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## The Growers Solution

EARLY FALL 2005

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VOLUME 18 ISSUE 4

### Use Calcium Values From Soil Tests Cautiously

By Jim Halbeisen

In the Fall 2003 issue of *The Growers Solution*, we discussed the problems associated with the pH test. Dr. V. A. Tiedjens felt an extractable calcium test rather than the pH test would be a better choice to show farmers how much calcium they actually need to add to increase their farming operations' profits.

Although the extractable calcium test has proven to be a significant improvement over the pH test, there have been a few problems.

GNS representatives regularly see soil test reports, either from Growers Chemical Corporation or from other acceptable laboratories, showing the extractable soil calcium to be relatively high, and, as to be expected, no additional calcium applications are suggested. At times, though, this leaves the farmer and the GNS representative with soil problems they feel are definitely calcium related.

An example is when a sledge hammer is needed to drive the soil probe into the ground,

but the soil test comes back calling for no lime.

The first step in trying to resolve the problem is to compare the calcium to the magnesium found in the soil. Dr. V. A. Tiedjens learned from the early soil scientists that the correct ratio of calcium to magnesium is a major key to proper soil balance. Our experience tells us that, on a pounds per acre basis or ppm (parts per million) basis, the calcium should be at least 15 times higher than the magnesium. Also, in the CEC (cation exchange capacity) exchangeable calcium should be about 8 times the magnesium with the magnesium value being between 10 and 15% of the total. If these parameters are all met in the soil test, but the farmer still has soil problems, there are other points which can be addressed.

Calcareous clay soils are those that have evolved from rock that is generally high in calcium content, and they usually occur from central Ohio on to the west; however, they can be found almost anywhere in the United States and Canada.

The theory of laboratory soil testing is that the elements held in the cation exchange capacity are removed by an extraction solution

that replaces those elements from the soil's base exchange. For many years, however, soil chemists have recognized that when testing a calcareous clay, other elements, particularly calcium, idly laying in the soil proper and not chemically participating in the activity of the soil, are also solubilized by the extracting solution, so misleading readings are created. (See Figure 1 on page 3.)

We have always felt the physical handling of soils in the testing laboratory could also be an issue. For example, excessive fine grinding of soil samples in the laboratory may allow the soil to react one way in the lab's glassware, but differently in the field where the parent material has not broken down into small enough particle sizes to allow solubility. Here again, we would have false readings.

To overcome these inherent problems of testing for calcium and to get proper field interpretations, other approaches can be suggested.

For producers using the Growers Nutritional Solutions' chemical (availability) test, plant testing may help explain questionable soil test

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### Cadmium Toxicity Concerns CDC

TGS Staff

On the front page of the July 25, 2005 *The Wall Street Journal* is an article regarding the "Third National Report on Human Exposure to Environmental Chemicals" from the Department of Health and Human Services Centers for Disease Control and Prevention. The article is a summary of a lengthy study in which human blood and urine samples have been monitored for the presence of toxins having come from the environment. One of their toxins of high concern is the heavy metal cadmium which, for several years now,

has troubled us here at Growers. In our Late Fall 2005 edition of *The Growers Solution* we will discuss why we believe cadmium levels are increasing in human blood and urine. Our past experience with toxic mineral supplements and toxic fertilizers, "the same as Growers only cheaper," with soils low in calcium and our fortunate access to good, unbiased and concerned research on the subject, gives us important insight into the problems related to the heavy metal cadmium's increasing accumulation in the environment and in humans. ■

## Produce Growers "Read The Crop"

By Jim Halbeisen

Four years ago Ed Bulcher went to Jerry Girod's farm in the Monroe-Berne area of eastern Indiana. Ed, the Growers District Manager, had been advised by one of his Growers customers to see Jerry, a gentleman producing quality produce, and to discuss with him Growers Nutritional Solutions and the Growers Program.

Jerry told Ed he could be interested, but he wanted to talk to someone using the program and he wanted to see how it was working. Ed suggested he see Mark Kamman, a produce grower on the Growers Program in southern Indiana. It was August and a busy time for all produce growers, but right away Jerry loaded up his family and went down to the Kamman's.

