

225 Effect of source and level of added chromium on starter pig growth performance. P. R. O'Quinn¹, J. L. Nelssen¹, M. D. Tokach¹, R. D. Goodband¹, R. E. Musser¹, K. Q. Owen², and S. A. Blum², ¹Kansas State University, Manhattan and ²Lonza Inc., Fair Lawn, NJ.

A 35 d growth trial was conducted with 180 weanling pigs (initially 5.7 kg BW and 17 to 21 d of age) to evaluate the effects of source and level of added chromium (Cr) on growth performance and immune status. Pigs were randomly allotted by weight, equalized for gender, and assigned to one of six dietary treatments with six pigs per pen and five replications per treatment. The dietary treatments consisted of a basal diet, and the basal diet plus 50, 100, 200, or 400 ppb Cr from chromium nicotinate (CrNic) or 200 ppb Cr from chromium picolinate (CrPic). The corn-soybean meal-dried whey based diets were fed in meal form in two phases (d 0 to 14 and d 14 to 35 postweaning, respectively). On d 28 postweaning, two randomly selected pigs per pen were bled for haptoglobin concentrations. No treatment differences ($P > .10$) were observed for this test of immune status. No effect of treatment ($P > .10$) was observed on ADG, ADFI, or feed efficiency (G/F) during any of the time periods. Overall ADG, ADFI, and G/F is given below.

Item	Control	CrNic (ppb)				CrPic (ppb)	CV
		50	100	200	400	200	
ADG, kg	.48	.49	.49	.47	.50	.50	7.23
ADFI, kg	.70	.70	.70	.69	.70	.71	7.87
G/F	.68	.70	.69	.69	.70	.70	4.18

In summary, these data show neither beneficial results from added Cr nor differences in Cr source on either growth performance or immune status of weanling pigs.

Key Words: Starter pigs, Chromium, Growth performance

226 Four trial summary-The effect of tylosin phosphate (TYLAN™) on the performance of growing and finishing swine when fed for the control of porcine proliferative enteropathies (PPE) in commercial swine herds. G. Moore, A. Zimmermann, and L. Watkins*, *Elanco Animal Health, A Division of Eli Lilly & Co., Greenfield, IN.*

The objective was to evaluate the performance of growing and finishing swine fed Tylan™ for the control of PPE (Ileitis) during periods of clinical disease in commercial herds. Four trials were conducted in three geographical locations in herds with a history of Ileitis. All pigs were given a nonmedicated feed for at least three days prior to receiving medicated feeds which began approximately seven days before the anticipated onset of Ileitis. Both barrows and gilts (N=321) were administered Tylan™ in the feed at either 0 or 110 ppm for 21 days. Basic corn-soy meal diets were fed *ad libitum*. A randomized complete block design was used to place the pigs in three location blocks of two treatment pens per block for a total of six pens per trial. The pen was the experimental unit. The pigs were stratified by weight and sex and then randomly assigned to pens. Pen density within a facility was the same and density between facilities varied from 22 to 30 pigs per pen. Initial starting pig weights ranged from 11.57 to 23.66 kg. Daily gain and daily feed intake were significantly improved ($P < 0.031$ and $P < 0.016$ respectively) compared to 0 ppm Tylan™. Feed to gain was also improved ($P < 0.056$) by feeding 110 ppm of Tylan™ as compared with non-medicated pigs.

Tylosin ppm	Expt. units	DG (kg)	DFI (kg)	F/G
0	12	.37	1.10	2.91
110	12	.46	1.21	2.65
P-value		0.031	0.016	0.056

Key Words: Swine, Ileitis, TYLAN™

227 Ten trial summary-the effect of tilmicosin phosphate (PULMOTIL™) on the performance of growing and finishing swine when fed for the control of pneumonia caused by *Actinobacillosis pleuropneumoniae* (App) and *Pasteurella multocida* (Pm) in commercial swine herds. G. Moore, R. Basson, L. Tonkinson, and L. Watkins*, *Elanco Animal Health, A Division of Eli Lilly & Co., Greenfield, IN.*

