Flock level antibiotic usage in UK sheep flocks

Lovatt, F.M.1,2 and Davies, P.3,4
Flock Health Ltd, Egglesburn Farm, Egglesburn, Barnard Castle, Co Durham, DL12 0BG; 2 University of Nottingham, Sutton Bonnington, Loughborough, LE12 5RD; 3 University of Liverpool, Leahurst Campus, Neston, Wirral, CH64 7TE; 4 Pro-Dove, Nutwell Estate, Lymington, Emsworth, PO12 3AU

CONTEXT

• In 2016, the UK government identified reducing antibiotic usage as a priority & called for the implementation of sector-specific targets, a role taken on by the Responsible Use of Medicine in Agriculture (RUMA) Target Task Force (TTF).1

• The Sheep TTF set non-numerical targets that concentrated on improving farmer communications, overall flock health, nutrition and management of disease ‘hotspots’

• Sheep TTF numerical targets included increased national vaccine sales as a proxy measure for increased preventative measures and responsible use

STUDY

Vets supplied antibiotic data from sheep-only farms & engaged farmers to complete questionnaire on disease prevalence & vaccination

RESULTS

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Previous study2 (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean usage</td>
<td>15.2 mg/kg</td>
<td>16.9 mg/kg</td>
<td>16.7 mg/kg</td>
<td>11.4 mg/kg</td>
</tr>
<tr>
<td>Median usage</td>
<td>9.1 mg/kg</td>
<td>10.6 mg/kg</td>
<td>10.9 mg/kg</td>
<td>5.6 mg/kg</td>
</tr>
</tbody>
</table>

Long-term Antibiotic Usage Patterns

- **Under 5 mg/PCU in all 3 yrs**: 11 farms (8%)
- **Under 10 mg/PCU in all 3 yrs**: 36 farms (26%)
- **Under 15 mg/PCU in all 3 yrs**: 67 farms (49%)
- **Under 20 mg/PCU in all 3 yrs**: 82 farms (60%)
- **Over 20 mg/PCU in all 3 yrs**: 12 farms (9%)
- **Over 50 mg/PCU in all 3 yrs**: 2 farms (1%)

Entrenched usage patterns

- **‘high users’** (top quartile of arithmetic mean annual usage)
- **‘low users’** (bottom quartile of arithmetic mean annual usage)

• No significant difference between low users and high users in proportional usage of antibiotic classes or route of administration

CONCLUSIONS & IMPLICATIONS

1. Essential to get usage data from more sheep farms

2. Appropriate vaccine usage may be important in the responsible use of medicines but vaccine usage is not necessarily directly correlated with antibiotic usage

3. Communications should target the vets of ‘high users’ with a view to examining all management practices & encouraging responsible use

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