

## LIVESTOCK HEALTH.

### HEALTH AND DISEASE.

A state of **good health** exists when the body processes function normally allowing the animal to perform at it's best.

**Disease or ill health** is any deviation from the normal state of the animals. This may be caused by poison, physical injuries, disorders in body metabolism and organisms such as bacteria, virus, protozoa, etc.

### REASONS WHY FARM ANIMALS SHOULD BE KEPT HEALTH.

- ★ For production of good products in terms of milk, meat, eggs, etc.
- ★ Health animals are easy to manage as the cost of production is low.
- ★ It is a source of encouragement to the farmer once the Animal look health and nice.
- ★ High production is released and therefore more income.
- ★ The Animal grow quick and reach market age very fast.
- ★ The Animal products are safe for human consumption.
- ★ The Animal products are of good quality therefore fetch high market price.
- ★ Animals have long production cycle.
- ★ Animals like oxen and donkeys are able to provide labour on the farm only when they are healthy.

### PRE-DISPOSAL FACTORS OF LIVESTOCK DISEASES.

A number of factors directly or indirectly make it convenient ( easy ) for diseases to attack animals. These include the following ;

- ★ **Climate** : during warm condition, pathogens multiply rapidly. This is why bacterial and parasitic diseases are common in tropical regions.
- ★ **Age of the animals** : young animals are easily attacked by disease causing organisms because they have body defense system than old ones.
- ★ **Sanitation**: animals kept in dirty quarters are easily attacked by diseases because a dirty environment act as a breeding ground for pathogens.
- ★ **Contaminated feeds** : Animal feeds that are contaminated make the animals sick.
- ★ **Types of feed's** : Some diseases are related to nutrition and may occur when the animals has too much or too little of certain feeds eg. Defficiency diseases got when feeds lack certain nutrients.
- ★ **Hereditary ( Congenital )** . : Young animals may get some diseases from their parents during gestation and such diseases can only be seen after the animal is born eg, albinism.

### SIGNS OF GOOD HEALTH.

- ❖ Bright and clear eyes which have no tears.

- ❖ Smooth and pliable skin with a shiny appearance and a clean hair coat not standing out.
- ❖ Normal body temperature which varies from animal to animal eg, cattle 37.5°C - 39.5°C, chicken , 40.5°C - 43.0°C, pigs 38-39.5°C.
- ❖ Normal pulse rate which varies from species for example cattle. 40-60, chicken 120-160, etc.
- ❖ Good appetite.
- ❖ Moist muzzle ie health animals have mucus membranes, moist and pinkish in colours.
- ❖ Normal animals don't have discharge in form of tears, saliva, pus from body openings like eyes, mouth, anus, etc.
- ❖ Good response to stimulus.
- ❖ Normal breathing.
- ❖ Fairly loose faeces which are semi solid passed out without difficult.
- ❖ Good quality and quantity of products.
- ❖ Pale-straw coloured urine without foul smell, blood or pus in it.
- ❖ Ruminants should ruminate regularly.

### **Signs of Ill health.**

- ✓ Increase in body temperature.
- ✓ Discharge from the mouth, nostrils and eyes.
- ✓ Loss of appetite.
- ✓ Reduction in production in terms of Milk, eggs, etc.
- ✓ Dullness, dropping wings and ears.
- ✓ The animal fails to respond to stimulus.
- ✓ Lameness.
- ✓ Frequent coughing.
- ✓ Standing hair coat or rough.
- ✓ Very watery, blood stained and hard dung.
- ✓ Dark coloured urine and blood stained urine.
- ✓ Increase in pulse rate.
- ✓ When the rate of breathing is too high or too low
- ✓ General loss of weight by the animal.

### **CLASSIFICATION OF ANIMAL DISEASES BY CAUSE.**

Diseases in farm animals are caused by germs especially bacteria and virus. Some diseases by mechanical injuries, poison, nutritional deficiency, parasites and some are hereditary.

Diseases are classified according to the cause into the following classes;

#### **a). Micro biological diseases.**

These are diseases caused by organisms that enter into the animals body. Such diseases are either infectious, contagious or both.

**A contagious disease** is one that spread through direct contact between sick and health animals.

**An infectious disease** is one spread from sick animals to health animals even without direct contact eg, through air or feeds.

Disease causing organisms are called **pathogens**. They include; bacteria, virus, protozoa and rickettsia.

