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Three hundred crossbred Hypor piglets were used in a 21 d trial to determine the effect of the dietary inclusion of 0, 10, 20, 30 and 40% locally-grown zero-tannin fababean in substitution for imported soybean meal on post-weaning growth performance. At weaning and on Day -3 (d 11 post-weaning), available pigs were weighed, and the derived BW gain was used to select suitable pigs for the trial. Selected pigs were then sorted based on gender and litter of origin. Gilts and barrows were then sorted into weight categories. Pigs within gender and weight category were randomly allocated to pens so that each pen had 2 gilts and 2 barrows. The five test diets were then randomly assigned to pens, and pigs had ad libitum access to the diets for three weeks. Pigs were then individually weighed on day 0, 7, 14, and 21. Fresh fecal grab samples were collected randomly from one pig in each pen for the last three days of the study, were pooled and analyzed to calculate digestibility coefficients. For each weekly period and the overall trial, ADFI, ADG, and G:F were similar ($P > 0.05$) among treatments. In summary, these results indicate that locally grown zero-tannins fababean can totally substitute imported soybean meal in late nursery diets and that weaned pigs do not require a progressive dietary adaptation to Snowbird fababean.

Table 1. Dietary inclusion of zero-tannin fababean

35 - 56 d of age	0%	10%	20%	30%	40%	SEM
ADFI, g	876	868	857	840	845	19.2
ADG, g	578	580	570	572	570	14.6
G:F	0.67	0.68	0.68	0.69	0.68	0.01

Key Words: Pigs, Fababean, Growth performance

298 Influence of irradiation of spray dried animal plasma added to meal or pelleted diets on growth performance of weanling pigs. C. N. Groesbeck*, M. D. Tokach, J. M. DeRouchy, R. D. Goodband, S. S. Dritz, and J. L. Nelssen, *Kansas State University*, *Manhattan*.

A total of 192 weanling pigs (5.99 kg BW, 21 ± 3 d of age) were used in a 25-d growth assay to determine the effects of feeding meal and pelleted diets with irradiated or non-irradiated spray-dried animal plasma (AP 920) on growth performance. Pigs were blocked by weight, and randomly allotted in a 2 × 2 factorial to one of four dietary treatments. Main effects were diet form (meal or pellet) and either irradiated or non-irradiated spray-dried animal plasma. Experimental diets were fed from d 0 to 11 with all pigs fed a common diet from d 11 to 25. Irradiation of the spray dried animal plasma reduced the total bacterial plate count from 1.1 × 105 to less then 1.0 × 101 CFU/g. Pelleting the non-irradiated plasma diet reduced the total bacterial plate count from 2.6 × 104 to 2.0 × 103 CFU/g. From d 0 to 3, irradiation of spray-dried animal plasma had no effect on performance; however, pigs fed pelleted diets had greater ($P < 0.03$) ADG, ADFI, and G:F compared with pigs fed meal diets . There was a diet form × plasma irradiation interaction ($P < 0.01$) for ADG and G:F from d 3 to 11 and for ADG and G:F ($P < 0.07$) from d 0 to 11. From d 11 to 25, all pigs were fed common diet, in meal form, pigs previously fed the non-irradiated spray dried animal plasma meal diet had reduced growth performance through d 25 compared to those fed the irradiated spray dried animal plasma meal and pelleted diets. Therefore, plasma irradiation and pelleting improved pig growth rate and feed efficiency but not in an additive manner. Pigs fed diets containing irradiated spray-dried animal plasma in meal form had similar growth performance to pigs fed pelleted diets. For producers that manufacture meal diets containing plasma, irradiation of the plasma can improve pig performance.

Table 1.

	Non-irradiated Plasma Meal	Non-irradiated Plasma Pellet	Irradiated Plasma Meal	Irradiated Plasma Pellet	SE
D 0 to 3					
ADG, g	225	297	218	306	23.6
ADFI, g	130	169	137	166	13.2
Gain/feed	1.74	1.78	1.59	1.83	0.07
D 3 to 11					
ADG, g	305	384	396	400	17.7
ADFI, g	427	451	468	449	19.0
Gain/feed	0.72	0.84	0.85	.90	0.02
D 0 to 11					
ADG, g	283	360	348	374	16.5
ADFI, g	346	373	378	371	16.5
Gain/feed	0.82	0.96	0.92	1.01	0.01

Key Words: Pig, Irradiation, Plasma

Physiology - Topics in Physiology

299 Investigation of molecular mechanisms of bovine ovarian follicular selection. Z. Liu*, R. Youngquist, A. Garverick, and E. Antoniou, *University of Missouri*, *Columbia*.

It is reported that about half of human infertility is due solely to the female, and caused by reasons such as ovulation dysfunction. Diagnosis and treatment of this infertility are not easy due to our limited understanding of basic molecular and cellular mechanisms driving folliculogenesis. Cattle provide good models for understanding the follicular development process, as cattle like humans, are monovular and stages of follicular development can easily be followed by real-time ultrasonography. The objectives of this study are to identify changes in gene expression profiles during the selection stage of bovine follicular waves. Follicles of different sizes were collected and intrafollicular concentrations of progesterone, estradiol and androstenedione were measured to provide additional information on the status of the follicles. Gene expression profiles were obtained using cDNA slides containing ~18K bovine EST probes. A group of clones (219) were found to be