

UNIT 4 PRINCIPLES OF LIVESTOCK MANAGEMENT

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Selection of Good Animals
 - 3.2 Feeding
 - 3.3 Housing
 - 3.4 Disease Control in Farm Animals
 - 3.5 Pasture Establishment
 - 3.6 Pasture Management
 - 3.7 Grazing Management
 - 3.8 Forage Conservation
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The ultimate objectives of livestock production are adequate supply of good-quality animal products and by-products, which not only assures of huge profits on investment but also sustains livestock production systems. This makes it highly imperative to adopt highly efficient principles and practice of livestock production, especially in the selection of the breeder stock.

2.0 OBJECTIVES

By the end of this unit, you should have learned about the basic aspects of good animal husbandry, which assure sustained and profitable supply of high-quality animal products and services.

3.0 MAIN CONTENT

3.1 Selection of Good Animals

The best start for good livestock management lies in the selection of good animals for the farm. The selection of farm animals depends on a number of factors, including

- i. Heredity- The parents of the farm animals, especially the sire (male), has to be well known and must be of proven stock with superb economic and performance record;

- ii. **Health-** The animal must be healthy, and this may be certified by looking at the eyes, which should be clean and clear i.e. free from mucus, lacrymation and being blood-shot. The nose should be fairly moist but not running, not swollen, and free from ticks and other animal pests. The mouth, tongue, teeth and gums should be moist, blood-filled, free from swelling wounds or cuts or any infections. The teeth should be strong. The anus should be free from swelling or cuts; the dung and urine should be of the right texture (neither too hard nor too soft) and not stained with blood. The legs should be well formed and free from infection such as swellings, cuts and bruises. The skin coat should be shining, of the right colour and covering, and free from cuts, bruises and parasites.
- iii. **Age-** The younger the animals, the better and cheaper and the more the opportunity for maximum production.
- iv. **Fertility and fecundity-** Where an animal is to be used for breeding, it is important to select one from a well-known herd or very fertile and fecund animals.
- v. **Conformation or body-build-** It is advisable to select an animal on the basis of good conformation by examining the essential parts of the animal in relation to the purpose of keeping the farm animal such as

Dairy production: Cows should be of slender body and low body weight, but the udders (milk factory) have to be big and healthy with pronounced and open teats;

Meat production: Beef animals should be very fleshy around the rump, forelimbs and chest, with short legs and a square rump and long, broad back;

Farm power: Work animals should have long legs, thick necks and broad shoulders for carrying the implements. They should be docile, of good temperament and very strong;

Egg production: Egg-laying birds should be of a good breed reputed to be a high egg-laying potential.

3.2 Feeding

Different kinds of farm animals have different organs for food digestion, and these dictate the kind of food they eat. On the basis of the food they eat, farm animals can be classified as herbivores (feed on plant materials); carnivores (feed on animal flesh); and omnivores (feed on both plant and animal materials). The quantity and quality of food fed to animals is very important in animal management. Food should be regular, fed fresh and contain the relevant nutrients (water, carbohydrate, fats and oil, protein, vitamins, minerals) for the

development of the animal. Feeding of young animals is a delicate management affair and the following key points must be adhered to:

- a) they should be fed small quantities of food per time, three or four times daily,
- b) the food should preferably be in liquid form and high in protein,
- c) in the case of mammals, they should be fed milk from their mother for at least two weeks,
- d) they should always be fed at room temperature, and
- e) when they are fed solid food, it has to be balanced, fortified with vitamins and minerals, and given in small quantities for a start.

3.3 Housing

Housing of farm animals is a very important aspect of good livestock management. Farm animals are housed to protect them from wild beasts, theft, strong wind, rain, intense direct sunshine, pathogens and pests. The following factors need to be considered in animal housing:

- i. Type of Animal: Birds require smaller houses and more temporal structures while bigger animals such as cattle require stronger and more ventilated structures.
- ii. Type of Production: Where the product is expensive and cleanliness is important (e.g. meat, butter, cheese, eggs), the building must be such that can be easily and regularly cleaned.
- iii. Type of Management: Housing is not important for the Free Range System. Similarly, elaborate housing is not necessary in the Semi-Intensive System. However, in Intensive System where animals are kept completely indoors the housing situation is a critical to successful management business and profit.

Generally, the essential conditions for good housing include

- i. the protection of animals from rain, heat, wind, pests and pathogens;
- ii. the provision of a dry bed (e.g. dry clean grass);
- iii. avoidance of draught;
- iv. keeping off flies as much as possible;
- v. avoidance of overcrowding;
- vi. removing dung and manure from the house regularly;
- vii. avoiding sharp edges and holes in buildings to prevent accident to animals;
- viii. consistent provision of strong fence to facilitate exercise by animals, and where possible, few trees for shade;
- ix. provision of feeding and water troughs within the building as well as on the paddocks; and

- x. provision of a separate building/area where sick animals can be isolated as preventive disease control measure.

Grooming of Farm Animals

Farm animals are groomed by brushing, washing and cleaning of all their body parts. The reasons for grooming are many and include

- i. keeping the animal free of ectoparasites, which are brushed off when grooming is done properly;
- ii. encouraging the taming of the animals to facilitate easy handling by husbandmen;
- iii. quick detection of wounds, cuts and injuries, sickness and animals on heat;
- iv. keeping animals warm, particularly after exposure to cold or rainy weather;
- v. to facilitate operations such as dehorning, tattooing and castration, on the animals; and
- vi. to stimulate milking.

