

CHAPTER 1

1.0 INTRODUCTION

The Nigerian Livestock Farmer has experienced various setbacks over the years mainly due to the use of sub-standard inputs. This has been due to the absence of Standards for Poultry Practice and Products. Also, there is no definite Agency established for the purpose of monitoring and enforcement. However, the current level of investment in this sector and the relatively low efficiency experienced by Practitioners in the Animal Husbandry Industry has brought to the fore the urgent need to define and regulate Standards.

This challenge has been taken up by the Nigerian Institute of Animal Science (NIAS) as stipulated in Act No. 26 of 2007 that established the Institute.

Attempts were made to identify the array of activities in the various sectors of the Livestock Industry with the view of taking a holistic approach in the process of establishing Standards for the Nigerian Animal Husbandry Industry. The study covered the Poultry Industry and the views of all stakeholders were considered as it is important to arrive at Standards that are practicable and easy to operate because these are expected to guide the operations of the Industry. Such Standards are expected to improve the efficiency of production, stimulate growth in the industry and address the issue of Animal Feed Safety, Food Security and Food Safety.

Pursuant to the identification and of stating Standards for the Industry, efforts have been made to look at the available raw materials for the Feed Manufacturing sector, their proximate nutrient values and qualities in terms of acceptability and health risk assessments for use in Animal Feeding. For the Feed Manufacturing Sector, Minimum Operating Standards, Design and Equipment were looked into. Operations of the Poultry Industry were also reviewed



with the aim of providing safe, wholesome quality Livestock Products to Nigerians. The protection of environment was also brought to focus in this exercise.

Finally, the development of the Poultry Industry Standards should not be seen as a project that can be done once. It requires gradual and periodic evaluation and modification in order to tackle some of the present and future challenges. It should be noted that the present exercise has taken the peculiarity of the Nigerian environment into consideration in stating these standards as lack of adequate infrastructures could make some desired operational standards and specifications not practicable.

CHAPTER 2: STANDARDS FOR THE NIGERIAN POULTRY INDUSTRY

2.0 INTRODUCTION

The main objective of setting standards for the Nigerian Poultry is to set in motion a procedure of providing wholesome Animal products for human consumption. This procedure shall set minimal standards to minimize the potential food safety hazards associated with livestock production and processing. These Standards recognize the major elements in the production process and identify Food Safety objectives for the different activities along the value chain.

The basic principles used in setting these Standards were based on

- Good Agricultural Practice (GAP)
- Good Manufacturing Practice (GMP)
- Hazard Analysis and Critical Points (HACCP) concept
- Sanitation Standards Operating Procedure (SSOP)
- Standard Operating Procedures (SOP)

These Standards relate to the requirements for starting a Poultry Farm

Location of Farms and Facilities
Lay out of Farm and Facilities
Production Process
Equipment and Machinery
Waste Disposal and Management
Water Quality
Other Inputs
Poultry Products Quality
Records

The scope of these standards shall cover procedures, processes and specifications in the Poultry Production and Poultry Feed.

By maintaining the benchmark set below, the Nigerian Poultry Industry shall improve capability of providing Nigerians with safe Poultry products produced in a sustainable and environmentally friendly manner.

2.1. POULTRY INDUSTRY MINIMUM STANDARDS

Poultry farming started in Nigeria over five decades ago mainly as back yard enterprises. Over the years, there has been expansion and modernization of facilities and rapid intensification had taken place. Whilst these resulted in better productivity and increased supply of poultry products, it however impacted negatively on the environment and this is due to the fact that corresponding minimum Standard Operating Procedures and controls have not been established for the Industry. The following are minimum standards required for the operation of a Poultry Farm, without prejudice to size of the Farm.



2.1.1 Location

Poultry farms shall be located at least two kilometers (2km) away from residential development and at least two hundred and fifty meters (250m) away from one another in areas where poultry clusters exist.

Applying and enforcing this minimum Standards may require the establishment of dedicated Poultry Production Areas by various levels of Government and approvals shall be required before the commencement of any Poultry project.

The two hundred and fifty meter (250m) space between farms must be left fallow and free of vegetation including crops in order to inhibit rodents and other wildlife activity.

