

Magnesium Deficiency Less Common But Just As Severe In Dairy Herds

BY DR. GEORGE
F.W. HAENLEIN
Extension Dairy Specialist
University of Delaware

NEWARK, Del. — In years past, the arrival of spring often brought some rather unique problems for cows in our dairy herds. These problems seem to have vanished, not because of our success in treating them, but because herd management on dairy farms in this part of the country has changed drastically.

We used to keep our milk cows on pasture most of the year, and early spring grazing often brought on grass tetany — a frequently fatal metabolic disorder due to low blood levels of magnesium. Young, highly succulent pasture grass usually has very poor magnesium availability.

Now that most mid-Atlantic dairy herds are kept on confinement or semi-confinement most of the year, magnesium deficiency is less likely to show up in this dramatic form. But this doesn't make magnesium any less important a mineral nutrient in our dairy cattle rations.

Adult Holstein cows contain about half a pound of elemental magnesium, stored mostly in their bones, as a reserve which is slowly but constantly mobilized for use in body tissues and metabolic reactions. A magnesium shortage in their system can cause anorexia, excitability, rigidly extended legs, convulsions, frothing, excessive salivation and death. A deficiency can occur in circulating body fluids because magnesium availability varies greatly due both to slow bone mobilization and, sometimes, very low gut absorption from inadequate dietary sources.

Magnesium absorption in young milk-fed calves may be as high as 70 percent, while magnesium availability in early pasture forage may range from as low as 7 percent up to 33 percent. Magnesium is easier to absorb from older pasture grass — which is just the opposite of the digestibility of other nutrients, protein and energy. Preserved forages have a better magnesium availability and so do grain supplements.

Milk that the cow produces is relatively high in magnesium — about 0.013 percent or a quarter ounce when a high-milking cow produces 100 pounds per day or more.

This magnesium loss must be replaced daily from the cow's bones which, as I've said, contain only 8 ounces and from dietary sources whose absorption rate can be less than 10 percent.

A typical basic ration of, for example, 45 pounds corn silage has a gross content (not net after absorption) of only 2 ounces of magnesium, leaving a supplemental feeding need of maybe 2 to 3 ounces of magnesium for a high milking cow — even in the absence of lush spring pasture grass. Thus, to be on the safe side, high amounts of magnesium — 4 or more ounces per day — may be needed in the ration to keep that cow well and milking high.

Fortunately, cows can tolerate excess magnesium very well. What a cow doesn't use, she readily excretes in the urine. Five ounces of magnesium in the form of magnesium oxide have been fed to cows to correct low milkfat problems, without ill effects. This supplement thus not only has the benefit of a digestive buffer to help reduce low milkfat problems, but

can also be a safeguard against low metabolic magnesium problems.

Recent medical research has shed additional light on the metabolic importance of

magnesium as a facilitator of calcium metabolism. Magnesium and calcium both help blood vessels to contract and relax properly, and magnesium regulates the entry and exit process of calcium in the smooth

muscle cells, thereby dropping blood pressure.

For people as well as calves, milk is an important source of magnesium. Let's not short change the magnesium supply to our cows either.

Mohr Named Outstanding Holstein Youth

NEW ENTERPRISE — Becky Mohr of Bakers Summit, daughter of Mr. and Mrs. Andy Mohr, received the outstanding senior Holstein award during the annual Bedford County Holstein banquet held recently at the Northern Bedford High School.

Mohr, a senior at NB, owns 16 Holsteins — 10 cows and six heifers. She has been a member of the Southern Cove 4-H Dairy Club for 10 years, the Junior Holstein Club for 10 years and has shown cattle at local, district and state 4-H shows. Last year she won third place in the junior division with her 3-year-old Holstein cow at Harrisburg.

Three directors were elected for a three-year term: Duane Biddle, Russell Wyles and Kenneth Mowry, all of Roaring Spring RD.

Kenneth Raney, state director of membership, briefly spoke on the advantages of being a member of the Holstein Association. He added that merchandising registered Holsteins has become a good opportunity for the Holstein farmer.

A sharp increase in the export market has increased domestic sales.

