Table 1. Effects of increasing dietary standardized ileal digestible (SID) Lys concentration on growth performance of 13- to 23-kg pigs sired by PIC 800 boars[1]

Dietary SID Lys, %	1.10	1.16	1.23	1.29	1.39	1.49	SEM
Percentage of PIC recommendation, %	85.0	90.0	95.0	100.0	107.5	115.0	
Initial BW, kg	12.6	12.5	12.6	12.6	12.5	12.6	0.23
Final BW, kg[2]	22.6	23.1	23.8	23.5	23.5	23.8	0.37
ADG, g[2,3]	625	652	702	680	685	702	12.4
ADFI, g	1144	1099	1160	1180	1113	1160	20.4
G:F, g/kg[2]	548	593	605	577	616	605	7.9
g of SID Lys per kg of BW gain[2]	20.1	19.6	21.5	22.4	22.6	24.5	0.30

[1]BW = body weight; ADG = average daily gain; ADFI = average daily feed intake; G:F = gain to feed ratio.
[2]Linear, $P < 0.05$
[3]Quadratic, $P = 0.05$

Keywords: growth performance, lysine, nursery pigs

148 Use of an Alpha-Linolenic Acid Source to Reduce Omega-6:3 Ratio in Prrs-Virus Challenged Nursery Pigs. Jenna J. Bromm[1], Mike D. Tokach[1], Jason C. Woodworth[1], Robert D. Goodband[1], Joel M. DeRouchey[1], Jordan T. Gebhardt[1], Chad W. Hastad[2], Zach Post[2], *[1]Kansas State University, [2]New Fashion Pork Inc.*

Abstract: A total of 1,056 pigs [PIC TR4 × (Fast LW × PIC L02)], originating from an active PRRSV-positive sow farm, were used in a 46-d study to evaluate growth performance and mortality and removals of nursery pigs. Pigs were fed diets containing increasing levels of O3 Trial Feed (NBO3, Manhattan KS), a source of omega-3 fatty acids (alpha-linolenic acid). At placement in the nursery, pens of pigs were randomly assigned 1 of 4 dietary treatments in a completely randomized design with 22 pigs per pen and 12 replications per treatment. The dietary treatments included increasing percentages of O3 Trial Feed (0, 0.75, 1.5, and 3%). Omega-6:3 ratios for the 4 treatments within each phase were: Phase 1 (15.1:1, 8.4:1, 5.9:1, 3.7:1); Phase 2 (16.5:1, 9.2:1, 6.4:1, 4.0:1); Phase 3 (20.8:1, 10.4:1, 7.0:1, 4.2:1); and Phase 4 (25.3:1, 12.5:1, 8.3:1, 5.0:1), respectively. Pigs remained on treatments throughout the 4 dietary phases over the 46-d study. Overall, pigs fed increased O3 Trial Feed had increased (linear, $P < 0.001$) ADG, ADFI and G:F. The greatest impact on growth due to dietary treatment began when pigs tested positive for PRRSV during week 3 of the study. This was confirmed by testing oral fluids, collected on a weekly basis, for PRRSV using a PCR test. Pigs fed increasing O3 Trial Feed also had decreased (linear, $P = 0.027$) total removals and mortalities. In summary, adding O3 Trial Feed to reduce the Omega 6-3 ratio improved growth performance and reduced mortality in nursery pigs with an active PRRSV challenge.

Table 1. Use of O3 Trial Feed to reduce dietary omega-6:3 ratio on overall growth performance and mortality and removals in PRRSV-challenged nursery pigs[1]

	O3 Trial Feed, %					*P* =	
Item	0.00	0.75	1.50	3.00	SEM	Linear	Quadratic
ADG, g	315	322	331	355	5.3	< 0.001	0.568
ADFI, g	522	528	539	557	7.5	< 0.001	0.844
G:F, g/kg	603	611	615	637	5.3	< 0.001	0.510
Total removals and mortalities, %	11.5	11.9	8.5	6.7	2.14	0.027	0.856

Keywords: nursery pig, omega-3, PRRSV