#### **Bacteria.**

These are single celled organisms that reproduce by **cell division**. They are able to multiply to millions in few hours. The victim experience a rise in body temperature. Bacterial diseases include; calf scours, Pneumonia, Contagious abortion, Anthrax, Typhoid, Mastitis, etc.

#### **Viruses.**

These are tiny living organisms that cannot survive outside living tissues. They interfere with the normal functioning of the cell and most of them are difficult to control. Examples of viral diseases are; Gumboro in poultry below 8 weeks, swine fever, rinderpest, fowl pox, rabies and rift valley fever.

#### **Protozoa.**

These are single celled organisms that reproduce by binary fission. Most of them are transmitted by vectors like tsetseflies and ticks. Examples of protozoan diseases include; coccidiosis, trypanosomiasis, Anaplasmosis, East coast fever, Babesiosis and Trichomoniasis.

#### **Fungi.**

These are plant organisms which reproduce by means of **spores**. When spores land on bodies of animals, they grow and cause a lot of irritation to animals. Examples of fungal diseases are ; ringworm, aspergillosis, and candidiasis.

#### **Metazoan.**

These are diseases caused by organisms that live a parasitic life on animals called **metazoan**. They include liverflukes, tapeworms and round worms.

Most of the metazoan diseases are experienced or expressed in form of symptoms like;

Anemia, stunted growth, diarrhea, cough, swellings, loss of weight, etc.

#### **b). Nutritional diseases.**

These are called deficiency or dietetic disorders. When the feeds lack some nutrients, minerals or vitamins, animals develop deficiency diseases like rickets, Milk fever, etc.

#### **c). Poison and allergy.**

Once taken into the body, poison may cause death. Farm animals can consume poison through improper disposal of chemical containers or accidentally eating poisonous grass.

Examples of diseases due to poison include photosensitization due to (lantana camara ), sweet clove disease, serum shock, etc.

#### **d). Injuries.**

Body injuries cause ill health to livestock. Open wounds encourage entry of pathogens. The injuries may be due to fighting or sharp pieces in the kraal or fence.

#### **e). Thermal injuries**

This is common in pigs and chicks. High temperature cause sun burn in pigs and cold temperature chill chicks to death.

### **WAYS THROUGH WHICH GERMS ENTER THE BODY.**

- ✓ Through the digestive system either in water and food.
- ✓ Through wounds, cuts, fractures on the skins.
- ✓ Through the reproductive system by way of mating.
- ✓ Through breathing.
- ✓ Direct contact with affected animals.
- ✓ Through mammary glands.
- ✓ Through the umbilical cord at birth.
- ✓ Through the eyes.

### **EFFECTS OF DISEASES.**

Diseases cause economic loss in the following ways.

- Cause retardation of growth leading to delayed maturity of the animals hence low income to the farmers.
- Lower the quality of the products eg, a bad smell in milk from a cow having Mastitis.
- Lead to reduced productivity from animals in terms of milk, meat and eggs
- Leads to poor feed conversion rate which leads to wastage of feeds as animals have no appetite.
- Leads to death of the animals leading to loss to the farmers.
- Increases the cost of production since the farmer has to buy drugs for treatment.
- Decreases the reproductive efficiency since affected animals fail to conceive and to mount.
- Lead to madness eg the mad cow disease (MDC ).
- Makes products to lose market since products from sick animals are condemned from the market.
- Lameness eg, the foot and mouth disease.
- Risks to public health especially for zoonotic diseases.

- Blindness especially those that attack the eyes.

**WAYS THROUGH WHICH DISEASES SPREAD IN FARM ANIMALS.**

- Taking contaminated water and feeds.
- By vectors especially blood sucking eg, ticks, lice and tsetseflies.
- Animal handling equipment especially if not sterilised eg, the hypodermic syringe, teat cups, etc.
- Direct contact with affected animals eg, ringworm.
- Genital effection during mating ( venereal diseases ), like vibriosis and contagious abortion.
- Through air ( air borne diseases ), through inhalation.
- Carrier animals introduced on the farm thought they look health.
- Introduction of diseased animals on the farm.
- Through shoes and clothes of workers and visitors.
- Poor disposal of dead animals which have died from a disease.
- Through animal excreta and litter.
- Contact with body fluids of sick animals.
- Contaminated feeds and water troughs.
- Contact with contaminated soil that may have spores for diseases, eg, Anthrax.

