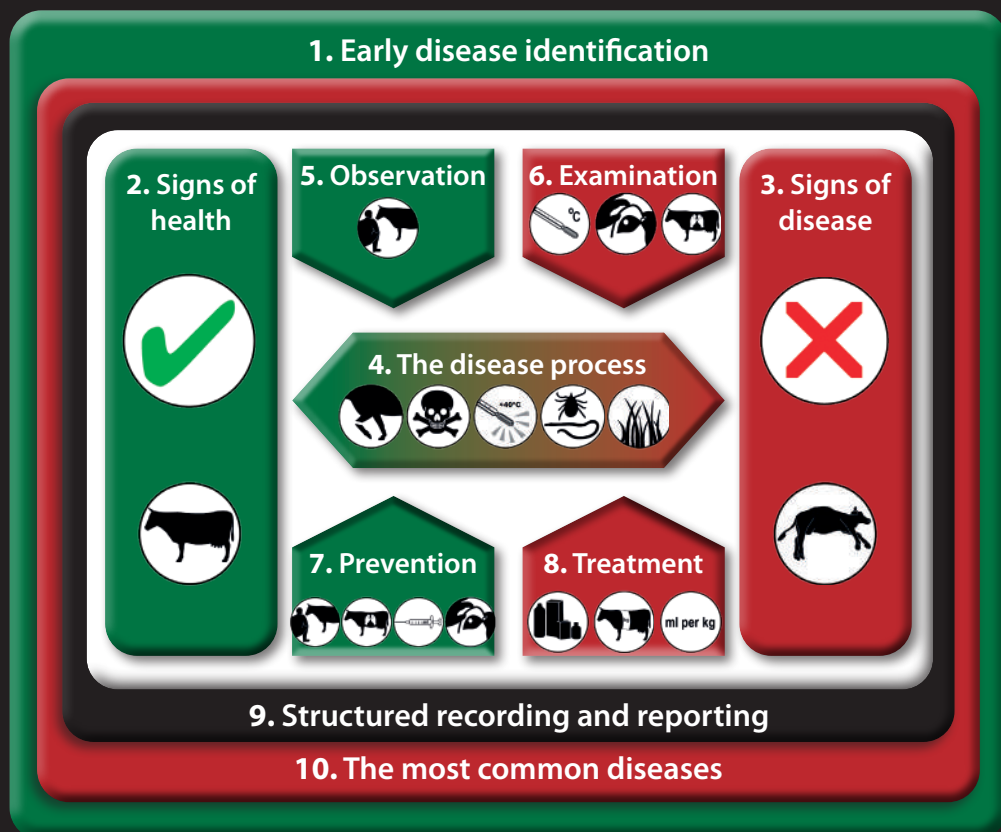


# LIVESTOCK HANDLER TRAINING MANUALS

## MODULE 1: EARLY DISEASE IDENTIFICATION

### Early disease identification model



A structured approach to practical disease management.

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Developed by Dr Danie Odendaal

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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.

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## Primary animal healthcare

- These are the good management actions, taken by the person working with livestock on an ongoing daily basis, that secure animal health and welfare and allow for profitable production.
- Livestock handlers work closely with their animals and can observe them regularly.
- Through structured observation for the first signs of disease, the stock handler can successfully identify, report and treat/prevent the most common diseases causing death and loss of production.
- An understanding of the factors that maintain the health and productivity of animals can be established cost-effectively at all levels of livestock production.
- The increasing demand for livestock products can be profitably supplied.