On arriving at their market, the produce Jerry saw really impressed him. He said, "It was clearly quality production." Mark was really busy that day, so Jerry had very little chatting time with him, but he talked with Mark's wife, Sue, who was very enthusiastic about Growers. Jerry said, "One of Sue's comments was that Growers had basically turned their operation around. They had been struggling to a certain degree, but after they met Ed things got significantly better."

Jerry was most impressed with Mark's

cantaloupes. "They were very tight and very solid. I saw no 'snotty nose,' per say, and it was a wet year which is conducive to softer production."

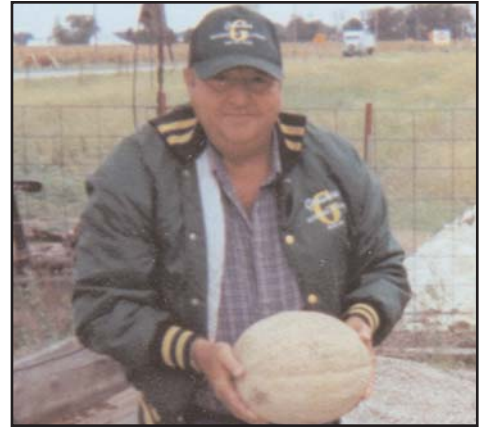
Following the Kamman visit and more consultations with Ed, Jerry was pretty well convinced this was the way he would go.

They started by discussing calcium needs. Ed felt that Jerry's black, clay-type soil would require about 15 ton per acre of high calcium limestone. That first year they spread about 12 ton to the acre on all of his produce ground.

Initially, he followed the Growers Recommendation Book right to the "T". Jerry said the "Little Green Book" was his best friend at that point in time. It was a very dry season, but right out of the chute, things went very well. The sweet corn really got his attention. He said, "The neighbors around me had no sweet corn, but we did, and we had it to sell. That really impressed me."

Basically he puts Growers in the transplant water for the transplanted crops, or he puts it through the planter on the seeded crops. When they get up to size, they get a gallon of Growers Nutritional Solutions per acre per week which is continued on through the growing season.

Summarizing the first year, Jerry said, "We were very happy, especially with the very dry year, to see the very evident improvement in



Ed Bulcher with one of Jerry Girod's cantaloupes.

both the sweetness and the quality in our produce."

The second year, he went back with more high calcium lime and applied it in almost the same fashion as he did the first year in getting all the produce ground covered. Essentially, he doubled it and got everything into the 24 to 25 ton per acre range. Jerry said, "I could tell even after the first year's application that the soil was starting to act differently; the way it tilled, the

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## Minnesota Customer Looks To The Future

By Jennie Henry

Ron Wiertsema and his son Randy of Rushmore, Minnesota, have developed a tillage system that works very well for them. A few years ago, they purchased a zone builder which can go 20 inches deep. "After going 20 inches a couple of years," he explains, "we find we don't need to go that deep all the time. Now we go 9 to 12 inches and run at 6 mph instead of 3 1/2 to 4 mph at 20 inches. We just get over the acres a little faster."

Each year Ron and Randy plant between the rows of last year's crop. "This belt tractor rides right up on top of the row," Ron explains, "therefore you're putting the weight on the crop that grew last year. You are not compacting the ground where you are going to plant."

After they have harvested their 1500 acres of corn, Ron and Randy drive on top of a portion of the rows with their tractor to inject his hog manure. "This machine," he explains, "goes right between the rows. It's laid open and there's nice dirt there, and every year we're just 15 inches over from where we were the year before."

"But," Ron continues, "the ground never gets mixed up. All of these corn stumps and everything stay in the ground. We never take them out. I learned this from a zone builder specialist who told me those corn roots will benefit us so much more leaving them in the

ground than digging them out and getting them scattered all over. A lot of the roots are down there 5 foot deep, and, because they are attached, they become air passages that will pull oxygen from the air and bring it down into the soil profile."

