Improving the Welfare and Longevity of Rams in Commercial Sheep Flocks

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Introduction

• About 400,000 rams in the UK
• Anecdotal evidence to suggest that many rams have a short working life
• Move from relative luxury of some pedigree flocks to the rigours of commercial life with little transition
• What is actually happening?
• How many seasons are rams actually working?
Aims of the project

• To provide robust data on ram longevity
• To identify implications on cost and welfare
• To Identify the most likely causes of poor longevity
• To provide clear pointers to possible solutions
Approach

• Pilot study in 2015 with a farmer focus group
  – identify issues
• General survey of sheep farmers in 2016/17
  – On-line Survey Monkey
  – Paper based
• 10 further focus groups in 2016/17
• Detailed ram purchase/loss history
• Data from 5 farms – BCS and body weight pre and post mating
Results

• General survey
  – 586 replies to the survey
  – Collected online, at shows and at meetings through 2016/17
Flock size distribution

- 54% lowland, 29% upland, 17% hill
How long should a ram last on farm?

A. One season
B. Two seasons
C. Three seasons
D. Four seasons
E. More than four seasons

0% 0% 9% 46% 46%
Ram life expectancy

• Farmers want rams to last 4 to 5 years
• In practice they last 3.8 years – exactly 1 year less than desired
• Rams last less time in large flocks – shorter life – harder work – farmers with large flocks more dissatisfied with length of ram life
Where do you buy your rams?

A. Markets
B. NSA sales
C. Specialist sale
D. Direct
E. Via agent
Where are rams bought?

- Local market
- Specialist sale
- NSA ram sales
- Direct from the breeder'
- Via an agent or dealer
- Breed my own
- Other (please specify)

57% direct from breeder
How do you select your rams?

1. Health status – 71% said this was extremely important
2. Conformity to breed type
3. Breeder
4. EBV
5. Index
6. Price
How do you select your rams?

![Bar chart showing the importance of different factors in selecting rams. Factors include Price, EBVs, Index, Health status, Breeder, Conformity to breed type. The chart indicates the percentage of respondents who find each factor extremely, very, important, slightly important, or not at all important.]
35% always or mostly buy performance recorded rams, (lowland flocks only - 39%): but 42% rarely or never buy recorded rams. Large flock farmers are more likely to buy recorded rams.
How much do you know about previous management of rams?

Very little known about feeding and parasite control.
What routine treatments do you give rams?

- Clostridial vaccine only: 20%
- Clostridial and pneumo: 60%
- Footvax: 30%
- CLA vaccine: 1%
- Worming treatment(s): 83%
- Liver fluke treatments: 75%
- Blowfly protection: 75%
- Trace element treatments: 50%
- Regular footbathing: 50%
- Other (please specify): 5%

- Only 59% of rams given clostridial and pasteurella vaccine.
- 83% covered for clostridial diseases.
- 25% vaccinated against footrot.
Reasons why rams are culled

A. Physical damage
B. Poor body condition
C. Old age
D. Infertility
E. Lameness
F. Other diseases

- Physical damage: 27%
- Poor body condition: 23%
- Old age: 11%
- Infertility: 29%
- Lameness: 5%
- Other diseases: 5%
Reasons why rams are culled

1. Old age
2. Lameness
3. Poor body condition
4. Infertility
5. Physical damage
6. Other diseases
Reasons why rams die:

- Old age
- Thin / lost condition
- Pneumonia / respiratory...
- Fighting
- Worms or liver fluke
- Other diseases (e.g. CLA, MV)
- No apparent reason

Lack of vaccination?
How long do you quarantine rams for on arrival?

A. Less than a week
B. Two weeks
C. Three weeks
D. Four weeks
E. Over a month

![Bar chart showing percentages for each option]
How long do you quarantine rams for on arrival?

55% of farmers quarantine rams for less than 2 weeks

Ram sales too late?
Chronic wasting diseases

- MV, Johne's, CLA not a concern to many commercial farmers – considered low risk
- OPA much more of a problem
Ram health care

• Longer quarantine period – minimum 4 weeks
  – Allowing time to settle and acclimatise to new diet and environment
  – Earlier purchase

• Clostridial and pasteurella vaccinations

• Footrot vaccination

• Parasite treatments
Focus group discussions

- 88% said there was either huge or some scope to increase the life of rams on commercial farms
- 78% agreed that health planning was an area for improvement
- 58% thought that more knowledge of a ram’s previous management would help them a lot
- 77% said they would quarantine for longer if they could
- 80% said that they did not know enough about ram nutrition
- The majority said there was significant scope to reduce costs.
What is the average ewe:ram ratio?

