Animal Health in the Autumn & Winter Period

Dr. Doreen Corridan MVB MRCVS PhD
Level of Immunity

- Nutrition & minerals
- Housing - Ventilation, Moisture,
- Vaccination/Colostrum
- Stress Avoidance - Space, Social.
- Parasites - Liver fluke, Lungworm, Stomac worms
- Bacteria & Viruses

Challenge of infection

- Reduced Immunity
- Parasites - Liver fluke, Lungworm, Stomac worms
- Bacteria & Viruses
- Housing poor ventilation
Monitor performance - Dosage
Pneumonia causes 40% of all deaths

But don’t forget Clostridials - blackleg
Pneumonia can seriously effect productivity and profitability.

Beef cattle with obvious signs of pneumonia can take over 58 days longer to finish than healthy animals. Even animals showing little or no sickness can be suffering from subclinical respiratory disease which will increase finishing times to slaughter.

On finishing, slaughter dates

Fresh air...top biocide

a) Inactivation of virus in enclosed air (→) and in open air (----)

b) Inactivation of virus related to droplet size. (o) > 6um, (▲) 3–6 um, (□) < 3um.

Adapted from Cox, 1987
Natural ventilation

- Need an outlet and inlets
- Hole in the roof
  - 0.04m² per calf
  - 0.1m² per weanling/adult
- Inlet = at least 2 X outlet
Is this good enough?

- 230 animals => Outlet required at least 23m²
- Actual Outlet 12m²
Problems – Inadequate air inlet

Modified purlin; added a length of 3” X 3” to push out base of sheet above wall by 4”, significantly increasing air inlet.
Space - Yorkshire Boarding

Figure 7: Space and Yorkshire boarding
Air speed - Draughts
Air speed - Draughts
Problems – Stale air, overstocking
Converted cow house
Creating outlet
Moisture levels

- Competent drainage
- No additional moisture
- Competent ventilation
- Dry bedding
- Building materials
Maximise Colostrum intake - Hygiene, Easy calving, Cow Nutrition
Suckler calves Require

- Fresh Air
- No Draughts
- Dry Lie
- Remove Moisture
- Space
- Own water trough
Fresh Air - Mechanically ventilated
Avoid Draughts- Stokboard/Conveyor Belt
Access to Outside
Weaning

- Plan ahead!
- Make sure calves are healthy – free from worms
- Creep feed calves at least 4 weeks before weaning
- Avoid abrupt weaning of all animals at the one time
- Gradual weaning is better!
  - Wean calves in at least 2 separate groups
  - Leave at least 5 days between each weaning group
  - Quite Wean/Removal of some cows/Wire
“Stress” increases cortisol which reduces immune system function

- Weaning
- Transport
- Diet change
- Mixing
- Dehorning, castrating
PARASITES

LIFE CYCLE OF LIVER FLUKE

Eggs (eggs shed 8-12 weeks after infection)

Metacercariae (on grass)

Cercaria (5-7 weeks)

Miracidium (9-12 days)

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

INFECTIVE LARVAE spread onto herbage

L3 LARVAE develop in dung pat

L1 LARVAE passed in faeces
LIVERFLUKE
# LiverFluke Treatment

<table>
<thead>
<tr>
<th>Drug</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxyclozanide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50-70%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albendazole</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50-70%</td>
<td>80-99%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clorsulon (Inj)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50-70%</td>
<td></td>
<td>80-99%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitroxynil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>68%</td>
<td></td>
<td></td>
<td></td>
<td>91-99%</td>
<td></td>
</tr>
<tr>
<td>Closantel (PO)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80-90%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Triclabendazole</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>90%</td>
<td>98%</td>
<td></td>
<td></td>
<td>99-100%</td>
<td></td>
</tr>
<tr>
<td><strong>PO</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>90%</td>
<td>98%</td>
<td></td>
<td>99-100%</td>
</tr>
<tr>
<td><strong>Triclabendazole</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>90-99%</td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>90-99%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>99-100%</td>
<td></td>
</tr>
</tbody>
</table>
LUNGWORM
Benefits of vaccination