**EXAMPLES OF ANIMAL DISEASES.**

**1. TICK BORNE DISEASES.**

| Disease          | General   | Symptoms  | Control  |
|------------------|---|---|--|
| East coast fever | Caused by protozoa ( Theilera parva ), transmitted by the brown ear tick. | <ul style="list-style-type: none"> <li>• Enlarged lymph nodes.</li> <li>• High temperature.</li> <li>• Normal discharges</li> <li>• Diarrhoea.</li> <li>• Death in 2-3 days.</li> <li>• Difficult breathing.</li> </ul> | <ul style="list-style-type: none"> <li>★ Dipping, spraying to control ticks.</li> <li>★ Use anti biotics to treat side effects.</li> </ul> |
| Red water        | Caused by protozoa transmitted by the brown ear tick                      | <ul style="list-style-type: none"> <li>★ High temperature.</li> </ul>   | <ul style="list-style-type: none"> <li>• Tick control.</li> <li>• Use anti biotics to treat side</li> </ul>                                |

|               |   |   |              |
|---------------|---|---|--------------|
|               |   | <ul style="list-style-type: none"> <li>★ Coloured urine.</li> <li>★ Death</li> </ul>  | effects.     |
| Rickettsiosis | It is caused by ( Rickettsia ruminatum ). | <ul style="list-style-type: none"> <li>• Nervousness.</li> <li>• Fluids in body cavity including the heart sack.</li> <li>• Walk in circles and die in convulsion.</li> </ul> | Tick control |

## 2. Bacterial diseases.

| Disease | General  | Animals attacked. I             | Symptoms   | Control.   |
|---------|--|---------------------------------|--|--|
| Anthrax | It is an acute, infectious and notifiable disease,<br>It spreads from man to animal. | Man<br>Cattle<br>Sheep<br>Goat. | <ul style="list-style-type: none"> <li>➤ Sudden death in 24 hours.</li> <li>➤ High fever in sick animals.</li> <li>➤ Bloody discharge from body openings.</li> <li>➤ Very fast breathing.</li> <li>➤ Swellings all over the body.</li> <li>➤ Bloat in dead animals.</li> <li>➤ Blood stained diarrhoea.</li> </ul> | <ul style="list-style-type: none"> <li>✓ Quarantine.</li> <li>✓ Regular vaccination.</li> <li>✓ Burn carcass from dead animals.</li> <li>✓ Bury dead animals 6 feet deep and pour paraffin.</li> </ul> |
|         | This is the inflammation of the mammary glands. It is mainly cause by                |                                 | <ul style="list-style-type: none"> <li>➤ Blood stains &amp; pus in milk.</li> <li>➤ Hot,hard and</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Wash hands before milking.</li> <li>✓ Use disposable</li> </ul>   |

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|--|--|---|---|--|
| Mastitis   | microorganisms from the environment and sick animals. It is spread from one cow to another through milking.  | Cattle  | swollen udder.<br><ul style="list-style-type: none"> <li>➤ Animal reject being milked.</li> <li>➤ Milk secreted is either thick or watery.</li> <li>➤ Salty taste in milk.</li> <li>➤ Milk going bad on boiling.</li> </ul> | towel.<br>Regular servicing of milking machine.<br>Cutting finger nails<br>Short<br>Milking infected animals last.<br>Stripping to detect Mastitis.  |
| Brucellosis or contagious abortion or Bang's diseases. | It affects the reproductive organs of animals. It is caused by bacteria ( Brucella spp ), transmitted through contaminated food, water, mating, aborted foetus, etc. | Sheep<br>Cattle<br>Goat<br>Man<br>Pigs<br>Horses. | Arbortion at about 7 months of pregnancy.<br>Yellowish discharge with bad smell before arbortion.<br>Retention of the after birth.<br>Infertility.<br>Swelling of joints and lameness in pigs.                              | Regular vaccination using straining vaccines.<br>Annual blood testing.<br>Culling of affected animals.<br>Avoid touching arboted foetus with bare hands.<br>Use antibiotics on affected animals. |

### 3. Viral diseases.

They include , rinderpest, foot and mouth disease, swine fever, Newcastle, Gumboro, fowl pox, and Nairobi sheep disease.

