Mannan oligosaccharide makes important contributions to animal production. A refined yeast-based mannan product is being marketed: Actigen® (AC), Alltech Inc. This experiment measured its effects on performance and health of young pigs. Weanling pigs (n = 1008; 6.2 ± 1.1 kg of BW; 21 d of age) were used in a randomized complete block design with pen as the experimental unit. There were 4 rooms with 12 pens/room and 21 pigs/pen. Pigs were blocked by weight (3 blocks: heavy, medium, and light) within each room and each block had 4 pens with the same number of barrows and gilts. Pigs were assigned to 4 different dietary treatments in a 2 × 2 factorial arrangement: with or without antibiotic (AB) and with or without 0.04% AC. The AB was 35g of tiamulin and 400g of chlortetracycline per ton of feed.

The dietary treatments were fed for 6 weeks after weaning in a 4-phase (P) program with declining diet complexity: P-1: wk 1 (7 or 8 d), P-2: wk 2, P-3: wks 3 and 4, P-4: wks 5 and 6. The ADG, ADFI, G:F, and % mortality were measured by each phase and overall. Initial weight and performance were greater and % mortality was lower than in previous experiments in this facility. The AC increased ADFI in P-1 and ADG and ADFI in P-2 in the absence of AB, but reduced ADFI in the presence of AB (interaction: \( P < 0.05 \)). The values for no AB or AC, AC only, AB only and both AC and AB were: P-1 ADFI (151.4, 163.5, 179.5, and 171.2 g/d); P-2 ADFI (320.8, 339.8, 378.9, and 352.5 g/d); P-2 ADG (296.5, 306.8, 353.2, and 332.4 g/d). During P-3, there was a tendency (\( P = 0.06 \)) that AC reduced ADG (318.8 vs. 333.2 g/d) and G:F (0.57 vs. 0.59). During P-4, AC reduced ADFI (925.0 vs. 949.3 g/d; \( P < 0.05 \)) and tended to reduce % mortality (1.2 vs. 2.6%; \( P = 0.10 \)). During each phase, AB improved the growth performance. During the overall 6-week period, AB increased \( P (0.01) \) ADG (372.5 vs. 330.9 g/d) and ADFI (605.8 vs. 551.6 g/d) and reduced (0.8 vs. 3.0%; \( P < 0.05 \)) % mortality. In conclusion, AC did not improve growth performance but tended to reduce % mortality.

Key Words: actigen, weanling pig, performance

Two feeding experiments were conducted to evaluate the effects of incorporation of a yeast-dried milk product in creep feeding and Phase-1 nursery diets on growth performance and circulating immunoglobulin A of pigs. H. Tran,* J. W. Bundy, E. E. Hinkle, T. E. Burkey, and P. S. Miller, University of Nebraska, Lincoln.

A total of 360 nursery pigs (PIC 1050 barrows) were used in a 24-d study to evaluate the effects of nursery diets containing Hamlet Protein 300 (HP 300) or select menhaden fish meal on growth performance. Pigs were weaned at 21 d of age and fed a pre-test diet for 7 d before treatments were initiated. Pens of pigs were balanced by initial BW (7.4 kg BW) and randomly allotted to 1 of 7 dietary treatments with 9 replications per treatment. Treatments included a 10% dried whey, corn-soybean meal control diet containing no specialty protein sources or the control diet with 2, 4, or 6% select menhaden fish meal; or the control diet with 2, 4, or 6% HP 300. All experimental diets were fed for 14 d followed by a common diet for 10 d. From d 0 to 14, neither fish meal nor HP 300 influenced growth performance (\( P > 0.13 \)). During the common period (d 14 to 24), pigs previously fed fish meal tended to have better G:F than pigs previously fed HP 300 (\( P = 0.09 \)). Overall (d 0 to 24), there was no difference in growth performance between treatments (\( P > 0.43 \)). In conclusion, HP 300 and fish meal had similar effects on growth performance, but neither provided a benefit compared with the pigs fed the control diet.

