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Herd heath management in farm animals

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HERD HEALTH MANAGEMENT IN FARM ANIMALS

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This bulletin on Herd Health Management was a compilation of several years of work resulting from series of workshop paper presented to Agricultural development project (ADP) at their monthly technology review meetings. ADP request on this topic ranges from principles of disease prevention, identifying sick animals, taking basic herd health parameters to management of emergencies. The initial works done by Dr. T Balogun of the NAERLS and all other references cited towards the making of this bulletin are duly acknowledged.

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INTRODUCTION:

Animals like human beings need to have good health before they can perform very well. The performance could be in milk production in dairy animals, meat in beef cattle, sheep and goat. The performance could also be the strength to pull farm implement as in work bull. So irrespective of what use an animal is put to, it must be in good health before it can perform the job.

Animals can fall sick because of a number of reasons. Sickness in animals could be due

(1) Inadequate feeding- too little or too much or due to absence of certain ingredients in the feed.
(2) It could be due to adverse environmental conditions such as exposure to extreme cold or heat.
(3) Germs such as bacteria or virus, which gain entrance into the animals' body causing bodily harm, can cause disease or sickness.
(4) Parasites (internal and external) can be the cause of sickness in farm animals.
(5) Disease can also be caused by loss of body fluid or it may be due to too little or excessive secretion of some very important body secretions.

Diseases caused by bacteria, viruses, fungi etc. referred to as infectious disease are the most important disease of livestock and are the ones that most threaten increased livestock production in Nigeria.

Disease prevention or maintenance is an essential part of good livestock management practices. Animals are usually reared together in large numbers in one place. It is recognized that most important Livestock diseases spread easily and rapidly among animals that live close to each other.

Disease prevention should take cognizance of this by preventing disease on a herd basis. The herdsman should always be alert to signs of sickness in herd. This bulletin is intended to teach you how to keep watch on the heath status of your herd.

METHODS OF DISEASE PREVENTION

Disease prevention starts with good management. This includes:

(1) Starting with a healthy flock and ensuring new animals to be introduced to the herd are disease free.
(2) Adequate feeding with clean water, balance diet
(3) Adequate housing
(4) Maintaining good hygiene and sanitation in the flock.
(5) Following the recommended preventive measures such as Vaccination programmes, de-worming, spray or dust against ecto-parasite, Quarantine etc.

Early signs of sickness

1. Sick animals frequently separate themselves from their mates during grazing. A sick animal can be seen lagging behind or taking shelter under a tree shade while others are busy grazing.
2. A sick animal may put up abnormal appearance or posture. It may appear dull or dejected. May show rather awkward gait or movement. The coat may appear rough, losing the normal glossy appearance.
3. The tail may carry heavy feacal contamination or discharge from the genital organ.

4. Usually a sick animal responds poorly to an external stimulus. The normal attitude should be one of alertness. If disturbed the response should be reasonably quick.
5. Strong smelling faeces or urine and traces of blood in the feaces or urine are signs of something going wrong.
6. Abnormalities of milk either in amount, physical appearance or in the smell are indications of disorder.
7. Heavy breathing by an animal that has not worked is a sign of imminent danger.

It must however be stressed that it is not in all cases that the signs are apparent and distinct. In some cases it may be necessary to perform some tests before it is possible to detect a sick animal. It is also noteworthy that some animals may harbour some disease causing agents without necessarily showing any sign of disease. But they may transmit the disease to other animals in the flock.

It is therefore necessary that constant checks for signs of sickness and carrying out certain tests to determine presence of a disease in an animal population is necessary.

Method of confirming a sick animal

Though animals cannot talk, an experienced farmer can easily pick a sick animal in a flock. There are behaviors that sick animal express to indicate to the stockman that all is not well with his animal. While some of the signs are obvious even to the uninformed, others require trained eyes and experience to detect.

If a farmer suspects that one or few of his animals are dull and out of normal expected behaviors, there are a few preliminary health checks he can carry out to confirm that the animal is sick.

1. Taking Temperature:
A healthy animal maintains a constant internal body temperature irrespective of temperature of the external environment. The temperature of the animal's body is therefore very useful in determining its health status. An instrument called thermometer can determine the temperature of the animal's body.