**The livestock handler must act immediately when he/she observes signs of disease.**

# 1. Early disease

## 2. Signs of health



## 5. Observation



## 4. The disease



## 7. Prevention



## 9. Structured record

## 10. The most common

## Disease identification

### 6. Examination



### Disease process



### 8. Treatment



### 3. Signs of disease

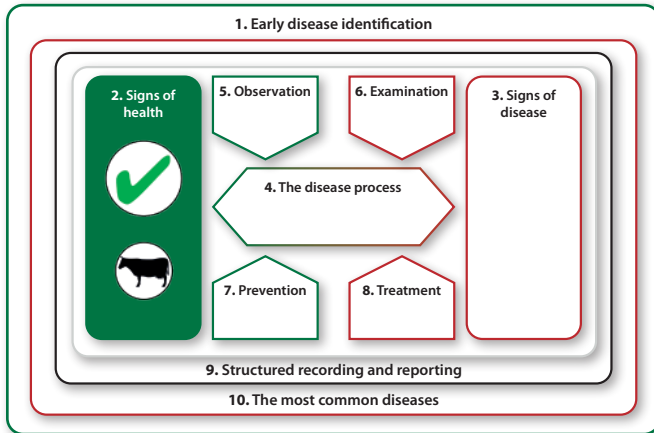


## Disease identification and reporting

## Common diseases



## 2. Signs of health



Healthy animals are a basic requirement for profitable production. Understanding the factors that maintain health and the observable signs of health are essential tools in maximising production in livestock.

**All the body systems need to be working all the time for the animal to be healthy and productive. If one system is not working, this is a sign of disease and production will be affected.**



### The different body organs and system

The different body system work together to enable the animal to live, grow, breed and produce milk and meat.

**Nerous system:**  
brain - spinal cord - nerves

**Urinary system:**  
kidney - bladder

**Reproductive system:**  
uterus - testicles - udder

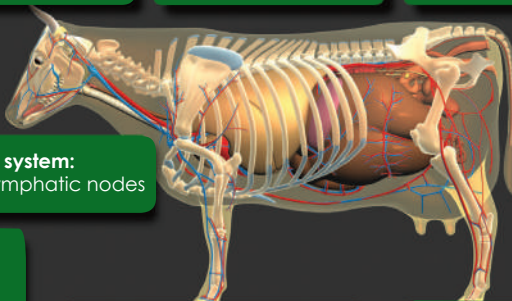
**Vascular system:**  
heart - blood - lymphatic nodes

**System for protection:**  
skin - lining of the organs

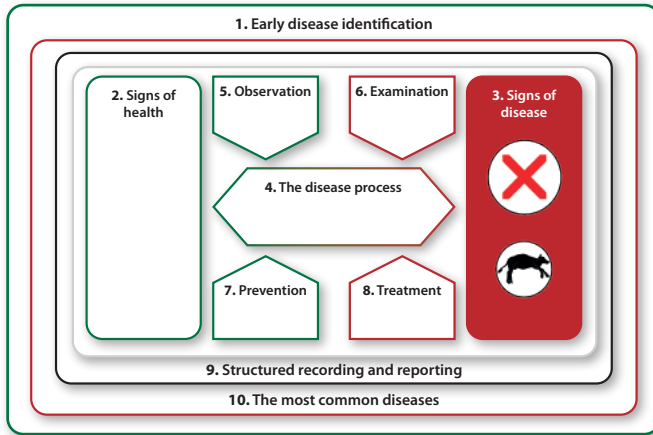
**Respiratory system:**  
nose - windpipe - lungs

**Digestive system:**  
stomach - intestines - liver

**System for movement:**  
bone - joints  
muscle - fat



### 3. Signs of disease

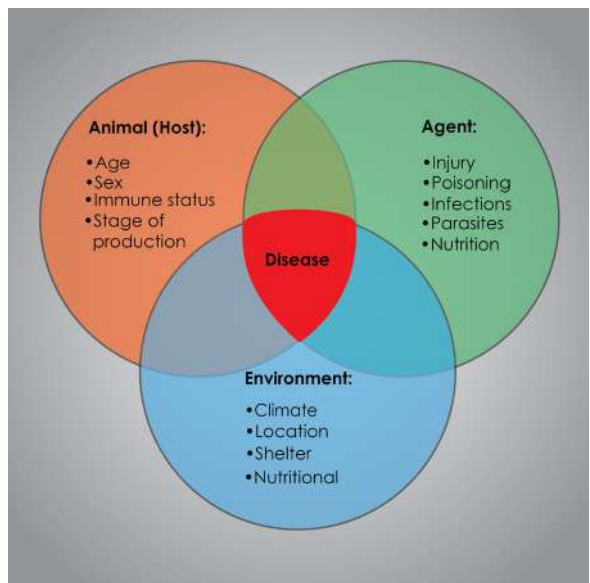


The early identification and treatment of disease is critical to a successful treatment outcome. It is vital that stock owners observe the change from health to disease by understanding and identifying the first signs of disease to treat animals in time.