A. <40:1
B. 50:1
C. 60:1
D. 70:1
E. >70:1
What should the average lifetime output in lambs be per ram?

A. 100  
B. 200  
C. 300  
D. 400  
E. 500  
F. 600
## Focus group data – 57 farms

<table>
<thead>
<tr>
<th>Metric</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working rams on farm at tupping</td>
<td>16.3</td>
</tr>
<tr>
<td>Number that were shearlings</td>
<td>4.5 (28%)</td>
</tr>
<tr>
<td>Average cost/head</td>
<td>528</td>
</tr>
<tr>
<td>Total ewes mated</td>
<td>672</td>
</tr>
<tr>
<td>Rearing % (lambs reared from ewes mated)</td>
<td>150</td>
</tr>
<tr>
<td>Ewe: ram ratio</td>
<td>44</td>
</tr>
<tr>
<td>Lambs/ram/year</td>
<td>67</td>
</tr>
<tr>
<td>Loss rate of rams %</td>
<td>18</td>
</tr>
<tr>
<td>Average years/ram</td>
<td>4.5</td>
</tr>
<tr>
<td>Lifetime output lambs/ram</td>
<td>289</td>
</tr>
<tr>
<td>Ram cost £/lamb produced</td>
<td>1.99</td>
</tr>
<tr>
<td>Cost p/kg (20kg carcase)</td>
<td>10</td>
</tr>
</tbody>
</table>
Ewe: ram ratio

Average 44 ewes/ram
Lambs per ram year

Average 67 lambs per ram/year
Ram lifetime output of lambs

Huge range from 100 to 950 lambs/ram life
Ram cost/lamb

Range from £0.25 to over £5/lamb +
**Ram body weight and condition score change – pre to post tupping**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>89 rams over 1 year of age</td>
<td></td>
</tr>
<tr>
<td>Liveweight pre-tupping (kg)</td>
<td>83.8</td>
</tr>
<tr>
<td>Liveweight post tupping (kg)</td>
<td>76.3</td>
</tr>
<tr>
<td>Average weight loss pre- to post tupping (kg)</td>
<td>7.5</td>
</tr>
<tr>
<td>BCS pre-tupping</td>
<td>3.53</td>
</tr>
<tr>
<td>BCS post-tupping</td>
<td>3.01</td>
</tr>
<tr>
<td>Average BCS loss pre-to post tupping</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Body weight change ranged from -23 kg (21% of pre-tupping body weight) to a gain of 4 kg. Body condition score change varied from 0 to a loss of 1.5 units.
Summary

• Ram life - 3.8 (survey) to 4.5 years (focus groups)
• Scope to improve life expectancy
• Dissatisfaction around low flock life and poor body condition
• No difference in life expectancy for performance recorded rams than non recorded
• Scope to develop more information sharing between vendor and buyer
Summary

• Nutrition
  – Many producers had a poor understanding of ram nutrition
  – 54% of rams fed before tupping
  – 20% fed during tupping
  – fed for recovery if poor body condition?
Key performance indicators

What should the targets be?

• Average flock life – 4+ years
• Ewe: ram ratio - >50
• Lambs reared/ram year – 70+
• Lifetime lamb output per ram - >300
• Ram cost/lamb - <£2.00
• Ram cost/kg carcase produced
Areas for improvement

• Old age – reason for culling or death – sell rams before ‘finished’ realise residual value
• Encourage more active culling, reducing the numbers culled on ‘old age’ and increasing those culled following assessment for fitness to breed (MOTs).
• Lameness – a major cause for loss –
  – Improve foot care/vaccination
• Improved health planning – encourage more routine vaccinations
• Encourage more post-mortems to identify causes of loss
Areas for improvement

• Quarantine – increase to 4 weeks – and buy rams earlier
• Obtain more information on previous ram management – health care and feeding
• Implications for remedial feeding post t upping?
Recommendations – cost/benefits of improved health planning

• Encourage earlier purchase of rams
• Include rams in flock vaccination programme – opportunity for vets
• Specific 5 point plan for ram lameness
• Develop a ‘Clean bill of health’ document (treatments, vaccinations and feeding) that vendors complete and purchasers use to guide subsequent treatments and feeding.
Recommendations – feeding

• We need clear, more accurate guidance on ram nutrition and feeding levels
• R&D to highlight the energy and protein demands of rams compared to ewes – working and not working
• Develop a bespoke BCS scale for rams – more extreme conformation in some breeds may conceal true body condition – is 1 score = 10% or closer to 20% in rams?
Key performance indicators

- Further development of the KPI dataset and sound benchmarks
- Integrate these into breeding objectives for rams as well as the normal measured parameters to provide a much more rounded potential for rams in commercial flocks.
- Keep only fit, healthy and fully capable rams
Acknowledgements

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• Thanks also to all the farmers who took part – either by completing the on-line questionnaire or through participation in focus groups, or for weighing and condition scoring their rams.