Overview

- Lungworm in cattle
- Don’t buy more than you bargained for
- BVD update
Lungworm in cattle
Parasitic bronchitis, husk...
Clinical signs

- Coughing
- Increased respiratory rate
- Off food
- Weight loss
- Sudden death
Lifecycle – how does this happen?

LUNGWORM LIFE CYCLE

EGGS hatch and L1 LARVAE are coughed up then swallowed

ADULTS develop in lungs and produce EGGS

LARVAE ingested and then migrate to lungs

L1 LARVAE passed in faeces

INFECTIVE LARVAE spread onto herbage

L3 LARVAE develop in dung pat
L1 larvae to L3 (infective) larvae

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D. viviparus L1 to L3

L3 larvae can travel
- 5cm by self
- 3m by airborne spread on fungi
- Mechanical spread e.g. boots, animals’ feet, birds...

- Larvae are susceptible to dessication
- Larvae survive longer in wet summers
- Larvae can survive on pasture over winter
Development of immunity

Phase 1 immunity
- Larvae ingested but don’t get to lungs
- Stopped in guts from migrating to lungs
- Lasts 3-6 months

Phase 2 immunity
- Destruction and elimination of larvae from lungs
- Lasts > 2 years

- Most animals will become immune after infection
- Need continued exposure to maintain immunity
- Sudden death cause by reinfection syndrome
  - Phase 1 immunity gone
  - Large amount larvae get to lungs
  - Anaphylaxis type reaction
  - Older animals (need to have phase 2)
What groups are most at risk?

**No immunity**
- First season grazers
- Bought in bulls – have they been grazed before?

**Reduced immunity**
- Late grazed adult cattle on ground grazed by youngstock
  - Intestinal immunity reduced
  - High challenge of larvae
Diagnosis

Blood sampling
- looking for antibodies which are produced by immune system in response to lungworm infection
- Produced 4-6 weeks post infection
- Peak at 12 weeks post infection
- Remain high for 4-5 months
- Will stay high even if treated
- Does not give information about current infection
Faecal sampling
- Looking for infective larvae in faeces

Could be 25 days of disease in lungs before larvae in faeces!
Post mortem is often the most reliable form of diagnosis

Example case

- Beef herd coughing since July
- Wormed end July
- Dung samples negative lungworm larvae in August
- 1/4 positive for lungworm antibodies
- Cow treated 4 x antibiotic no response
- PM → Lungworm and bacterial pneumonia
Treatment & Control

• No resistance to wormers known
• Be sure to treat post housing
  – Vaccination
    • Huskvac
    • Follow datasheet carefully!
Don’t buy more than you bargained for!

1. Risk of new stock bringing in disease
2. Risk of new stock contracting disease from current stock
Minimising risks

- Buy from known disease status
  - Speak to vendor
  - Find out about vaccine status
  - Surecalf
- Buy from as few sources as possible
- Buy straight from farm
  - Mixed transport
  - Mixing with others in market
Quarantine

• House in airspace shared with no other groups

• Know disease status of own herd
  - blood sample if homebred

• Use pneumonia vaccines if appropriate
  – Speak to vet and formulate as part of health plan
BVD - What does it do to my herd?

• Virus

Depends what age of animal is infected

• Transient diarrhoea

• Reproductive losses & returns in cows and heifers
• Deformed calves
• Immunosupression
• Mucosal disease
How is BVD Spread?

• Virus present in all body fluids

Direct:
• Nasal/oral infection
• Transplacental
• Semen

Indirect:
• Fomites – equipment, clothing
All this costs!

Transient infection costs…
• Welfare

• Increased calf losses

• Use of antibiotics to treat sick calves

• Reduced calf growth rates

• Increased returns and days open
  – Spread out calving
BVD: What is a PI?
BVD Infection
BVD Infection

Transient Infection

Virus
BVD Infection

Transient Infection

14 Days

Immune
BVDV Infection – in calf cow

- **Transient Infection**
  - Dam: **Immunity = Antibodies**

- **Persistently infected calf**
  - Embryonic resorption
  - Return to service

- **Return to service**

- **Abortion**
  - Malformation
  - Weak calf
  - Normal calf

Adapted from: www.bvd-info.ch
BVD infection during pregnancy
Infected
14 days later

Persistent Infection
Persistently Infected Animal:

The Virus Factory
Creation of PI animals

- Exposure of naïve cow/heifer to BVD virus for first time in first 120 days of pregnancy

Or

- Born to a PI (PI cow/heifer will always produce a PI calf)
Spot the PI
Testing options

• Check test
  – Blood sampling for antibodies (exposure)
  – Test 5 per management group
  – 9-18 months

• Calf screen
  – Blood samples
  – Tissue tags
  – Checking for virus
  – All calves (including dead) for 12 months
Check test can only work if a proper assessment is made and all “groups are sampled.
How many management groups?
www.scoteid.com

ScotEID - Scottish EID Livestock Traceability Research

ScotEID works closely with the Scottish livestock sector & Scottish Government to design, develop and deliver solutions to ensure robust traceability and minimise legislative difficulties. Scottish sheep, pig & cattle keepers can register with ScotEID in order to meet or minimise current legislative requirements.

News

Scheduled maintenance on 29/04/2015

ScotEID will undergo maintenance on Wednesday 29th April 2015 for approximately 3 hours start at 11pm. During this time the system will be unavailable. We apologise for any inconvenience this may cause.
The complete calf screen??

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Assumed negative status

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BVD progress update
Phase 5

- June 2019
  - Proposals
  - Sweeper tests
    - All herds with not negative status >13 months must get status for every animal for next 12 months
  - Positive herds
    - Name and shame
    - Cannot move cattle onto holding
    - PI’s to be housed and isolated
SAC Consulting is a division of Scotland’s Rural College
Leading the way in Agriculture and Rural Research, Education and Consulting