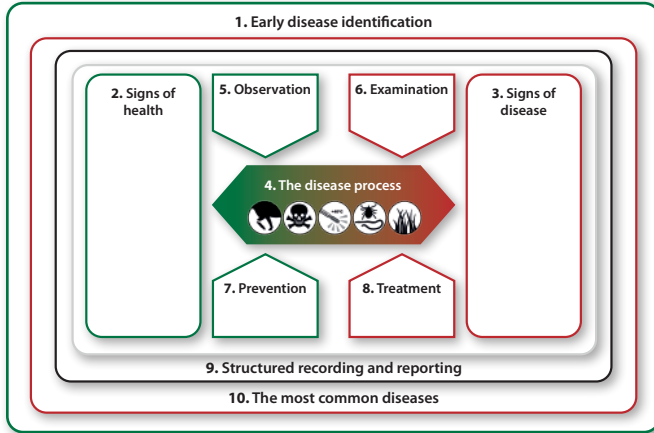
It is critical to be able to describe the disease accurately when seeking technical support from a veterinary professional. The first signs of disease are the best indication of what disease process is occurring and offer the best chance for the livestock handler to identify and treat the disease successfully.

**Every disease is as a result of an interaction between the animal, the environment and the disease.**

**Understanding the signs of what is occurring within these factors and what this tells us, is vital to effective disease management.**



# 4. The disease process



Different types of disease develop in different ways. This allows us to identify the process using signs of these differentiators.

Understanding the factors that influence how each type develops allows the stock handler to implement prevention and treatment strategies to interrupt the disease process effectively.

**Livestock handlers need to understand the disease process for the most common diseases that occur on their farm to help manage these diseases effectively.**

**This includes:**

- 1. What is happening inside the animal?**
- 2. Why/when is this happening?**
- 3. What will you see when this happens?**



## We talk of five main causes of disease as they follow broadly similar disease processes:



**1. Injury** – Injuries generally occur very quickly and must be prevented as they are difficult to treat. Prevention focuses on proper handling and housing facilities.



**2. Poisoning** – Poisonings also occur quickly and must be prevented owing to the speed of the process. Prevention focuses on limiting access to poisonous chemicals and plants on your farm.



**3. Infection** – Infectious diseases develop over days, generally come with a raised temperature and are one of the biggest causes of lost production. Depending on the disease, they either have to be prevented through vaccination or identified and treated early through daily observation during high-risk periods, as the effective treatment window is less than 48 hours.

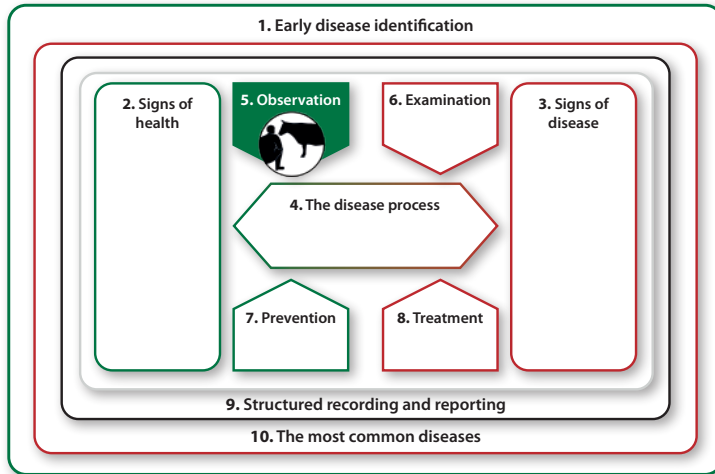


**4. Parasites** – Parasitic problems generally develop over weeks, with the key aspects being the population build up on the veld and the production and mortality impact thereof. Parasites, specifically ticks and worms, occur on all farms and need to be managed effectively.




