	-	38.30	-	-	-
13.	Maize	8.8	3510	2.10	1.0	0.01	0.21	0.31	0.15
14.	Maize Offal	7.25	4090	10.66	6.08	-	-	-	-
15.	Palm Kernel	21.38	4690	11.62	4.20	-	-	-	-
16.	Rice Bran	13.50	2100	13.0	-	0.10	0.07	0.50	0.270
17.	Rice Hull	6.19	NA	38.62	11.0	0.04	-	1.40	NA
19.	Soybean (Full Fat)	42.8	5120	5.64	6.06	-	-	-	-
20.	Soybean Meal	48.5	3750	4.1	8.0	0.28	0.62	3.54	0.66
21.	Wheat Offal	17.06	-	10.02	7.91	-	-	-	-

Nutrients	Growth	Reproduction	
	0-4 Weeks	Above 4 Weeks	Laying
ME(KCaJ/kg)	2800	2800	2700
Crude Protein %	19.0	17.0	15.0
Lysine	1.0	0.8	0.65
Methionine %	0.5	0.45	0.35
Methionine + Cystine %	0.9	0.8	0.6
Calcium	0.8	0.9	2.5
Pbosphoms	0.4	0.45	0.5

Growth is very rapid in the duck within the first weeks of its life and feed conversion ratios are low. Beyond this age, feed consumption and feed conversion ratios increase rapidly.

Ducks eat more than chickens and, depending on its size, an adult duck will consume between 170-200gm of feed a day. It is better to feed ducks twice a day than to give them all the feed at the same time. The most convenient times are when they are let out of the house in the morning hours and when they come back home in the evening for night shelter. One way to estimate whether the ducks are getting enough is to observe if there is any feed left over after twenty minutes of feeding. If there is, then you are probably providing too much. Ducks have the tendency to transfer feed to their waterers, which may help them to swallow in the case of mash feed. This can lead to wastage and to ensure prevention, place the feeders and waterers some 60 -70cm apart.

Ducklings from day-old can be fed with moistened cracked maize or guinea com 4 to 5 times in a day for 3 weeks. Starting from the 5th day include ground soyabean cake or groundnut cake in the diet. Increase the quantity of this diet as the ducklings grow older. Be sure to provide clean water in their troughs daily. Commercial feed concentrate are too expensive and often time not available and therefore, not recommended for the backyard duck farmers. However, the following feed formular from available local ingredients are suggested (Table 5 ) as multi-purpose duck diets.

Table 5: Suggested All-Purpose Duck Rations.

Ingredients	Growers Ration	Layers Ration
Coarsely Ground Maize/Guinea Com	30	25
Soyabean Cake/GNC	22	20
Rice Bran/Maize Offal	40	45
Greens	1.5	3.0
Blood Meal	3.0	2.0
Bone Meal	3.0	2.5
Limestone	-	2.0
Salt	0.5	0.5
	100	100

## HEALTH CARE OF DUCKS

It is always better to prevent a disease than to cure it. This principle holds also for ducks . Generally speaking, ducks raised in small numbers and in isolation, are relatively resistant and hardy to the common poultry diseases. But where large numbers of ducks are concentrated, particularly under intensive system, diseases could be a serious problem. Lack of proper management and nutritional inadequacy are usually the causes. Health Signs to Watch.

A healthy duck is normally alert, curious, interested in its food and with an upright stance. Any duck standing in isolation, drooping position or huddled up into its feathers should be culled from the flock without delay. Always attend to the healthy ducks before the sick ones to prevent disease transfer, during daily routine management activities.

Some of the common diseases and health problems of ducks in Nigeria are as highlighted below:

1. **Botulism (Limber Neck)**

This is a disease condition in ducks where the birds lose control of their neck muscles. It is caused by bacteria found in decaying organic matters. It is more common in ducks and other water fowls, than in other poultry birds because of their tendency to dabble in mud and dirty water. Farmers are advised to remove decaying vegetation and animal carcass from the vicinity of duck and to maintain a high standard of sanitation.

2. **Salmonellosis**

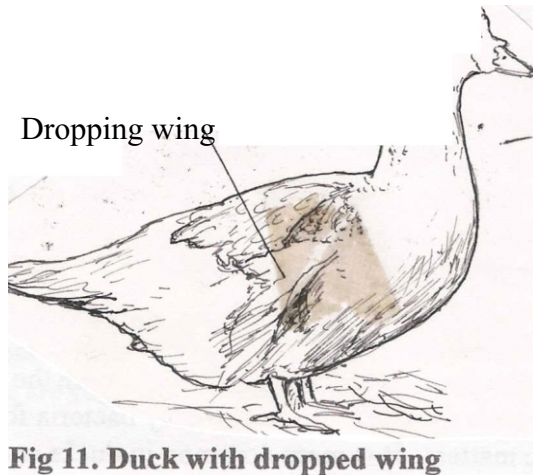
This is a destructive disease of ducklings also called keel disease. It is caused by bacteria - *Salmonella* spp. Affected ducklings collapse suddenly and also, causes death of embryo during incubation. Strict sanitary measures should be observed during egg laying, incubation and hatching. Antibacterial agents can help to prevent mortality of sucklings.

