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The Growers Solution

WINTER 2006

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VOLUME 19 ISSUE 1

Substitute Growers For Nitrogen

By Jim Halbeisen

As nitrogen fertilizer prices continue to escalate, farmers are trying to find ways to control nitrogen costs on grass crops such as corn. For many years farmers were told they needed to apply 1½ pounds of nitrogen to the soil for every bushel of corn they wanted to produce. Later this recommendation became "The 1.2 Rule," meaning you should apply 1.2 pounds of nitrogen for every bushel of corn you wish to grow.

In the last year, however, the idea that so many pounds of nitrogen are needed to grow so many bushels of corn has come under very intense scrutiny in the agricultural industry. Even the university system has released

information suggesting that competitive corn production can be achieved with significantly less nitrogen fertilization.

For example, Alfred Blackmer of Iowa State University concludes that farmers not only apply too much nitrogen, they apply it at the wrong time. Richard Mulvaney of the University of Illinois claims that site by site evaluations of the Proven-Yield Method - The 1.2 Rule - shows current fertilizer recommendations are not only wrong, they are scientifically indefensible. Bob Hoelt, the new head of the University of Illinois's Crop Science Department, the father of the Proven-Yield Method, had said it is time for a nitrogen recommendation change. However, in more recent professional trade publications, Hoelt is not only disputing Mulvaney's statements, but is now backtracking on his own earlier assertions. It seems peers and the nitrogen lobby rule over objective thinking.

Since 1955 Growers Chemical Corporation has maintained nitrogen fertilization needs are

not nearly as large as those advocated by the establishment, and there are several sound scientific reasons backing our rational.

Back in the 1970s Dow Chemical Company reported corn's usage of nitrogen through it's growing season was approximately 8% in the first 25 days of growth, 35% in the second 25 days of growth, 31% in the third 25 days growth, 20% in the fourth 25 days growth, and 6% in the fifth 25 days of growth. Their research suggests that nitrogen applications spread out over the growing season, or so called "split applications," are more efficient.

Incidentally, Dow's research at the time was aimed toward promoting sales of their N-Serve®, a product designed to release early applied nitrogen throughout the growing season thus allowing the grower to use less total nitrogen. They used N-Serve® with early applied nitrogen which was then compared with split applied nitrogen. Both were better than one early application of nitrogen.

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Ontario Dairy Does Well On Growers

By Jennie Henry

Before Growers sales rep Norman Powell and I visited with Willis and Florence Ball and their son Ken near Lakeside, in south western Ontario, Norm gave me some background information on their dairy operation.

"This family has been on Growers for about 8 years. Initially I told them they would produce more with less and their costs would go down. They are proving that, and I see it in their excitement. They have relatively new machinery and are basically debt free.

"Ken is seeing much better conception rates. He also sees the cows leave some of their feed, lay down and chew their cud. He has cows having calves basically unaided with no problems. His diseases are down now, so



Ken and Willis Ball and their layered bunk silo.

the vet comes mainly for pregnancy checks. They are milking more cows plus they have cows for sale. He's been chosen for the past three years for embryo transplants."

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Minnesota Dairy Succeeds On The Growers Program

By Van Cunningham, Growers Representative
with David McIver, District Manager

Robert and Darlene Tauer, in partnership with their son David, have a dairy farm near Sleepy Eye, in southwestern Minnesota. They have had a closed herd for 38 years and their 135 cows average 72 pounds of milk per head per day with 4.0 butterfat and 3.25 protein.

When David McIver and I visited with the Tausers we asked if they were using Growers Nutritional Solutions in their dairy ration. Robert answered, "We've got lick boxes out there, but they don't stay full all of the time! I think we have real good nutrition in the crops. Feed quality is most important and the soil is where you have to have it to begin with."

David McIver added, "Feeding GNS is OK, but when the nutrients are in the crop, in an organic form, the cows will be able to utilize them the best."

Robert has been very interested in his soil's health and has worked with me in this direction since 1976. He purchased his first Growers Nutritional Solutions in 1991. We went through a long learning process together, and he was patient with me.

Robert continued, "It was never backward, we learned, but it was always something different."

Really, the basic fundamental principles of the Growers Program are very simple. If you follow them, you get good results. Dr. Tiedjens knew what he was talking about; calcium, some Growers, good management and working with nature. It's very hard for most people to understand the necessity and benefit of calcium, especially when they already have a high pH and high calcitic soils.

Robert talked about the alkali spots that had been in the fields in the past, "Years ago, no matter what you planted, nothing would grow. Now you can't tell where the spots were. Even our neighbors are asking about them! There's lots of earthworms out there now and, they are the best tilers. Besides, they leave a little behind!"

