NUTRITION NOTES
Innovation + Research from Kent Nutrition Group
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USE OF NUTRIVANTAGE® IN REPRODUCTIVE SWINE

In previous research of NutriVantage® Nutrition Optimizer®, we have observed both significant performance and economic responses with these technologies for animals and birds raised under a variety of conditions at the Kent Nutrition Group Product Development Center. Our exclusive NutriVantage for swine formulas are made with nutritional components that consist of a blend of organic macromolecules, trace minerals, antioxidants, and chelating agents that can help promote a healthier gut environment along with providing immune system support. In addition, NutriVantage can aid in nutrient availability and maintain performance in times of stress. Moreover, these natural proprietary compounds may have anti-inflammatory properties which can be beneficial to both animals and birds.

Sows on test in the Gestation Barn.

There are many sow units that have very large numbers of pigs born per sow, but often many of these pigs have low viability, which can result in greater pre-wean mortality. In addition, there are many health challenges that occur in these units, which can lower pre-wean survivability. To date, we have not evaluated the effect of NutriVantage in reproduction so that was the primarily objective of this trial with swine.

Sows on test in the Farrowing Room.

This trial was conducted in a Commercial 3,100 Sow Unit which had a high health status throughout the testing period. The gilts and sows were fed a top dress product daily (Placebo or with NutriVantage) starting in gestation (1 week after weaning) and throughout lactation. The first gilts and sows started on trial in late June, 2008 and were placed in farrowing rooms during October through December, 2008. Pigs were cross fostered within treatments during the first 24 hours after birth. This trial was very extensive with 953 gilts and sows placed on test.

The genetics used at this sow unit were F1 females mated via Artificial Insemination to semen from a commercial terminal boar line. There were two services per female. A very thorough vaccination and herd health program is standard protocol for this sow unit.

The gestation and lactation data are shown in Table 1. We observed no differences for total born, born alive, mummies, and stillborns between the treatments. However, we did find a numerical increase (90.79 vs. 90.00) in Percent Survival when sows were top dressed with NutriVantage compared to those that were not. This in turn resulted in more pigs (10.80 vs. 10.69) weaned per litter with the supplemental NutriVantage as opposed to those animals not receiving it. There were no differences in Days to Estrus nor in Feed Disappearance between the two treatments in this study.

continued

Shown in Table 2 are the lactation data in which litters of pigs were weighed within about 48 hours of birth and then weighed again at weaning time which was around 20 days of age. There were more pigs started with a lower birth weight for those sows fed the supplemental NutriVantage with this resulting in 0.16 more pigs weaned compared to not using the NutriVantage. In addition, the weight gains of pigs were similar between these two treatments.

Summary

The summary on economics is shown in Table 3. Basically, we found that Pre-wean mortality was improved when NutriVantage was included in the study even though this Sow unit had pigs with high health status. With more pigs weaned per litter from the use of NutriVantage, there would be extra revenue ($10.45/sow). Subtracting out the cost of this technology (about $4.00/sow) would leave a net revenue of about $6.50/sow/year from supplemental NutriVantage. Keep in mind that most sow units do not have a pre-wean mortality that is at 90% and that these sows in this trial were lactating in October through December so there was no heat stress imposed during this time. Another health issue in sow units involves joint and leg issues. Since the chelating agents in NutriVantage have been shown to decrease inflammation and arthritic conditions, via a patent, the use of this technology could be helpful in sow units. The bottom line is that the use of NutriVantage, in a very high health status Sow unit, was positive. Thus, besides the performance and economic benefits we have observed in pigs, calves, beef and poultry, we can now add reproduction in swine to this list as we continue to develop and explore new areas of research with these natural and proprietary compounds.

Table 3

- Despite a very "High Health Status Herd," pre-wean mortality was improved (90.79 vs. 90.00) with NutriVantage®
- Use of NutriVantage® resulted in more pigs (0.11) weaned per litter
  - At $38/head this is worth $4.18/litter
  - With 2.5 litters/sow/year the added revenue would be $10.45
  - Added expense to use NutriVantage® would be less than $4.00/sow/year
- Based on this trial, net revenue was increased by roughly $6.50/sow/year with NutriVantage®

Table 1: Effect of NutriVantage® (NV) in Gestating and Lactating Sows

Gestation	Without NV	With NV
Sows Started	491	462
Total Born	13.00	12.97
Born Alive	11.90	11.91
Mummies	0.29	0.29
Stillborns	0.81	0.77
Lactation	**Without NV**	**With NV**
Pigs Started	11.90	11.91
Pigs Weaned[1]	10.69	10.80
Percent Survival[2]	90.00	90.79
Days to Estrus	5.19	5.19
Feed Disappearance/Day, lb	16.06	16.08

Kent Feeds Sow Trial (FT-2)
[1] Treatment effect (P < .18) [2] Treatment effect (P < .23)

Table 2: Effect of NutriVantage® (NV) in Lactating Sows

Lactation	Without NV	With NV
Sows Started	80	7
Pigs Started	11.54	11.70
Average Weight/Pig, lb	3.79	3.58
Pigs Weaned	10.89	11.05
Gain/Pig/Day, lb	0.56	0.54

Kent Feeds Sow Trial (FT-2)

Sows typically had 12 pigs on test after cross fostering, within treatment, the first 24 hours after birth.

NOTE: The product tested in this research was named BoVantage®. In 2019, the name changed to NutriVantage®, however all ingredients remained the same. All research findings for the product formerly named BoVantage apply to NutriVantage.

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