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This study was conducted to investigate the effects of plant extracts on growth performance, immune status in weaning pigs. A total of 125 crossbred ([Landrace×Yorkshire]×Duroc) pigs with an initial body weight of  $7.05 \pm 0.07$  kg were used in this 6-weeks experiment. Pigs were allotted to five treatments (five replicates per treatment and five pigs per pen) according to a randomized complete block design. Dietary treatments were : 1) NC (negative control; basal diet), 2) PC (positive control diet; NC diet + 0.1% antibiotics), 3) PL 1 (Control diet + 0.2% Mistole), 4) PL 2 (Control diet + 0.2% Stevia), 5) PL 3 (Control diet+0.2% SMUS<sup>®</sup>). In overall trial, ADG was increased PL 3 treatment compared with NC and other PL treatment ( $p < 0.05$ ). However, blood traits were not affected by treatments. The morphology of small intestine was not affected by pigs fed diets with plant extracts, but villi height and crypt depth of small intestine improved significantly in PL 3 treatment compared with other treatments ( $p < 0.05$ ). In conclusion, plant extracts tended to improve growth performance, morphology of small intestine compared with the pigs fed the NC and PC diets.

**Key Words:** Plant Extracts, Immune, Weaning Pigs

**M241 Effect of probiotics in lactating sows diets on sows and litter performance.** A. Castellanos A<sup>\*1</sup>, J. A. Renteria F<sup>2,1</sup>, J. A. Cuaron I<sup>2,1</sup>, and C. A. Mejia G<sup>2,1</sup>, <sup>1</sup>FES-C UNAM, Ajuchitlan, Qro, <sup>2</sup>CENIDFA-INIFAP, Ajuchitlan, Qro.

To evaluate the effect of two probiotics on sow and litter performance, 562 sows ( $257 \pm 33$  kg) were fed four lactation diets. A Control diet (C) formulated to satisfy the requirements of lactating sows (NRC, 1998) based on sorghum-soy bean meal, a 2nd diet (B) similar to C with the addition of 0.5 kg of a probiotic containing the combination of two bacteria *Bacillus Licheniformis* and *B. subtilis*, a 3rd diet (Y) similar to C plus the addition of 3 kg of a probiotic containing *Saccharomyces cerevisiae*, a 4th diet (BY) similar to C plus the addition of both probiotics. Sows were fed the diets starting on day 100 of gestation and until weaning. Response variables were; feed intake during lactation (total TFI and ADFI), number and weight of born pigs, number and weight of weaned pigs, and weight lose during lactation. Experimental design was a CRB whit factorial arrangement 2x2, the experimental unit was the sow and its litter, and block was the maternity building. Data were analyzed using the GLM of SAS (9.1.3). In TFI during lactation an interaction yeast\*bacteria was found ( $P < 0.05$ , SEM= 2.54) 99.2, 93, 95.2, 101.3 kg for C, B, Y, and BY respectively. For litter weight at weaning an interaction yeast\*bacteria was observed ( $P = 0.09$ , SEM = 1.8375) 54.3, 53.8, 53.3, 60 kg, for C, B, Y and BY respectively. For the number of pigs wean a B effect was observed, ( $P < 0.04$ , EEM = 0.137) 9.62 vs. 9.12. While for the average weight of wean pigs a Y effect was observed ( $P < 0.001$ , SEM= 0.079) 6.2 vs. 5.6. For sow weight lose during lactation an interaction yeast\*bacteria was observed ( $P < 0.06$ , SEM= 5.45) 19.18, 42.01, 22.42, 28.86 kg; C, B, Y and BY respectively. In conclusion, the combination of both probiotics used in this experiment resulted in an improved litter performance, without affecting sow performance. The inclusion of bacteria probiotic in lactating sows diets increased the number of weaned pigs. The inclusion of yeast in lactating sows diets increased the average weight of weaned pigs.

