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The Growers Solution

SPRING 2012

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VOLUME 25 ISSUE 2

Conference Call Guest Paul Dotterer

By Staff

Our featured guest for our regular second Thursday of the month Conference Call, March 8th, was Paul Dotterer of Union Bridge, Maryland.

Paul told us up until 2007, when he discontinued dairying, he had very good results feeding Growers to the small calves, dry cows and the dairy herd. Especially as compared with his earlier dairy experiences. After he started feeding GMS, his SCC's came way down and other herd health issues were much reduced. Paul's vet of 30 years could see a big difference in the cows when he switched to using Growers. Today Paul's dairy customers tell him their vets see the same thing, better herd health, etc., and they say, "Whatever it is you are doing, keep it up."

Presently, Paul and his wife Karen raise corn, beans, wheat and alfalfa and grass hay on 550 acres, and have a 6,000 acre custom spraying business for his Growers customers.

At planting, Paul's corn gets 5 or 6 gpa GMS directly on the seed, and 5-6 gpa of 30% N on top of the ground behind the closing wheels, followed later by 50 lb/ac N as 30% w/pre-emerge herbicide, 50 - 80 lb/ac N as 30% side-dress and two 2 gpa GMS foliar sprays, one at knee high and one at waist high.

Paul's soybeans are planted with a twin row planter, but with no GMS starter. They do receive three foliar sprays during the season, 1st pass - 1-2 gpa GMS w/Roundup™ when necessary, 2nd pass - 2 gpa GMS w/5-6 oz NA, Roundup™ if necessary, 3rd pass - 2 gpa GMS w/5-6 oz NA, Roundup™, insecticide, and/or

fungicide if necessary.

Double crop soybeans get two 2 gpa GMS foliar sprays plus chemicals if necessary.

Wheat gets 2 gpa GMS in the fall and chemicals if needed. In the spring it gets 2 gpa GMS with 80 lb/ac N as 30%, and at heading 2 gpa GMS with fungicide if needed.

Alfalfa gets 2 gpa GMS before 1st cutting and 2 gpa GMS at green-up after each cutting with chemicals if needed.

Paul farms not too far above the Chesapeake Bay, in an area home to the Nation's first Nutrient Management Programs. NMP restrictions are already tough and he expects them to become more so, but, so far, using

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Daryl J. Morain (1941-2012)

By Staff

A very good Growers friend is no longer with us. Daryl Morain, 70, of Ogden, Iowa, passed away Saturday, February 4, 2012, at Mercy Medical Center in Des Moines. His death came suddenly from a previously undetected heart problem.

He was a long time very successful GMS user on his some 1,600 farm acres. In 2011 Daryl was honored by the State of Iowa and Boone County Pheasants Forever for his close to 300 acres of wetlands, quail buffers and filter strips he had installed on his several farms.

Daryl may always be remembered most for his consistent, dedicated and unselfish promotion of Bio-Medical Center in Tijuana,



Mexico near San Diego, where he and many of his friends had had their cancers successfully treated.

Daryl will be missed. ■

4R's and the Growers Program

By Jim Halbeisen

Farm Journal's mid-February issue article entitled "Right Rate, Right on Time" refers to the 4R's concept of fertilization advanced recently by National Resources Conservation Service (NRCS), Potash Corp.(PC) and The Fertilizer Institute (TFI). The concept, called revisions, is being considered by the United States Government for possible Federal Nutrient Management regulations.

The NRCS, PC and TFI initiated the 4R's program for 2 basic reasons:

1. They see fertilizer costs have risen to a point where farmers are searching for more affordable methods of fertilization.

2. They are recognizing Environmental Concerns: USDA says 53-80% of our cultivated crop land is in need of additional nutrient management to reduce obvious N or P losses. (Chart 1)

Below are direct quotes from a Kansas State University Environmental Quality Specialist as he explains the 4R's in more detail:

"The goals of the revisions are to better assist producers in managing and applying nutrients. The expected outcomes are improved returns on nutrient investments and protection and/or improvement of water, air, soil and overall agricultural sustainability. The revisions are seen as an endorsement of the 4R Nutrient Stewardship concept which takes into account social, economic and environmental factors in the context of determining the right source, rate, time and place for a nutrient addition. The 4R concept was developed through a partnership of the International Plant Nutrition Institute, The Fertilizer Institute, and the Canadian Fertilizer Institute (www.ipni.net)."

For the remainder of this article we will be quoting the Environmental Specialist as he describes each of the 4R's. Each of his quotes is followed by Growers Chemical Corporation's comments and suggestions.