3.4 Disease Control in Farm Animals

Livestock diseases are of paramount importance to farmers because of their economic effects. Livestock diseases constitute a major factor for poor animal performance. They cause loss of production through death and frequently, a loss of body condition. Animals are born free of diseases or parasites but they usually acquire these maladies through contact with diseased animals, improper sanitation and improper management, feeding and care. Many diseases are transmissible between classes of animals and from classes of animals to Man (zoonotic diseases) e.g. Bird flu, rabies, mad cow disease. The signs of ill-health include change in general posture of the animal, loss of appetite, raised hair coat and lusterless hair, sunken eyes, lacrimation or glued eyes, dungs with poor consistency, scouring, dark/bloody urine, bad breathing, and other detailed signs detectable by the Veterinarian such as variation in body temperature, pulse rate and behavioural pattern. There are several common diseases associated with livestock, classified according to the etiological agents responsible for them, such as viral, bacterial, protozoan, helminthic, ectoparasitic and rickettsial diseases. Also, the diseases require different measures of controlling them such as good sanitation, quarantine, dipping, culling and vaccination.

3.5 Pasture Establishment

Pastures are established in order to provide a favourable environment for seed germination, seedling emergence and growth of planted vegetative

material in relation to initiation of new roots and shoots; to destroy or control the growth of unwanted, competitive plants and to remove unproductive plants to facilitate re-seeding of the pasture species. The successful establishment of a pasture is directly influenced by soil type and fertility, type of pasture species, rainfall, availability/cost of planting material, type and quality of animal to be fed and management skill. Examples of tropical grass and legume pasture crops include *Axonopus compressus*, *Digitaria decumbens*, *Melinis minutifolia*, *Panicum maximum* and *Pennisetum purpureum* (grass), and *Calopogonium mucunoides*, *Centrosema pubescens*, *Gliricidia sepium*, *Leucaena leucocephala*, *Pueraria phaseoloides* and *Stylosanthes guyanensis* (legume). Grass-legume mixtures (2:1) are more desirable than either grass or legume pasture because legumes have higher nutrient quality than grasses; legumes have a different growth cycle, they add variety to diet quality, and they fix nitrogen which facilitate the growth of associated plant species in the pasture.

3.6 Pasture Management

The main aims of good pasture management are to obtain maximum herbage yield with the highest possible nutritive value throughout the year at the lowest possible cost; to keep pasture productive and prevent any overall decline in quality; to ensure efficient utilization of forages and convert the feed to saleable products such as meat and milk, and to maintain a good grass-legume balance in the pasture. Pastures are managed during establishment following planting and after establishment or in established pasture. Management during establishment involves early grazing, weed control and pest and disease control (through propagule treatment, good crop hygiene, crop rotation, disease-resistant varieties, plant quarantine). After establishment, pastures are managed by controlling the stocking rate (number of grazing animals per unit hectare of land per time), animal distribution in space and time (by fencing), animal quality (based on adaptation to forage, climate and performance) and renovation (through re-seeding and fertilizer application).

3.7 Grazing Management

This aims at obtaining and maintaining high production of consistently good-quality forage, maintain a favourable balance between different herbage species in the pasture, achieve efficient utilization of forage and high animal production. The choice of grazing systems depends on climate, topography, forage species and intensity of grazing. The different types of grazing systems are continuous grazing (extensive, animals remain in paddocks for prolonged periods of time); rotational grazing (intensive, improved pasture/ley pasture, division of paddock);

zero grazing/soiling (animals kept indoors or in paddock); strip grazing (modification of rotational grazing, restricted grazing of animals); and deferred grazing (preserved areas for future grazing, hay, seed-set, or hay). All systems require regular water supply, race, and fenced paddocks.

3.8 Forage Conservation

This is one important way of improving animal performance during periods of forage scarcity and dry months, whereby excess herbage/fodder and forage crops such as cereals and legumes are kept for future livestock feeding. Conservation processes include bush foggage (standing hay), hay (dehydrated green forage), silage (fermented green forage), silage haylage (ensilage hay in the absence of oxygen), husklage (salvage feed consisting primarily of husks and cobs with limited grain), and fodder bank (fenced area of densely planted forage legumes).

4.0 CONCLUSION

In this unit, you have learned that good livestock management involves the selection of good animals, good feeding and housing, efficient grooming of farm animals and adequate care.

5.0 SUMMARY

Efficient livestock management involves not only the selection of good breeding stock, but also delicate handling of farm animals in terms of food, housing and health conditions.

6.0 TUTOR-MARKED ASSIGNMENT

- 1) Identify three main aims of pasture establishment and two aims of pasture management.
- 2) List any five factors which enhance pasture establishment.
- 3) Name three grass and two legume species used in the establishment of pastures.
- 4) Why are grass-legume mixtures more desirable than sole grass or legume pastures?

7.0 REFERENCES/FURTHER READING

School of Agriculture & Agricultural Technology, The Federal University of Technology, Akure, Nigeria. *Introduction to General Agriculture* (CSP 201).

Alokan, J.A. (1998). *An Introduction to Pasture, Fodder Crop Production and Conservation*. Topfun Publications: Akure, Nigeria.