



TECHNICAL NOTE

Data analysis demonstrates improved swine performance with higher levels of OptiPhos®

Background

Industry practice for including of phytase and inorganic phosphorous in swine diets has traditionally been nonstandard, relying on nutritionist experience and the need to balance a variety of dietary issues and costs. In recent years, there has been an industry trend toward experimentation with higher levels of

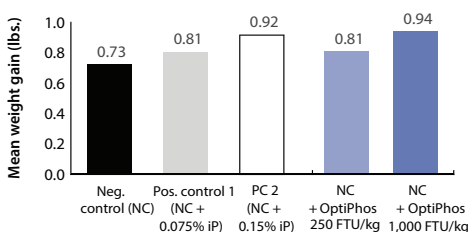
phytase to maximize swine performance. The following summary provides an evidence-based examination of the effects of increasing dietary phytase levels on swine performance. Among the many factors that must be considered in formulating swine diets, this information provides support for phytase feeding levels.

About the Trials^{1,2,3}

- Analysis of pooled data
- 3 trials
- 260 nursery pigs total
- Initial body weights 11 lbs.-22 lbs.
- Average study duration of 21 days
- Examined effects of 2 OptiPhos levels:
 - 250 FTU/kg
 - 1,000 FTU/kg
- Studies each included 1 negative control and 2 positive controls (inorganic phosphorus, iP)
- 6 performance parameters measured:
 - Average daily gain (lbs.)
 - Final body weight (lbs.)
 - Feed conversion ratio (lb./lb.)
 - Fibula ash (mg)
 - Fibula ash (%)
 - P-release ash (%)
- All parameters improved with increasing OptiPhos levels.

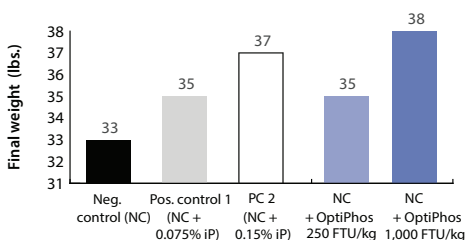
Results of Pooled Data

Average Daily Gain (lbs.)



Increasing OptiPhos level from 250 FTU/kg to 1,000 FTU/kg improved average daily gain by **16.05%**.

Final Body Weight (lbs.)



Increasing OptiPhos level from 250 FTU/kg to 1,000 FTU/kg improved final body weight by **8.57%**.

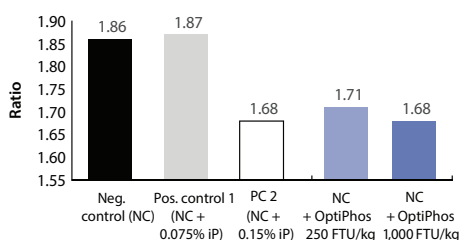
Key points

- Data consolidated from three trials shows OptiPhos fed at 1,000 FTU/kg improved performance across six parameters, compared to OptiPhos at 250 FTU/kg: average daily gain, final body weight, feed conversion ratio, fibula ash (mg), fibula ash percent and P-release ash percent.
- Increasing OptiPhos from 250 to 1,000 FTU/kg demonstrated these performance benefits:
 - ADG improved by **16.05%**
 - Final body weight improved by **8.57%**
 - Feed conversion ratio improved by **1.75%**
 - Fibula ash (mg) improved by **12.85%**
 - Fibula ash percent improved by **4.44%**
 - P-release ash percent improved by **57.14%**

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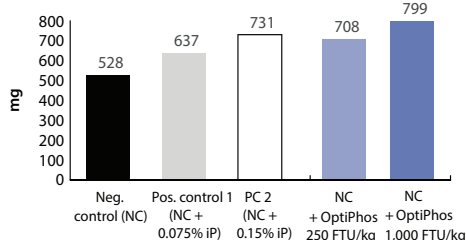
(Results of Pooled Data continued)

Results: Feed Conversion Ratio (lb./lb.)



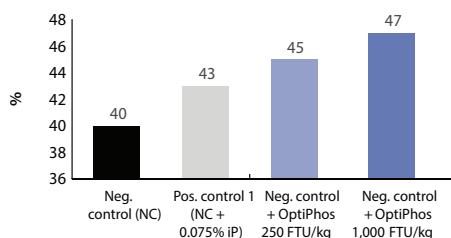
Increasing OptiPhos level from 250 to 1,000 FTU/kg improved feed conversion ratio by **1.75%**.

Fibula Ash (mg)



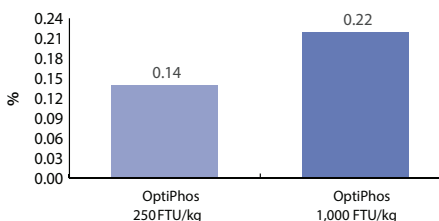
Increasing OptiPhos level from 250 to 1,000 FTU/kg improved fibula ash by **12.85%**.

Fibula Ash (%)



Increasing OptiPhos level from 250 to 1,000 FTU/kg improved fibula ash percent by **4.44%**.

P-release Ash (%)



Increasing OptiPhos level from 250 to 1,000 FTU/kg improved P-release ash by **57.14%**.

Summary

Pooled data from these three studies demonstrate performance improvement with OptiPhos fed at 1,000 FTU/kg compared to 250 FTU/kg.



	OptiPhos 250 FTU/kg*	OptiPhos 1,000 FTU/kg
ADG	0.81 lbs.	0.94 lbs. (+16.05%)
Final body weight	35 lbs.	38 lbs. (+8.57%)
FCR	1.71 lb./lb.	1.68 lb./lb. (+1.75%)
Fibula ash	708 mg	799 mg (+12.85%)
Fibula ash	45%	47% (+4.44%)
P-release ash	0.14%	0.22% (+57.14%)

While every diet is different and must factor in both nutritional needs and feed costs, this analysis demonstrates the benefits of higher dietary levels of OptiPhos phytase in maximizing swine performance.



250 FTU is equivalent to 50g of Optiphos 10,000 PF coated per tonne of feed
Superdosing with 1,000 FTU is equivalent to 200g of Optiphos 10,000 PF coated