Breaking down the 4R's

Right Source

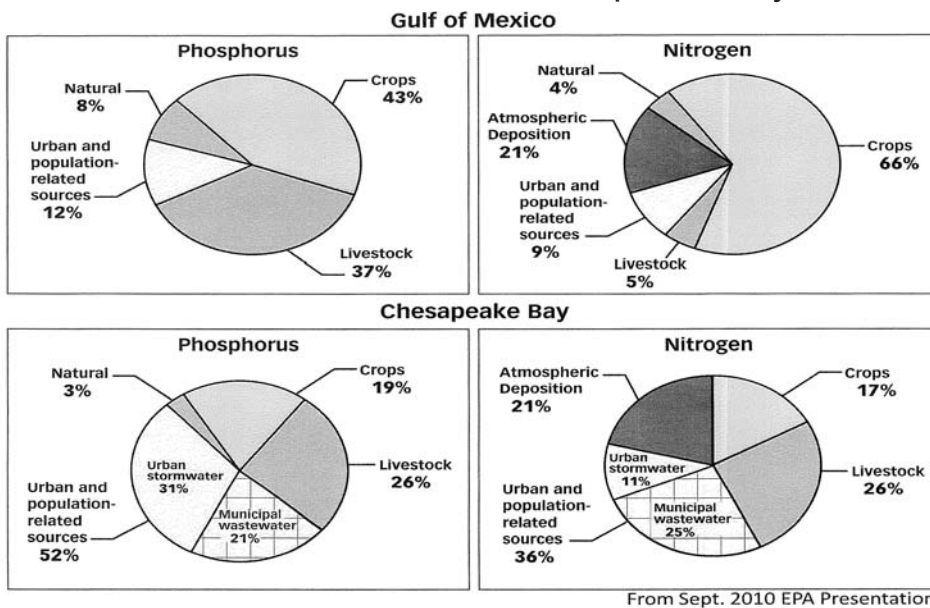
"The right source means identifying the best fertility source or combination of sources (commercial fertilizer, manure, etc.) that meet the crop needs and are appropriate for the specific location. Factors to consider when determining the right source include:

- Soil conditions and properties
- Fertilizer delivery and application issues
- Environmental Risks
- Economic constraints, e.g. price and application costs"

We at Growers believe the more soluble the nutrition, mineral or element, the more efficiently it will be utilized by the plant. Important, also, the mineral or element must contain as little toxicity (heavy metal or salt

Chart 1

Row Crop N & P Contributions to the Gulf of Mexico & the Chesapeake Bay



EPA says... "All Major Sources of Nutrients Must Be Held Accountable For Their Contribution To The Problems"

content) as economically possible, which will make it more available to the plant and not destructive to the soil environment.

Right Rate

"The right rate is determining your nutrient requirements to achieve your production goals. Present crop, crop history, soil test, and in-season nutrient testing all provide information that should be utilized in determining fertility requirements. Additional factors to consider in determining the right rate are:

- All 17 essential nutrients must be present
- A deficiency in one nutrient cannot be overcome by applying an excess of another nutrient. A crops yield is determined by the most limiting nutrient (Liebig's law of the Minimum)
- Match nutrient supply with plant requirements"

Growers Chemical Corporation does not believe in the "slug feeding" of minerals or elements to plants. All of the essential minerals or elements necessary for plant growth must be available to the plant in proper balance to achieve uniform, healthy growth. An important reminder here, according to most plant physiology literature, 96% of healthy plant tissue is composed of carbon, hydrogen, and oxygen—sun, air and water. Only 4% minerals or elements are needed for proper, healthy growth.

Right Time

"The right time means ensuring that the nutrients are available to meet the crop demand.

Strategies to ensure nutrients are available when plant nutrient demands are high include strategies such as split nutrient applications over the growing season, and use of controlled release fertilizers. Additional factors to consider in determining the right time are:

- The availability characteristics of the nutrient source
- Sight specific conditions such as soil characteristics
- Weather and other environmental conditions"

Growers Chemical Corporation believes the plant undergoes 2 basic stress periods, germination and reproduction. At these particular times, plants can become deficient in minerals or elements due to weather effects and high physiological demands. This is why we recommend GMS as a row starter and/or transplant solution and, later, as foliar sprays during plant growth.

Right Place

"The right place means ensuring that nutrients are located and retained where they are accessible to the plant. Nutrient placement decisions such as injecting, banding or incorporation need to take into account the crop, soil properties and cropping system and must be balanced with soil erosion goals. Additional factors to consider in determining the right place are:

- The fertilized soil volume (concentration)

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4R's

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- Relation to the plant root system
- P and K move to plant roots primarily by diffusion
- Plant nutrient demands are greatest during rapid vegetative growth"

Growers Chemical Corporation believes one of the bigger obstacles to efficient fertilization is distance—placement. Broadcasting fertilizer over an entire acre and expecting plant roots to seek it all out is unreasonable, and very inefficient. (See Chart 1 again) Scientific research shows minerals or elements placed next to the seed or root and/or foliar applied are utilized much more effectively than are bulk spread fertilizers.

Growers was founded in 1955 by Dr. V.A. Tiedjens and J. P. Henry. Since that time they, and the company's succeeding personnel, have relentlessly pursued a much more affordable, refined and successful version of the 4R's than is now being promoted, but even so, it is well the agricultural establishment is finally catching up and coming to realize there are better ways to farm. The country's farmers and the environment certainly need changes. ■

On The Road Again

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Growers Mineral Solutions is scheduled to set up and staff booths at the following upcoming farm shows and conventions this summer. 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.

