Sheep health

Improving health and welfare through monitoring: Lamb Mortality

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Synergy Farm Health Ltd and Cedar Organics
Outline

• Lamb mortality “The problem”
• Approach to lamb mortality in practice
• The trouble with benchmarking...
• Rempstone Farm
• Data and investigating lamb mortality
• FIG 2016- Farmers and Lamb post-mortems

*Please contact the corresponding author should you wish to reproduce specific graphs
Lamb mortality

Images from google

When lamb losses occur (% of total losses)

- >15 days post lambing: 10%
- 2-14 days post lambing: 11%
- Between scanning and lambing: 30%
- At lambing (0-48hrs): 49%

Source: HCC lambing project 2010/11
Why is lamb loss important?

- Fluke
- Lameness
- Trace elements
- Body condition score
- Sheep scab
- Abortion
- Nutrition
- Animal handling
Lamb loss survey

<table>
<thead>
<tr>
<th>Age of weaning</th>
<th>Total number of lambs born alive</th>
<th>Total number of lambs alive at weaning</th>
<th>Total number of lambs weaned</th>
<th>Total number of lambs weaned and lost to selling</th>
<th>Number of lambs lost to selling at weaning</th>
<th>Total number of lambs lost to selling at weaning</th>
</tr>
</thead>
<tbody>
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Please complete the following questions for your farm. Please don’t include any personal or identifiable information in your responses. Results will be published in a report to the entire region anonymously. Thank you for your cooperation.

Next issue in June
## Benchmarking at Synergy Farm Health

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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</thead>
<tbody>
<tr>
<td>Number of flocks</td>
<td>30</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Number of ewes</td>
<td>14964</td>
<td>10369</td>
<td>11084</td>
</tr>
<tr>
<td>Median lamb mortality %</td>
<td>10.4%</td>
<td>11.0%</td>
<td>11.45%</td>
</tr>
<tr>
<td>Highest lamb mortality %</td>
<td>20.8%</td>
<td>28.9%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Median ewe mortality %</td>
<td>3%</td>
<td>1.8%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Highest ewe mortality %</td>
<td>9%</td>
<td>6%</td>
<td>14.8% (smaller flock)</td>
</tr>
<tr>
<td>Median abortion %</td>
<td>2%</td>
<td>1.2%</td>
<td>0.78%</td>
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Lamb Loss 2016

- % lamb loss before end of lambing
- % lamb loss post-lambing
The consequences

Total variable costs of production per unit output

Investment pre-lambing
<table>
<thead>
<tr>
<th>Cost invested per lamb weaning to lambing (£):</th>
<th>£12.98</th>
</tr>
</thead>
</table>

| Top tip: Only enter text in the orange boxes and see what happens to the cost.... |

<table>
<thead>
<tr>
<th>Cost of a lamb if all live:</th>
<th>£12.98</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Step one... put in some key performance indicators for your flock</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the typical cost of an ewe for the flock? (£)</td>
</tr>
<tr>
<td>What is the cull value for an ewe? (£)</td>
</tr>
<tr>
<td>What is the replacement rate for the flock? (%)</td>
</tr>
<tr>
<td>What is a typical purchase of a ram?</td>
</tr>
<tr>
<td>What is the scanning percentage for the flock? e.g 1.85</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost of a lamb if lamb mortality:</th>
<th>£15.62</th>
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<table>
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<tr>
<th>Step two... from weaning to weaning what is the cost of an ewe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ewes in the flock</td>
</tr>
<tr>
<td>Scanning percentage (i.e. 1.8)</td>
</tr>
<tr>
<td>Input cost per lamb (£)</td>
</tr>
<tr>
<td>Total lambs scanned (lambs)</td>
</tr>
<tr>
<td>Total input cost of scanned lambs (£)</td>
</tr>
<tr>
<td>Lamb mortality (%)</td>
</tr>
<tr>
<td>Lambs sold or retained (%)</td>
</tr>
<tr>
<td>Number of lambs sold or retained</td>
</tr>
<tr>
<td>Additional cost of lamb disposal</td>
</tr>
<tr>
<td>Disposal bill (£)</td>
</tr>
<tr>
<td>Total dead lambs</td>
</tr>
<tr>
<td>Cost of production and disposal</td>
</tr>
<tr>
<td>Final cost of reared lamb (£)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage increase of original cost %</th>
<th>20.4%</th>
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Data for some flocks
An ongoing discussion

Dwyer et al., 2016
FIG 2016: Lamb post-mortems

Project aims:

1. Once trained by a veterinary surgeon, can sheep farmers accurately diagnose common causes of mortality in neonatal lambs?

