

**197 Effects of actigen in nursery pig diets under commercial conditions.** J. A. Soares,\* M. Song, T. M. Che, and J. E. Pettigrew, *University of Illinois, Urbana.*

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 wks 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-wk 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

**198 The influence of Hamlet protein 300 and fish meal on nursery pig performance.** W. Ying,\* J. M. DeRouche, R. D. Goodband, M. D. Tokach, S. S. Dritz, and J. L. Nelssen, *Kansas State University, Manhattan.*

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**

Item	Control	2%	4%	6%	2% HP 300	4% HP 300	6% HP 300	SEM	P-value
		fish meal	fish meal	fish meal					
d 0 to 14									
ADG, g	386	387	389	380	376	367	367	13.2	0.82
ADFI, g	520	532	525	512	511	513	509	21.3	0.92
G:F	0.75	0.73	0.74	0.74	0.74	0.71	0.72	0.02	0.78

**Key Words:** fish meal, Hamlet protein 300, pig

**199 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,  $P = 0.002$ ) ADFI 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 ( $P = 0.03$ ) 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

**200 Influence of herbal powder on growth performance, nutrient digestibility, blood characteristics, and meat quality in finishing pigs.** Q. W. Meng,\* I. H. Kim, J. H. Jung, B. U. Yang, and P. Y. Zhao, *Dankook University, Department of Animal Resource & Science, Cheonan, Choongnam, South Korea.*

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 hearleaf houttuynia complex; HB: taraxacum herb and arrowroot complex; Doosan Feed Inc., Bucheon, South Korea) on growth performance, nutrient digestibility, blood characteristics, and meat quality.