Commenting on the 2004 harvest, Robert said, "We have a 31 acre field that is considered to be wet. It has some tile in it, but not much. The beans were about ready to go and other farmers, with a lot more tile, were out poking away on their hills, but getting stuck in the low spots. They were telling me, 'You've got to try it. You aren't going to get any beans combined with things setting in the shed.' So I tried it. We took our 31 acres out and the wheels never got wet. Some near us never did harvest all of theirs."

In 2005 this same field in corn didn't look too good after a prolonged wet spell, so I go the cultivator in there and put on 40# of nitrogen. The 231 bushel yield at 15% harvest moisture surprised me since it was just a conventional 95 day hybrid.

"Another time I rode along with a farmer on

his big International track with a subsoiler on behind. He asked, 'Do you want to try it out?' I said, 'No. Mine's being subsoiled right along by my worms out there!'"

Currently the Tausers are raising alfalfa, corn, a few beans and oats. "Pretty much all of it gets some Growers on it at one time or another," said Robert. "Especially the alfalfa. We like to treat it after every cutting." They have reduced their corn nitrogen down to 40 or 50 pounds, side dressed when it is 8 to 10 inches high. Robert said, "I definitely like to get the silage corn foliar sprayed with Growers each year. I figure the whole plant will be going back into the livestock, so I make the effort to spray everything."

Son David brought out some forage tests showing the calcium at 1.53 and the potassium at 2.18.

David McIver added, "Here's an alfalfa (test), third cutting, with the calcium at 1.44, phosphorus 0.33, and the potassium at 2.78. These are good, acceptable ranges and what anybody should be trying to get; the closer the calcium and potassium numbers, the better. Getting a wider gap usually means they are putting on a lot of manure and getting too much potassium."

Dave Tauer asked, "What number would you like to be at?"

I explained, "It has a lot to do with how the available calcium is relative to the potassium. Dairy manure is fairly high in potassium, so if you overdo the manure and don't counteract it with calcium, then herd health can suffer."

Back when the Tauer children were younger, they were allowed to keep the money from the harvest of a cucumber patch they had. Robert chuckled, "Once we put on a little bit extra calcium on half of the field and then foliar sprayed it. On the half that had the extra calcium, the kids could not believe where all of these cucumbers came from!"

"Another time, it was late in the fall and we had quit picking. I was foliar spraying the alfalfa, and then came across and gave the cucumbers a shot. Two weeks later it was solid blossoms! Later, on a 14 inch long vine, there were a dozen little cucumbers. And the quality! We sold locally as many as we could, but once or twice a week we would take whatever we had left over up to the grading station. There our pickles were better quality than most of the others brought in."

David McIver said, "So did the cucumber experience give you the impetus to see that you were doing the right thing with the farm crops?"

Robert replied, "Yes, if you see it in one



Robert Tauer (right) and son, David, having dairy success using the Growers program.

crop, it's going to work with the other crops, too."

Son David, the main herdsman, explained the ration, "We're feeding through a TMR; about 8 pounds of dry hay, 35 to 40 pounds of corn silage, 2 1/2 pounds of raw beans per cow, and I add a bale of oat straw in every mixer - two bales for the heifers."

Robert said, "Overall herd health has gotten considerably better. Even the cows on cement are having fewer leg problems, David hasn't trimmed very many recently and we don't have the vet out that often. Our replacement numbers are down, way under the average, and the cull rate is down. This past year, we've probably increased our herd by 15 and at the same time we are kind of excited about the boys being able to sell 14 spring heifers. All this might be because of our feed."

Robert explained another part of their management, "For the first three weeks after cows freshen, we keep them separate. They get our best alfalfa hay, and if they don't eat that, there's a problem! They are milked four times a day. When we start in the morning they get milked first, and at the end we run them back in again. The same thing at night. I think that is one thing that has helped our cull rate considerably. Doing that procedure is as good as milking three times a day for a whole lactation! We've been doing this for a year and a half now and you can just see the herd health!"

I said, "I can see you don't goof off a lot!"

Robert added, "We are attributing much of this success to David's management. He knows a lot, he is willing to try things and it works out real well for him. And of course Darlene does a lot, too. Our son Ron works in town, but he'll help on weekends or whenever we get in a pinch. He also takes the bull calves and finishes them out."

David McIver said, "When you can have family teamwork; that's wonderful" Motioning towards David Tauer, he continued, "Your dad tells us you are a real observer of the

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Bud Niver of Bluff Point, New York

Update On Finger Lakes Grapes

By Doug Mack, Growers District Manager for Western New York State

The following is from a fall 2004 interview with my grape growing customer, Bud Niver of Bluff Point, New York.

