

**203 Effects of meal transition diets on growth performance of nursery pigs reared in a commercial environment.** C. N. Groesbeck\*, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. M. DeRouchey, and J. L. Nelssen, *Kansas State University, Manhattan.*

A total of 2,016 pigs (PIC; initial BW 5.7 kg) were used in a 28-d trial evaluating feed budget and diet form (meal or pellet) in a commercial nursery. Pigs were randomly sorted into one of 72 pens (36 pens of barrows and 36 pens of gilts) with 28 pigs per pen. All pens were weighed and allotted so all pigs within a block were the same weight. One pen of barrows and one pen of gilts consumed feed from a single fenceline feeder. The experimental unit was the combined data from the two pens. Pigs were allotted to one of six feed budget treatments: 1) pelleted diets with 0.45 kg/pig of SEW (6.7% plasma) and 1.36 kg/pig of Transition (2.5% plasma); 2) pelleted diets with 0.23 kg/pig of SEW (6.7% plasma) and 0.45 kg/pig of Transition (2.5% plasma); 3 and 4) meal diet with either 0.91 or 1.81 kg/pig of Transition (2.5% plasma); or 5 and 6) meal diet with either 0.91 or 1.81 kg/pig of Transition (4% plasma). All pigs were then fed 5.4 kg of a phase 2 meal diet, and a phase 3 meal diet for the duration of the trial. From d 0 to 10 and overall, pigs fed pelleted SEW and Transition diets had improved ( $P < 0.05$ ) ADG, and feed efficiency (G/F), lower removal rates, and higher margin over feed (pig value - feed cost) compared to the pigs fed meal-based Transition diets. Pigs fed the greater budget of pelleted diets also had improved ( $P < 0.01$ ) ADG and G/F from d 0 to 10, and G/F and margin over feed from d 0 to 28 compared to pigs fed the lower budget of pelleted diets. In this experiment, starting pigs on pelleted SEW and Transition diets with the 0.45 and 1.36 kg budget provided the greatest growth performance.

**Table 1.**

Diet Form	Pellet	Pellet	Meal	Meal	Meal	Meal
Plasma, %	6.7/2.5	6.7/2.5	2.5	2.5	4	4
SEW, kg/pig	0.45	0.23	---	---	---	---
Transition, kg/pig	1.36	0.45	0.91	1.81	0.91	1.81
d 0 to 10						
ADG, g	150	113	95	109	91	100
ADFI, g	150	150	145	140	136	145
Gain:Feed	1.00	0.75	0.66	0.78	0.67	0.69
d 0 to 28						
ADG, g	299	290	277	281	277	281
ADFI, g	404	404	399	399	395	404
Gain:Feed	0.74	0.72	0.69	0.70	0.70	0.70
Removal, %	3.0	2.1	4.8	5.1	3.9	4.5

**Key Words:** nursery pig, feed budget, plasma

**204 Production responses of weanling pigs fed diets containing REAP® Starter enzymes or added fat.** H. H. Stein\*<sup>1</sup>, D. Y. Kil<sup>1</sup>, D. N. Peters<sup>2</sup>, D. Spangler<sup>3</sup>, P. Brown<sup>3</sup>, D. P. Casper<sup>3</sup>, and K. Haydon<sup>4</sup>, <sup>1</sup>University of Illinois, Urbana, <sup>2</sup>South Dakota State University, Brookings, <sup>3</sup>Agri-King Inc., Fulton, IL, <sup>4</sup>Prince Agri-Products, Quincy, IL.

One hundred ninety-two pigs were weaned at approximately 20d of age and fed a common starter diet for 2 wk. Pigs were then weighed

and allotted to 1 of 4 treatments in a 2 x 2 factorial design. Treatments included 2 levels (0 or 0.1%) of a proprietary enzyme mixture, REAP® Starter (RS), and 2 levels (0.5 or 3.0%) of added fat (AF). There were 4 pigs per pen and 12 replicate pens per treatment. The experimental period was 28d and ADG, ADFI, and G:F ratio were measured for d 0 to 14, d 14 to 28, and d 0 to 28. All diets were based on corn and soybean meal and the source of added fat was choice white grease. No interactions between RS and AF were detected. Pigs fed RS had greater ( $P \leq 0.05$ ) BW at the end of the experiment than pigs fed diets without RS (27.97 vs. 26.97 kg). Pigs fed diets containing 3% AF also had greater ( $P \leq 0.06$ ) BW at the end of the experiment than pigs fed diets containing 0.5% AF (27.94 vs. 27.00 kg). From d 0 to 14, ADG was not influenced by RS or AF. However, from d 0 to 28, ADG increased ( $P \leq 0.05$ ) if RS was included in the diet (0.647 vs. 0.614 kg/d) or when AF was 3% rather than 0.5% (0.651 vs. 0.610 kg/d). The ADFI tended ( $P \leq 0.07$ ) to be greater for pigs fed RS from d 14 to 28 and from d 0 to 28 than for pigs fed diets without RS, but there was no effect of the level of AF on ADFI. Values for G:F were not influenced by RS, but pigs fed diets containing 3% AF had a greater ( $P \leq 0.05$ ) G:F from d 14 to 28 and from d 0 to 28 than pigs fed diets containing 0.5% AF. In conclusion, the addition of RS to a corn soybean meal based diet fed to weanling pigs increased BW, ADG, and tended to increase ADFI, while 3% AF increased BW, ADG, and G:F compared with 0.5% AF. The lack of a significant interaction between main effects indicates that RS enhances nutrient digestibility of a corn soybean meal diet, which results in growth rates of weanling pigs that are similar to pigs fed a diet containing 3% AF.

**Key Words:** enzymes, fat, pigs

**205 Responses to increasing doses of saccharin in piglet feeds on preference values and performance.** E. Roura\*<sup>1</sup>, C. Risley<sup>2</sup>, D. Solà-Oriol<sup>3</sup>, and D. Torrallardona<sup>3</sup>, <sup>1</sup>Lucta S.S., Barcelona, Spain, <sup>2</sup>Lucta USA Inc., Northbrook, IL, <sup>3</sup>IRTA, Centre Mas de Biver, Reus, Spain.

A two-phase trial was conducted to study the effects of a dose response addition of saccharin on the feed preference and performance of weanling pigs. One hundred and twenty newly weaned 26-d old Landrace pigs (7.8 kg; SD 1.34) were distributed in six blocks of 6 pens each according to the initial body weight of the animals with 3 or 4 animals per pen. During the pre-starter period (12 days), the animals from each pen were offered free access to two diets, one on each side of a double hopper. One of the diets was the Control diet without saccharin and the other diet was one of the six experimental diets with increasing doses of saccharin (0, 150, 500, 1000, 1500 and 2000 ppm, respectively). During the starter period each pen had free access to only one diet that contained the same dose of saccharin used in the experimental diet of the previous period. During the 12-day preference test period, all treatments that were offered access to a diet with saccharin (T-2 to T-6) showed numerically lower values of total feed intake, growth and feed efficiency than the double control treatment (T-1). Preferences of saccharin during the pre-starter phase were not significantly different than 50% (neutral value) and ranged from 35.1 (150 ppm) to 62.8 (500 ppm). None of the treatments with saccharin significantly affected feed preference, feed intake or performance in relation to the control treatment. Only treatment T-3 (500 ppm) numerically improved feed preference relative to the control