



OPINION

Watch Out For Nitrate Toxicity

Virginia Ishler at Penn State gives several simple management practices that can be followed to reduce the risk of nitrate toxicity in dairy cattle. The following precautions will reduce the nitrate level in corn plants:

1. Do not harvest suspected crops for 3 to 5 days after an appreciable rain or long cloudy spell.
2. Harvest as close to usual maturity as possible.
3. Cut the crop somewhat higher above the ground than usual. Nitrates often accumulate in the stalks.
4. Utilize suspected material for silage rather than for greenchop. Ensiling breaks down some of the nitrates.
5. Test suspected forages for nitrate content, preferably before feeding them.

The following precautions will reduce nitrate-related feeding problems:

1. Feed another forage prior to feeding suspected or high nitrate forage to help limit meal size. A single meal refers to the amount of stored forage dry matter consumed during one episode of eating. This could range from a few minutes to 2 hours.
2. Gradually introduce suspected forage into the ration over a period of 1 to 2 weeks. This helps allow cows to adapt and to reduce the risk of nitrate toxicity.
3. Feed forages and total mixed rations more frequently to reduce meal size when suspected or high nitrate forage is used.
4. Feed at least 3 to 5 pounds of concentrate per head daily to reduce possible toxic effects when suspected forages are fed. This could apply to dry cows and heifers.
5. Limit dry matter intake per single meal if stored forage contains 1,000 ppm NO₃-N or more on a dry matter basis. Allow a delay of 2 to 3 hours after completion of a meal before feeding a high nitrate forage again.
6. Test all forages and water for nitrates if one stored forage contains over 1,000 ppm NO₃-N.
7. Restrict the NO₃-N content of the total ration dry matter, including contribution from water to not over 400 ppm to 900 ppm when using stored forage in addition to meeting any maximum forage dry matter intake for a single meal.

In addition, observe animals closely for symptoms of toxicity 2 hours following the start of a meal consisting of suspected or high nitrate forage. The color of mucous membranes in the vagina, mouth or eyes will turn from pink to a grayish-brown at the earliest sign of a possible toxicity occurring with slight to acute symptoms. Acute symptoms will include rapid breathing, incoordination or staggering, and signs of suffocation.

Call your veterinarian if you think you have a problem with nitrate toxicity.



♦ FARM CALENDAR ♦

Saturday, August 21
 Pa. Holstein Central Championship Show, Fairgrounds, Huntingdon, 6 p.m.
 Warren County Holstein Association Sale, Fairgrounds, Pittsfield, noon.
 Pond Management Seminar, Honey Hollow Environmental Education Center, 9:30 a.m.-4:30 p.m.
 Crawford County Fair, Meadville, thru Aug. 28.
 Southcentral 4-H Dairy Show, Farm Show Complex, Harrisburg.
 Pond Management Seminar, Audubon Visitor's Center, Creamery Road, Solebury, 9:30 a.m.-4:30 p.m.
 Ephrata Area Young Farmers Ice Cream Social, Woodcrest Retreat, 7:30 p.m.
Sunday, August 22
 Somerset County Fair, Meyersdale, thru Aug. 28.

West End Fair, Gilbert, thru Aug. 28.
 Williamsburg Community Farm Show, Williamsburg, thru Aug. 28.
Monday, August 23
 Elizabethtown Community Fair, Elizabethtown, thru Aug. 28.
 Mountain Area Community Fair, Farmington, thru Aug. 28.
 Northeast 4-H Dairy Show, Wyoming County Fairgrounds, 1 p.m.-9 p.m.
 Octorara Young Farmers Pig Roast To Honor Ivan Stauffer, Cochranville Community Center, 6:30 p.m.
 Penn State 1999 Flower Trial Field Days, Southeast Research and Extension Center, Landisville.
 Landscape Pest Workshops, Butler County Community, Butler, 1 p.m.-3 p.m.
Tuesday, August 24
 Southeast District 4-H Dairy Show, Kutztown Fairgrounds, 10 a.m.



