PIC® Nutrition Update

October 2017

Setting the Right Threonine:Lysine Ratio to Optimize Performance and Profit

PIC and Pipestone have conducted a study to evaluate the optimum Threonine:Lysine in nursery diets. The Threonine (Thr) to Lysine (Lys) ratio is crucial to optimize the growth performance of nursery pigs. To balance performance and cost it is important to use the right level of Thr. The intent of sharing these results is to provide nutritionists in commercial production systems with further data to optimize the total profitability in the farm.

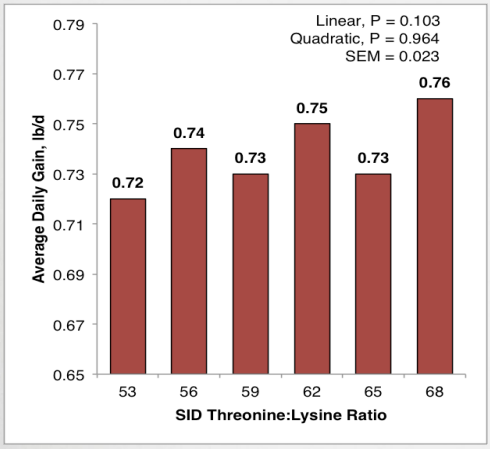
The study

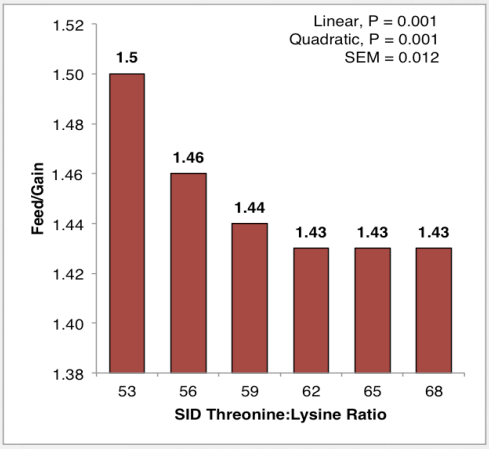
PIC North America and Pipestone Applied Research have done a recent study determining the ratio of Standardized Ileal Digestible (SID) threonine:lysine that maximizes nursery pig performance under commercial conditions.

- A total of 2,262 pigs at a starting weight of 12.5 pounds underwent six feed treatments in a 39-day growth trial
- Lysine was kept below the industry standard to ensure that the Thr:Lys ratio was not underestimated
- For the economic calculations, a cost of $1.34/lb of Thr was assumed.

Results

Overall, ADG was maximized at >68% SID Thr:Lys and F/G was minimized at 65% SIDThr:Lys **(Figures 1 and 2, below)**





For nurseries managed on a fixed time basis, profitability was maximized at 68% Thr:Lys. More specifically, these results indicate that compared to 59% Thr:Lys ratio, 65% provides a $1.17/pig benefit from 0 to 21 days and $0.15/pig benefit from 21 to 39 days **(Table 1, below)**

Table 1. Profit Opportunity Loss in USD Compared to 68% SID Thr:Lys on a Fixed Time Basis

	SID Thr:Lys, %					
	53	56	59	62	65	68
0 to 21 d	-2.91	-2.33	-1.75	-1.17	-0.58	0
21 to 39 d	-0.47	-0.31	-0.19	-0.10	-0.04	0

For nurseries managed on fixed weight, a ratio of 68% SID Thr:Lys maximized profit from 0 to 21 days and 62% maximized profit from 21 to 39 days. Note that the optimal ratio of Standardized Ileal Digestible (SID) threonine:lysine depends on the ingredient prices available to you.

CLICK HERE TO DOWNLOAD THE FULL RESULTS

Have Questions? Please reach out to the PIC Nutrition Team.

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PIC® · 100 Bluegrass Commons Blvd Ste 2200, Hendersonville, TN 37075 · 1-800-325-3398