

FIRST TERM E-LEARNING NOTE

SUBJECT: AGRICULTURAL SCIENCE

CLASS: SS3

SCHEME OF WORK

WEEKS	TOPIC
1.	Animal Nutrition (malnutrition)
2.	Agricultural Extension
3-4.	Fish Farming
5-6.	Animal improvement
7.	Artificial insemination
8-9.	Agricultural financing
10.	Agricultural insurance
11.	Revision
12.	Examination

REFERENCES

- Essential Agricultural Science for Senior Secondary Schools by O. A. Iwena
- Fundamental Agricultural Science by P. E. Okafor
- Prescribed Agricultural Science by Omoruyi and Oruhue
- SSCE Agricultural Science pack
- Essential biology for Senior Secondary Schools by M. C. Michael
- Internet (wikipedia, pinterest, youtube, google answer, fao.org etc.)

WEEK ONE

ANIMAL NUTRITION (MALNUTRITION)

MALNUTRITION IN FARM ANIMALS

Malnutrition is said to occur when a ration (amount of feed provided to an animal per day) does not provide all the food nutrients(carbohydrate, protein,fats and oils, vitamins, minerals, water and other feed additives) in adequate quantities. Those nutrients wanting are said to be deficient which eventually results in nutritional disease.

Nutritional deficiency is therefore defined as a disease condition which emanates from inadequate nutrition. It is indicated by specific symptoms when particular nutrients are absent or unavailable in the diet.

The table below shows some nutritional disease, their causes, symptoms and how they can be corrected.

MALNUTRITION DISEASES OF ANIMALS

MALNUTRITION DISEASE	CAUSES	SYMPTOMS	CORRECTION
Ricket(Osteomalacia)	Lack of Ca,Pand VitaminD	Flexible and curve bones,soft egg shell	Add fish meal,bone meal or Oyster shell
Perosis or Slipped tendon.	Lack of choline,folicacid,Ca,P in diet.	Chicken lie down on their Kneel.	Add Vitamin B Co and bone meal.

Ketosis	Lack of sufficient energy intake by farm animals	Loss of appetite	Feed CHO to animals.
Milk Fever	Low blood sugar.	Loss of appetite, constipation and nervousness.	Feed Oyster Shell, bone meal and Carbohydrate.
Baby pig Anaemia	Low iron in blood.	Loss of appetite and nervousness.	Inject iron dextrin into the body.
Night Blindness	Lack of Vitamin A	Inability to see clearly in dim light.	Feed yellow maize.
Scurvy	Lack of vitamin C	Lesions around the connective tissue.	Feed vegetable and fruits to animals.
Beriberi	Lack of VitaminB1	Lack of appetite, fatigue and loss of weight.	Feed yeast, cereals and vegetables.

Ricket (osteomalacia): A disease caused by lack of Vitamin D and disappearance of calcium salts which prevent the body from using Calcium. Ricket causes softening and sometimes bending of the bones.

Tendon: A tough, strong band or cord of tissue that joins a muscle to a bone or some part and transmits the force of the muscle to the part.

Scurvy: A disease caused by lack of Vitamin C in diet. It's characterized by swollen and bleeding gums, extreme weakness and livid spots on the skin.

Tetany: A disease characterized by sudden abnormal involuntary contraction of the muscle.

Beriberi: Disease affecting the nervous system accompanied by muscular paralysis, weakness, extreme loss of weight, pain and swelling. It is caused by lack of vitamin B in diet.



(a) Ricket in sheep



(b) slipped tendon (perosis) in poultry

EVALUATION

1. What is malnutrition in farm animals?
2. What is nutritional deficiency?
3. Highlight five malnutritional diseases; causes, symptoms and corrections.

RATION/DIET

A ration is defined as the feed that is regularly offered to or consumed by the animal. Diets are formulated to meet specific metabolic or physiological functions which include growth, lactation, reproduction, maintenance of pregnancy, egg laying, weaning, fattening etc

BALANCED RATION

A balanced ration is the feed containing all essential nutrients in the right or correct and adequate proportion for feeding animals. Components or compositions of a balanced ration include

carbohydrate,protein,fats and oil, minerals, vitamins and water.In balancing ration, the nutrients values of the feeding stuffs are known. The nutrient requirement or the standards are also known.

IMBALANCED RATION

An imbalanced ration is the feed that does not contain all essential nutrients in the correct and adequate proportion for feeding livestock.

EVALUATION

1. What is ration?
2. What is balanced ration?

There are two categories of balanced ration.

1. **Maintenance ration:** This is the type of ration that...