| Disease    | General  | Animals | Symptoms   | Control.  |
|------------|--|---------|--|---|
| Rinderpest | It is an acute contagious disease that attack the membrane's of the alimentary canal. It is caused by a virus of | All     | High temperature of over 40°C.<br>Blood stained feaces.<br>Wounds in the | Annual vaccination.<br>Quarantine.<br>Slaughter affected animals. |

|                        |  |                          |   |   |
|------------------------|--|--------------------------|---|---|
|                        | Myxovirus group.   | ruminants.               | mouth & vagina.<br>Eye discharge.<br>Norsal discharge.  |   |
| Newcastle diseases     | It is an infectious disease that mainly affects the respiratory system. It is caused by a virus of Myxovirus group.                    | Poultry.                 | Difficult breathing.<br>Sneezing and coughing.<br>Strained neck leading to bending.<br>Dropping wings.<br>Birds walk in a staggering manner.<br>Birds stand with closed eyes.<br>Yellowish- greenish diarrhoea.<br>Loss of weight.<br>Dullness.<br>Softshelled eggs.<br>Sudden death. | Proper disposal of dead birds.<br>Regular vaccination.<br>Culling.<br>Ensuring hygiene in the poultry house.<br>Restricting visitors in poultry unit.<br>Have a foot bath at the entry.<br>Avoid introducing new stock to old stock.<br>Buying chicks from reliable sources.<br>Provide clean feeds and water to birds. |
| Foot and mouth disease | It is a highly contagious disease spread by virus of a type A,O and C. It is transmitted directly from sick animals to health animals. | Cattle<br>Sheep<br>Goat. | Wounds on the tounge and hooves.<br>Difficult in chewing due to wounds on the tounge.<br>Lameness due to wounds between claws and around  | Quarantine.<br>Slaughtering and burying affected animals.<br>Vaccination every 3-6 months.  |

|                     |   |                |   |  |
|---------------------|---|----------------|---|--|
|                     |   |                | <p>hooves.</p> <p>Excessive salivation.</p> <p>Loss of appetite.</p> <p>Fever.</p> <p>Reduction in Milk yield.</p> <p>Emaciation.</p>   |  |
| African swine fever | It is caused by virus and spread through contact with wild game eg, wathogs, and wild pigs. | Pigs.          | <p>Diarrhoea.</p> <p>Sudden death.</p> <p>Loss of appetite.</p> <p>Difficult in breathing.</p> <p>Rapid temperature raise.</p> <p>Dullness.</p> <p>Fall in temparate towards death.</p> | <p>Pigs should not come into contact with wild game.</p> <p>Maintain hygiene.</p> <p>Slaughter affected pigs and burry pork.</p> |
| Fowl pox            | Highly contagious and infectious disease of poultry spread by contact and mosquitoes.       | Poultry birds. | <p>Wounds in the mouth.</p> <p>Discharge from the eyes and nostrils.</p> <p>Reduction in egg production.</p> <p>Retarded growth in chicks.</p>  | <p>No treatment.</p> <p>Kill affected birds.</p> <p>Vaccination.</p> <p>Disinfect poultry unit's.</p>                            |

#### 4. Protozoan diseases.

They include East coast fever, heart water, Bovine Anaplasmosis, Babesiosis, Trypanosomiasis ( nagana ), and coccidiosis. We are only going to look at two, others have been discussed in tick borne diseases

| Disease                     | General   | Animal  | Symptoms  | Control.   |
|-----------------------------|---|---|---|--|
| Trypanosomiasis ( Nagana ). | It is infectious and caused by blood protozoa called Trypanosome which is transmitted by tsetseflies.     | All domestic Animal.                              | Emaciation.<br>Rise in body temperature.<br>Weakness.<br>Pale mucus membranes.<br>Death after 3-12 mouths of infey.<br>Starling coat. | Clearing bush and shrubs around farms.<br>Spraying to control tsetseflies.<br>Bush burning of affected areas.<br>Use of tsetseflies traps. |
| Coccidiosis.                | It is caused by coccidia of the ( Eimeria ssp ). It attacks the lining of the small and large intestines. | Calves.<br>Poultry<br>Rabbits.<br>Kids.<br>Lambs. | Diarrhoea.<br>Blood stained feaces.<br>Rough feathers.<br>Dullness.<br>Dropping wings in poultry.<br>Death.                           | Use coccidiostat in feeds and water.<br>Isolation of sick animals.   |

### 5. Metabolic disorders associated with feeding livestock or nutritional disorders.

These are diseases caused by some factors other than pathogens. They include; Milk fever, bloat and ketosis.

#### (i). Milk fever. ( Hypocalcemia ).

It is a condition in lactation cows when blood calcium level is low. It is caused by over depletion of calcium in the body. Calcium being the basic ingredient or component of milk.

#### Causes of milk fever.

- ★ Inadequate calcium in the body.
- ★ Poor calcium : phosphorus ratio.