Ron and Randy have put together their own corn planting system.

They put a hitch on the planter that pulls a lime wagon behind. This puts about 100 pounds of high calcium lime per acre into last fall's slot and just ahead of this year's seed. He says, "As we plant, this machine's 3 coulters close in the slot, put the lime on, and lay the seed right in there. It's a good way to put limestone on 1500 acres."

At the same time, they also apply GNS to the seed. The combination of last fall's hog manure and this spring's high calcium limestone, nontoxic GNS and oxygen gives a boost to the biological activity in their soils.

Randy and Ron are working together most of the time now. Proudly Ron said, "I can do a lot of this farming just by myself, but we are to the point now where all either of us needs to do is hook up that planter in the spring and go. It puts



Wiertsema's corn planter pulls a wagon applying 100# hi cal lime in slot ahead of the seed.

the seed and plant food in the ground, we foliar spray it once and harvest it. This three coulter system really works slick. The entire system saves us time and diesel fuel; you don't drive a tractor around for free! But I guess the biggest advantage to this whole system is being able to retain and conserve soil moisture, because moisture is what we need to produce a corn crop. If it is not there, you're not going to get it."

Ron is looking towards the future in making the physical act of farming easier for Randy and him, yet help their crop get a jump start and keep it going with more readily available soil moisture along with the added boost of a GNS foliar feed. "We are trying to make the land better for my little grandson," he concludes. "When he gets around to farming, he should have a good farm to work." ■



# Growers NUTRITIONAL SOLUTIONS

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## Happy Healthy Grandchildren Raised On Growers

By Lauren O'Connor

Joe and Sharon Altermatt of Memphis, Michigan, are long term Growers customers and sales reps. Two of their daughters, Debbie Carlson and I, Lauren O'Connor, were due 3 weeks apart with Tyler and McKenna. We both worked on our parent's farm during our entire pregnancies, and we often joked about "what if we had them on the same day!"

I was induced and had McKenna on the 21st of June, because she was two weeks overdue I delivered her at 6:00 am and was told Debbie was on her way in! She had Tyler eight hours after McKenna was born. We had the same doctor and we delivered a couple doors down from each other at St. Joe's Mercy Hospital in Macomb.

We were both back working when they were two months old. That summer flew by and before we knew it, we were into the summer of 2004, and they were already one year old.

"Grandpa Joe" built them a playhouse on a

wagon we took with us while we worked out in the fields. That continued and worked out well. They got used to seeing each other everyday and really enjoyed each other's company

The highlight of their day was when they each had their favorite treat from Grandpa. Tyler's choice was a thin line between Grandpa's strawberries and his watermelon. McKenna's was Grandpa's watermelon and his cherry tomatoes.

At the present time, winter of 2005, Tyler and McKenna are still the best of friends. They still see each other a couple times a week while we help pack the hothouse rhubarb "Grandma" and "Grandpa" grow and pick.

### Footnote by Jim Halbeisen:

Just before the start of our Growers February meeting in his basement, Joe Altermatt of Memphis, Michigan asked if he could have an individual say a few words to open the meeting. We agreed and Joe proceeded to introduce his mother-in-law, Mrs. Marcella Hellebryck. It turns out she and her husband in earlier years were produce growers like Joe and his wife Sharon.

This now retired produce grower proceeded to give the best GNS testimonial I have ever heard in my thirty years conducting Growers meetings!

Mrs. Hellebryck's main theme was quality, and, as far as she was concerned, Joe produces the best. No exceptions! When the lady finished, I told the audience of about 30 there really wasn't much for me to add to the discussion, because Joe's operation speaks for itself and her presentation stated that fact very clearly!

Later when we received the nice article and



Grandpa Joe Altermatt's Grandchildren Enjoy his Watermelons

beautiful pictures from Joe's daughter Lauren, I was impressed again by the amount of heartfelt appreciation so many different farm families around the country have for Dr. V. A. Tiedjen's GNS and the Growers Program. ■

### The Growers Solution

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