

## Unit 8: Scours Student's notes

### Introduction

Scouring is the commonest cause of ill health amongst young farm animals. Scouring can be caused by:

- Nutritional factors
- Pathogenic factors.

### What happens when a young animal scours?

The inside of the small intestine in a ruminant is covered by millions of small finger-like structures called villi.

These villi are responsible for:

- Absorbing nutrients such as amino acids and sugars into the blood stream
- Releasing water from the blood into the small intestine
- Most of this water is later re-absorbed in the large intestine and the faeces tend to be semi solid.

However, if the animal's digestion is upset in any way, either through a pathogen or poor nutritional management, the delicate balance of water uptake and loss is upset.

The animal tends to lose more water in its faeces than it is taking up. This can be seen as wet faeces or 'scouring'.

The result is dehydration. Nutrients and salts are also excreted.

### What is the pathogen's role?

Bacteria stick to the villi stimulating more water to be released into the small intestine. They also release toxins or poisons into the blood stream.

**Viruses attack and destroy the villi and reduce the amount of water taken back into the body.**

### What is dehydration?

If fluid is not replaced into a scouring animal, its blood becomes 'thicker'. This results in:

- Poor circulation
- Lowered body temperature
- Calf is shocked showing sunken eyes, poor skin elasticity and loss of sucking reflex.

### The causes of calf scours

The causes can be split into 4 categories:

1. Bacterial: E Coli, salmonella
2. Viral: rotavirus, coronavirus
3. Protozoal: cryptosporidiosis, coccidiosis
4. Nutritional

### 1. Bacteria (E. Coli and salmonella)

E. Coli scours usually occurs in the first week of life, and is the result of bacterial overgrowth and toxin production.

It commonly occurs secondary to a viral infection.

Salmonella rarely occurs in calves <14 days old and is a very serious disease leading to rapid death. Typically, the calves are rapidly depressed; the scour is watery, foul smelling and often contains blood. With both these conditions, antibiotics and glucose containing electrolytes are necessary.

### 2. Viruses (rotavirus and coronavirus)

This is the most common cause of scouring in calves. The disease usually runs a course of 3-5 days and is non-responsive to antibiotics. Dehydration and energy loss is usually what kills the calf.

### 3. Protozoa (cryptosporidia and coccidia)

Cryptosporidia affects calves from 5 days old. It causes scours almost identical to that resulting from viruses. Dehydration and energy loss will result in the death of the calf if not treated.

Coccidial infections affect young stock from 1-12 months of age. It is typified by softening of the faeces with significant straining. It is a result of poor hygiene management practices and overstocking.

### 4. Nutritional (dietary) scours

Usually occur in calves < 3 weeks old and is characterised by voluminous and pasty faeces. Calves are initially bright and alert but become emaciated if the diet is not corrected. This can contribute to the development of infectious scours.

### Treatment of scours in calves

- Withholding the milk
- Correction of dehydration and salt loss
- Use of antibiotics if it is a confirmed bacterial pathogen
- Supportive therapy e.g. heat lamp, fluid by stomach tube.

### Prevention and control of scouring in calves

- Separate scouring calf from other calves but it must be able to see them.
- Make sure that the feeding routine is the same at all times e.g. type of milk, strength, temperature, amount of time in between feeds. All these can upset the small intestine, making infection more likely
- Hygiene of the calf's environment and its feeding equipment is very important. Salmonella can be passed through saliva
- The correct amount of colostrum administered and its timing after birth is critical
- If the causes are known, a vaccination programme might need to be followed.

### Scours in lambs

Scouring in lambs are commonly both related to age and diet.

Three main age groups:

1. Neonatal (around the time of birth)
2. Growing lambs
3. Adults

## 1. Neonatal

Pathogens that are responsible for scouring include:

- E. Coli
- Salmonella
- Rotavirus
- Cryptosporidia
- Clostridia.

## 2. Growing lambs

Scouring could be caused by:

- Diet changing or overeating concentrates e.g. acidosis
- Pathogens
  - I. Salmonella
  - II. Border disease
  - III. Coccidiosis
  - IV. Nematodirus
  - V. Parasitic gastroenteritis

## 3. Adults

Scouring usually caused by diet changes or internal parasites e.g. *Trichostrongylus*