Bud's vineyard overlooks the "Y" in Keuka Lake of the Finger Lakes. Bud's been a Growers user for 15 or 16 years. He's been written up in *The Growers Solution* newsletter before, but I thought it was time for an update, just to verify that he hasn't gone broke or his grapes haven't died yet. We talked at his home.

Doug: "Bud tell me what kind of success you had in the 2004 season."

Bud: "Well, I had a pretty good year, I figured. I had about 7 tons to the acre, and good quality, and the wood was ripe. I was pretty well pleased."

Doug: "Tell us what kind of growing season you had and how the area grapes did."

Bud: "The summer wasn't the best. It was wet and we had some winter damage. But now I've heard there were different growers, some of them had a ton and a half, two tons to the acre. But, with mine, I was pretty well pleased. They tested 14.5 and 15 brix, so I felt pretty good about it."

There Is Still Time!

Early Order Discount

It is not too late to take advantage of the Growers seasonal Cash In Advance of Delivery (CIAD) discounts which are 6% for January, 4% for February and 2% for March. Call your Growers representative for an explanation of the early order discounts, quantity pricing and delivery of Growers Nutritional Solutions.

There are three ways the GNS CIAD discount can pay customers:

Doug: "You kept up your liming?" (Bud has been applying 3 tons of high calcium limestone every 3 to 4 years.)

Bud: "Yes, I keep liming and Growers is the only fertilizer I use. I don't put anything else on."

Doug: (Bud applies GNS at the rate of 8 to 12 gallons per acre, depending on the growing season.) "We had a Cornell Soil Report a couple of years ago..."

Bud: "Yes, and pH was 6.7, I think."

Doug: "I know the calcium P, K, and Mg levels were high and all of trace mineral levels were good."

Bud: "I've got soil samples down to the barn that I've been going to get to you. But, overall, I was pretty well pleased with the grapes this year."

Doug: "What would be your advice if someone was interested, but hesitant to try the Growers Program?"

Bud: "Well, I would tell them to try a few rows, or a small acreage. Try it themselves and experiment. They don't have to take anybody's word for it. They can prove it to themselves."

Doug: "In the past I've heard Bud say, 'If anybody uses it and uses it correctly, they are damned well going to see a difference!' I kind of like that! ■"

1. The GNS CIAD discount pays more than most savings institutions' interest, so it pays to buy early if the cash is available.

2. The GNS CIAD discount pays more than most lending institutions' interest costs, so it pays to borrow and buy early.

3. The GNS CIAD discount results in orders being placed earlier. This allows deliveries to be more evenly spaced out, which requires less delivery equipment and helps keeps GNS prices down. ■

On The Road Again Winter 2006

Growers Nutritional Solutions is scheduled to set up and staff booths at the following upcoming farm shows and conventions this winter. It's a great time to stop in and review your plant food and animal nutrition needs, hear about new developments at Growers or just chat with the folks who make it all happen—your friends and neighbors.

- Jan. 7-14, 2006 Pennsylvania Farm Show
Harrisburg, PA
- Jan. 10-12 Keystone Farm Show
York, PA
- Jan. 10-12 New Jersey Vegetable Marketing
Atlantic City, NJ
- Jan. 10-12 Le Salon De L'Agriculture
St. Hyacinthe, Que, Canada
- Jan. 10-12 Ontario Landscape Congress
Toronto, Ontario, Canada
- Jan. 16-21 Delaware Ag. Week
Harrington, DE
- Jan. 17-18 Ohio Fruit & Vegetable Show
Columbus, OH
- Jan. 17-19 Fort Wayne Farm Show
Fort Wayne, IN
- Jan. 19-20 Long Island Ag Forum
Riverhead, NY
- Jan. 24-26 Virginia Farm Show
Fishersville, VA
- Jan. 26-27 North Central Ohio Grazing Conf.
Wooster, OH
- Jan 31.-Feb. 1. Alexandria Area Farm Show
Alexandria, MN
- Jan 31.-Feb. 2. Mid Atlantic Fruit & Vegetable
Hershey, PA
- Feb. 1-3 Southern Farm Show
Raleigh, NC
- Feb. 3 Northern Indiana Grazing Conf.
Shipshewana, IN
- Feb. 7-9 Canadian International
Farm Equipment Show
Toronto, Ont., Canada
- Feb. 14-16 Empire State Fruit &
Vegetable Expo
Rochester, NY
- Feb. 15-16 Ontario Fruit & Vegetable Conv.
St. Catharines, Ont., Canada
- Feb. 15-18 National Farm Machinery Show
Louisville, KY
- Feb. 22-23 Pennsylvania Grazing
& Forage Conference
Grantsville, PA
- Feb. 23-25 New York Farm Show
Syracuse, NY
- Feb. 28-Mar. 2 Central Minnesota Farm Show
St. Cloud, MN
- Mar. 8-10 Western Fair Farm Show
London, Ont., Canada

Hope To See You!