**5. Nutrition** – Nutrition is generally a longer-term issue that develops over months as a result of seasonal nutritional shortages, poor veld management and specific nutritional shortages in a given area.

# 5. Observation



PAHC is a system of continuous observation for the first signs of disease to affect treatment or prevention as early as possible. Afrivet has developed a simple, observation model to assist in assessing, identifying and describing the first signs of disease observed in each of the body systems.



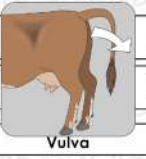
**There are only four things to remember when using this model:**




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Animal Health in Every Day  
TRAINING SERVICES  
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**DAILY OBSERVATION CARD**  
To practise the structured observation methodology, use the following form. The livestock handler simply ticks or crosses what is normal and abnormal respectively and then describes their observations to their veterinary support provider in detail.

**ENGLISH**

<b>Behaviour</b>			
Eyes		Ears	
Mouth		Nose	
<b>Condition</b>		<b>Skin/hair</b>	
Eating		Dung	
Chewing		Udder and teats	
Swallowing	Drinking	Vulva	Testicles and sheath
<b>Rumen fill</b>		<b>Backline</b>	
Standing		Tail	
Front Legs and feet		Back legs and feet	
Lying		Walking	

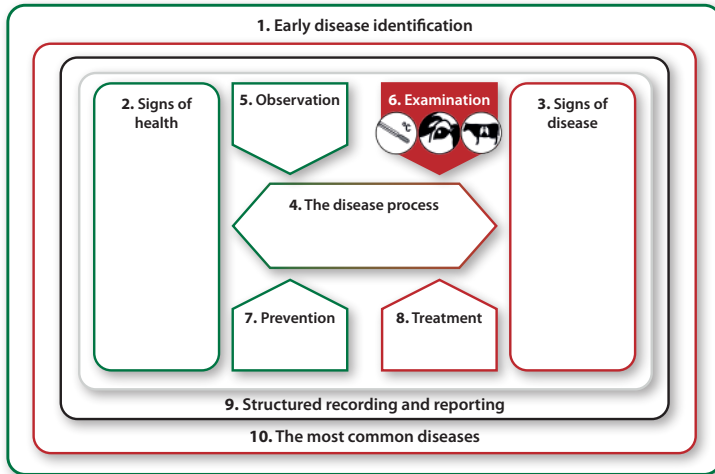


Normal



Abnormal

## 6. Examination



Once a sign of disease is observed, a closer examination is required to better describe the animal's condition and try to identify the cause and affect treatment as soon as possible.

**The closer examination consists of three basic steps:**



1. Measuring the animal's temperature to identify infection.  
**NB: A temperature of above 40 °C is a fever reaction and is always an emergency.**



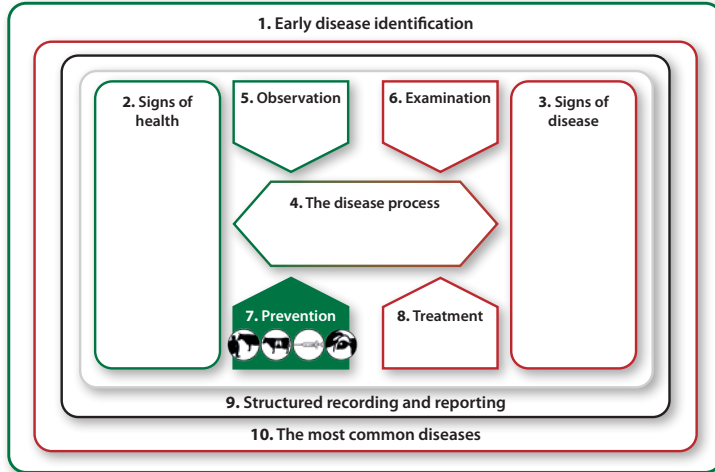
2. Inspecting the inner lining of the animal's eyelid to assess the blood supply, and a close inspection of the head and mouth for other abnormalities.  
**NB: A very pale inner lining is a sign of major blood loss and is an emergency.**



