Arm & Hammer Animal Nutrition

Dairy Nutrition UPDATE

February 2009

Capture the Best of Both Worlds with Milk Components

The saying goes, "You can't have your cake and eat it, too." Fortunately, when it comes to making money and keeping cows healthy, things aren't as complicated. You can have your "tasty treat"—ensuring your clients' herds accrue more profits—and savor it too, by optimizing rumen function and cow nutrition.

How is such a feat possible? By focusing on milk components, financial gains can result from the additional pounds of fat and protein in the milk, while you enjoy the peace of mind offered by a healthy rumen.

Boosting Butterfat

Butterfat is produced independently of milk, which means butterfat can change easier with the right nutrition program. A recent Washington State University study[1] demonstrated that feeding DCAD Plus® Feed Grade Potassium Carbonate can increase butterfat production.

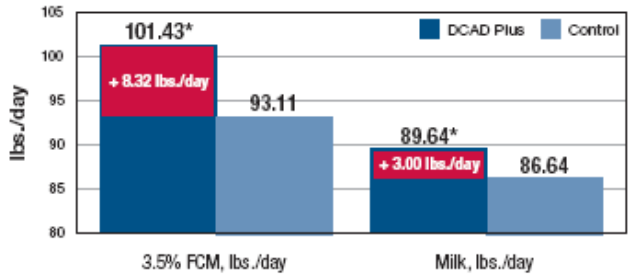
Study Design

- 30 fresh cows were divided into two equal groups through 105 DIM.
- Study length: August through December of 2007
- Treatment group
  - DCAD Plus fed at a rate of 1.8 percent dry matter with DCAD balanced for +42 meq/100g ration dry matter.
- Control group
  - Potassium through forage sources alone was fed at a rate of 1.2 percent dry matter with DCAD balanced for +25 meq/100g ration dry matter.

Research Results

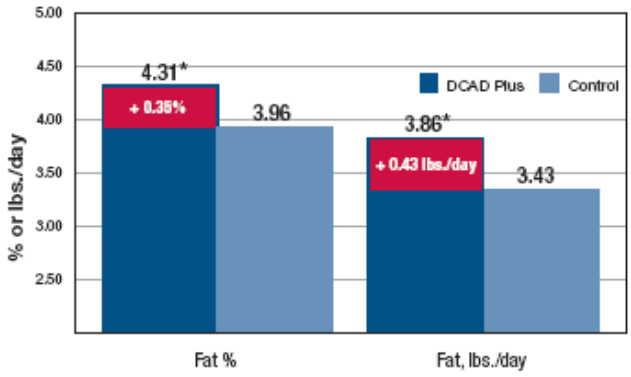
The research concluded cows supplemented with DCAD Plus:

- **Improved milk production.** Cows in the treatment group increased milk production by 3.0 pounds. The 3.5 percent fat-corrected milk increase was 8.32 pounds.



*Differences were significant (P<0.05)

- **Produced more fat.** Milk fat rose from 3.96 percent to 4.31 percent, an increase of 0.35 percentage units. This totaled 0.43 pounds more fat per day than the control group.



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- **Had a greater economic return.** The additional milk and component production increased profits in this study by $0.55 to $1.15 per cow per day after adjusting for costs and increased dry matter intake.

Profit Potential (per cow per day)	
Milk Response	8.32 lbs.
FCM Yield Benefit ($12.50 cwt)	$1.04
Additional feed (DCAD Plus, DMI)	($.71)
Additional Profit:	+$.33

The Power of Protein

High-producing cows reach their production potential in part due to a healthy rumen with thriving microbial populations. Rumen microbes break down feed and produce microbial protein, which are both necessary for optimal milk protein production.

FERMENTEN® Rumen Fermentation Enhancer delivers rumen microbial bugs a readily available source of the precursors needed to produce protein, including amino acids, nucleotides and peptides. Diets supplemented with FERMENTEN have been shown[2] to increase microbial protein production by as much as 20 percent when partially displacing soybean meal. Additional microbial protein output leads to increased milk protein production, and more money in your clients' milk checks.

Enhance components, increase profits

While it may seem that minor improvements in milk protein and butterfat will minimally influence profits, the

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Capture the Best continued ...

financial gains experienced by increasing components can be staggering! As the example shows, even slight butterfat and milk protein production gains can result in drastically improved profits.

Looking at the numbers you can see why improving milk components should be a no-brainer. The improved financial implications, along with the resulting rumen health, are great reasons to continue making components a top priority in your clients' herds.

	Herd A	Herd B
Number of Cows	500	500
Milk production	1,200,000 lbs/mon (80 lbs/cow/day)	1,200,000 lbs/mon (80 lbs/cow/day)
Butter fat percent	3.2 percent	3.5 percent
Milk protein percent	2.9 percent	3.1 percent
Revenue from butterfat/month	(38,400 lbs fat) ($1.3431/lb) = **$51,575.04**	(42,000 lbs fat) ($1.3431 lb) = **$56,410.20**
Revenue from milk protein/ month	(34,800 lbs protein) (2.4388/lb) = **$84,870.24**	(37,200 lbs protein) (2.4388) = **$90,723.36**
Additional Revenue/month for Herd B		**$10,688.28**
Additional Revenue/year for Herd B		**$128,259.36**

1 White B, Harrison J, Kincaid R, Block E, St-Rene N. Effectiveness of potassium bicarbonate to increase dietary cation-anion difference in early lactation cows. Submitted to *J Dairy Sci* for publication 2008.

2 West Virginia University study, Data on file.