Daily observation of cattle

The most important job of the livestock handler is to observe the animals daily.
**LIVESTOCK HANDLER TRAINING MANUAL**

**MODULE 1: EARLY DISEASE IDENTIFICATION**

**Daily observation of cattle**

The most important job of the livestock handler is to observe the animals daily.

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INTRODUCTION

This manual forms part of Afrivet’s series on primary animal health care (PAHC), and has been developed to help the veterinarian, animal health technician, livestock owner and livestock handler to understand the methodology used when implementing PAHC and production management.

These manuals are ideally suited as practical training aids for training livestock handlers in the principles of planned production management, disease prevention and early disease identification.

Information contained in this manual is a summary of the material used by Afrivet Training Services for formal training of animal health technicians, extension officers, livestock farmers and livestock handlers.

The most important function of the livestock handler is structured daily observation

Because we cannot see the organs inside the animal, daily observation of external signs of health or disease are used to evaluate the workings of the body systems.

Successful disease prevention or treatment depends on early identification of the first signs of disease.

Most losses or deaths owing to disease occur because the first signs of disease are missed or ignored.

Use a structured observation model for daily, effective evaluation of the normal working of all body systems.

The livestock handler must act immediately when he/she observes signs of disease.
Looking at the head of animals is the first step in daily observation. Even in a big group of animals, the head is the most visible part of the body. If the heads of all the animals are upright and look normal, it means there is no major problem in the herd.

**Behaviour**

The head houses the brain, which controls behaviour and the body systems. Any disease that has a direct effect on the brain or on the whole body will affect behaviour in different ways.

**Eyes**

The eyes are a direct extension of the brain. They can be affected by damage to the eye itself or can indicate diseases within the rest of the body.

**Ears**

The posture and activity of the external ear lobes is a very good indicator of wellbeing. Changes in posture and activity are in many cases the first non-specific sign that the animal is unwell.

It is only possible to view the ear when examining the whole animal closely.

Hearing is also a sense directly linked to the brain.

**Nose**

The nostrils represent the start of the respiratory system. Livestock normally breathe through their noses. The nose can show non-specific signs when the whole body is affected as in the case of fever for example a dry nose.

**Mouth**

The mouth is the start of the digestive system. Signs of disease can be caused by lesions in the mouth or lower down in the digestive system up to the big stomach.

Most of the problems inside the mouth can only be viewed when the mouth is opened during examination of the animal.
Follow a structure during daily observation and be very specific when describing the signs of disease observed.

**Nose**
- stay behind
- stand alone
- head down
- bellowing
- hyperactive
- shaking head
- hanging
- slow movement
- ticks on ears
- bleeding
- swelling behind
- flies around ears
- pus discharge
- brown wax discharge

**Eyes**
- kept tightly closed
- tears
- white/blue
- white with pearl
- eyelids swollen
- hair loss around eyes
- yellow discharge
- bloody discharge
- dry
- cracked
- red or raw
- wounds
- bleeding from nostril
- watery discharge
- slimy discharge
- yellow discharge

**Ears**
- hanging open
- tongue hangs out
- wounds on lips
- lips swollen
- salivation
- froth
- swelling of jaw
- swelling below jaw
- kept tightly closed
- tears
- white/blue
- white with pearl
- eyelids swollen
- hair loss around eyes
- yellow discharge
- bloody discharge

**Mouth**
- slimy discharge
- yellow discharge
- bleeding from nostril
- watery discharge
- slimy discharge
- yellow discharge

**Signs of disease**

**Nose**

Slimy discharge versus a yellow discharge
The second immediate area of focus is to look at the hunger groove and an overview of the whole body before dealing with specific observations that may be visible over time.

<table>
<thead>
<tr>
<th>Rumen fill</th>
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<tbody>
<tr>
<td>Because of the unique digestive system of ruminant animals, the level of food intake during the previous six to 12 hours can be judged by observing the rumen fill in the area called the hunger groove on the left flank. This is one of the most direct and visible indications of the level of wellness over the past 12 hours.</td>
</tr>
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<table>
<thead>
<tr>
<th>Condition</th>
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<tbody>
<tr>
<td>The body condition of the animal is a direct reflection of the wellness of the animal over a longer time (more than 24 hours). Body condition doesn’t change overnight; therefore, it is an observation that can be used to identify longer-term changes.</td>
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<table>
<thead>
<tr>
<th>Skin/hair</th>
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<tbody>
<tr>
<td>The skin is the largest organ and provides protection for the whole body. Changes to, and infection of, the skin and hair normally occur over a longer time, making this observation important to evaluate longer-term problems. However, very fast changes in the skin can also occur with wounds caused by cuts and other injuries. The skin should also be evaluated when observing specific areas of the body more closely.</td>
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</tbody>
</table>
The livestock handler must act immediately when signs of disease are observed.

- Infection under the skin/abscess
- Fresh wound/bleeding
- Infected wound
- Dull hair coat
- Tick infestation
- Average condition
- Bad condition
- Loosing condition very fast

The skin is such a large organ that the observer can get an overall view of the skin and hair when looking at the whole body.

But the skin can also be further evaluated when looking at the individual observation points such as the breastbone, under the tail and on the udder where tick infestation, for example, can be effectively evaluated.
The animals can now be moved around slowly or observed while they leave the pen. This observation can also be done while the animals are being herded.