3. **Duck Virus Hepatitis**

This is a highly contagious and fatal viral disease of ducklings. The first indication is when their movements are seen to be uneven and wobbly. They then quickly succumb and die. There is no cure, but immunization of breeder ducks with preventive vaccine is advised.



This is a condition in ducks where the wings hang down lower than normal in its resting position fig 10. It occurs as a result of muscular weakness. Slipped wing is a variation of the same condition, where the flight feathers stick out at right angles. Both conditions are harmless and do not appear to cause any distress.



**Fig 11. Duck with dropped wing**

## 5. Parasites

Ducks are water fowls, as a result external parasites such as lice, mites and ticks which burrow into the skin of most domestic birds and suck blood are not serious problems. However, internal parasites such as round worms, tape worms, thread worms are common and could pose serious problem to human who consume such infested duck meat. The affected ducks loose weight, loose appetite and are listless: They become infested by eating up eggs of the parasites from human feces, contaminated water and feed .

should purchased from local veterinary store for administration. Also, prevent the ducks from contaminated water and feeds.

## **DUCK CARCASS PROCESSING AND PRODUCT UTILIZATION**

**Killing:** To slaughter ducks, it is recommended that all those earmarked for killing should be starved of feed for 24 hours. This is to ensure the ease of cleaning during evisceration. The duck is slaughtered by severing the jugular vein and cutting it just below the hind brain at the throat. Cutting to kill should be immediately and should cause no excessive suffering to the fowl as shown in figure 12 below:.



### **Feather Plucking.**

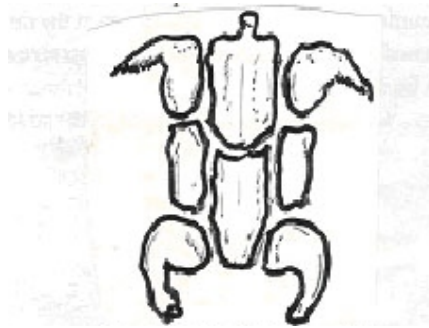
Feather removal (Plucking) is more difficult with the duck than with chickens and should be done immediately after killing before the carcass gets cold. An easy way to quickly remove feathers is by the method of dry plucking the wings and tail, then the carcass is dipped into hot water (60 °c) to penetrate through the body, for about 6-10 minutes. The feathers are then easily removed by scalding.

## **Removing the gut:**

Evisceration or removal of the gut contents in duck is done after slaughtering and plucking. This is done by cutting open the neck muscles close to the body leaving a flap of skin to close the hole. Through this hole, the crop is removed along with gizzard, lungs, heart and liver through the rear of the carcass. The intestine can then be cut out off the body.

## **Meat:**

After evisceration of duck carcass, the next stage is cutting of the carcass into meat pieces for household use. This is done by first removing the leg sinews and drawing them out from the legs. Then cut out the legs off from below the knee joint. Also the wings and head are removed from the body. The carcass can then be pieced into standard meat cuts as shown in Figure 13 below:



**Fig 13 Duck Carcass Cuts**

These standard cuts can further be pieced in smaller sizes according to the needs of the family. These meat pieces can then be made used of into many Nigerian dishes of high delicacies by frying, roasting and boiling. Duck meat is very nutritious and highly cherished in stews, soup, etc.

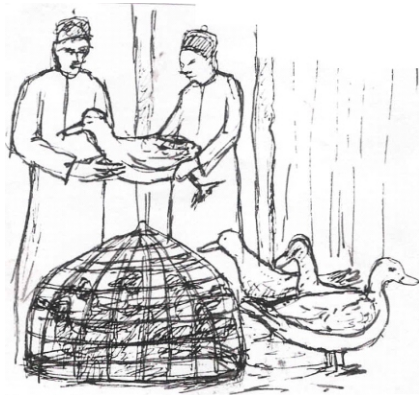
## **Use of Duck Eggs**

Eggs from ducks can be used for all the things that hen's eggs would normally be used for. The taste does not differ from that of the noticed,

recommended anthelmintics hen's eggs, but the egg white tends to be more elastic. This is the reason why a number of people prefer to keep duck eggs for cooking, rather than to eat them as they are.

## **DUCK MARKETING**

Selling of ducks is not an organized market in Nigeria. The birds are commonly sold at the open markets in villages and along major streets in Urban Centers by hawkers (figure14). The small Unit price of duck makes acquisition by buying from the open marketing most popular and easiest.