GNS as a Mineral Source for Livestock

By Jim Halbeisen

Farm operations have successfully used Growers Nutritional Solutions (GNS) as a mineral source for their livestock since 1955. Meanwhile, mineral supplementation has become a science within itself as different rations are being formulated for producers seeking specific kinds of animal performance. But, depending on origin of the standards used, these rations can be quite varied, even when they are for the same types of animals.

For our clientele's and potential clientele's convenience, we at Growers Chemical Corporation are, and as are many of our GNS Representatives, writing rations for certain animal species.

Unfortunately, we have found some

operators not getting the results from these rations they should expect. Investigations into the problems revealed changes had been made to our original feeding regimens either by feed suppliers, different feed consultants, or the operators themselves. It is important to realize that whenever any changes are made to the feed's components, such as quantities or qualities of hay, haylage, corn silage, etc., the ration must be changed accordingly. Operators must watch closely for changes to the original ration, otherwise results in the herd may not be satisfactory.

Other than the fact that feeding is not an exact science, we at Growers Chemical Corporation don't pretend to be experts on what animals need to be fed to achieve the best results. However, we are very confident that

when proper element balance in plant tissue is achieved, usually as a result of the right changes being made in the soil's fertility inputs (using GNS and high calcium lime), animals will be more likely to achieve desired productivity with less supplementation.

(Please read the accompanying article, Jerger Farm Update, which illustrates a situation typically found by GNS customers.)

Forage tests, like soil tests, are only chemical interpretations of biological systems, and feed recommendations are, like fertilizer recommendations, only educated guesses. Producers need to run biological experiments with their soils, plants, and animals to determine the best economic answers for their own particular operations. ■

Jerger Farm Update

By Jennie Henry

During the spring of 2005, the Jergers had strange and unpredictable weather. Emmanuel Jerger and his sons, Dennis and Kevin, farm in the Red River Valley near Barnesville in western Minnesota. Through knowledge culled from many sources plus firsthand experience with their own farm and animals, they worked through what could have been a disastrous situation and came out with healthy cows milking respectable numbers.

Dennis explained, "This spring we had weird weather patterns. Some of our alfalfa froze out - popped the crown off! So, we notilled with Italian rye grass the first of April. We had more weird weather after that. It rained and rained. In one month we had double what we normally have. You know it is wet when you get stuck in a hay field in July!

"The first cutting of alfalfa/Italian rye grass was put up in early July, at least a month late. We chopped it, put an innoculant on it and put it in the silo. The relative feed value was 88 and the net energy was 0.48, but it should have been 0.65. The net energy lactation (NEL) value is key for high production. It's the energy from the forage.

"We thought those cows were going to drop, but we decided to leave everything the same. We used the same corn silage and left the concentrate the same. We didn't want to stress the cows anymore by making a lot of changes. The only new feed source was the Italian rye grass. It tested out at a relative feed value of 88! They did consume more forage, but they milked between 65 and 70 pounds all summer long, and we have DHIA records to prove it.

"The second cutting had a relative feed value of 153 and net energy lactation of 0.65. What a difference!

"I've worked with many nutritionists, some really expensive. Those guys taught us to buy our ingredients. The Growers company taught

us differently. We grow more of our own feed. We buy clean sources. We go 80 plus miles for our distillers and linseed. We use high quality vitamins. Then the Growers and the human quality lime.

"I don't owe a feed bill. I don't owe anything right now. The cows are milking and I don't have a pile of sacks from the feed companies. We have healthier cows and calves and a lower vet bill. Everything is not perfect, but we keep changing things. I'm German, and I keep looking for perfection!

"If we had baled the alfalfa/rye mix, we would have had bales of wood. What saved it for us was chopping it with the moisture in it and then innoculating it. That gave it a quick pickling effect. Every little thing you can do helps. The field was all limed and we sprayed Growers twice. It's doing so good, I think we are going to get a fourth cutting.

"The reason? I don't know, but the Growers Program sure didn't hurt. We do know how to feed, there is an art to feeding, and we did a lot of things right. They ate more, and they liked

the taste of the new forage. It's more of a grazing grass. The rotational grazer would like this grass. The rye was a lot better than just weeds growing in the alfalfa, and it really took the extra moisture.

"We are planning to keep the field going and hope the rye will come back. Everyone had troubles with their alfalfa this spring, so the price of alfalfa seed went through the roof. On 120 acres we paid about \$1,000 for rye seed.

"I think the feed has more in it than what we see on those tests. Forage analysis is a tool. What works better is in the eye of the master. We could have perfect hay with a RFV of 150, but if the cows don't eat it, what good is it?

