MELIOIDOSIS IN AN INTENSIVE PIGGERY

Melioidosis is one of the reasons for the condemnation of pigs at the Bohle Abattoir, Townsville. The disease in pigs is normally chronic and symptomless. Condemnation is based on lesions typical of the disease with bacteriological confirmation being sought only when the disease status of the herd is unknown. *Pseudomonas pseudomallei* has been isolated at this laboratory from 30% of such porcine abscesses during a 5-year survey of melioidosis in animals in northern Queensland. Unless otherwise requested, lesions from only a few animals per year are submitted from herds that are known to be endemic for the disease.

A piggery 40 km north of Townsville was regularly having 1 to 3 porker pig carcases condemned each year because of melioidosis (Table 1). During mid-1976, a vehicular bridge was built across the creek upstream of where the owner pumped water to the herd. Erosion of the creek banks resulted in cloudy water due to suspended clay particles present in that area. The water given to the herd was unfiltered and remained cloudy for several months. In early 1977, 25 carcases were condemned for melioidosis. In May of that year, one surface water sample and 2 soil samples were collected from each of one mating pen and 2 gilt pens; 3 samples were taken from the water storage tank and 3 water and 6 soil samples were collected from the pumping site. It was noticed that the creek water was clear at this time and that the soil from the pens and pumpsite area were low in clay content. Two samples of feed were also tested. All samples were cultured by the method of Thomas et al (1979) and guinea pigs (which are very sensitive to the disease) were inoculated with all the samples except the food. No *P. pseudomallei* was isolated.

During the 1977 to 1979 financial years, the number of condemnations was few (Table 1). To increase the water supply during a drought in late 1979, the owner dug a large trench 2 metres deep, in a heavy white clay area adjacent to the creek and upstream of both the bridge and the regular water supply. Cloudy, seepage water from this trench was pumped unfiltered to the herd. The number of condemnations rose to 14 in the 1979 to 1980 period. In April 1980, 12 soil and 3 water samples from the trench and 2 samples from the water storage tank were collected and cultured as before. No guinea pigs were used for these samples. *P. pseudomallei* was isolated from a soil sample collected at 0.3 metre in the side of the trench. At the time of collection, the creek flow was adequate and pumping had recommenced from the regular site. The trench had been undisturbed for 2 to 3 months.

The majority of the condemnations occurred during the

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TABLE 1

Increase in Condemnations of Porker-weight Pigs for Melioidosis in an Intensive Piggery in Northern Queensland between 1973 and 1980, Due to Drinking Contaminated Water

<table>
<thead>
<tr>
<th>Year</th>
<th>Porker Pigs Slaughtered</th>
<th>Porker Pigs Condemned for Melioidosis</th>
<th>Porker Pigs Examined Bacteriologically</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number Submitted</td>
<td>Culture Positive</td>
</tr>
<tr>
<td>1973-1974</td>
<td>850</td>
<td>1 (0.12%)</td>
<td>1</td>
</tr>
<tr>
<td>1974-1975</td>
<td>941</td>
<td>3 (0.32%)</td>
<td>3</td>
</tr>
<tr>
<td>1975-1976</td>
<td>1067</td>
<td>1 (0.09%)</td>
<td>1</td>
</tr>
<tr>
<td>1976-1977</td>
<td>1057</td>
<td>25 (2.36%)</td>
<td>1</td>
</tr>
<tr>
<td>1977-1978</td>
<td>1253</td>
<td>3 (0.24%)</td>
<td>2</td>
</tr>
<tr>
<td>1978-1979</td>
<td>1286</td>
<td>0 (0.00%)</td>
<td>1†</td>
</tr>
<tr>
<td>1979-1980</td>
<td>1454</td>
<td>14 (0.96%)</td>
<td>7</td>
</tr>
</tbody>
</table>

* Being a known positive herd, not all condemnations were confirmed by bacteriological examination.
† Number in brackets represents the percentage condemned.
‡ The negative sample was a sterile abscess submitted in July.

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References