Kenneth Mowry, director, noted that since 1978, the state has given an award for the outstanding farmer in the association. This year the prestigious award was given to Obie Snider, owner of Singing Brook Farms of Imler.

Mowry reported on the Holstein tour scheduled for Thursday, March 19, to Chester County.

Highlights of the tour will include the following: New Bolton Center, a large animal facility for the University of Pennsylvania's School of Veterinary Medicine that serves as one of the nation's major veterinary medical referral centers for large animals; Longwood Gardens, a 1,000-acre preserve of which 350 acres are open to the public that was originally created as one of America's first tree parks; Marlboro Mushrooms, a mushroom farm owned by Charles and Jane Brosius and three sons; Maplewood Farms, a Holstein farm owned and operated by

Donald Hostetter. The herd has 87 cows on test with an average of over 19,950 pounds of milk and 720 pounds of fat.





An announcement was made that Junior Field Day will be held April 15 at the Andy Mohr farm in Bakers Summit. The judge for the event will be Berneta Gable of New Enterprise. Dr. Barry England, veterinarian from Williamsburg, will hold an informative session on the uterus of a cow.

The group will have the opportunity to tour the new Virginia style heifer barn built last fall on the Mohr farm. According to Scott, Mohr's son, the 112-by-46-foot structure has an open front and open ridge for ventilation.

Featured in the barn is open housing with head locks in the front. It has a scrape alley and a sloped bedded pack in the rear, sloped one inch to the foot. Corn fodder is used as the bedding. "The barn is something we really needed because we had no large facility to house heifers," said Mohr.

TINGLEY TOUGHS

FARM AND OUTDOOR FOOTWEAR

 <p>#1500 Knee Boot</p> <p>Sm - 6½ - 8 Med. - 8 - 9½ Lg. - 9½ - 11 XLg. - 11 - 13 Giant - 13 - 15</p> <p style="text-align: right;">ONLY</p> <p style="text-align: right; font-size: 24pt;">\$15.25</p>	 <p>#1400-10" Closure Boot</p> <p>Sm - 6½ - 8 Med. - 8 - 9½ Lg. - 9½ - 11 XLg. - 11 - 13 Giant - 13 - 15</p> <p style="text-align: right;">ONLY</p> <p style="text-align: right; font-size: 24pt;">\$11.95</p>
 <p>Children's Button Boot (2700 Series)</p> <p>A - 6½ - 7 B - 7 - 9 C - 9 - 11 D - 11 - 13 E - 13 - 2 F - 2 - 4 G - 4 - 6</p> <p style="text-align: right;">ONLY</p> <p style="text-align: right; font-size: 24pt;">\$7.25</p>	 <p>#1300 Hi Top Work Rubbers</p> <p>Sm - 6½ - 8 Med - 8 - 9½ Lg. - 9½ - 11 XLg. - 11 - 13 Giant - 13 - 15</p> <p style="text-align: right;">ONLY</p> <p style="text-align: right; font-size: 24pt;">\$8.10</p> <p style="text-align: center;">We Ship UPS Everyday</p>


TINGLEY

Order \$20.00 Or More
And We Pay The Freight

Key-Aid Distributors

225 Wood Corner Rd., Lititz, PA 17543
717-738-4241
Call Us Toll Free!
1-800-453-9243
In PA Call 1-800-253-9243

YOU TEST THEIR FORAGE -- WHY NOT THEIR WATER



Water with high levels of nitrate, sulfate,
and bacteria can affect your herds

HEALTH AND PRODUCTION

WE SPECIALIZE IN WATER TREATMENT ON DAIRY FARMS.

Our water conditioning methods reduce those robbing nitrates, sulfates, and bacteria to proper levels — resulting in a healthier herd with improved milk production and higher butterfat.

TREAT YOUR WATER SUPPLY - INCREASE YOUR PROFIT

Contact us for a test of your herd's water supply and information on our proven installations.

MARTIN WATER CONDITIONING

740 EAST LINCOLN AVE. MYERSTOWN, PA 17067	548 NEW HOLLAND AVE. LANCASTER, PA 17602
--	---

PHONE 717-866-7555 PHONE 717-393-3612

Early Morning & Evening Call 717/345-8795