"We just make our farm work for us. If we were competing with the neighbors, we wouldn't put the lime on, use Growers on the crops or feed Growers to the cattle.

"We've got to be thinking on our feet. It wasn't just one thing that kept the cows milking. The Growers Program can work in adverse conditions, but you have to be thinking all the time." ■

Growers Grown Hay Wins in Competition

By The Growers Solution Staff

For his third year stand of alfalfa-timothy hay, Garth Cubitt of New Lowell, Ontario, was awarded a first place by the South Simcoe Soil and Crop Improvement Association in their 2004 Hay Masters Competition. Garth is the Growers District Manager for the area north and west of Toronto and is a long time user of Growers Nutritional Solutions.

Four forage seed suppliers sponsored the competition for producers focusing on the equestrian market. The Association considered the hay samples submitted and field visits in making their awards.

During their visit to Garth's farm, they checked the stand's second growth at knee height and its weed control. Only in 2001, when the forages were under seeded to barley, did Garth apply a broad leaf herbicide. They compared the regrowth since the first cutting, and, interestingly, they studied the Growers soil analysis report. Also, they took into account Garth's fertilizer program which is 2 gallons of GNS per acre foliar sprayed after each cutting, and his applications of high calcium limestone to the field. Garth is confident that high levels of available calcium have reduced quack grass and dandelion pressure while adding to the forage's quality. ■

Quality Produce And The Growers Program

By Bill Dunlap, District Sales Manager

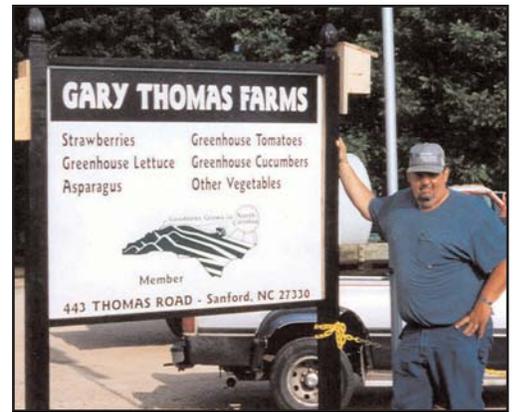
“Everybody thinks I know how to grow strawberries, but that isn’t the case. I just follow the recipe Bill (Dunlap) gave me. That’s where the great berries come from.” This is what Gary Thomas of Lee County, NC, had to say when asked about the yield and quality of his strawberry crop. “We took 400 buckets to the Greensboro Farmers Market last week where there was a lot of competition. But until we sold out and left, no one else sold berries to amount to anything

“We added some calcium nitrate to the drip of one patch of Chandler berries. Meanwhile, my Sweet Charlie berries had nothing on them but Growers, but they yielded more and were bigger and sweeter than the Chandlers. Lots of customers here at the farm tell us these are the sweetest berries they have found.” At 9 weeks

of production on June 14, with 90 degrees plus weather, the crop was still producing. Yields were starting to drop some, but quality was still very good.

A 49 year old life long farmer, Gary and his wife and their children have been using the Growers Program for more than twenty years. They grow onions, squash, cucumbers, tomatoes, sweet potatoes, asparagus and a few other select vegetables. In addition they have 200 acres of tobacco, 300 ac. of corn, 1200 ac. of soybeans and they plant cotton some years when the price is right. The farm has large equipment and heavily automated green houses to help keep labor bills as low as possible. The family also has laying hens for a hatchery and beef cattle.

“I really like the Growers product,” says Gary, “because there are so many things you



Gary's sign tells a lot of it, but there is more.

can do with it. And if you have questions, just call Bill. He will help you figure out a way to use it.” ■

Potassium: Calcium Ratios and MRLS

By Jim Halbeisen

During the past two or three years, we at Growers have been following the Mare Reproductive Loss Syndrome in Kentucky. For reasons not known by those who really should know, expensive mares are losing their foals. The most popular explanation is

that some kind of fallout from cherry trees in or near their pastures is the cause. Accordingly, the trees are all being destroyed.

Early on we suggested high potassium to calcium ratios in their pastures and feed, coupled with certain weather conditions could be the problem.

In June of 2004 an article written by U of K

personnel appeared in the Journal of Equine Veterinary Science. The article's paragraphs one through three are shown (Figure 1). Paragraph three refers to our earlier thoughts.

In response, we sent a “Letter to the Editor” which was printed as we had written it in the September 2004 Journal’s Viewpoint section (Figure 2). ■

Figure 1

MRLS Pasture Monitoring Program

The University of Kentucky mare reproductive loss syndrome (MRLS) pasture monitoring program was established to identify and measure several important pasture parameters. Pastures were sampled on a biweekly basis during spring and early summer of the 2002 and 2003 seasons. This program has provided information on seasonal and year-to-year variation in several characteristics of central Kentucky horse pastures.