For practical purposes the normal temperature of farm animals are:

- Horse 38^0C
- Cattle 39^0C
- Sheep 40^0C
- Goat 40.6^0C
- Pig 39^0C

A high temperature is one of the classical signs of fever and is seen in acute cases of infectious diseases.

Drop in temperature may be the result of loss of blood, starvation, and coma or certain long lasting diseases.

2. Taking Pulse Rate:

The rate at which the heart is beating. The pulse rate can be influenced by the state of the animal's health- faster in fevers and slower and weaker in wasting diseases.

The normal pulse rates for farm animals are:

1.	Horse	36 - 42 per min.
2.	Cow	45 – 50 per min.
3.	Sheep/goat/pig	70 – 80 per min.

3. Observe the respiratory rate

This is the breathing rate of the animal. Many factors can influence the breathing rate of the animal. It is faster during temperature rise, Fever or after vigorous exercise. It is also slower in certain disease condition in which body activities are slowed down as in milk fever. The respiration rate can be determined by counting the number of chest movement per minute.

Normal respiratory rate for farm animals are:

Horse	8 - 12 per min.
Cow	12 – 16 per min.
Sheep/ goat	12 – 20 per min.
Pig	10 – 16 per min.

The preliminary health checks are all a herdsman is expected to do to determine whether an animal is sick or not. These compliment his ability to make simple observation to know when an animal changes its appearance, posture, and personality. Ability to detect signs of ill health and do some preliminary health checks helps him to decide when to seek veterinary assistance.

Though treatment of sick animals should be left in the hands of veterinarians, owners of livestock or their assistants should be able to tackle some minor health problems on the farm, like giving first aid treatment for injuries, care of newborn calves to prevent infection or helping a cow to deliver.

FIRST AID ON THE FARM

The first aid given by the farmer is very necessary. It may serve to arrest further blood loss, to reduce pain or prevent shock or it may serve to make the animal comfortable before veterinary help can be rendered.

1. Taking care of minor ailments

a) Bleeding:

An animal may have run through a barbed wire or may have been inflicted with an injury that may cause bleeding. The bleeding may be mild or severe depending on the type of vessel damaged.

The first thing to do in controlling further blood loss is to secure the animal in such a manner that the wounded area is easily accessible and that the animal may not injure itself or the persons around. In all cases it should be remembered that the more an animal is allowed to struggle the more excited it becomes, the more severe is the bleeding and the greater the difficulty in controlling it. The animal must therefore be properly restrained. To stop bleed ing make a pad of cotton wool or gauze or even handkerchief moistened in water or preferably solution of salt and water and hold it firmly over the wound until a bandage can be applied to keep the pad in position to stop blood flow. Of measures that check blood loss by indirect pressure, the use of tourniquet is the most effective. This can be improved from a piece of soft rope, a length of bandage etc. A loop is formed around the limb above the wound and twisted up tight enough to stop the bleeding. It must not be left on for longer than 24 minutes.

In some severe bleeding it may be necessary to replace the blood lost. This procedure is referred to as blood transfusion. A veterinarian must do this when you considered it a viable economic option.

b) Wounds:

A wound may be defined as any break in the continuity of the tissue of the body. It is usually produced by violence. Wounds are of different types and kinds according to their causes and nature of the effect produced. Examples are contusion, Puncture etc.

The first aid treatment for wounds should consist of

(a) Securing the animal and preventing it from further injuring itself.
(b) Arresting blood loss.
(c) Cleaning the wound and applying dressings etc. The wound must be prevented from infection.

Cleaning the wound: - The hair around the edges of the wound should be clipped along with any torn or lacerated portion of skin or other tissue. A sharp, blunt – pointed scissors must be used. The wound must have been packed with cotton wool soaked in warm water to prevent contamination of the raw surface. The area around the wound may be washed with water containing antiseptics such as Dettol, T. C. P etc. A protective bandage may be put on the wound. Dusting with sulphonamide powder is a wise precaution especially where wounds cannot be bandaged. Injection of wide spectrum antibiotic (one that can kill many types of germs) such as Terramycin is often necessary. Temperature of the animal should be taken daily and if there is any rise, antibiotic treatment should be instituted at once on the advice of your veterinarian.