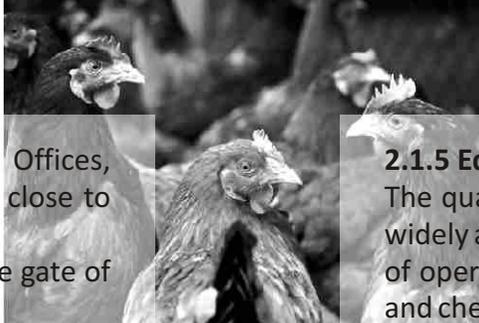
2.1.2 Specific Location for Poultry Breeder Stock

Location of Breeder flocks shall follow the general requirement given for location above but also shall not be located within a poultry cluster (must be located away from poultry activities).

2.1.3 Farm lay-out

1. All Poultry Farms must have a
 - Distinct perimeter barrier to forestall unauthorized access of animals and humans;
 - Distinct and nominated gates for traffic control;
 - Foot disinfection dips at all entrances to the farm;
 - The disinfection system for all vehicles entering the Farm Premises;
 - Foot disinfection dips at the entrances of all pens;
 - Cloak room for toileting, washing and cloth change for all workers.
2. All production pens must be located away from the gates and as far back on the farm land as possible.
3. Production pens must be at least ten meters apart from each other

4. On-Farm Feed Mills, Feed and Product stores, Offices, Generators and Water Systems, must be located close to the entrance gate of farm.
5. Cloak Room must be located close to the entrance gate of the farm.
6. Deep pits or incinerators for disposal of dead birds must be located at the extreme back of the Farm Land.



2.1.5 Equipment and Machinery

The quality and level of sophistication of Poultry Equipment vary widely and the choice of equipment used is dependent on the scale of operation. All equipment must be made from water repellent and chemical resistant materials such as hard plastics.

All machines must conform to extant safety regulations.

2.1.6 Waste Disposal and Management

There are many Public Health issues attached to solid waste and runoff water from Poultry facilities because of their highly pathogenic nature. They may also contain highly toxic chemicals that are not easily degraded and may contaminate the environment for a long time. Poultry Farm Waste must therefore be carefully handled, contained, processed and stored. Where it is to be transported for disposal or processing, a properly equipped and certified waste transporter must be employed in order to avoid spillage and environmental contamination.

1. Prior to washing and disinfection of poultry house, litter from deep litter operations, growing pens and broiler houses must be swept, packed, sterilized and moved in an enclosed form.
2. If Litter shall be used as organic manure it must undergo treatment or dumped in dedicated dump sites approved by Local Government.
3. If used for feeding ruminants, litter shall not be transported from one poultry farm to another farm.
4. Droppings from caged layers must be channeled/transported from each house to a collection point.
5. Droppings must be contained in a soak away which is evacuated as soon as it is full.
6. Soak away size must be 103 meter in size for every ten thousand layers on the farm.
7. Runoff water must not be drained into public water source but contained in a septic tank/soak away system.

For a Poultry Farm Layout, see appendix 1

2.1.4 Production Process

Production procedures could be very varied depending on the class of birds and size of operation. However, there are critical areas in Poultry operation where minimum standards must be strictly followed in order to produce safe and wholesome Poultry Products for human consumption.

1. Day old birds must be certified healthy and of highest quality by a registered veterinarian.
2. Day old and growing birds must go through certified Vaccination regime
3. Birds must be fed with the highest quality Feed from day old to cull/cropping.
4. Feed must not be contaminated with chemicals, microbes or foreign materials.
5. Feed must not contain Growth Hormones, Antibiotics or any other drug (except by prescription of a veterinary doctor and withdrawal periods and other safety precautions must be properly defined and observed for the period of medication).
6. Only Feed Additives such as Enzymes, Acids, Prebiotics and Probiotics etc are allowed in the Feed.

All Staff handling manure/droppings shall have the following protective clothing:-

Overall, Rain Boots, Gloves, mackintosh Apron and Nose Masks (PPE).

2.1.7 WATER SUPPLY

Water used in poultry production must be clean and potable. It must meet the minimum standards for drinking water, devoid of heavy metals, harmful chemicals and microbes (see details of Potable Water Specification in Appendix 2).

2.1.8 PERSONNEL QUALITY AND HUMAN CAPACITY REQUIREMENT.

The quality of persons managing a poultry farm is key to having a successful poultry operation. It is therefore important that the services of the right personnel in terms of level of education, relevant training and experience should be engaged to run the Farm accordingly.