**Key Words:** Sow, Probiotics, Performance

**M242 Evaluation of Concept PR 100 in diets for nursery pigs.** J. M. DeRouchey<sup>\*1</sup>, E. J. Wiedmann<sup>1</sup>, M. D. Tokach<sup>1</sup>, R. D. Goodband<sup>1</sup>, J. L. Nelssen<sup>1</sup>, S. S. Dritz<sup>1</sup>, and J. Whitehead<sup>2</sup>, <sup>1</sup>Kansas State University, Manhattan, KS, <sup>2</sup>Concept Nutrition, Ltd, Preston, UK.

Concept PR 100 (CNPR), a plant based protein ingredient with added synthetic amino acids and nucleic acids, was compared to spray-dried animal plasma (SDAP) in nursery pig diets. Two separate experiments, each utilizing 180 weanling pigs (initially 5.51 and 5.15 kg for Exp. 1 and 2, respectively and 21 d of age) were used in 28-d feeding trials. In Exp. 1, five experimental diets were fed which included: 1) Control (no specialty protein source); 2) 2.5% SDAP; 3) 5.0% SDAP; 4) 2.5% CNPR; and 5) 5.0% CNPR. In Exp. 2, diets 1, 2, and 3 were similar to Exp. 1, while a modified CNPR was used at 2.5% and 5.0%, respectively for the 4th and 5th treatment diets. In Exp. 1 from d 0 to 14, pigs fed increasing levels of SDAP or CNPR had improved (linear and quadratic,  $P < 0.001$ ) ADG and ADFI. Pigs fed increasing levels of SDAP or CNPR also had improved (linear,  $P < 0.001$ ) G:F. When comparing the mean of pigs fed diets containing SDAP versus CNPR, pigs fed SDAP had greater ( $P < 0.002$ ) ADG, ADFI, and BW at d 14 compared to pigs fed CNPR. Overall, (d 0 to 28), pigs fed increasing SDAP or CNPR had greater ADG, ADFI and final BW (linear,  $P < 0.004$ ) than pigs fed the control diet. There was no overall growth differences between pigs fed SDAP and CNPR ( $P > 0.11$ ). For Exp. 2 from d 0 to 14, pigs fed increasing SDAP had improved (linear,  $P < 0.01$ ) ADG, ADFI, G:F. Pigs fed increasing CNPR had improved (quadratic,  $P < 0.001$ ) G:F. However, pigs fed SDAP had greater ( $P < 0.03$ ) ADG, ADFI, and BW at d 14 compared to those fed CNPR. Overall (d 0 to 28), pigs fed increasing levels of SDAP had greater ( $P < 0.03$ ) ADG and tended to have improved ( $P < 0.08$ ) ADFI and G:F. Also, pigs fed increasing levels of CNPR had improved (quadratic,  $P < 0.009$ ) G:F. There was no overall differences in growth between pigs fed SDAP and CNPR ( $P > 0.22$ ). These data indicate that pigs fed SDAP compared with CNPR generally had greater performance during the test period, however these differences were not found at the conclusion of the studies.

**Key Words:** Swine, Protein Source, Growth

**M243 The effect of American alligator (*Alligator mississippiensis*) serum on growth performance of weanling pigs.** J. T. Compton<sup>\*</sup>, M. E. Merchant, T. S. Shields, and F. M. LeMieux, *McNeese State University, Lake Charles, LA.*

Antibiotic use in the food animal industry is a major concern. The use of antibiotics in animal feed is a common practice. Of the total antibiotic production for both human and animal purposes, approximately 25% is used for food animals and 90% of that portion has been reported as being used in subtherapeutic concentrations (Lehenbauer et al., 2002). Subtherapeutic use in these animals is mainly for improved feed efficiency and growth. Subtherapeutic use in farm production animal diets has been a common practice since 1946 when the addition of subtherapeutic levels of antimicrobials was found to enhance growth in poultry (Moore et al., 1946). Today, consumers are concerned of the potential of bacteria resistance to these antibiotics. If a cost efficient antimicrobial substitute for these traditional antibiotics can be found producers and consumers will benefit. Alligator serum has exhibited antimicrobial properties in vitro (Merchant et al., 2003, 2004, 2005) decreasing bacterial and *Escherichia coli* growth. To our knowledge no in vivo research had been performed to date. The objective of this study was to evaluate the effect of 0.5% alligator serum (AS) on growth