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Influence of thermal fogging with disinfectant on productive and health parameters in finishing pigs

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Introduction
Respiratory diseases cause great losses to swine production. In order to prevent this problem in finishing units, thermal fogging equipment may be used to spray disinfectants in the facilities. With it, spraying produces droplets between 10-50 microns (µ), smaller than those produced by other systems, as aspersion. In the present experiment we evaluate thermal fogging with disinfectant to control respiratory infections, measuring daily weight gain (DWG) and monitoring respiratory tract lesions at slaughter.

Materials and Methods

1134 animals were split into three experimental groups of 378: T1 – control, without thermal fogging; T2 – thermal fogging at each 48 hours until 30 days after arrival in the finishing unit; and T3 – thermal fogging each 24 hours until 30 days after arrival. The animals were weighed at arrival and at 30, 50 and 110 days after housing. A peroxide disinfectant (Virkon S, Dupont) was used, diluted at 1:50 in water. A volume of one liter of dilution was applied for each of 200m³ volume of the finish building. At slaughter, lung lesions were measured with the use of a pneumonia index (IPP), and nasal turbinates were examined with the use of a rhinitis index (IRAP).

Results and Discussion

DWG during the finishing stage was higher (P<0.005) in T2, followed by T1 and T3 (1.025±0.006 Kg, 1.001±0.007 Kg, 0.960±0.004 Kg, respectively). Animals from T1 presented lower IPP (P=0.0237) and tended to have lower IRAP (P<0.0825), when compared to animals of T2 and T3, respectively (Table 1).

Table 1. Pneumonia (IPP) and rhinitis index (IRA) in the three treatments.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
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<tbody>
<tr>
<td>IPP</td>
<td>0.58±0.02a</td>
<td>0.69±0.03b</td>
<td>0.64±0.03ab</td>
</tr>
<tr>
<td>IRAP</td>
<td>1.35±0.06c</td>
<td>1.40±0.06cd</td>
<td>1.50±0.04d</td>
</tr>
</tbody>
</table>

a,b in the same line P=0.0237
c,d in the same line P<0.0825

The tendency of T3 to show higher IRAP could be related with lower DWG, as it is accepted that atrophic rhinitis causes growth losses in affected pigs, determining up to 9.5% DWG decrease (2).

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References:
