

# The PEAK REPORT

## Delivering Solutions for Peak Profits

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www.AHDairy.com

Arm & Hammer Animal Nutrition



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This issue of *The Peak Report* focuses on one solid truth in economically challenging times—keeping cows healthy and productive is more important than ever.

We first share research about the value of uterine health for optimal production potential and reproductive performance.

Learn more about the role rumen microbes play in maintaining rumen function and maximizing productivity. We also delve deeper into metabolizable protein—what it is, why it's important and ways to increase its production in the rumen.

A nutritionist weighs in with how to formulate the ration for a smooth transition, while also providing tips on how to look beyond nutrition to manage transition cows for peak performance.

Robin Schmah, an expert commodity broker, shares tips on how to best manage risk in 2009.

In these economic conditions keeping cows healthy, productive and profitable is especially important. Contact us or visit [www.AHDairy.com](http://www.AHDairy.com) to learn more about how to achieve these goals, regardless of the economic environment.



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## How Valuable is Uterine Health?

There's no better way to show the value of uterine health than through dollar signs. That's just what Dr. Michael Overton, University of Georgia, did at the 2008 Dairy Cattle Reproduction Council conference,<sup>1</sup> outlining the financial implications of maintaining reproductive health throughout the cow's productive life.

### Putting a Price on Uterine Health

Dr. Overton identified four major areas metritis influences, and their impact on dairy profitability.

- **Reduced milk production.** Cows diagnosed with metritis produced 15.1 pounds less milk per day in the first 30 days in milk (DIM). At \$14 milk, the resulting loss is \$60 per case of metritis.
- **Increased culling risk.** Cows with metritis are more likely to leave the herd within the first 60 DIM, resulting in a cost of \$75 per case.
- **Decreased reproductive performance.** 21-day pregnancy rate decreased by 4.5 points compared to cows without metritis, resulting in financial losses of \$81 per case.
- **Additional treatment costs.** Depending on drug utilization and discarded milk, the cost can vary from \$50 to \$94 per case.

The total cost of metritis in a herd can cost approximately \$300 per diagnosed case. On a 1,200 cow dairy with a metritis incidence of 20 percent, the annual cost of metritis alone can approach \$73,000.

### Metritis Prevention Over Treatment

Avoid expensive uterine infections by providing the energy and nutrients necessary for fresh cow success.

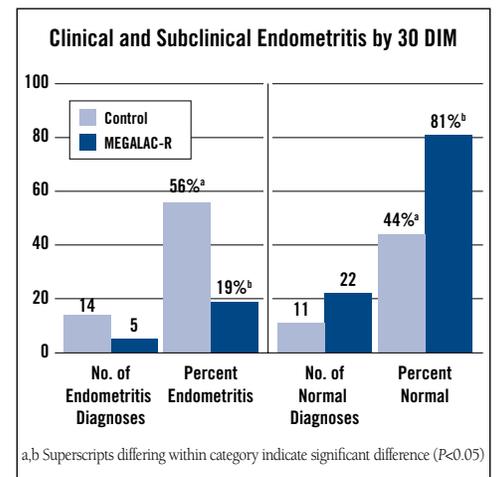
### Negative DCAD in the Prefresh Pen

Prior to calving, a negative DCAD of -8 to -12 meq/100g ration dry matter can reduce the

incidence of metabolic disorders and help cows successfully join the milking string.<sup>2</sup> By feeding BIO-CHLOR® Rumen Fermentation Enhancer at least 21-days prepartum, research has shown that cows experience 65.9 percent fewer uterine infections while significantly increasing milk production.<sup>2</sup>

### Specialty Bypass Fats Through the Transition

Pre- and postpartum, MEGALAC®-R Omega-3 and Omega-6 Essential Fatty Acids (EFAs) delivers the high-quality bypass fat cows need to meet energy demands as well as the right balance of both Omega-3 and Omega-6 EFAs to maintain uterine health. A recent study at the University of Arizona<sup>3</sup> shows that cows supplemented with MEGALAC-R in the prefresh pen through breeding reduced the incidence of metritis by 37 percentage points.



To minimize the negative impact of metritis on your herd and your pocketbook, contact your ARM & HAMMER® representative to discuss ways to keep your cows reproductively sound and healthy throughout all stages of lactation.

# The Critical Role of Rumen Microbes

High-producing cows reach their production potential in part due to a healthy rumen with thriving microbial populations. Rumen microbes are responsible for feed breakdown and microbial protein production, both of which are necessary for health and productivity. By fully understanding the relationship between microbial nutrition and cow health, you can ensure your cows have the ability to perform to their potential.

## Cows and Microbes Thrive Together

Cows and rumen microbes interact symbiotically, meaning they benefit from working together. The cow provides a warm, oxygen-free environment, water and the initial breakdown of feed through cud chewing. Microbes return the favor by further breaking down the feed to usable nutrients, producing volatile fatty acids and microbial protein as byproducts.

Microbes also serve as an important

protein source, providing as much as half of the total dietary protein. Rumen microbes are particularly rich in lysine and methionine, two amino acids that are difficult to supplement through the diet.

In essence, when you feed cows, you're feeding their rumen bugs. Ensuring a healthy and thriving microbial population translates to more available nutrients, resulting in faster development in heifers and optimal milk and component production in cows.

## The Building Blocks of Microbial Protein

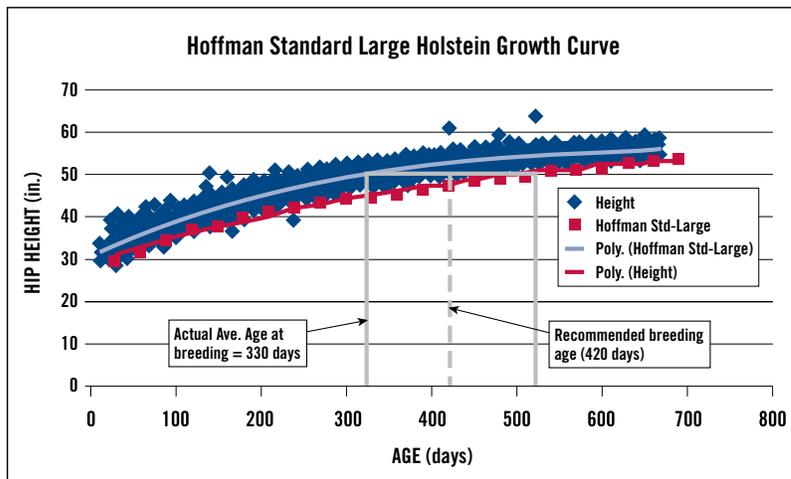
FERMENTEN® Rumen Fermentation Enhancer delivers the right composition of protein precursors needed for rapid microbial stimulation and growth. FERMENTEN supplies free amino acids, nucleotides and peptides in a slow release form to ensure optimum usage by the rumen microbes.

## Positive Results with FERMENTEN

Additional feed digestion and available protein can have benefits in both the heifer pen and the milking string.

For heifers, further breakdown of feed produces more usable nutrients to match weight gain with structural growth, allowing heifers to grow and reach breeding size sooner. Research<sup>4</sup> conducted on a large commercial dairy concluded heifers fed FERMENTEN:

- **Grew faster**, achieving standard height goals 170 days sooner.
- **Were eligible for breeding sooner**, on average at day 330, 90 days earlier than non-supplemented heifers.
- **Calved earlier** and joined the milking string at 21 months, three months earlier than the control group.
- **Performed well in the milking string** and demonstrated similar performance to heifers calving at recommended breeding age three months later.



In the milking string you can realize improved efficiencies by feeding FERMENTEN, including fewer pounds of expensive protein needed to optimize performance while also reducing nutrient excretion. One study<sup>5</sup> found that cows supplemented with FERMENTEN:

- **Increased production.** Milk production jumped three pounds per cow per day.
- **Improved components.** Milk fat levels climbed 0.4 pounds per cow per day.

As rations are formulated, keep in mind that rumen microbes must be fed first. Their growth and reproduction are dependent on key nutrients which will, in turn, set the stage for heifer growth and milking performance.

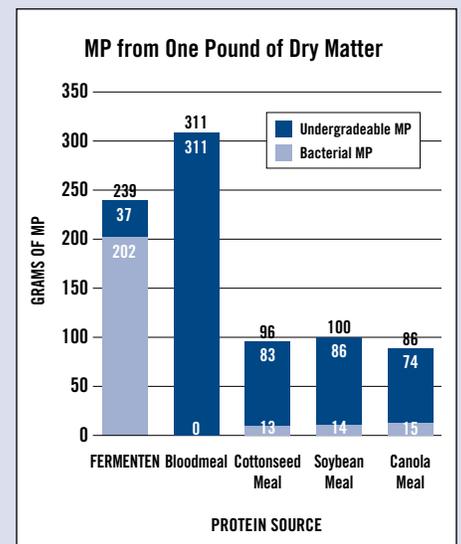
# A Near-perfect Protein Source

High-quality protein has become one of the most expensive nutrients, yet it's critical for optimized herd performance. One cost-effective, high-quality protein produced by rumen microbes is metabolizable protein (MP).

MP is the protein used for daily maintenance and production and can be increased in two ways:

- Substituting a degradable protein source, like blood meal, for a rumen undegradable protein source, like soybean meal.
- By improving rumen efficiency through a proper balance of carbohydrates and degradable sources of dietary protein.

One tool to help boost MP production is FERMENTEN®. As the graph illustrates, FERMENTEN delivers large levels of bacterial MP when compared to commodity protein sources. Bacterial MP is especially important for the rumen because it provides a rich and cost-effective source of key limiting amino acids, like lysine and methionine.



FERMENTEN delivers more high-quality MP to your herd through maximized microbial protein output, helping keep protein costs reasonable while supplying a high-quality nutrient source for maximum uptake by the cow.

# Q&A: Focusing on Nutrition for a Smooth Transition



Felix Soriano is the president and founder of APN Consulting in Warrington, Pennsylvania. Soriano has more than nine years of experience working with dairy producers, providing insight on labor management, nutrition and herd profitability.

## Why is the prefresh feeding program so critical to cow health?

Herd performance, health, reproduction and profitability are all influenced by the prefresh diet. A good prefresh feeding program will result in better early lactation performance, reduced culling during the first 60 days in milk and improved reproductive success.

## Why is a negative DCAD so critical prepartum?

By assisting the transfer of calcium from the bones to the bloodstream we can reduce the incidence of postpartum metabolic disorders. I use BIO-CHLOR® as a tool to reduce ration DCAD in close-up diets and as an “insurance policy” when forage quality is variable.

## What has been your experience with feeding BIO-CHLOR in the prefresh ration?

I've been recommending BIO-CHLOR for more than five years and have seen a reduced incidence of milk fever, ketosis and

retained placentas. As a result, herds often experience significant improvements in dry matter intake (DMI) and milk production after calving.

The composition of BIO-CHLOR also helps to promote rumen function, thus better preparing the rumen and rumen bugs for the upcoming lactation.

## How can producers measure cows' performance on BIO-CHLOR?

Producers can measure cows' performance by monitoring incidence of metabolic disorders and early lactation milk yield, as well as checking urine pH on close-up cows.

## If a producer was interested in feeding BIO-CHLOR, what advice would you provide?

- Follow recommended feeding rates, ensuring DCAD is in the range of -8 to -15 meq/100 g ration dry matter.
- Monitor urine pH weekly with a target of 6.5. Avoid urine pH dropping below 6.0 or rising above 7.0.

## How can producers ensure their transition management practices optimize pre- and postpartum performance?

A few management practices that directly impact prefresh cow performance include:

- **Cow comfort.** Reduce overcrowding, provide wider stalls and make sure pens are clean, dry and comfortable.

- **Dry matter intake.** Promote high intakes by feeding high-quality forages, pushing up feed often and having good bunk management.
- **Pen groupings.** Multiple pen moves may decrease DMI and increase stress. Especially when possible, have a separate close-up heifer group.

## 2009 Forage Testing Program is Just Around the Corner

The 3rd annual Arm & Hammer Forage Testing Program<sup>SM</sup> will begin again this spring! As with the past two years, the 2009 Forage Testing Program will provide macromineral analyses of submitted forage samples to help determine ration DCAD. Balancing ration DCAD is important for maintaining healthy, productive and profitable cows throughout all stages of lactation.

The program will launch in May and run through September. Keep an eye out for program details or visit [www.AHDairy.com](http://www.AHDairy.com) in May for more information.

## Five Tips for Successful Transition Management



Beyond a properly formulated ration, how transition cows are managed has a direct impact on milking string performance. At the 2008 Dairy Cattle Reproduction Council conference, Dr. Ken Nordlund of the

University of Wisconsin-Madison shared five management factors that have the greatest influence on the transition.<sup>6</sup>

- 1. Bunk space in the prefresh and fresh cow pens.** Nordlund recommends a minimum of 30 inches of bunk space per cow in the pre- and postfresh pens to optimize dry matter intake (DMI).
- 2. Pen moves and social stress.** Every time a cow moves pens she must familiarize herself with the new environment, resulting in short-term decreased DMI and milk production.

Minimize pen moves during the transition period to reduce animal stress.

- 3. Cow comfort.** For optimal cow comfort, Nordlund recommends 100 to 120 square feet of bedded pack or freestalls greater than 50 inches wide by nine feet long.
- 4. Bedding source.** Sand as a bedding material is preferred in freestall facilities. However, any deep, loose surface bedding will be better for cows than lying on a hard or firm surface, such as a mattress.
- 5. Cow monitoring.** The quality of people who care for the cows has a dramatic effect on fresh cow screening. Critical times for screening cow health should include:
  - When TMR is delivered to the feed bunk
  - As cows return to the pen after milking
  - When cows are in head lock-ups
  - During feeding, assessing appetite and attitude

Pay close attention to these five areas to ensure cows transition to the milking string smoothly and perform to their potential.

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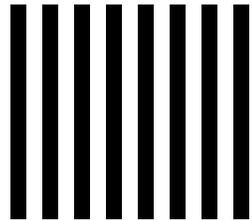
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**Rate the articles in this issue of *The Peak Report* on a scale from 1 to 5, with 1 being the least useful and 5 being very useful for your operation:**

\_\_\_ The Value of Uterine Health    \_\_\_ Q&A: Transition Nutrition  
\_\_\_ Role of Rumen Microbes    \_\_\_ Tips for a Successful Transition  
\_\_\_ Near-perfect Protein    \_\_\_ Managing Risk in 2009

Comments: \_\_\_\_\_

**What topics would you to see covered in upcoming issues of *The Peak Report*?**

\_\_\_ Heat stress    \_\_\_ Financial planning  
\_\_\_ Cow comfort    \_\_\_ Business strategies  
\_\_\_ Reproduction    \_\_\_ Economic forecasting  
\_\_\_ Rumen health    \_\_\_ Export update  
\_\_\_ Other: \_\_\_\_\_

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# Risk Management Practices for 2009

Low milk prices, steady feed prices and widespread volatility are the challenges facing the dairy industry today. In the midst of such challenges producers must focus on protecting their business as input costs climb, says Robin Schmahl of AgDairy, LLC.

Schmahl offers several risk management tips to evaluate during the unsteady markets of 2009. Here are the top five things to consider as you're making decisions for your operation:

**1. Be consistent.** An all-too-common mistake Schmahl sees is inconsistent price hedging. "One year producers may hedge milk and feed prices only to realize they would have been better off if they had not done anything," he explains. "The following year they decide to do nothing and end up with negative cash flow." Schmahl suggests that rather than

trying to outguess the market, focus on consistent hedging to best manage risk.

- 2. Forward contract.** While milk prices remain low, rising feed prices can add additional financial stress. "Forward contracting needs to be done," says Schmahl. "The primary focus should be to protect against higher prices." Purchasing feed on an as-needed basis can translate to the cost of production staying higher than milk price.
- 3. Rely on outside experts.** In a time of such tight margins, work closely with consultants and financial lenders, advises Schmahl. Not only can they identify areas for improvements, but they can also help minimize missteps.
- 4. Remember prices are cyclical.** "Milk prices below the cost of production will not remain forever," reminds Schmahl. He notes that traders will be watching for milk prices to move higher in the coming



Robin Schmahl is the owner of AgDairy LLC, a full-service brokerage firm specializing in dairy, grain and livestock markets. Schmahl is based in Elkhart Lake, Wisconsin, and has more than 13 years of experience as a commodity broker.

months. Continue to monitor prices and consult your financial expert to ensure you're getting the most for your milk.

- 5. Maintain profits with out-of-the-box thinking.** "It will be a challenging year, requiring producers to be creative to remain profitable," says Schmahl. By working with your consultants, you can identify ways you can maintain cow performance and profitability while keeping input costs reasonable.

## Research References

- 1 Overton M, Fetrow J. Economics of Postpartum Uterine Health, in *Proceedings*. 3rd Annual Dairy Cattle Reproduction Conference 2008;39-43.
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- 6 Nordlund K. Fresh Cow Programs: The Key Factors to Prevent Poor Transitioning Cows, in *Proceedings*. 3rd Annual Dairy Cattle Reproduction Conference 2008;73-76.

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