3. A stepwise hands-on examination of the animal's body to complete the picture.  
**NB: Any abnormality needs to be noted and discussed with the veterinary professional/livestock owner.**



# 7. Prevention

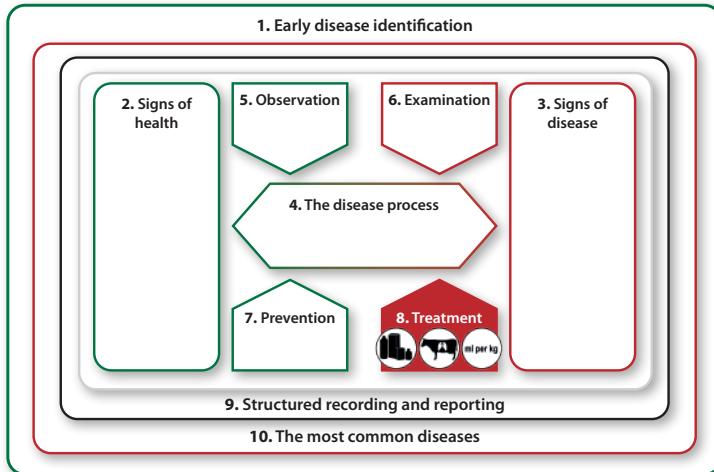


Certain diseases cannot be treated, either because no treatment exists or because they cause death and loss of production so quickly that treatment is not practical. These diseases have to be understood and prevented through vaccination and proper management to minimise their effect on production costs.

## The four disease prevention strategies:

1. **Increase general resistance** – good parasite control, nutrition and reproduction management.
2. **Increase specific resistance** – vaccination to establish immunity against specific diseases.
3. **Decrease exposure** – reduce exposure through early treatment, disease testing and culling policies, quarantining of sick animals and good parasite control.
4. **Avoid exposure** – strict biosecurity policy for testing new animals. These diseases must not be introduced onto a farm.

# 8. Treatment



The majority of common diseases can be treated effectively by just four or five broad-spectrum stock remedies freely available over the counter – assuming the correct disease is identified, treatment is administered correctly and treatment has been implemented early enough in the disease process.

Stock owners must have an understanding of the products available and access to these products to effectively treat the most important diseases.

## Successful disease treatment



1. Successful treatment begins with correctly identifying the **disease**.



2. Selecting the correct **product** to treat the disease identified.



3. Estimating the **weight** of the animal to be treated correctly.



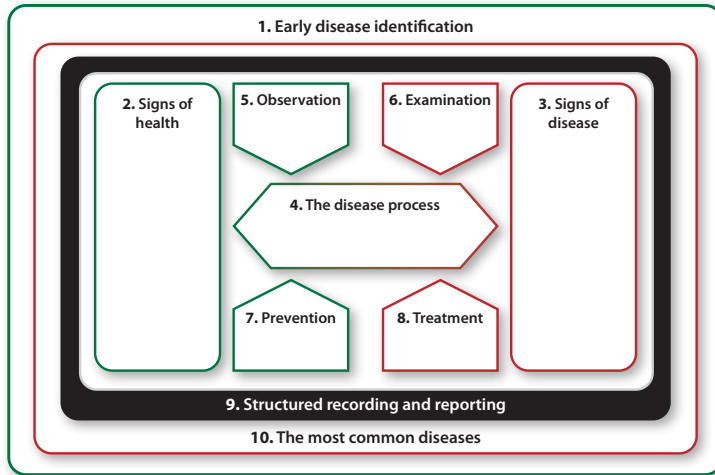
4. Calculating the correct **dose** based on the indications in the product insert.



5. **Administering** treatment correctly and timeously.



# 9. Structured recording and reporting



**Whenever an abnormality or sign of disease is observed it is a call to action and something must be done about it immediately!**

The outcomes of all the above PAHC actions need to be recorded and reported when consulting an animal health professional.

Without a structured approach and record of what was observed, findings, cause of disease, the treatment and outcome thereof, the stock handler cannot get meaningful technical support to implement in his developing livestock operation.