<table>
<thead>
<tr>
<th>Backline</th>
<th>A normal, straight backline is an indication that the animal is not in pain. Bending the back while standing or walking is a very specific indication of pain in the body, limbs or feet.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Healthy animals stand comfortably with all four feet spaced under the four corners of the body and even pressure placed on all four feet. They stand still without swaying from side to side.</td>
</tr>
<tr>
<td>Lying</td>
<td>When cattle lie down, they do this in an upright position, neck and head forward, front legs bent next to the chest. They would be lying on one of their backsides with back legs to the opposite side. Whenever ruminants lie flat on their side, they cannot get rid of the gas formed in their rumen and will bloat very quickly.</td>
</tr>
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</table>
| Front legs and feet, and back legs and feet | The front and back legs as well as the joints are smooth with no large swellings. No marks on the skin, matting or loss of hair over the joints.  
The hoofs must be normal with no swelling or wounds above, in between or behind the hoofs.  
When animals are herded, their gait is steady with no jerky movement of the head. During walking, the cattle lower their heads to see better where they are walking. |
| Tail              | The tail is normally used to swat away flies; therefore, active movement of the tail can be observed continuously. If the animal becomes severely ill, the tail activity can decrease or in some conditions be paralysed and just hanging limp. |
• moving all the time
• less movement than normal
• hanging limp

Tail is moving all the time.
• This observation can indicate that there is something irritating the animal, such as excessive flies, maggots below the tail or a swelling below the tail.

Less movement than normal.
• Less movement than normal is a good general indicator that the whole body is affected by a disease (eg fever). It is a general, non-specific sign of disease such as slow/less movement of the ears.

Tail is hanging limp.
• When the tail is not moving at all, it is an indicator of a different problem – it is usually a specific early sign of damage to the nervous system like in an early case of botulism.

A small difference in the observed signs of disease is significant for the person that will examine the animal and that must make a treatment decision.
Observing animals breathing, drinking, and eating occurs during the day. Because these animals have big stomachs, they eat or graze and then go to rest while they re-chew (ruminate) the food accumulated in the big stomach.

**Breathing**
Observation of the ease, speed and depth of breathing can be done before animals are disturbed and can continue while the animals are active such as during herding. Very close observation of the chest and abdomen movement is needed to evaluate breathing. When breathing is difficult, increased chest and abdominal movement is obvious.

**Drinking**
Animals with large stomachs (ruminants) drink a large amount of water at a time. The drinking process involves the normal working of the muscles of the mouth, tongue and throat to suck up the water and to swallow it down effectively. Diseases that affect any of these structures will cause the animal to drink less or not at all.

**Eating**
A very specific sign of health is the eating (grazing) behaviour of animals. This can be evaluated throughout the day because these animals spend most of their time taking in food to the large stomach. Any change in eating behaviour is important to record. Most diseases that affect the whole body will decrease or stop food intake.

**Chewing**
When animals are at rest, their wellbeing is best evaluated by the number of animals ruminating. Unhealthy animals stop ruminating.

**Swallowing**
Normal swallowing can be evaluated when the animal is drinking or swallowing the cud. The observer then also focuses on the neck and breastbone while evaluating the swallowing process.
The first step in reporting observations is just to make a cross over the affected areas on the daily observation card (DOC).

The observer must be sharp-eyed and take their time when recording signs of disease, as a detailed description of the specific sign of disease is required to identify the specific condition.
Because the animals are eating and drinking large amounts of food and water, they produce large amounts of dung and urine during the day, which can be observed.

The consistency and colour of the dung give a good indication of the health and functioning of the digestive system. It depends on the type of food the animal eats. The dung can also be compared as a group and individual animals making it easier to identify a problem.

The only evaluation of the working of the kidneys and urinary system can be done by observing the animal while it is urinating. The specific colour and clarity of the urine is also a very good indication of the general or specific health of the animal. Any change in the urine is an important observation.

Observation of the external opening of the reproductive tract of female animals is important before breeding and after birth. This is a specialised observation and is used for breeding management and identification of problems just before, during and after the birth process.

The observer cannot see the milk but can evaluate the health of the teats and udder every day. Any abnormality is important and immediate action is required as soon as any abnormality is observed.

In male animals, the semen is not visible, but the important male reproductive organs must be observed daily. Ticks, swelling or wounds call for immediate action.
The observer must distinguish between normal signs of health and abnormal signs of disease.

**Normal discharge** – clear bull string when a cow is on heat.

**Abnormal discharge** – can see dry discharge on the lips of the vulva and on tail.
The observer won’t miss the first signs of disease if he/she uses a structured observation system every day.

**Pneumonia**

**24 hour window for early treatment**

- **Start of Infection**
  - **1-2 days**
  - Normal: Eating, Chewing, Breathing, Drinking

- **Head up**
  - Clean, clear and dry
  - Clean
  - Wet and smooth

- **Head down and standing alone**
  - Tears
  - Slow movement
  - Clean
  - Clear watery discharge

- **Eyes**
  - Alert and clean
  - Clean
  - Slower movement

- **Ears**
  - Clean, clear
  - Clear watery discharge

- **Mouth**
  - Normal
  - Less chewing of cud
  - Faster

- **Nose**
  - Normal
  - Normal

- **Behaviour**
  - Eyes
  - Ears

- **Alert and clean**

- **Observation in time**
  - First signs of disease
  - Normal
Severe production loss will occur if the first signs of disease are missed and/or no action was taken after the observation.

**Bacterial infection of the lungs**

- Advanced signs of disease
- Very advanced signs prior to death
- Observation too late
- Observation far too late
DOC
Daily observation card

Eating
Breathing
Drinking
Chewing
Swallowing

Behaviour
Eyes
Ears
Mouth
Nose

Condition
Skin/hair
Rumen fill

Dung
Urine
Udder and teats
Testicles and sheath
Vulva

Backline
Standing
Front legs and feet
Lying
Back legs and feet
Tail

Normal
(Signs of health)

Abnormal
(Signs of disease)

Animal ID: ____________________________
Date: ____________________________
Reported by: ____________________________

Afrivet Training Services (Pty) Ltd
training@afrivet.co.za
(012) 817 9060