on growth performance of nursery pigs. Pigs had an initial BW of 4.9 kg in Exp. 1 and 5.1 kg in Exp. 2. There were eight pigs/pen in both experiments with five pens/treatment in Exp. 1 and six pens/treatment in Exp. 2. Pigs were blocked by weight and allotted to one of ten dietary treatments. Both experiments contained similar treatments that first included a control diet that contained ingredients that were not irradiated. Other treatments included diets that had specific ingredients irradiated: corn, soybean meal, spray-dried whey, spray-dried animal plasma, fishmeal, soybean oil, or all microingredients combined (antibiotic, vitamins, minerals, crystalline amino acids). The final two treatments included a diet that contained all ingredients that had been irradiated and a diet that was manufactured with nonirradiated ingredients and subsequently irradiated. An average irradiation dose of 8.5 kGy was used. No experiment × treatment interactions were observed. Overall (d 0 to 14 in trial 1 and d 0 to 12 in trial 2), pigs fed diets containing irradiated spray-dried animal plasma or soybean meal had increased (P < 0.05) ADG compared to the control diet with no irradiated ingredients and the complete diet that was irradiated. Also, ADG of nursery pigs (17 ± 2 d of age) were used (initial BW of 6.3 kg in Exp. 1 and 6.1 kg in Exp. 2) to determine the effects of initial bacterial concentrations of spray-dried animal plasma on growth performance. Provision of both irradiated or non-irradiated diets (P < 0.05) was greater for pigs consuming the diet with irradiated soybean meal compared to those fed the irradiated whole diet. Finally, pigs fed irradiated spray-dried animal plasma had improved gain/feed (P < 0.05) compared to those fed diets containing irradiated microingredients or if all ingredients had been irradiated before manufacturing. In summary, irradiation of certain feed ingredients (spray-dried animal plasma or soybean meal) in experiments can improve growth performance in nursery pigs, whereas irradiation of all ingredients or the whole diet does not enhance performance.

Key Words: Nursery Pig, Feed Ingredients, Irradiation


A total of 535 weanling pigs (17 ± 2 d of age) were used (initial BW of 6.3 kg in Exp. 1 and 6.1 kg in Exp. 2) to determine the effects of initial bacterial concentrations of spray-dried animal plasma on growth performance. Provision of both irradiated or non-irradiated diets (P < 0.05) was greater for pigs consuming the diet with irradiated soybean meal compared to those fed the irradiated whole diet. Finally, pigs fed irradiated spray-dried animal plasma had improved gain/feed (P < 0.05) compared to those fed diets containing irradiated microingredients or if all ingredients had been irradiated before manufacturing. In summary, irradiation of certain feed ingredients (spray-dried animal plasma or soybean meal) in experiments can improve growth performance in nursery pigs, whereas irradiation of all ingredients or the whole diet does not enhance performance.

Key Words: Nursery Pig, Feed Ingredients, Irradiation

146 A comparison of roller-dried whey and spray-dried whey in swine starter diets. G. F. Yi1, C. L. Allee1, A. M. Gaines2, D. C. Kendall1, K. M. Halpin2, and M. Trotter2,1 University of Missouri-Columbia, 2International Ingredient Corporation, Inc.

A total of 200 weaned barrows and gilts (5.360 kg, 100 each) at 19 2 days of age were used to compare the effects of roller-dried whey (RDW) and extra grade spray-dried whey (SDW) on the growth performance of young pigs. The pigs were randomly allotted by initial BW and sex to five dietary treatments in a RCBD, with ten replicate pens/trt and four pigs per pen. During day 0, 14, 28 and 42, the pigs were fed Phase I, Phase II and Phase III diets respectively. During Phase I, a corn-soy diet without any whey product served as a control (Trt A). Treatments B to E contained 10%SDW, 10%RDW, or 20%SDW or 20%RDW respectively. In Phase II treatments B to E contained 5%SDW, 5%RDW, or 10%SDW or 10%RDW respectively with a corn-soy diet without any whey as the control (Trt A). In Phase III, all the pigs were fed the common diet. Pigs were weighed and feed intake recorded on d 14, 28, and 42. BW, ADG, ADFI and G:F were used to evaluate growth performance. In the first week, ADG and ADFI were increased by whey addition, with the 20% whey diets, resulting in a greater response than that of 10% whey (P < 0.05). There were no differences due to whey source (RDW vs. SDW) (P > 0.05). During Phase I, compared to the control, the ADFI was linearly increased with the increasing level of either RDW or SDW (P < 0.05). In Phase II, there were no differences in growth performance (P > 0.05). However, in Phase III, pigs fed 10% or 20% whey in Phase I tended to gain faster (P < 0.10) with an improved feed efficiency (P < 0.05) compared to the pigs fed the control diet. Overall, pigs fed 20% whey in Phase I diets were approximately 1.0 kg heavier after the 42 d nursery period compared to the pigs fed the control diet. These results indicate that both RDW and extra grade SDW improved the growth performance of weaned pig with no differences between whey processing methods.

Key Words: Weaned pigs, Whey, Starter diets

147 Non-pasturized, spray-dried egg treated with Termin-8 as a protein source for phase 1 nursery diets. M. E. Davis1, C. V. Maxwell1, Z. B. Johnson1, D. C. Brown1, S. Singh1, K. J. Touchette2, and J.A. Coalson1,1 University of Arkansas, Fayetteville, 2Merrick’s Inc., Union Center, WI.

A conventional nursery trial with 144 crossbred weanling pigs was conducted to determine the efficacy of non-pasturized, spray-dried egg product (EGG) with and without treatment with Termin-8 (a formalydehyde-based antimicrobial preservative; T-8) to replace spray-dried plasma (SDP) in the Phase 1 (0 d to 7) nursery diet. Pigs (21 ± 1 d of age; 6.6 kg BW) were assigned by initial weight and sex to 1

Key Words: Weaned pigs, Whey, Starter diets