1. All small scale Poultry Farms should engage the services of a Registered Animal Scientist.
2. All medium to large scale poultry Farms must employ the services of a resident Registered Animal Scientist
3. Poultry Farm Supervisors and Pen Attendants must have basic training in Animal Husbandry and Production
4. All farm workers must undergo certified training in relevant areas of poultry management yearly.
5. All Poultry Farms must engage the services of a consultant veterinarian (DVM)
6. All Poultry Farms must be registered with the State Ministry of Agriculture and Nigerian Institute of Animal Science.



2.1.9 Poultry Product Quality

Quality refers to inherent properties of products that determine the relative degree of excellence and value. Some properties that have been determined as desired by consumers and processors of poultry meat will include high meat to bone percentage, adequate skin covering, absence of feathers and freedom from discoloration. For table eggs, it will include, egg size, shell integrity, albumen and Yolk quality. The following specifications are based on industry realities. It is different from an earlier work done by Standards Organization of Nigeria (SON) as contained in Appendix 3.

2.1.9.1 TABLE EGGS:

Minimum weight:	45 to 55 grams
Shell :	integrity Intact (No cracks),Clean (Not soiled) Smooth
Shell color	Brown or white
Air Cell	1/8th of an inch and free
Albumen	clear and firm
York	Defined outline and no defects
Density	Must float on water.
Egg Tray	Use only disposable paper egg trays for marketing and they should not be recycled.

2.1.9.2 CHICKEN MEAT

Four classes of Chicken Meat have been identified as presented as Ready-To-Cook Products in the Nigerian market.

1. Broiler or Fryer: these are processed chickens (usually less than 10 weeks of age) of either sex, with tender-meat, soft and pliable smooth-textured skin. They have flexible breast bone cartilage.
2. Roasters: these are processed chickens of either sex (usually 12 to 14 weeks of age). They have soft pliable, smooth-texture skin with soft meat but harder than those of fryers. They also have flexible breast bone cartilage

3. Hen or Fowl: these are processed adult female chickens (usually more than 10 months of age). The meat is hard and the breast bone cartilage not flexible.
4. Cock or Roosters: these are processed adult male chickens (usually more than 6 months of age) they have coarse skin toughened and dark meat.



- Brand of feed and date of delivery
- Daily mortality
- Daily production records
- Vaccination records
- Average weekly weight gain (broilers)
- Veterinary Medical Record

2.1.9.3 CHICKEN MEAT QUALITY

For all these classes of Chicken, the Standards should be as follows:

1. There shall be no fecal contamination
2. There shall be no deformities like curved or dented breast and back bones
3. There shall be no bruised skin
4. There shall be no discolored skin
5. There shall be no feathers on skin
6. The product shall be free of chemical preservatives or drug residues
7. The product shall be growth hormone free
8. The product shall be free of microbial contamination e.g. Campylobacter, Clostridium, Listeria, Salmonella, E. coli etc
9. The product shall be clearly and appropriately labeled and tagged.

2.1 RECORDS

The following records shall be kept in a poultry farm:

Pen/House Number

Type of birds (e.g. broiler, layers, breeder and cockerel)

Breed /source of birds

Stock population

Daily temperature

Date of delivery/age of birds

Transfer date (for layers)

Daily feed intake

BIOSECURITY FOR POULTRY FARMS

Biosecurity is what you do to reduce the chances of a disease being carried onto your farm or to your backyard by people, animal's equipment or vehicles. Good biosecurity helps keep diseases from spreading to your poultry or birds.

Restrict Access to poultry through the use of fences and enclosures create a barrier between clean areas where the poultry are kept.

Wild Birds resident fowl or migratory birds should not be allowed contact with the poultry flock through the use of screens or overline nets.

New Birds should be separated from the general flock for 7-14days

Practice good sanitation procedures before working with other flocks wash hands, disinfect boots.

Visitors that wish to see poultry should wash their hands, change shoes use footwear provided by the owner such as rubber boots that can be disinfected

Keep the area of the flock clean from trash and garbage.

Clothes and boots should be disinfected upon exiting poultry areas.

Wash hands with soap before and after entering poultry houses.

All equipment used with poultry should be cleaned and disinfected.

Sick or dead chickens must be removed quickly and the community animal health workers or veterinarians should be informed of such illness or deaths

Dead birds should be burned and buried.

Egg crates / trays, cages, shovels should not be shared between family and neighbours.

Early reporting of all bird disease is important



Appendix 1: A Typical Poultry Farm Layout