Now Is The Time

By John Schwartz
 Lancaster County
 Agricultural Agent

To Be Aware of Silo Gas

Each year at silo filling time and for a short period afterward, farmers risk the danger of silo gas, which may cause death to humans and animals. The greatest danger of lethal gases is from 12 to 72 hours after filling a silo. Silo gases may be produced by any crop that is ensiled regardless of soil type or fertility level. There are three gases produced by the ensiling process. Nitrogen dioxide is reddish brown. Nitrogen tetraoxide is yellow. The third gas is nitric oxide which is colorless. Following a few simple rules will prevent the tragedy of silo gas. 1. Run silo blower for 15 to 20 minutes before going into a silo and keep it running while in there. 2. Stay out of the silo for one week after filling, two weeks if possible. Ventilate silo room for two weeks after filling. And 4. Keep doors between silo and livestock closed.

To Watch for Nitrate Toxicity

Nitrates accumulate in the lower parts of corn when stresses reduce yield to less than the supplied nitrogen fertility level. A return to non-stressed conditions can allow the plant to grow out of the danger, but cutting should be delayed for 3 to 5 days. Raising the cutting height to greater than 12 inches will reduce the levels of nitrates harvested. Ensiling reduces nitrate levels by roughly 50 per cent.

Inoculants are needed to assure a proper fermentation. Drought affected silage should always be tested for nitrates. Nitrate is normally reported on a dry matter basis as parts per million (ppm) of nitrate-N or per cent nitrate. Any silage with less than 1,000 ppm or 0.44 per cent nitrate is safe under all conditions. Silage containing 1,000 to 1,500 ppm or 0.44 to 0.66 per cent nitrate is safe to feed to non-pregnant animals, but should be fed as less than 50 per cent of the ration to pregnant animals. Silage at 1,500 to 2,000 ppm or 0.67 to 0.88 per cent nitrate should be limited to all animals at 50 per cent of the

Hookstown Fair, Hookstown, thru Aug. 28.
 South Mountain Fair, Arendtsville, thru Aug. 28.
 Penn State 1999 Flower Trial Field Days, Horticulture Trial Garden, University Park.
 Landscape Pest Workshop, Penn State Beaver Campus, Monaca, 9:30 a.m.-11:30 a.m.
Wednesday, August 25
 Pa. Holstein Southeast Championship Show, Fairgrounds, Kutztown, 7 p.m.
 Silage and Forage Expo, Glen

(Turn to Page A11)

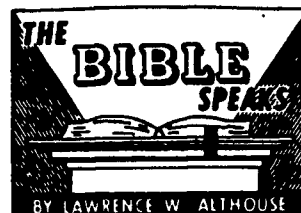
ration. Silage at 2,000 to 3,500 ppm or 0.89 to 1.54 per cent nitrate should be limited to 35 to 40 per cent of the ration and not be fed to pregnant animals. Silage at 3,500 to 4,000 ppm or 1.55 to 1.76 per cent nitrate should be limited to 25 per cent of the total ration and not fed to pregnant animals. Do not feed any feedstuff above 4,000 ppm or 1.76 per cent nitrate. Water supplies should be tested for nitrates. If nitrate levels are high in the water, then adjustments need to be made to the above guidelines. When feeding rations higher than 1,000 ppm, you should consult your nutritionist.

Livestock To Protect

Chester Hughes, Lancaster County Extension Livestock Agent, reminds farmers they need to be aware of several drought related problems and how they affect livestock. As wells go dry and streams dry up, farmers may consider supplementing water to

animals. Giving too much water at one time to livestock that have been deprived of water may cause edema (swelling due to excess fluid), nervousness and red color urine. Often weeds and toxic plants are the only green plants in drought condition pasture. Livestock that normally ignore these plants may eat them during a drought. Walk your pastures once a week to check on edible materials. Farmers should feed supplemental roughage and clip pastures to keep noxious and poisonous weeds under control. Blue-green algae can over grow in a stagnant pond or pool of water during extremely hot and dry weather. This algae is poisonous to livestock if they drink it. If a pond can be aerated, do so. Otherwise, fence off the pond and offer the animals another water source.

Feather Prof's Footnote: "Goals are the bridges that span our dreams."



