SUMMARY ANALYSIS OF POST-WEANED RABBIT TRIALS WITH DIETARY MANNAN Oligosaccharide

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Introduction
In commercial rabbitries, enteric disorders after weaning are a continuing problem, and the decline in use of antibiotics had led to interest in alternative growth promoters. This summary article presents data from several growing (weaned) rabbit experiments comparing MOS. Feedstuffs 75(1):11-13.

Materials and Methods
Caged rabbit feeding trials were conducted in Brazil (Scapinello et al., 2001), France (Girard et al., 1997; Guillou and Arveux, 2000), Hungary (Bersenyi and Gippert, 1995; Tibor, 1995), Portugal (Fonseca, 1999; Medeiros Mourão and Carvalho Pinheiro, 2003), and the United States (Reed, 1994). New Zealand White (Bersenyi and Gippert, 1995; Reed, 1994; Scapinello et al., 2001; Tibor, 1995), Hybrid Hyla (Fonseca, 1999), Vitaline (Guillou and Arveux, 2000), and an unidentified strain of broiler rabbits (Medeiros Mourão and Carvalho Pinheiro, 2003) were utilized. Primarily mixed sexes were used, but one report (Guillou and Arveux, 2000) had males only and one report (Tibor, 1995) listed male and female results separately. Dietary antibiotics used in the pCON diets were oxytetracycline (Fonseca, 1999) or zinc bacitracin (Medeiros Mourão and Carvalho Pinheiro, 2003). Data were analyzed by Paired t-test.

Results
Table 1. Body weight gain, feed conversion ratio, and mortality of rabbits fed nCON or MOS diets.

<table>
<thead>
<tr>
<th>Days on</th>
<th>Wtd Avg</th>
<th>Diet MOS, %</th>
<th>MOS, % Versus nCON, %</th>
<th>MOS Relative</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>MOS, %</td>
<td>nCON</td>
<td>MOS</td>
<td>nCON, %</td>
<td></td>
</tr>
<tr>
<td>Body weight, kg (n = 20; P = 0.001)</td>
<td>38.4 0.148 1.357b 1.419a</td>
<td>+4.57</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>FCR, kg/kg (n = 20; P = 0.001)</td>
<td>38.4 0.148 4.175a 3.963b</td>
<td>-5.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortality, % (n = 19; P = 0.004)</td>
<td>38.5 0.147 17.80a 9.07b</td>
<td>-49.04</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1By arcsine transformation, P = 0.001.

Table 2. Body weight gain, feed conversion ratio, and mortality of rabbits fed pCON or MOS diets.

<table>
<thead>
<tr>
<th>Days on</th>
<th>Wtd Avg</th>
<th>Diet MOS, %</th>
<th>MOS, % Versus pCON, %</th>
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</thead>
<tbody>
<tr>
<td>Test</td>
<td>MOS, %</td>
<td>pCON</td>
<td>MOS</td>
<td>pCON, %</td>
<td></td>
</tr>
</tbody>
</table>

1By arcsine transformation, P = 0.001.

Discussion
Based on 20 comparisons, MOS diets improved (P = 0.001) body weight gain and feed conversion ratio by 4.57 and 5.08%, respectively, compared to nCON diets (Table 1). In 19 comparisons, MOS diets decreased (P = 0.004) mortality by 49.04% relative to nCON diets. Using 9 comparisons, no significant difference was found between pCON and MOS diets for weight gain (P = 0.723) or feed conversion ratio (P = 0.237), indicating statistical equivalence (Table 2). The 28.72% decrease in mortality with MOS vs pCON diets approached significance (P = 0.092).

Conclusion
Supplementing post-weaning rabbit diets about 5 1/2 weeks with approximately 0.146-0.148% (range 0.1 to 0.2% in the diet) MOS significantly improved body weight gain (4.57%), feed conversion ratio (5.08%), and mortality (49.04%) relative to negative control (nCON) diets. The MOS diets were statistic-allly equivalent to antibiotic positive control (pCON) diets with regard to rabbit body weight gain and feed conversion ratio, but MOS diets tended to improve mortality to a greater extent (28.72%) than pCON diets. These patterns of responses in rabbits are similar to those previously reported in analyses of worldwide broiler chicken (Hooge, 2003a) and turkey (Hooge, 2003b) pen trials, and broiler commercial field trials (Sefton and Hooge, 2004), when using MOS supplemented diets compared to nCON or pCON diets.

References