Introduction

Acute atrophic pneumonia (AM) is a very widespread disease of pigs, in all parts of the world. The primary aetiological agent is Mycoplasma hyopneumoniae (Goodwin, 1965; Emery et al., 1962) and under intensive farming conditions the disease is complicated by secondary bacteria. The most frequently isolated organism is Pasteurella multocida (ATCC 7445) but many others have been found (Lattke, 1975).

The lesions associated with the disease are typically found on the distal parts of the alveoli (A) and cardiac (C) lobes and less frequently on the intermediate (I) and diafragmatic (D) lobes and take 3-6 weeks to develop established lesions (Stage 3) as described by Whittall et al. (1972).

The number of pigs affected with the disease varies from farm to farm, and the extent of the lesions varies from pigs to pigs within a herd. The major effects of the disease are to reduce growth rate and feed conversion efficiency and to increase morbidity and mortality (Goodwin, 1971; Braude, 1975; Smith, 1976).

While carrying out UK field trials, with the antibiotic tiensin (Bayer AG) under the brand name Tiamulin, I.P. (Bayer AG) in herds affected with EP, the opportunity arose to utilise some of the data and report the incidence and extent of lung lesions and relate these to the pigs' growth performance.

Methods

The trials were carried out over 2 months during the fattening period (average weight range 30-70 kg). A total of 4 groups of pigs were examined at the end of the trial and their lungs were examined for the presence of lesions and each lung was scored by the method of Goodwin (1971). The A and C lobes had a maximum score of 10, the D and I lobes were 5, giving a total maximum score of 55. The lung scores for each pig could then be correlated with its growth rate over the previous month prior to slaughter.

Results

The percentage incidence of lung lesions in pigs in Table 1 (affected pigs only).

<table>
<thead>
<tr>
<th>Farm</th>
<th>A (%)</th>
<th>C (%)</th>
<th>D (%)</th>
<th>I (%)</th>
<th>A (%)</th>
<th>C (%)</th>
<th>D (%)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>51.3</td>
<td>77.3</td>
<td>51.1</td>
<td>57.1</td>
<td>62</td>
<td>65.0</td>
<td>40.7</td>
</tr>
<tr>
<td>1.75</td>
<td>44.1</td>
<td>74.1</td>
<td>51.3</td>
<td>57.1</td>
<td>62</td>
<td>65.0</td>
<td>40.7</td>
</tr>
</tbody>
</table>

On farm 1 there was a 93% incidence of EP and an average lung score (ALS) of 10.6. On farm 2 there was an 81% incidence and an ALS of 11.6. Farm one's pigs had been clinically affected for most of the trial (8 weeks) whereas farm 2 started in the second month (4 weeks). The pigs weights were arranged under their respective lung score groups as summarised in Table 2.

<table>
<thead>
<tr>
<th>Farm</th>
<th>1</th>
<th>1-10</th>
<th>11-20</th>
<th>21-50</th>
<th>21-40</th>
<th>41-55</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25.0</td>
<td>65.0</td>
<td>8.5</td>
<td>13.3</td>
<td>12.5</td>
<td>10.8</td>
</tr>
<tr>
<td>1.75</td>
<td>22.6</td>
<td>22.6</td>
<td>21.1</td>
<td>18.5</td>
<td>16.7</td>
<td>11.3</td>
</tr>
</tbody>
</table>

The results were further subdivided into lung score ranges of 5, and both farms' results showed statistically significant (P<0.05) reductions in weight gain from the 10-20 lung score range upwards.

If these results of the affected pigs are compared with those displaying no lung lesions, a reduction in performance is observed.

### Table 1: Percentage Incidence of Lesions on a Lobar Basis

#### Left Lung

- A (%)
- C (%)
- D (%)

#### Right Lung

- A (%)
- C (%)
- D (%)

### Table 2: Average Weight Loss (kg) for Each Lung Score Group

#### Lung Score

<table>
<thead>
<tr>
<th>Farm</th>
<th>0</th>
<th>1-10</th>
<th>11-20</th>
<th>21-50</th>
<th>21-40</th>
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### References