Nitrates were seasonally higher in 2003, with 2049 ppm reported on March 31, 2003, compared with 1266 ppm reported for the same time period in 2002. Maximum levels in individual samples ranged from 272 to 2112 ppm (2002), compared with 444 to 2049 ppm (2003). Reports indicate nitrate-N levels of 4090 to 4770 ppm to be safe for pregnant or lactating mares.

One early theory for the cause of MRLS was that pastures in 2001 had excessively high ratios of potassium (K) to calcium (Ca). Values for K/Ca greater than 5:1 have been suggested to lead to mineral imbalances in pregnant mares. However, further study of K/Ca ratios from past years revealed that even values exceeding 10:1 were not associated with equine abortions. K/Ca values for most sampling dates in 2002 averaged less than 6:1 for all pastures compared with less than 7:1 in 2003. Data collected in this program indicate that K/Ca ratios were not correlated to any mare health problems on monitored farms.

Figure 2

Potassium: Calcium Ratios

We read with great interest—and disbelief—about the University of Kentucky’s Mare Reproduction Loss Syndrome Pasture Monitoring Program (JEVS, June 2004, p. 255). The article stated conclusively that their program data shows no relationship between mare health problems and the potassium (K):calcium (Ca) ratios in their consumed forages.

To the contrary, as we work with dairy farmers across the corn belt and eastern Canada, we see very direct relationships between high-potassium-content transition diets and forages and metabolic problems in dairy cows.

Our field experience tells us the ideal K:Ca ratio should be close to 1:1. Unfortunately, because of excessive potassium applications from fertilizers and manures, coupled with inadequate calcium additions to the ground, we see much higher and ever widening K:Ca ratios. Meanwhile, metabolic disorders are becoming more prevalent in ruminants as they are exposed to legumes with ratios greater than 2:1 (2 parts K to 1 part Ca) and to grasses, with ratios greater than 3:1 (3 parts K to

1 part Ca). Because high K:Ca ratios have been present in certain pastures and forages for some time, excessive potassium levels, tied with sodium deficiencies, should not be ruled out as contributing factors predisposing animals to reproductive losses.

For several years, US Department of Agriculture researchers, university veterinarians and large farm service-related companies, such as Pioneer Hi-Bred International, Inc. have discussed in their scientific, farm-based, and pamphlet literature the metabolic problems related to high-potassium forages. A recent article on the problem refers directly to excessive potassium in the animal’s feeding environment (pasture). (See “Watch for Grass Tetany in Cattle on Pasture,” Herd Health, *Midwest Dairy Business*, May 2004, p. 8) This commentary elicited a response to the effect that sodium deficiency has been a long known but commonly overlooked factor in the pathogenesis of grass tetany (see “Grass Tetany II: Don’t Forget to Add the Salt,” Herd Health, *Midwest Dairy Business*, July

2004, p9). Further, it was recently established that just moderate excess amounts of potassium can bring about or aggravate deficiencies of sodium and predispose ruminants to milk fever and grass tetany. (See McDowell LR, in *Minerals in Animal and Human Nutrition*, 2nd ed. Amsterdam [Netherlands]: Elsevier Science; 2000. p. 145.)

The metabolic problems many dairy cows are experiencing has become so severe, many cash hay operations are receiving significant premiums from dairy customers for their low K:Ca ratio in hay.

It is disturbing to be led to believe that the widespread and well-known metabolic disorders stemming from high K:Ca ratios in the dairy industry’s forages should not apply in horse country—especially when remembering back to the old veterinarian who, having the benefit of many years of successful practice, told us young 4-H’ers, “Feed that horse like it’s a ruminating animal.”

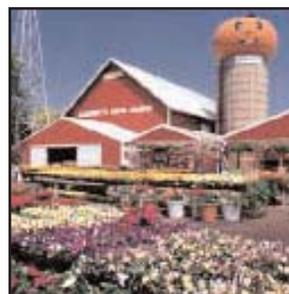
James L. Halbeisen, Director of Research Growers Nutritional Solutions, Milan, Ohio

Illinois Pumpkin Farm

By Jim Halbeisen

In mid September 2005, our northern Illinois Representative Harvey Huftalin and I met with Lloyd Goebbert at his place of business near Hampshire, between Chicago and Rockford. Lloyd and his brother Lee operate Goebbert's Pumpkin Patch & Goebbert's Farm & Garden Center.

Lloyd drove Harvey's van as we toured the farm. This area was extremely dry during the 2005 growing season, and Lloyd commented that it was like farming in the Sahara desert in that they have almost no irrigation capabilities. However, the tour revealed some very excellent looking tomatoes, peppers, sweet corn, and of course pumpkins. Especially considering the growing season, all the plants were quite clean and healthy looking, and Lloyd felt the foliar spraying of Growers Nutritional Solutions (GNS) helped that a lot. Overall, Lloyd was quite



Goebbert's Farm and Garden Center.

pleased with his production despite the extremely dry weather.