2. Taking care of a broken horn:

A cow may have one of the horns broken either during a fight with another cow or by accident. The first thing to do in the treatment of horn injury is the control of hemorrhage or bleeding. This may be affected by tying a cord round the bases of each affected horn in the manner of a figure of eight first around one-horn root and then round the other. A stick inserted in this loop and twisted like a tourniquet will tighten it sufficiently to control the bleeding.

Wounds of the horns are generally not serious once the bleeding is arrested.

It may be necessary to sprinkle it with boracic powder. When horn core is dry, **Paste it** with tar. This keeps off flies and responds well to treatment.

3. Taking care of an abscess:

An abscess is swelling containing pus. It is commonly caused by an infection of pus – producing germs but the presence of an irritant either chemical or mechanical in the tissue may also be the cause. Even in many abscesses that are considered of a mechanical nature such as these caused by pieces of metal, thorns, splinters etc. in the tissues, thus pus formation is directly due to the germs that have been introduced.

When abscess is pointed, incise with a sharp sterilized knife. Cut upwards away from animal for wound to drain. Smear Vaseline below the wound to prevent the discharge blistering the skin. Soak bandage or gauze in a tincture of iodine and insert into the wound through the incision. The introduction of penicillin and drugs of the sulphnilamide group is very useful in the treatment of abscesses.

4. Removing foreign bodies in the eye

Farm animals especially cattle usually get foreign bodies lodged in the eyes. The commonest objects, which get into the eyes are husks of guinea corn, maize, wheat chaff, hay seeds, long hairs etc. They cause inflammation and a discharge very distressing to the animals. Occasionally restraining the animal, holding the head to one side, and lifting the offending body with a clean handkerchief may remove the object, or the eyelid may be lifted with one hand and the object removed with a sweeping movement of a grease brush. A few drops of castor oil may be dropped on to the eyeball.

If this cannot remove the object it is best to seek veterinary assistance and have the foreign body removed under a local anesthesia by means of a camel hairbrush or special forceps.

5. Helping animal with Choke:

This is an obstruction to the passage of food through the pharynx and oesophagus. The obstruction can be partial or complete.

Farm animals especially cattle are very fond of attempting to swallow foreign bodies or masses of food material too large to pass down the gullet. The result is that the object becomes lodged somewhere in the gullet, in the throat or perhaps in the chest region. The object so lodged hinders the free passage of solid or even fluid food, giving rise to pain and discomfort. If unattended to, the animal affected may die.

Cases of choke in farm animals, especially cows and donkeys, are frequently seen during mango season in the northern parts of Nigeria.

Signs of choke:

Generally the first signs one observes in an animal suffering from choke are off feeding, restlessness, salivation, attempt to free swallowing and coughing.

A common characteristic of choke in cattle is the rapid formation of gas in the rumen and the left side of the abdomen. The gas production is due to inability of the animal to regurgitate the stomach gas through the mouth.

Treatment of choke:

In all cases of choke, no matter how simple, the owner should seek skilled assistance rather than attempt removal of the offending object.

The owner's first aid should be restricted to the use of trocar or canula. This may be necessary where the degree of abdominal enlargement is great causing great distress to the animal.

6. Helping animal with bloat:

Cases of bloat are frequently encountered in government and few private farms in Nigeria. Bloat is not commonly seen in nomadic herds.

Bloat occurs in cattle, sheep and goats but more common in cattle. The rumen becomes distended with gas and pressure is exerted upon the dia- phram. If left untreated the animal eventually dies from internal organ compression resulting in suffocation or blood circulatory shock.

Bloat is due to an excessive accumulation of gases in the rumen, formed probably by bacteria action. Though the exact cause of bloat is not known it has been related to excessive feeding of fresh green leguminous plant in the absence of dry roughage. Other factors are said to favor bloating. A bloated animal will have a distended abdomen especially on the left side. The abdomen gradually becomes tensed and drums. There is an apparent discomfort. The animal becomes restless and breathes very rapidly.

Treatment: If time permits, severe cases should be treated by a veterinarian. As a first aid measure cattle may be given oil of turpentine in linseed oil, groundnut oil or Palm oil will equally do the job.