'ONLY A DREAM'

August 22, 1999

Background Scripture:

Genesis 39 through 41

Devotional Reading:

John 6:1-13

My wife Valere ought to be writing the column this week. She's the dream pro in our house. Over the years she has lectured and conducted workshops on dream incubation and interpretation. Those who come to hear her are often surprised to learn how many Old and New Testament passages record the fact that God reveals himself and communicates to people through dreams. In fact, in the Bible, dreams are a major channel of revelation.

When people talk about their dreams with us, they frequently dismiss them, saying "it was only a dream." 111111 Dreams, although frequently disturbing or entertaining, are generally not regarded very seriously by many people. In our own lives and those of many others, however, we have discovered that dreams are still one of the ways in which God can speak with us.

Ancient peoples probably did not say "it was only a dream." For the most part, they took them seriously. So, when the Pharaoh of Egypt has two disturbing dreams, he is determined to find someone who can tell him what they mean. He suspects that his dreams bear an important message that he must not miss.

DESPERATE ENOUGH?

Having tried the usual advisors without success, the Pharaoh is desperate. So, when he hears from his chief butler that a slave named Joseph had correctly interpreted his dream, the Pharaoh sends for Joseph. He is now ready to receive help from any source. Unknown to Pharaoh, the God whom he did not know was weaving his plan and purpose that would save both mighty Egypt and the humble clan of Jacob. Both the Bible and human history teach us that God can get through to us only when we are desperate enough, when at last we reach that point where we are willing to try whatever will work.

So, Joseph is brought to the Egyptian court and convincingly interprets the Pharaoh's dream, although he is quick to point out. "It is not in me, God will give Pharaoh a favorable answer" (41:16). If this story were to appear in your newspaper tomorrow, I'm sure there would be some who would be scandalized by it—not that God spoke in a dream but that he spoke to Pharaoh who was not even of the Israelite religion!

Of course there are none called 'Pha-

raoh' today, but there are presidents, prime ministers and others. Some months ago some clerics and other Christians in England were outraged when Prime Minister Tony Blair spoke of God's influence in public policy. What right did this man have to attempt to speak of or for God? The answer: God can and always has used whom-ever he wanted to use for the sake of his purpose. We do not have to approve of the medium through which God's message comes to us.

IT FEELS RIGHT!

Joseph could not prove that the interpretation and its message were correct. Only time could do that. But the message must have resonated with the Pharaoh. Often, that is what we experience when a dream has been interpreted: the dreamer says, 'yes, that explanation feels right.' In addition, the Pharaoh was impressed because Joseph's proposal as to what to do about the dream and its message seemed so right. Take and store a fifth of each year's production in the fat years so that there will be sufficient grain in the lean years. Note: Joseph wisely puts away a bit more than should be needed during the seven years of famine—instead of one-seventh, he stores one-fifth of the year's production.

Returning to the question of who is fit to be the medium of God's message to the world, let us remember that God did not select Joseph because he was perfect. As we saw previously, he was not without some responsibility for what happened with his brothers. God doesn't select us for our achievement of righteousness, but because of our willingness to be used for his purpose. The big story in this chapter is not what Joseph achieved by his own efforts, but of what God was able to do through him. The big story in your life will depend upon what you will enable God to do through you.

So, because Joseph was open to God's leading during those 14 years, "There was famine in all lands; but in all the land of Egypt there was bread" (41:54). Even in the worst of times God will lead us through so long as there are those who are willing to listen and respond to his voice.

Note: for further reading on this subject, see Morton Kelsey, *God Dreams and Revelation* (Augsburg, 1974), John Sanford, *God's Forgotten Language*, (Lippincott, 1967), and Larry & Valere Althouse, *What You Need Is What You've Got*, Chapt. 7, (S. Wesler, 1989).

Lancaster Farming

Established 1955

Published Every Saturday

Ephrata Review Building

1 E. Main St.

Ephrata, PA 17522

- by -

Lancaster Farming, Inc.

A Steinman Enterprise

William J. Burgess General Manager

Everett R. Newswanger Editor

Copyright 1999 by Lancaster Farming