**Figure 14 Roadside sales of ducks**

The birds are usually sold along with other mini livestock like local chickens, guinea fowls, pigeons, rabbits etc. in wicker basket cages and at strategic road junctions to get the attention of passer-by. Pricing is by bargain, and if compromise is reached transaction is made.

Marketing trend is such that middle-men collect ducks from farmers at the farm-gates, sell to the retailer and from there to the consumers. The farmers and consumers therefore, are at the mercy of these middle-men. Farmers sell their ducks when there is urgent need for peti-cash for family use.

For instance, to pay children school fees, medical expenses, purchase of farm-inputs at the on-set of raining season etc. The middle-men take advantage of this situation to buy the ducks at give away prices to the disadvantage of the farmers. This calls for the need to get the farmers into functional cooperative groups and by that, harness the effort of these farmers for improved production and organized duck marketing.

## **DUCK PRODUCTION RECORDS**

Record keeping is essential in duck production at whatever scale of operation. Since duck farming in Nigeria is at the small scale level, record keeping format should be as simple as possible. It should however carry information on improved management practices and cost-benefit assessment record. Examples of such records are shown below in table 6:

### **Table:6 Duck Farm Record Keeping**

#### **Duck production record:**

Total Number of Duck on Farm .....

Number of drakes .....

Number of ducks.....

Number of ducklings .....

Total number of eggs laid .....

Number of eggs per clutch.....

Number of clutches per year .....

Incubation date.....

Hatching date .....

Number of ducklings hatched .....

Mortality .....

#### **Health Record**

Vaccination .....

De-worming date .....

Medication date ..... type .....

## **Expenditure Record**

1. Cost of foundation stock
2. Shelter .....
3. Equipment.....
4. Feed cost .....
5. Medication .....
6. Labour cost .....
7. **Total**.....

### **Income:**

1. Sales of live ducks.....
2. Sales of eggs.....
3. Manure Sales .....
- Total** .....

## **SUMMARY OF DUCK MANAGEMENT PRACTICES**

- I. Buy your foundation stock from reliable duck farmers, in the locality.
- II. The Muscovy ducks are recommended for the small scale farmer who practices semi-intensive production system.
- III. Do provide shelter for your ducks especially for night rest, egg incubation and brooding.
- IV. Give adequate balance diet to ducks and ensure provision of clean water along with feeding.
- V. Young ducks are very nervous during the first 3 weeks. Avoid any form of disturbance, as it can cause them to stampede.
- VI. Keep one male to 6 females for breeding purposes.
- VII. Ducklings should be prevented from chilling rains and cold until they are about 4 weeks old.
- VIII. Keep a very clean environment in duck house and avoid decaying bodies around the environment.
- IX. Keep good duck production records for easy assessment of duck farm operations.

## GLOSSARY OF WORDS

<b>Breeding:</b>	The mating of male and female in order to produce offspring
<b>Brooding:</b>	Rearing of ducklings either by a sitting duck or mother hen or by artificial heat.
<b>Drake:</b>	A male adult duck
<b>Duck:</b>	The female matured duck-hen
<b>Duckling:</b>	A young duck
<b>Fowl:</b>	A collective term applying to ducks, chickens and other poultry species.
<b>Hatch:</b>	To bring forth young from an egg or eggs.
<b>Incubation:</b>	The process of subjecting selected eggs from mated flocks to proper condition outside the birds body for the embryo to develop and hatch into ducklings.
<b>Integrate:</b>	To bring (parts) into whole
<b>Sexual Maturity:</b>	The time when the first egg was laid.

## BIBLIOGRAPHY

- Anthony .J.S. (1990). The Tropical Agriculturist Poultry - Pub. CTA Macmillian.
- Ikani, I.E. (1992). Profitable backyard duck production. New Nigeria Newspaper, Friday Nov. 27 1992 pg 20
- Katie, T. and Alistair. F. (1986). The complete book of raising livestock and poultry. A self sufficiency guide (Nig. Edition pub. by Unit Services Ltd.
- MBRLC (1988). How to raise Ducks for food and profit. How to series No. 5; Kinuskusan, Bansalan, Bavao del. Sur. 8005 Philippines.
- Obinne, J.I., Mmereole, FCU and Emegha, I.O. (2000). An assessment of Duck production in Anambra State. Proc. Of 4<sup>th</sup> annual conf. Of ASAN, held 14-16 Sept. 1999 IITA Conf. Center Ibadan. Nig pg 3 - 5.
- Oniye, S.J. and Awelewa, J. (1991). Prospects of integrating fish culture into some agricultural production. Paper presentation at National Livestock and Vet. Conf. held at NAERLSABU Zaria August 1991.
- Ralph Say, R (1987). Manual of poultry Production in the Tropics CAB International/CTA Publication.