2. What were the common causes of lamb loss on each farm and how did these differ between units?

3. Did the farmers involved in the project use their findings to effect change?

4. How has the programme changed attitudes and motivation?
• Five commercial flocks 300-2500 ewes
• Flocks “engaged with lamb mortality improvement”
• One day training session at Synergy Farm Health Ltd
  • ½ day lamb mortality workshop
  • ½ day lamb post-mortem workshop
• Throughout lambing weekly visit
  • Vet observed post-mortem
• Farmer post-mortems during lambing
Rempstone Farm

- Started in 2007 after a career in farm management
- 530 acre grassland farm
- Organic farming
- Direct sales wherever possible
- Start-up business
- Healthy Livestock for a Healthy Business
- Being prepared to adapt
Cattle

• 35 cows calving 2017
• Aiming at increasing to 60 cows
• Bought from about 5 herds
• Brought in Health issues.....
• Johnes,
• Campbylobacter
• Into a Redwater area
Sheep

- 300 ewes tupping in 2016
- Increasing to 400 over next 2-3 years
- Indoor lambing in March
- Winter shearing
- Bred pure - Closed Flock
- First time this year use of Dorset Down in 1 tup group
Other Livestock

- 500 laying hens
- Pigs for direct sales and charcuterie
Stewardship

• Huge variety of habitats
• Extensive HLS Scheme
• 125 acres Chalk downland
• 75 acres lowland heath
Sheep Health

• Soil types range: free draining sand/chalk hill/some wetter lying reclaimed heath

• Forage analysis...deficiencies in everything: Se, Cu,

• White muscle disease

• KPI
  • Lameness <2%
  • Closed flock (females)
  • 180%
  • 10 to 8 to 18% fluctuating lamb mortality
Organic Discussion Group

Parasite management

1.) Avoidance
2.) Monitoring- weigh crate, egg counting course
3.) Treatment- resistance
Lamb Post Mortem Project

• Why get involved?
• Fluctuating lamb mortality
• #everylambcounts
• Mortality effecting profitability
• Strategy of maximising health
• Need to know what is causing the mortality
Date of PM: _______________________

x2Dam ID (if known): ________________

Dam information (age, breed, body condition score): _______________________

Ewe lambed indoors/outdoors: _______________________

Details:

Estimated age of lamb _______ hours or days

Sex   Male   Female   Breed: _______________________

Any intervention at birth?

Assisted   Very minor help   No help

Stomach tube   Glucose injection

Hot box   Antibiotics

Castration   Tailed

1) Weigh the lamb: ________________________ kg

2) Examine coat

Has the lamb been licked?   Yes   No

3) Examine feet

Has the lamb walked?   Yes   No

4) Examine navel

Is it dry?   Yes   No

Been treated with iodine?   Yes   No

Any signs of bleeding?   Yes   No

Any enlargement?   Yes   No

5) Examine head

Any swelling?   Yes   No

Any fluid?   Yes   No
Rempstone Farm

Flock A Cause of death (n=40)
Indoor lambing

Individual pens

Parturition
Flock interviews

• Ease of performing lamb post-mortems
• Challenges of lamb mortality
• “Time and benefit of lamb post-mortems”

• Q: Does PM of lambs keep lambs alive?

  A: “Well does it? Because we are learning about things, learning about what’s killing them!”
Rempstone Farm Experience

• Initially too careful...too long per lamb
• Soon got quicker, 2-3 mins/lamb
• Always last priority, other jobs took priority, last on list
• Strangely satisfying
• Often confirmed first thoughts
Rempstone Farm Experience

• Practicalities of lamb PM
  • Would continue in future years
  • Targeted lamb PM’s?
  • Awareness of mortality causes

• Assisted lambing awareness
  • Timings
  • Lamb care strategies
Advantages and disadvantages

• Dynamic data
• Flock specific data
• Tool to promote collaboration
• Enables reactive management

• Overdiagnosis/misdiganosis: necessity for an ongoing dialogue

• Limitations: 5 commercial flocks, already engaged, not compared to 5 untrained farmers
Conclusions

• (Neonatal) lamb mortality is a significant challenge to flock productivity and profitability

• We must consider reviewing our approach to lamb mortality
  • Flock specific, dynamic solution
  • Engagement with flock health

• Proactive intervention leading to preventative medicine

• Working together- a holistic team flock health approach needed!
Any questions?