Table 1. Effects of Hamlet Protein 300 and fish meal on nursery pig performance

<table>
<thead>
<tr>
<th>Item</th>
<th>2% fish meal</th>
<th>4% fish meal</th>
<th>6% fish meal</th>
<th>HP 300</th>
<th>HP 300 SEM value</th>
<th>( P ) -</th>
<th>d 0 to 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADG, g</td>
<td>386</td>
<td>387</td>
<td>389</td>
<td>380</td>
<td>376</td>
<td>367</td>
<td>367</td>
</tr>
<tr>
<td>ADFI, g</td>
<td>523</td>
<td>525</td>
<td>512</td>
<td>511</td>
<td>513</td>
<td>509</td>
<td>21.3</td>
</tr>
<tr>
<td>G:F</td>
<td>0.75</td>
<td>0.73</td>
<td>0.74</td>
<td>0.74</td>
<td>0.74</td>
<td>0.71</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Key Words: fish meal, Hamlet protein 300, pig

Two feeding experiments were conducted to evaluate the effects of incorporation of a yeast-dried milk product in creep feeding and Phase-1 nursery diets on growth performance and circulating immunoglobulin A of pigs. H. Tran,* J. W. Bundy, E. E. Hinkle, T. E. Burkey, and P. S. Miller, University of Nebraska, Lincoln.

Two feeding experiments were conducted to evaluate the effects of incorporation of a yeast-dried milk product in creep feeding and Phase-1 nursery diets. In Exp. 1, 24 sows and their litters were assigned to pen based on anticipated farrowing date. Dietary treatments included: 1) No creep, 2) Control creep (CTL), and 3) Experimental creep (10% yeast-dried milk) and were randomly allotted to pen (8 litters/treatment). Creep diets (1.50% true ileal digestible Lys) were fed ad libitum from d 7 after birth until weaning (d 21) in a pan creep feeder. Pigs fed experimental and CTL creep diets tended to have greater (6.68 and 6.62 vs. 6.08 kg; \( P = 0.10 \)) weaning BW compared with pigs not receiving creep feed. Pigs fed experimental creep had greater (21.7 vs. 13.6 g, \( P = 0.002 \)) ADG compared with pigs fed the CTL. In Exp. 2, a total of 108 weaned pigs were selected based on the mean BW of pigs from each of the 3 treatments in Exp. 1 and randomly allotted to one of 18 pens (6 pigs/pen, 6 pens/treatment). Creep diets from Exp. 1 were continually fed during phase 1 (d 0 to 7) followed by a common diet during phase 2 (d 7 to 21) and phase 3 (d 21 to 28). Thus, pigs that received creep diets during the nursing period received the same diet during phase 1. Pigs fed experimental creep had greater BW compared with CTL and non-creep fed pigs (\( P < 0.05 \)) during wk 1 to 3. Overall (d 0 to 28), pigs fed experimental creep had greater (528 vs. 452 and 421 g; \( P = 0.03 \)) ADG and ADFI (731 vs. 592 and 647 g; \( P = 0.002 \)) compared with the CTL and non-creep fed pigs. At weaning, pigs fed CTL creep had greater (\( P = 0.03 \)) circulating immunoglobulin A compared with non-creep fed pigs; however, there were no differences among pigs fed experimental creep and other treatments. At the end of phase 1 (d 7), greater (\( P = 0.03 \)) circulating immunoglobulin A was observed in pigs fed experimental creep compared with non-creep fed pigs.

Key Words: creep feeding, growth, immunoglobulin A, pig

A total of 144 [(Landrace × Yorkshire) × Duroc] finishing pigs with initial body weight (BW) of 50.09 ± 0.51 kg were used in a 10-week trial to evaluate the effect of 2 kinds of herbal powder (HA: tumeric and hnearleaf houttynia complex; HB: taraxacum herb and arrowroot complex; Doosan Feed Inc., Bucheon, South Korea) on growth performance, nutrient digestibility, blood characteristics, and meat quality.

Key Words: herbal powder, growth, nutrient digestibility, blood characteristics, meat quality.