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|--------------|---|
| June 29-30 | Horse Progress Days
Clare, MI |
| July 12-14 | Wisconsin Farm
Technology Days
Waterloo, WI |
| July 12-14 | Michigan Ag Expo
Lansing, MI |
| August 7-9 | Farmfest 2011
Redwood Co, MN |
| August 7-9 | Empire Farm Days
Seneca Falls, NY |
| August 14-16 | Pennsylvania Ag Progress Days
Rock Springs, PA |
| Sept. 18-20 | Ohio Farm Science Review
London, OH |

Hope To See You!

Conference Call

Continued from page 1

GMS and the Growers Program helps him to readily comply.

Near the end of Paul's talk a caller asked about his ground's base saturation. He said for most of it, the calcium is at 85 to 90% which has really changed the soil texture. Fields used to be tougher and more cloddy, but now they plant nicer, hold water with less runoff and weed control is easier. ■

Next Conference Call

The next Conference Calls will be May 10 at 9 p.m. EDT and June 14, 10 p.m. EDT. Dial in 1-605-475-5950, when requested, dial in the PIN or access code *8262757#, followed by dialing 1 to acknowledge the call is being recorded so others can access the Call at a later date.

Also once a week we are offering "Growers Mineral Solutions Ag. Update" online, www.GrowersMineral.com — Calendar of Events, or call the office. ■

Paul Dotterer 90 BPA Soybeans



- | | |
|----------|---|
| 5/2/11 | Cover crop (wheat) burndown |
| 5/25/11 | Planted Huber 4601 at 145,000 in twin rows, 4.6 maturity - no starter |
| 6/15/11 | 8" Beans w/half dead wheat, 1 qt. Roundup with 1 gpa Growers Foliar Spray |
| 7/8/11 | 2 gpa Growers Foliar Spray |
| 7/28/11 | 2 gpa Growers Foliar Spray w/5-6 oz NA, + insecticide at R 1 stage. |
| 8/22/11 | 2 gpa Growers Foliar Spray w/5-6 oz NA, + insecticide and fungicide at R 2 and 3 R stage. |
| 10/26/11 | Harvest: 90 Bushels Per Acre Soybeans. |

Strip Test by Mistake



Center 6 Rows had no GMS applied directly on the seed.

Yield Monitor at end of field recorded:

Right hand 6 Rows	121 bpa
Center 6 Rows	76 bpa
Left hand 6 Rows	124 bpa

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The Establishment and The Growers Target Fertility Program

By Jim Halbeisen

The *Farm Journal's* mid-February 2012 issue carried the articles "Calcium Basics" and "Right Rate, Right on Time". Both authors used *Farm Journal's* lead *Farm Journal Corn College* agronomist Ken Ferrie for their technical information source, making it pretty safe to assume these articles are fairly representative of current "main stream" agricultural thinking. Of course we at Growers Chemical Corporation are delighted to see the agricultural establishment publishing information leaning in the direction of our farming philosophy known as the **GROWERS TARGET FERTILITY PROGRAM**. Since 1955 we have advocated farmers use the element calcium to create a superior rooting media coupled with stimulating plants with smaller amounts of clean, balanced mineral nutrition, such as Growers Mineral Solutions (GMS), at stress points during the plant's life cycle.



ethanol exports, so even more corn is being used to meet the demands for ethanol. All of this increased ethanol usage has corn prices surging which, in turn, has helped to keep fertilizer prices elevated. Of course, higher prices have farmers searching for more financially acceptable ways to fertilize.

Because Growers Chemical Corporation, since 1955, has consistently advocated a lower input approach to agricultural production, more farmers are becoming increasingly curious about whether the **GROWERS TARGET FERTILITY PROGRAM** can work for them on their farm operations. And as more articles appear in the main stream agricultural media more or less substantiating our targeting small amounts of balanced nutrition, Growers Mineral Solutions, and our Growers Soil Program calling for adequate calcium applications, now is the time farmers need to examine the science supporting these approaches. ■

Those familiar with the Growers Program realize the *Farm Journal* articles contain certain concepts with which we need to take issue and we intend to do in future *The Growers Solution* articles. But despite our differences of agricultural interpretation, that the foundation of the **GROWERS TARGET FERTILITY PROGRAM** is, in effect, receiving recognition from a main stream agricultural publication represents a totally different attitude than was prevalent in agriculture even as little as 5 years ago.

The introduction of corn based ethanol into the USA gasoline market significantly increased the use of ethanol which was followed by increased manufacturing capacity. Meanwhile, higher world oil prices have brought on increased

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More About Growers

We hope you will find this newsletter helpful and interesting and we welcome your input. Please send letters-to-the-editor, comments, suggestions, etc. to: Growers, P.O. Box 1750, Milan, OH 44846, call 1-800-437-4769, fax 419-499-2178.

email: growers@hmcltd.net
or visit our Web site: www.growersmineral.com

Growers Pricing

By Staff

Commodity, corn, beans, etc., prices have become active lately, and although fertilizer raw material prices have been jumping around some in the last several weeks, fertilizer prices, while really too high, for now seem to be pretty flat. We all need to keep watching the commodities—when they go up, fertilizer increases usually follow. ■