7. Emergencies

In emergency where veterinarian help cannot be sought and death seems imminent; plunging a sterilized sharp pointed knife into the left side of the animal can effect relief.

Drugs that are usually effective for treatment of bloat include oil of turpentine, antihistamine and carbachol. If bloat is a regular features on your farm your veterinarian will teach you how to manage emergencies using any of the relevant drugs.

Control: In an area where bloat is common it may be necessary to look at the feed. 1, avoiding sole legumes pasture, can reduce incidence. 2, feeding dry forage along with pasture, 3, avoid rapid eating into an empty stomach. A good herdsman will always know how to prevent this. 4, making water available all the times.

S h o c k:

Shock is a state of physical collapse in animal and it is as a result of failure of peripheral blood circulation, resulting in abrupt fall in blood pressure.

Longed starvation, heavy parasitism or any other condition that threatens the life of the animal.

Treatment: Keep the animal warm and comfortable. Give whole blood transfusion, blood serum or some special preparation such as glucose dextran etc, may raise blood pressure.

Signs: In shock from a debilitating disease, the main symptoms are those of the diseases concerned. In addition, the animal develops patchy sweat, lies prostrated, and takes no notice of anything as it has no strength even to lift its head. Breathing is shallow and almost imperceptible. If shock is due to rapid excessive blood loss, irregular breathing and pale mucous membrane are typical signs.

8. Parasites and Parasitism:

The effect of parasites and parasitism constitute a very serious threat to livestock production in Nigeria. The most important parasitic diseases especially of blood origin are transmitted from one animal or herd to another by insect vectors. The control of these parasitic diseases therefore involves.

1. Protecting the animals by prophylactic and therapeutic treatments using drugs that are effective against the specific parasites.
2. The control of the vectors.

a) Tick and Tick-borne diseases:

The most dangerous tick – borne diseases are heart water disease, (Cowdriosis), Babesiosis (red water disease), Anaplasmosis in ruminants and spirochaetosis in poultry. A good measure for the control of ticks at present is by dipping and spraying. Other possibilities like vaccination and dusting and back line tracing are available. The drugs commonly used for dipping and spraying are pfizona, Gammatox, toxaphene etc. Pfizona is readily available. It should be diluted 600 times before it is used to spray cattle or sheep. But always follow the manufacturer's instructions.

It is recommended that spraying and dipping be done weekly during raining season. Each farm however develops a suitable regime to suit its purpose based on experience.

b) Trouble caused by worms:

Worms cause considerable loss to livestock production. Well-fed animals may harbor worms in their intestines without showing stricken symptoms. However young animals usually suffer from worm infestation.

Signs of worm infestation include anemia, unthriftness and sudden death. Sheep and goats are especially more prone to worm infection; several drugs are available for treatment of worm infection and the choice of one depends on: 1.The type of worm, 2.The age of the animal. However piperazine is recommended for de-worming young animals of cattle/sheep and pigs. Ranide and thiabendazole are recommended for older animals.

It is necessary for a farmer or a group of farmers in an area to institute a de-worming programme. The kind of de-worming program instituted will be determined by the seriousness of the problem in the area. Your local veterinarian will be in a position to help design an effective de-worming programme.

National Vaccination Campaign

Control and prevention of all diseases require the cooperation of people, the farm owner, his assistants, the farm laborers, the veterinarians and other livestock owners in the area for a successful control. Some animal diseases however require the cooperation and joint effort of more people because of the nature of their spread. They may be so widely spread that attacking them early in one place will be a useless effort.

Diseases like CBPP (Contagious Bovine Pluero-Pneumonia) is example of an animal disease that requires the cooperation of not only local livestock owners, Veterinarians etc but also the cooperation and joint effort of neighboring countries for its successful control.

This is so because the disease can spread from one place to another during animals' movement.

Such diseases are called communicable diseases. The most effective method of controlling diseases like CBPP, Rinderpest, Anthrax, Back quarter, Hemorrhagic septicemia is by vaccination.

Importance of group actvities in disease control:

There is the need for owners of livestock to cooperate with the government in their attempt to control or eradicate animal diseases. The various disease control programmes designed by the government are to help livestock owners to run a profitable livestock business by eliminating all disease hazards. Livestock owners must therefore present all their animals for vaccination.

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