NUTRITION NOTES
Innovation + Research from Kent Nutrition Group
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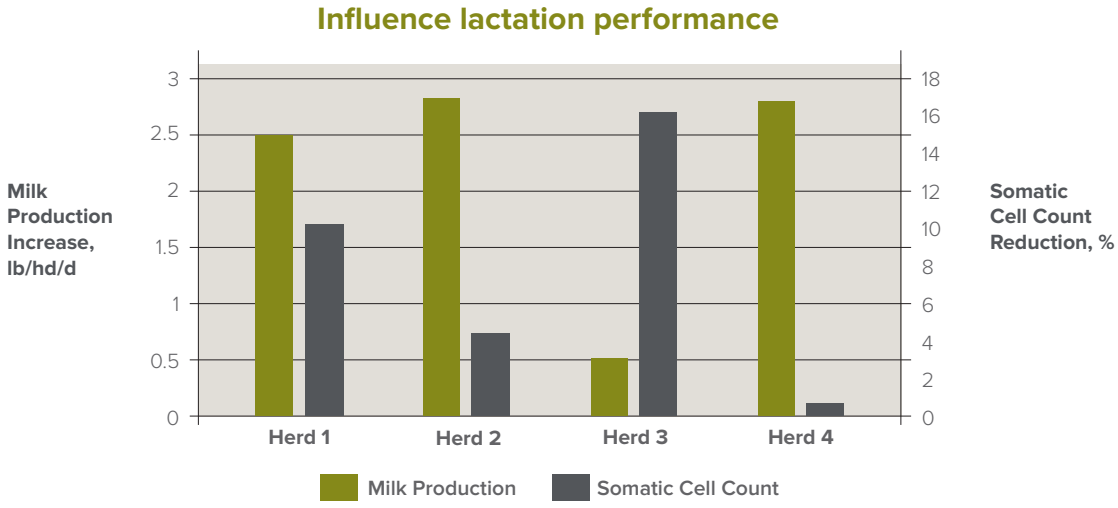
THE INFLUENCE OF NUTRIVANTAGE® ON LACTATING DAIRY COWS

The effects of NutriVantage® Nutrition Optimizer® on cattle and dairy calves regarding performance and health have been well documented, but data on the effects of NutriVantage (NV) in lactating dairy cows was lacking. In the fall of 2010, we designed a large field trial to determine the effects of NutriVantage in lactating dairy cows.

We selected four dairy herds in the Northeast U.S. for the large field trial; three herds in New York and one herd in Virginia. We utilized an "off/on/off" trial designed where data was collected for two weeks during the first "off" period with cows not fed NutriVantage, followed by two months of the "on" period where cows were fed NutriVantage, followed by a second "off" period where NutriVantage was removed for an additional two months of data collection. The field trial was conducted from December 2010 through May 2011. Between the four herds, a total of 2,403 lactating cows started on the study and data were analyzed for the 1,608 cows that completed all five months of the trial. Data collection consisted of DHI test data and milk plant bulk test results.

Results of the trial are summarized in Table 1. There was a significant milk production response to NutriVantage in three of the four herds, a significant milk fat % response in two of the four herds, a significant milk fat yield response in three of the four herds, a significant milk protein % response in three of the four herds, a significant milk protein yield response in two of the four herds, and a significant SCC response in two of the four herds. NutriVantage had no effect on milk urea nitrogen (MUN) as expected.



With over a decade of research on Nutrivantage technologies, a consistent response has been seen within field trials testing the impacts of Nutrivantage for Dairy on lactating dairy cows. In four separate field studies representing over 1600 premiparous and multiparous lactating dairy cows, there has been an improvement in total milk yield of over 2.2 lbs/hd/d and an average reduction in somatic cell counts of over 5.5%.

continued

Overall, results when pooling the data from all herds are summarized in Table 2. There was a positive milk response to NutriVantage of 2.26 lb/cow/day, a slight increase in milk fat % of 0.04% units, but tremendous variability in the data due to seasonal effects, a milk fat yield response of +0.11 lb/cow/day, a milk protein response of +0.05% units, a milk protein yield response of +0.11 lb/cow/day, no effect on MUN levels, and NutriVantage lowered SCC by 8,355 somatic cells/ml of milk.

Table 1
Production Parameters by Herd

	Herd A 228 Cows on Study		Herd B 467 Cows on Study		Herd C 347 Cows on Study		Herd D 566 Cows on Study	
Parameter	Control	NV	Control	NV	Control	NV	Control	NV
Milk, Lbs	77.73*	80.22*	83.36**	86.16**	93.85	94.36	85.49**	88.26**
Milk Fat, %	3.82	3.85	3.61	3.58	3.75**	3.85**	3.70**	3.77**
Milk Fat, lb	2.97*	3.09*	3.01	3.08	3.52*	3.63*	3.16**	3.32**
Milk Protein, %	3.09	3.10	3.03*	3.06*	3.05**	3.08**	3.09**	3.17**
Milk Protein, lb	2.40	2.49	2.53**	2.64**	2.86	2.91	2.64**	2.79**
MUN	15.47	15.62	11.53	11.55	12.67	12.99	11.26	11.47
SCC	114,035**	102,535**	134,480	140,240	232,320**	195,250**	155,080	153,950

Table 2
Overall Production

1608 Cows on Study		
Total Control	Total NV	Difference with NV
85.57	**87.83**	**2.26**
3.70	**3.74**	**0.04**
3.17	**3.28**	**0.11**
3.06	**3.11**	**0.05**
2.62	**2.73**	**0.11**
12.24	**12.41**	**0.19**
159,945	**151,590**	**-8,355**

*Means within same herd on same line differ (P < .05).
**Means within same herd on same line differ (P < .01).

Unfortunately, we were unable to summarize dry matter intake data on these herds, but the milk production response would suggest a 1 lb/cow/day increase in dry matter intake with NutriVantage feeding. So to summarize the findings, we did observe a positive milk response in three of the four herds, so I am confident that we will see some milk production response in most herds, particularly if NutriVantage is fed to the close-up dry and fresh cows, but remember that in many herds it is difficult to track a 2 lb/cow/day milk response because some herds vary that much in production from day to day. I am also confident that we would generally observe a positive response in milk fat and milk protein production (lb/cow/day). I would not expect to see a milk fat % response in most herds because there is so much variation in milk fat % over time. The milk protein % response was quite strong in one of the herds, but I would not necessarily expect to see a response in milk protein %. When we designed the field trial, we were expecting to see a positive response in reduced SCC with NutriVantage feeding due to the product's impact on immune function and we did observe this in two of the four herds. In particular, Herd C could see the SCC reduction in the bulk tank results when they were feeding the product, however, it does not lower SCC in all cases.

Based upon the average production response we observed in our field trials, we would expect anywhere from a 2:1 to 4.5:1 return on investment, depending upon feed and milk prices. The best way to try the product is to collect milk and milk component data (fat %, protein %, and SCC) right before it is fed and then feed the product for one month and compare your data after feeding it for a month. In some herds, the production responses may be subtle and it may take three or four weeks to truly observe some of the production effects. Only one of the four herds in the field trials was positive; they saw production benefits before the data were analyzed, so don't expect immediate production results, but we have been seeing some nice responses in the field since NutriVantage for dairy was introduced. We now have well over 8,000 lactating dairy cows on the product throughout the company.

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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