- **AID in the control of BRD**
  - Protect uninfected animals
  - Reduce shedding from infected animals
- Reduce number of pneumonia cases
- Improve response to treatment

**Considerations**

- Cover likely pathogens for full risk period
- Get immunity in place BEFORE challenge
- Vaccinate ALL stock in same airspace
- Avoid (where possible) vaccinating during periods of impaired immune response
Tips for vaccine usage

- Check expiry date before use
- Keep refrigerated until used
- Do not stress animal around time of vaccination
- Read the label and follow label instructions
- Use hot water only to clean vaccination guns (no disinfectant) to ensure proper function and calibration
- Use the 2 needle technique
- Do not mix different vaccines in same bottle, syringe
- Hygiene- Dry Day
- Discard left-overs. They do not keep!
Rispoval RSV + Pi3

- Live RSV and Pi3 vaccine intranasal
- Single dose (intranasal)
- Licensed from 9 days of age, suitable for all ages
- Onset of immunity 5 days for BRSV
- Onset of immunity 10 days for Pi3
- At least 12 weeks established duration of immunity

- Licensed to give IBR live intramuscular at the same time
Rispoval IBR-Marker live

- Live IBR vaccine
- Single dose (intramuscular)
- Licensed from 3 months of age (from 2 weeks of age i/n)
- Onset of immunity 3 weeks after vaccination
- 6 months established duration of immunity
- Inactivated dose then 12 months
BRD vaccination protocols

**Own weanlings**

**Bovilis Bovipast RSP**
- 2 doses
- 6 weeks & 2 weeks pre-weaning/housing

**Bovilis IBR marker live**
- 1 dose
- >2 weeks pre-weaning/housing
- Booster 6 months later
+ Worm dose

**Purchased weanlings**

**Bovilis Bovipast RSP**
- 2 doses
- Day 1 on farm & 4 weeks later

**Bovilis IBR marker live**
- 1 dose
- Day 1 on farm
- Booster 6 months later
+ Worm dose
Pleursy = Pain
Treat Promptly
Take the temperature
Bacteria at 0 hours$^1$

1. Adapted from SPAH NFL 596
Bacteria at 4 hours

1. Adapted from SPAH NFL 596
Bacteria at 8 hours

1. Adapted from SPAH NFL 596
Bacteria at 16 hours

1. Adapted from SPAH NFL 596
Bacteria at 20 hours

1. Adapted from SPAH NFL 596
Bacteria at 24 hours

1. Adapted from SPAH NFL 596
When Should You Treat?
Keeping Antibiotic’s effective for future generations—is everyone’s responsibility.
Herdowner  7 Point Plan

1. Work to avoid need for antimicrobials
2. Minimise use
3. Choose the right drug for the right bug
4. Avoid inappropriate use
5. Monitor antimicrobial
6. Record and justify deviations from protocols
7. Report suspected treatment failures
Antimicrobial Resistance (AMR)

Reflect before you inject

AMR – it is a concern for you, your animals, your family and your community

Actions you can take to keep antibiotics working!

1. Disease prevention measures – enhanced biosecurity, husbandry and vaccination policy
2. Use antibiotics on foot of veterinary advice
3. Avoid use of antibiotics to prevent disease, only treat sick animals with antibiotics
4. Do not use antibiotics to treat viral diseases
5. Do not use a stronger antibiotic as first line treatment
6. Always give the right dose for the correct number of treatments as prescribed by your vet

Right Animal  Right Drug  Right Dose  Right Duration

FOLLOW THE ABOVE STEPS TO KEEP ANTIBIOTICS WORKING, IT’S RIGHT FOR YOUR ANIMALS, RIGHT FOR YOU, RIGHT FOR YOUR FAMILY, RIGHT FOR YOUR FARM AND RIGHT FOR YOUR COMMUNITY
Monitor performance- Dosage
• Nutrition
• Housing - Ventilation, Moisture,
• Vaccination/Colostrum
• Stress Avoidance - Space, Social.
• Parasites - Liver fluke, Lungworm, Stomac worms
• Bacteria & Viruses

• Reduced Immunity
• Parasites - Liver fluke, Lungworm, Stomac worms
• Bacteria & Viruses
• Housing poor ventilation
Thank you!