Calf scours

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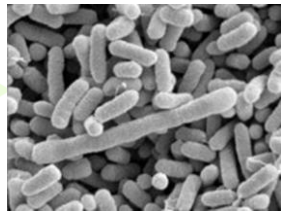
Leading the way in Agriculture and Rural Research, Education and Consulting

Introduction

- Causes
- Why problems occur
- Preventing problems
- Treatment priorities

0-7 days

- Bacterial causes
- *Salmonella*
- Certain strains of *E.coli*



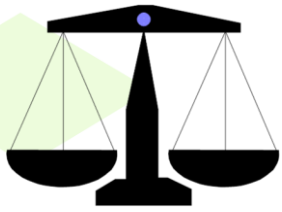
1-3 weeks of age

- Viruses – rotavirus, coronavirus
- Parasites - cryptosporidia

Diagnosis

- Faecal samples
- ZST – check colostrum
- Not just what is there, but why is it causing disease?

Why do problems occur?



IMMUNITY DISEASE

Why do problems occur?

- Bacteria and viruses which cause scour will be present on every farm
- Whether disease will occur in a herd depends on the balance between immunity and disease

Immunity versus disease

IMMUNITY

- Colostrum
- Adequate feeding
- Age
- Stressors

DISEASE

- Number of animals shedding
- Levels of organism shed
- Cleaning and disinfection

Determines the number of particles of viruses or bacteria a calf is exposed to

So where do the organisms come from?

- Adult cows
- Older calves
- Diarrhoeic calves
- Recovered calves
- Environment

Transfer of infection

- Healthy cows shed low levels of infectious agent
- They are immune so not affected, and limited replication of organisms
- Small numbers in, small numbers out

Transfer of infection

- Calves ingest the small numbers of viruses and bacteria
- Multiply them – small numbers in, massive numbers out
- Older calves, diarrhoeic calves and recovered calves are also important sources of infection

Infection over a calving period

- First few calves in a calving period tend to escape disease, but contaminate the environment for other calves
- Calves born in the second half of a 12 week calving period were 8 times more likely to die than those born in the first half
- Reflects build up of infection

Environment as a source of infection

- Infection can survive in the environment
- How long and how well depend on the environment and the organism
- Some organisms, such as crypto require special disinfectation (Kilcox)

Non-infectious

- Rumen drinking
- Usually more of a problem in artificially reared calves
- Can occur in beef calves
  - **Difficult calvings**
  - Temperament
  - Poor milk letdown or mismothering

What can we do to prevent scours?

- Maximise calf immunity
  - Colostrum management
  - Vaccination of the dam
  - Clean, dry environment
  - Avoid lots of stressors at once

What can we do to prevent calf scours?

- Limit exposure to infectious agent
- Beef herds
  - Infection builds up through the calving period
  - Try moving pregnant cattle during calving period
  - Or if specific calving area – move halfway through to allow clean, disinfect and rest
  - How often depends on facilities and herd size
  - Minimise the spread of calving
  - Housed animals – stocking density
  - Hospital facilities – don't return until more than three weeks of age

Dairy calves

- Calving pen hygiene
- Snatch calving
- Batch according to age
- Sufficient feeding
- Cleaning and disinfection of utensils

Case study – Sandhills calving system

- 800 cow herd
- Lost on average 68 calves per year
- Year previous to starting project – lost 116 calves due to scour
- Veterinary expenses for scour = £2500

Sandhills system – weeks one and two

Calving pasture			

Sandhills system – week three

1-2 week old pairs	Calving pasture		

Sandhills system – week four

2-3 week old pairs	1 week old pairs	Calving pasture	

Results

- Year of introduction – 32 calves scoured, none died
- Vet costs £102
- Farm made an extra £32 000 from extra calves sold and greater liveweight gain
- Extra £40 per calf

Lessons from the Sandhills project

- Control wasn't specific for any bacteria or virus
- Just worked on separating calves from high levels of challenge
- Reducing age spread among calves housed together had impressive results

Treatment

- Slightly dependent on cause
- Most important things
  - Keep them alive
  - Keep them growing
  - It will take a while for scours to stop

Treatment priorities

- Die of dehydration
- Die of acidosis
- Rehydrate
- Might need to correct acidosis
  - Wobbly
  - Won't get up
  - Don't respond when you touch corner of eye
  - Slow to respond to any touch

Summary

- Numerous causes of scour
- Most have the same or similar risk factors
- Diagnosis of scour is not just what organism is causing it
- Consider how organisms spread and how you can prevent that

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