

202 Effect of Fresta F Concentrate on performance of weanling pigs fed in a commercial environment. K. Purser*¹, T. Weeden², C. Hankins², and K. Wendler¹, ¹*Delacon Phytogenic Feed Additives, Steyregg, Austria*, ²*Land O'Lakes Purina Feed, St. Paul, MN*.

Fresta F Concentrate (FFC) is an all-natural feed additive composed of essential oils, herbs, spices and mucilage. Patented micro-encapsulation technology is used to maintain the stability of the essential oils. Previous work in a research setting indicated that pigs fed FFC grew 5 to 6% faster and 3 to 4% more efficiently than those without FFC. The purpose of this experiment was to determine the effect of FFC on the performance of weanling pigs in a commercial environment fed diets formulated to support high performance. The experiment was conducted in a typically designed commercial wean to finish barn (50 pens) equipped and staffed to conduct research. For this trial, 352 pigs weaned at 19 to 21 d and 5.85 kg BW were utilized in 8 replications of 22 pigs/pen (16 pens). Pigs were started on trial as two groups three days apart and were fed standard basal diets in four phases of 7, 6 or 9, 16 and 12 days for Phases 1, 2, 3 and 4, respectively. Phase 1 and 2 diets contained 39 mg/kg tiamulin, 441 mg/kg chlortetracycline, 3,500 mg/kg Zn and 215 mg/kg Cu. Phase 3 diets contained 55 mg/kg carbadox, 1150 mg/kg Zn and 200 mg/kg Cu. Phase 4 diets contained 55 mg/kg carbadox, 140 mg/kg Zn and 200 mg/kg Cu. All diets were fed in pelleted form. Treatments were obtained by adding FFC to provide 200 mg/kg. ADG, ADFI, and feed:gain for the entire study for pigs fed the basal diet vs. those fed FFC supplemented diets were, respectively (449, 454 g/d; 609, 594 g/d; and 1.36, 1.31). Pigs fed diets containing FFC gained weight more efficiently ($P < 0.05$). No performance parameters were different ($P > 0.10$) during Phases 1, 2 and 3. Only feed:gain was improved ($P < 0.05$) during Phase 4, 1.58 vs. 1.47. These results indicate FFC is effective in improving feed:gain in weanling pigs fed high performance diets in a commercial environment. Further research is needed to determine if FFC supplementation is required in early nursery phases to obtain the response observed in the last phase.

Key Words: pigs, essential oils, feed efficiency

203 Effects of PepSoyGen (PSG) and Dried Porcine Solubles 50 (DPS 50) on nursery pig performance. C. K. Jones*, J. M. DeRouche, J. L. Nelssen, M. D. Tokach, S. S. Dritz, and R. D. Goodband, *Kansas State University, Manhattan*.

Two experiments were conducted to evaluate the effects of adding fish meal, PSG, or DPS 50 on pig performance. In Exp. 1, weanling 350 pigs (PIC, 6.1 kg BW) were fed a control diet or diets supplemented with 3 or 6% fish meal; 3.75 or 7.50% PSG; or a combination of PSG and DPS 50 with each fed at 1.88% or 3.75% of the diet. There were 10 replications with 5 pigs per pen. From d 0 to 14, pigs fed increasing PSG with or without DPS 50 had improved ($P < 0.01$) G:F. Pigs fed PSG had improved ($P = 0.02$) G:F compared to pigs fed the control diet. Pigs fed PSG and DPS 50 in combination had improved ($P < 0.03$) ADG compared to pigs fed the control diet or PSG alone and improved ($P < 0.03$) G:F compared to pigs fed the control diet or diets containing fish meal. From d 0 to 35, pigs fed increasing PSG had improved ($P = 0.03$) G:F. In Exp. 2, 252 weanling pigs (PIC, 6.8 kg BW) were fed a control diet or supplemented with 5% fishmeal, 3.5% DPS 50, 6.0% PSG, 1.75% PSG and 1.75% DPS 50, or 3.0% PSG and 2.5% fish meal. There were 7 replications with 6 pigs per pen. From d 0 to 14, pigs fed DPS 50 alone or with PSG had improved ($P < 0.05$) ADG and G:F compared to pigs fed all other diets. Overall (d 0 to 28), pigs fed DPS 50 had improved ($P = 0.01$) ADG (421 vs. 383 g) and G:F (0.77 vs. 0.73) compared to pigs fed the control diet and improved ($P = 0.03$) G:F (0.77 vs. 0.74) compared

to pigs fed the combination of PSG and fish meal. In conclusion, pigs fed DPS 50 alone or with PSG had improved performance compared with pigs fed the control diet.

Table 1.

		Exp. 1					
		Fish meal		PSG		PSG + DPS50	
d 0 to 14	Control	3%	6%	3.75%	7.50%	1.88 + 1.88%	3.75 + 3.75%
ADG, g	262	285	256	260	262	293	295
ADFI, g	345	360	314	315	330	351	352
G:F	0.75	0.79	0.80	0.83	0.79	0.84	0.84
		Exp. 2					
		Fish meal	DPS50	PSG	PSG + DPS50	PSG + fish meal	
d 0 to 14	Control	5%	3.5%	6%	1.75+ 1.75%	3.0+ 2.5%	
ADG, g	252	268	313	269	302	255	
ADFI, g	331	356	366	343	355	334	
G:F	0.75	0.75	0.86	0.79	0.85	0.76	

Key Words: growth, nursery pig, protein source

204 Apparent and standardized ileal digestibility values for amino acids in a yeast-derived protein source (NuPro®) for 3- to 4-wk-old pigs. S. Moehn¹, P. Groenewegen*², and R. O. Ball¹, ¹*University of Alberta, Edmonton, Alberta, Canada*, ²*Alltech Inc., Nicholasville, KY*.

The objective of this experiment was to determine the ileal digestibility of amino acids in yeast extract (NuPro®, Alltech Inc.) in 4-wk old piglets. Fifty piglets were weaned at 18 and 19 d of age, from which 30 with the greatest weight gains were selected after 2 d exposure to a control diet. Piglets were allocated to 5 treatments so that gender, age, body weight (BW) and pre-treatment weight gains were equalized. Treatments were: control diet based on wheat, corn starch, soybean meal, casein and whey powder; and the control diet with inclusion of 3%, 6% or 9% NuPro at the expense of corn starch. All diets contained protein-bound amino acids only. The fifth dietary treatment consisted of a protein-free diet. Piglets were housed individually in raised pens in a temperature-controlled room, and offered the diets for 9 d. The protein-free group was fed the control diet until d 7, after which the piglets were switched to the protein-free diet. Pigs were euthanized on d 10 and terminal ileum contents collected. BW, daily gain (DG) and feed intake (FI) before and after allocation to treatments did not differ ($P > 0.1$) between groups. NuPro increased DG and FI by 8.3% over the control and numerically increased the apparent and standardized ileal digestibility of amino acids, except for valine. The difference method was unsuitable to determine the amino acid digestibility in NuPro, probably due to the small contribution of NuPro to the amino acid content in the diet. The regression method yielded mean apparent and standardized ileal digestibility values for amino acids of 75.7% and 84.5%, respectively. Overall, the amino acid digestibility in NuPro was slightly greater than in the control, which contained high-quality protein. The mean apparent and standardized digestibility values for amino acids in NuPro were similar to those previously reported for pigs 6 to 8 wk of age. In conclusion, NuPro is a source of highly digestible amino acids for newly weaned pigs. These data on standardized and apparent ileal