The objective was to evaluate the performance of growing and finishing swine fed Pulmotil™ for control of pneumonia attributable to App and Pm during periods of clinical disease in commercial herds. Ten trials were conducted in seven geographical locations in herds with a history of pneumonia caused by App and Pm. All pigs were given a nonmedicated feed for at least three days prior to receiving medicated feeds which began approximately seven days before the anticipated onset of pneumonia. Both barrows and gilts (N=1,150) were administered Pulmotil™ in the feed at either 0, 200, or 400 ppm for 21 days. Basic corn-soy meal diets were fed *ad libitum*. A randomized complete block design was used to place the pigs in two location blocks of three treatment pens per block for a total of six pens per trial. The pen was the experimental unit. The pigs were stratified by weight and sex and then randomly assigned to pens. Pen density within a facility was the same and density between facilities varied from 15 to 30 pigs per pen. Initial starting pig weights ranged from 13.6 to 75 kg. Daily gain, daily feed intake, and feed to gain were significantly improved ($P < 0.0001$) by feeding 200 or 400 ppm of Pulmotil™, compared with non-medicated pigs.

Pulmotil™ ppm	Expt. units	Pig deaths/ pig numbers	DG (kg)	DFI (kg)	F/G
0	20	10/383	.47 ^a	1.40 ^a	2.97 ^a
200	20	0/384	.66 ^b	1.67 ^b	2.51 ^b
400	20	0/383	.65 ^b	1.66 ^b	2.52 ^b

^{a,b}Means within a column without a common superscript differ ($P < 0.0001$).

Key Words: Swine, Pneumonia, PULMOTIL™

228 Utilization of distillers dried grains with solubles (DDGS) in phase fed growing and finishing swine. E. L. Hansen*, G. W. Libal, D. N. Peters, and C. R. Hamilton, *South Dakota State University, Brookings.*

Four trials evaluated the use of DDGS in diets formulated for barrows and gilts for growth periods from 20-36, 36-59, 59-86 and 86-113 kg. The first treatment in each trial was a corn soybean meal diet balanced for threonine (THR), and supplemented with lysine (LYS). The second and third treatments, respectively, were diets with maximum levels of DDGS to meet the requirement for tryptophan (TRP) and methionine (MET), respectively. A fourth treatment had added MET to test the hypothesis that MET was less available in DDGS than original estimates. Crystalline LYS, THR and TRP were added to meet the digestible ideal protein ratio for each sex for each growth phase. From 20-36 kg, a depression in performance occurred for pigs fed the diet balanced for MET. Level of performance improved when MET was supplemented. Performance was equal for pigs receiving the first three diets for both sexes for the last three growth phases, but supplemental MET caused depressed feed intake and poorer performance. DDGS is a suitable feed ingredient for growing pigs. Availability of MET in DDGS appeared to be close to published values based upon pig performance.

	Diet 1	Diet 2	Diet 3	Diet 4	P	SD
ADG, kg	.71 ^b	.72 ^b	.67 ^a	.71 ^b	=.06	.025
G/F	20 to 36 kg	.45	.47	.48	NS	.015
PUN, mg/dl	11.64 ^a	12.25 ^a	7.62 ^b	7.77 ^b	<.01	.976
ADG, kg	.81	.84	.83	.79	NS	.040
G/F	36 to 59 kg	.36 ^{bc}	.38 ^a	.38 ^{ab}	.36 ^c	<.05
PUN, mg/dl	10.83 ^b	12.71 ^a	8.99 ^c	9.53 ^c	<.01	.616
ADG, kg	.89 ^a	.88 ^a	.85 ^a	.81 ^b	<.05	.031
G/F	59 to 86 kg	.32 ^a	.32 ^a	.31 ^a	.29 ^b	<.05
PUN, mg/dl	11.59 ^{ac}	13.19 ^a	9.42 ^b	10.86 ^{bc}	<.05	1.39
ADG, kg	.95	.91	.94	.90	NS	.053
G/F	86 to 113 kg	.28 ^a	.29 ^a	.29 ^a	.26 ^b	<.05
PUN, mg/dl	11.38 ^c	13.55 ^a	12.90 ^{ab}	12.14 ^{bc}	=.08	1.20

Key Words: Growing finishing swine, Digestible amino acids, Distillers dried grains with solubles