



INNOVATIVE DEPENDABLE EFFECTIVE

A photograph of several black and white dairy cows in a barn, looking over a metal railing. The cows are in the foreground, and the background shows more cows and barn structures.

BOVAZYME®

Effect of **BOVAZYME®**,
Feed Enzyme Additive,
on Milk Production in a
Mexican Dairy.



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EFFECT OF BOVAZYME®, FEED ENZYME ADDITIVE, ON MILK PRODUCTION IN A MEXICAN DAIRY.

Summary

Two groups of cows were compared in a commercial dairy. Cows in the test group (n=128) were fed **BOVAZYME®**, feed enzyme additive for dairy and grazing cattle, beginning on day 14 through day 45. Control cows (n=136) were fed the same feed without **BOVAZYME**.

During the 13 days prior to feeding **BOVAZYME** to the test group, milk production of cows in the test group decreased by 0.99 liters per day while milk production in the control group increased by 0.45 liters per day. This difference was not statistically significant ($P=0.368$). After 45 days of feeding **BOVAZYME**, milk production of the test group had increased by 2.95 liters per day, while milk production of the control group had decreased by 1.05 liters per day. This difference was statistically significant ($P=.016$) which indicates a difference in milk production due to feeding **BOVAZYME**.

Introduction

Feeding enzymes to increase phosphorus availability has been widely adopted by swine and poultry producers; and feeding enzymes to cattle is becoming more common.

BOVAZYME feed enzyme additive is a blend of several different types of enzymes which act on starch, fiber, and other complex carbohydrates to increase digestibility and, therefore, increase net energy of feed for beef and dairy animals.

An increase in net energy increases production and / or improves body condition of cows. This experiment was conducted to determine if feeding **BOVAZYME** feed

enzyme additive to dairy cows would increase milk production in a large Mexican dairy farm.

Experimental Procedure and Results

Two groups of cows were assigned to one of two treatments on a large dairy in Mexico. Cows were fed the same feed, but the test group was fed **BOVAZYME** feed enzyme additive beginning on August 21, 2010, while cows in the test group were not fed **BOVAZYME**. Milk production on August 8, 2010 (14 days prior to feeding **BOVAZYME**), August 21, 2010 (the day when **BOVAZYME** feeding began), and October 5, 2010 (45 days after **BOVAZYME** feeding began) was compared between the two groups.

Actual milk production between the two groups was different because cows in the control group were older cows and cows in the test group were first calf heifers. Because of this confounding effect on milk production, the differences in milk production for the first 13 days pre-test and during the 45-day feeding period were compared for the two groups of cows. (See Table 1)

During the pre-test period, milk production for the **BOVAZYME** group declined by 0.99 liters per day, while milk production for the control group increased by 0.45 liters per day. During the test period, milk production increased by 2.95 liters per day for the **BOVAZYME** group and decreased by 1.05 liters per day for the control group - a difference of 4.00 liters per day. Statistical analysis showed that actual milk production between the two groups was different at each time point ($P<.05$). Because of this difference in milk production,

MILK PRODUCTION COMPARISON

	Milk Production 13 days pre-test Liters/day	Milk Production Start of Test Liters/day	Milk Production 45 days after test Liters/day	Difference 13 days Pre-Test Liters/day	Difference 45 days of Test Liters/day
BOVAZYME Group (n=128)	26.91 ± 0.5744	25.92 ± 0.50	28.87 ± 0.53	-0.99 ± 1.15 (N.S.)	2.95 ± 0.53 ^a
Control Group (n=136)	32.01 ± 1.0230	32.46 ± 1.04	31.42 ± 1.14	0.45 ± 1.12 (N.S.)	-1.05 ± 1.52 ^b
Difference BOVAZYME vs Control Liters/day	-5.10	-6.55	-2.55	-1.44	+4.00

TABLE 1 N.S. = differences between treatment groups Not Significant.
^{ab} differences between treatment groups significant P=0.016

the change in production before the test and during the test period was chosen for statistical analysis to evaluate the effect of **BOVAZYME**.

This analysis revealed that the change in milk production for the 13 days pre-test was statistically the same for both the control and **BOVAZYME** group. The change in milk production for the test period was statistically significant (P=0.016) which shows that **BOVAZYME** had a positive effect on milk production with an increase of 4.0 liters per day.

Economic Results

BOVAZYME showed a return-on-investment of 27:1. The cost of a 2.5 gram dose was \$0.053 per cow per day. The return with increased milk production of 4.00 liters and a price of \$0.36/liter was \$1.44 per cow per day.

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BOVAZYME®

WHAT DOES BOVAZYME DO?

- Targets Fiber and Cellulose breakdown
- Makes Protein and Fat Digestion more efficient
- Generates more profitable output with the same input



BOVAZYME® TESTIMONIALS

"Our cows feed efficiency has greatly increased since we started feeding BOVAZYME. They have maintained 80 or more pounds of milk with 3 to 3.5 less pounds of corn meal, and 1.5 less pounds of protein mix, while forage quality has stayed constant. Everything is digesting better now."

Dairy Farmer
Adamsville, Pennsylvania

"My herds saw significant responses in milk and components. I have never seen any other feed additive produce the consistent response that I have seen with BOVAZYME."

Dairy Nutrition Consultant
Robesonia, Pennsylvania

"As a handler who buys and resells cows to other dairy operations, I saw a major improvement in how new cows transition and adapt to our feeds with BOVAZYME. Buyers have also seen better transitioning cows purchased from me."

Dairy Cattle Handler
Hershey, Pennsylvania

WHO WE ARE

York Ag is a dynamic supplier of holistic ingredient solutions focused on supporting animal well-being.

WHY WE EXIST

York Ag lives to bring innovative, dependable, and effective feed ingredient solutions to feed manufacturers, livestock consultants, and animal producers.

HOW WE OPERATE

York Ag uses determination, curiosity, and a collaborative approach to recommend and supply functional products that deliver both performance and profitability in an increasingly transparent marketplace.

OUR HOPE

York Ag seeks to enrich the lives of animals, producers, and consumers.

Everyone Deserves
a Nutritious Meal®

PACKAGING OPTIONS

BOVAZYME® and BOVAZYME® ORGANIC are available in 25 kg bags that can be used in Total Mixed Rations (TMRs), liquid feeds, loose minerals, and feed tubs. Recommended feed rate: 2.5 grams per head per day.



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