Among other things we observed, the Goebberts tend to stay with some of the good tillage practices of the past, such as moldboard plowing.

Because of their pumpkins' excellent quality and volume, I was quite interested in the Goebberts' approach to using GNS. Lloyd said

the pumpkins receive about 10 gallons per acre of GNS for the season. They usually start spraying around July 4 and continue spraying until about September 1. On average, they use about 1 gallon of GNS per acre per week. In light of the 2005 growing season, Lloyd was very well



Goebbert's Pumpkin Patch.

pleased with their pumpkin crop.

For me, it was a great pleasure to tour a really nice and successful operation using GNS.

To learn more about Goebbert's Pumpkin Patch go to www.pumpkinfarms.com. ■

Producing Quality Grapes and Berries

By Lloyd Gaines, District Manager

Since 1997 when he first started using Growers Nutritional Solutions and the Growers Program, Wayne Simpson of Mountain Grove, in south central Missouri, has been pleased with the response he has seen on his fruit.

On strawberries, Mr. Simpson has applied 4 tons of high calcium lime per acre for the last three years. He plants on plastic with 60 pounds of dry N, 10 pounds of P, and 60 pounds of K per acre. Starting in March and continuing on until harvest, he foliar feeds 1 gallon of GNS per acre per week, sometimes with fungicides, if needed, to complete his spray program.

Wayne feels that the GNS gives his berries a sweeter taste, a lot better shelf life and a really nice looking waxed shine. This year his two acres produced 24,000 pounds of strawberries and there were no customer complaints. The berries were extra large, with some not fitting in a teacup.

Mr. Simpson also produces fifteen acres of grapes which are consistently foliar fed with GNS. Two times in April, four times in May, every 10 days in June and every 14 days in July, for a total of 11 gallons of GNS per acre. In 2004, 12 established acres and 3 new acres produced 83 tons of grapes, which the wine company said were the best they had ever received. The pH, sugar and acid levels were all just right. ■



Wine Company says Wayne Simpson's Grapes are the best.



Wayne Simpson's Missouri grown Strawberries are too big for a tea cup.

Substitute Growers

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The efficiencies of nitrogen split applications are very much like those found when following recommendations and using Growers Nutritional Solutions (GNS) as a starter at planting time and later in the season as foliar sprays.

In the 1950s when most farmers were still using a corn, wheat, and hay rotation with a small amount of starter fertilizer; the nitrogen in GNS was usually enough to grow a competitive corn crop. However, as rotations evolved towards corn and soybeans only, supplementing GNS with additional nitrogen applications sometimes became beneficial. Even so, farmers foliar spraying GNS found they could get by with less supplemental nitrogen.

The producer, on his own farm, using comparison plots, can best determine for himself how much of the supplemental nitrogen normally needed to grow a competitive corn crop can be replaced with GNS foliar sprays.

As the price of nitrogen continues to increase, the cost effectiveness of later

season GNS foliar sprays can become even more competitive.

Our livestock feed testing experience shows GNS foliar sprays increasing the energy in corn which could be of importance to the ethanol industry. According to several agricultural publications, the ethanol industry is not interested in the large quantity - low quality corn coming from high nitrogen fertilization applications, but, rather, are paying premiums for higher energy corn which GNS could help produce.

Growers Chemical Corporation has regularly suggested that adequate levels of calcium in soils would increase the natural nitrogen derived from the environment. In fact a detailed article on the subject we had submitted was published in a United States Environmental Protection Agency publication called Water Shed Events. (see *The Growers Solution* Late Fall 2001). Bottom line; we said a biologically healthy soil created from adequate calcium additions needs fewer fertility supplements to grow a competitive crop. Now, research from the United States Department of Agriculture's Agricultural Research Service Eastern Regional Research Center shows that a beneficial soil fungus plays a large role in the

uptake and utilization of natural nitrogen in most plants. Their research shows that the symbiotic relationship between mycorrhizal fungi and plants may have a much more significant role in the worldwide nitrogen cycle than previously believed, and farmers may benefit by promoting the proliferation of mycorrhizal fungi. Their research also suggests that plants will make more efficient use of natural nitrogen stored in soils if commercial fertilizer and nitrogen inputs are limited.