**The experiential side of learning is critical to the development of the livestock handler, as only through experience can the subtle differences between diseases be identified and the correct treatments thereof understood and properly administered.**



**Head up?**



**Body condition?**



**Normal movement?**

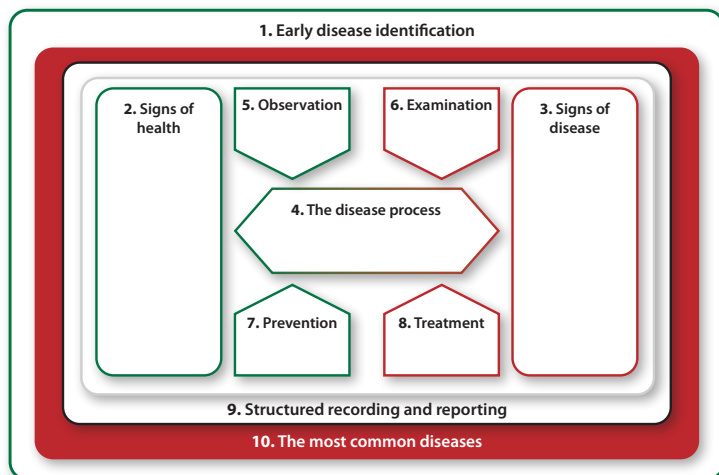


**What goes in?**



**What comes out?**

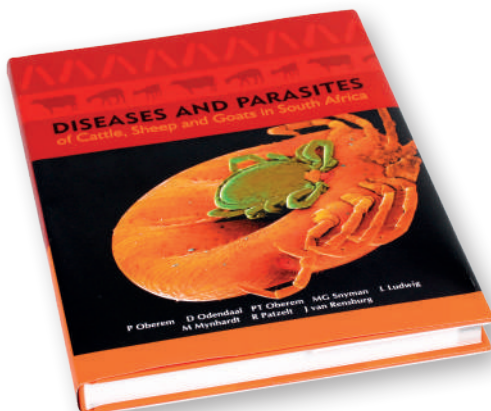
# 10. The most common diseases



It is vital that the livestock handler understands the disease process for the most common diseases that occur on the farm and the specific actions they need to take to help manage these production risks effectively.

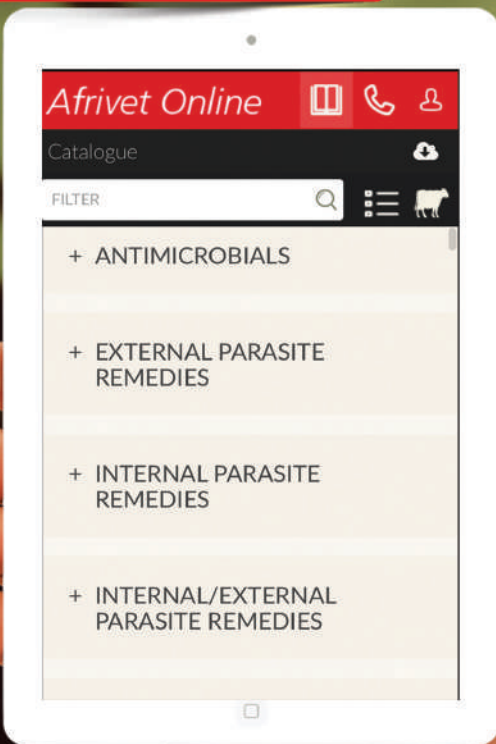
These common diseases need to be identified and their treatment prevention incorporated into the herd health and production plan, with the livestock handlers trained accordingly. This should be a seasonal undertaking, where the local veterinary professional is consulted on which diseases are likely to be an issue in the coming season and the signs and treatment thereof communicated to the livestock handler.

Many diseases can occur and not all of them can be included in a manual or training programme. Information about them is available in the reference handbook for the Afrivet course **“Diseases and parasites of cattle, sheep and goats in South Africa”**, with further information available from your local veterinary professional or Afrivet agent.



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