**Occurrence.**

- It occurs within a week or so after calving usually because at this time the cow is being milked too heavily.
- In the last few days of pregnancy or during calving.

**Symptoms.**

- ✓ Loss of appetite and several depression.
- ✓ Paralysis.
- ✓ Inability to stand.
- ✓ Low body temperature.
- ✓ Unconscious, coma and death.
- ✓ Saliva discharge from the mouth.
- ✓ The Animal fails to ruminate.

**Prevention and control.**

- Intravenous or subcutaneous injection of calcium gluconate to raise blood calcium level.
- Feeding animals on high calcium during steaming up.
- Delayed or incomplete milking during early lactation stages.
- Feeding calcium and phosphorus in the ratio of 1:1 or give adequate mineral supplement.
- Drying off of lactating cows at 2 months to parturition.
- Provide acidic feeds like silage.

**( ii). Bloat ( Tymphanitis ).**

Bloat is the distention of the rumen with gases caused by fermentation of food stuffs by microbes in the rumen. Or It is when gases accumulate in the rumen.

It affects ruminants like cattle, goat and sheep.

**Causes of bloat.**

- Feeding animals on high protein concentrates eg, legumes and young succulent grass.
- Feeding cattle on high concentrate ration with proteins supplement.
- Susceptibility of some animals or heredity whereby some animals are more prone to bloat than others.

NB. Animals with more saliva are less prone to bloat.

- Some bacteria in the rumen can degrade saliva therefore making the animal more susceptible.

**Symptoms.**

- ★ Lack of appetite.
- ★ Swollen stomach especially on the left side where the rumen is situated.
- ★ Difficult in breathing due to pressure exerted by the distended rumen on the diaphragm, lungs and heart.
- ★ Animal lies down and fails to stand up.
- ★ Death occurs if the gas is not released.
- ★ Animal stands with their legs wide apart.

### **Prevention.**

- Avoid feeding animals on succulent grass or feeds.
- Avoid feeding animals on young pastures.
- Carrying out oil drenching using any vegetable oil.
- Allow animals to consume good roughages before grazing on young grass.
- Strip and zero grazing to reduce selective grazing.

### **Treatment.**

- ❖ Open up the rumen using a trocar and canula.
- ❖ Drenching with vegetable oil to act as anti- foam agent.
- ❖ Boom-stick method to make the Animal belch.

### **iii). Ketosis. ( Acetonemia or pregnancy Taxaemia ).**

It occurs in ruminants most commonly in high milking cows especially in the first 2 weeks of lactation when milk production exceeds their feeding capacity. This lowers the blood glucose levels ( hypoglycemia ) leading to the breakdown of lipids to get energy hence accumulation of ketone.

### **CAUSES.**

- Inadequate feed intake.
- Mulfunctioning of the liver.

### **SYMPTOMS.**

- ★ Drop in Milk yield and the cow fails to return to full lactation.
- ★ Rapid loss in body condition.
- ★ The cow become nervous.
- ★ The cow becomes staggery.

### **PREVENTION.**

- Adequate feeding including roughages.
- Provide green feeds and exercise.

### **TREATMENT.**

Call a veterinary doctor for help.

#### **GENERAL METHODS OF DISEASE CONTROL.**

- Provide animals with adequate and Clean feeds.
- Giving animals well balanced feeds.
- Treating animals in time when diseases break out.
- Regular drenching to control internal parasites.
- Regular spraying or dipping to control external parasites.
- Avoid grazing animals in swampy areas.
- Controlled breeding and use of artificial insemination.
- Fencing to keep out diseased animals and vectors.
- Culling and isolation of sick animals.
- Using rotation grazing and graze young animals ahead of of the old stock.
- Imposing and observing quarantine.
- Avoid having too much visitors on the farm.
- Having a foot bath on the entry of farm houses.
- Ensuring correct stocking rate to avoid overcrowding.
- Regular cleaning and disinfecting of animal houses.
- Ensure proper disposal of carcus and feaces.
- Follow regular vaccination program.

#### **QUALITIES OF A GOOD STOCKMAN.**

- ❖ Should be kind to the animals and should be able to care for them and show alot of concern.
- ❖ Should have enough knowledge about animal health and management practices.
- ❖ Should be able to design a regular routine of activities.
- ❖ Should be able to keep good farm records.
- ❖ Should be healthy and energetic.
- ❖ Should have high level of personal hygiene.
- ❖ Should be able to ensure proper feeding of animals.
- ❖ Should be able to keep the environment in building and field free from any situation that pre-dispose animals to diseases.