So, in today's environment with \$250 per ton 28% nitrogen, \$550 per ton anhydrous ammonia nitrogen, or \$450 per ton urea nitrogen, we at Growers Chemical Corporation believe GNS is a competitive alternative - both price and quality wise - to nitrogen. In addition, using GNS in a split application approach (as a seed applied and foliar applied plant nutrition) can help reduce nitrogen fertilization needs. Also, as soil calcium levels are addressed, the soil's biological complex can help supply more native nitrogen to replace nitrogen fertilization

The more the farmer implements the Growers Program, the more he should be able to reduce the use of higher priced nitrogen inputs. ■

Ontario Dairy

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Out in the barn Ken told us, "Other than about 7 acres of bush, we work a hundred acres. We grow around 30 acres of picking and silage corn and try to get on at least two Growers foliar applications, the first at knee high. If we are busy we make sure the helicopter gets it. We also add GNA (Growers Nutritional Additive) to the second spray, because it helps mature the corn.

"We layer corn and grass silage when we are filling the bunk silo," Willis said. "We put about 4 loads of corn in the bottom when we first start, put three loads grass silage on top of that, then we get more corn."

"We just keep alternating it. When the bunker is almost full, and so the grass doesn't spoil, we put mostly all corn on top for a better seal," said Ken. They do not add anything else.

Willis laughed, "It sure beats a TMR mixer! And the cows really enjoy eating it."

"We grow about 12 acres of mixed grain; barley and oats," Ken continued, "and we treat the seed with the Growers in a cement mixer. The cows eat really well on grass silage during the summer and milk good. We try to spray the hay with a good shot of Growers in the spring and again after we get the first and second cut off.

"We spread 2 to 3 tons of lime to the acre on the hay fields in the spring and again in the fall. If I see where it is growing up poorly, I'll stop and let the lime spreader sit there for a while.

"Since I started steadily feeding the Growers to the cows and have taken away the dry mineral, I haven't had any trouble at all."

When asked how he was convinced to use the GNS in the barn, Ken recounted, "I went to

Dr. Tom Swerczek's meeting. And as soon as I saw his slides and heard his presentation, I just said, 'That's it!' I came home that night, went out to the salt block and threw the dry mineral on the manure pile! I just switched the cows right over to feeding them Growers. That was it, and I haven't looked back!

"Within about three weeks or a month, I noticed they started shedding their hair to a nice slick, shiny coat. That really surprised me.

"I just pour their daily Growers in front of them, even when there is no feed there. I don't bother pouring it on top of their chop. I just go along and give them a little bit of 'juice', and they just lick it up like water."

"I'm not real stingy with it either! I used to measure it out with a hand pump, but it quit working, so I said, 'Oh heck! A little extra won't hurt them!' So I go along and give them a pretty good dribble!"

Norm estimates Ken gives each cow about an ounce and a half of GNS twice a day. He also top dresses a vitamin pack of A, D, E and selenium on their grain. His cows get Omnicarb® lime, Redmond® salt and GNS free choice in the yard. "I've got a little plastic barrel cut in half. I just take two pails out and dump the Omnicarb® on one side and the salt on the other." His Growers lick wheel sits next to the free choice feeder.

Ken remembers, "Before they were always standing and reaching for more feed. Now they are satisfied. I start milking and shortly after I'm done, quite a few of them, if not all of the them are laying down. They are full. It's the nutrition in the feed!

"We have a few foot problems, but I can't remember the last time I had a turned stomach. Obviously it was before we started using the Growers. Having cows without health problems



Ken Ball feeding GNS.

is so much nicer."

"I just wish the other fellas would get on this program," Ken said. "They waste so much money on vet bills, fertilizer and spray. Everybody's got to spray for weeds, I guess, but, if you keep socking the lime on, hopefully, you don't need to do that quite as much."

Norm said, "It is hard to believe until you see it."

Ken added, "Yes, you just really wonder. 'Am I making a big mistake?' And then, after a year or so, you start realizing, 'I'm not always having troubles like I was.' You are suddenly clued in, 'Maybe it does have something to do with the Growers.'"

"I think back to when you first started," Norm continued. "You were saying 'Oh, I've got to have the dry mineral'. But now, you wouldn't have it on the farm would you?"

Ken laughed, "No! If anybody tried feeding dry mineral to my cows, I'd sooner kick them in the pants!" ■

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WINTER 2006



Growers representatives who started during the 1950s and 1960s, and attended the December Growers sales meeting in Sandusky. (Includes second and third generations, from left to right) Mike and Ed Bulcher, Jim Halbeisen, Rose Bulcher, Ben and Connie Bechtel, Ted Rohrer, Elroy Saner, Elvin Hursh, Joe Henry, Matt and Marv Gooding.

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Minnesota Dairy

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animals and what's going on."

Son David replied, "I try to be. I know all of them without looking at the number."

David McIver concluded, "That's a good cattleman! Your mom tells us you really enjoy what you are doing everyday. That's terrific! That's a winner!" ■