



# The Growers Solution

SPRING 2022

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### Inside The Solution

#### FARMERS DON'T BUILD A NEW SHOP ON A TEN CENT FOUNDATION; SO WHY GROW A CROP ON A TEN CENT FOUNDATION?

Jim Halbeisen ..... page 1

ON THE ROAD AGAIN ..... page 2

MONTHLY CONFERENCE CALL ..... page 2

#### SOIL TEST—COVID TEST

Jim Halbeisen ..... page 2

#### A DIFFICULT TEST TO PROCURE

Research & Education Team ..... page 2

#### MORE COST AND NUTRITIONAL ANALYSIS

Jim Halbeisen ..... page 2

#### MORE DATA ON GMS PLACEMENT FOR CORN

Research & Education Team ..... page 3

#### SPOON FEEDING AND HIGH FERTILIZER PRICES

Jim Halbeisen ..... page 3

## FARMERS DON'T BUILD A NEW SHOP ON A TEN CENT FOUNDATION; SO WHY GROW A CROP ON A TEN CENT FOUNDATION?

by Jim Halbeisen

The article "Soil Pits: Can You Dig It? Soil Pits Unveil Secrets About Soil Structure and Health" appeared on [www.dtnpf.com](http://www.dtnpf.com) on August 2, 2021. In this article, an agronomist for Orthman Manufacturing, who is a former NRCS soil scientist, discusses the many educational benefits of the soil pit. This agronomist claims the soil pit is a "gold mine" of information by giving the producer an idea of their soil resources and potential, but also shows the potential of the soil to absorb and store water and to release nutrients.

"Ten Cent," continued on page 3



PHOTO A: Soil root zone focusing on the soil surface to a depth of approximately 24 inches.



PHOTO B: Soil root zone focusing on a depth of 20 inches to a depth of approximately 48 inches.



## MORE DATA ON GMS PLACEMENT FOR CORN

by Research & Education Team

In *The Growers Solution* Spring 2019, Volume 32 Issue 2, edition, a discussion about the placement of GMS in soil during planting of corn was discussed in detail. This article suggested that placing GMS in different positions in the soil while planting was helping farmers achieve more economic success. The article suggested that by placing the GMS at different soil positions at the same time, more biological activity was occurring in the eventual root zone of the seed. The volume of GMS used at various positions depended on the goal of the producers.

For example, the producer may want to lower the volume placed on the seed but keep the same volume of applied GMS, so the rest was placed at a different position. Another example was the producer who wanted to lower the amount of GMS used on the seed and to lower the amount of GMS foliar sprayed, but he placed those volumes not used for in-furrow and foliar on at a 2 x 2 position.

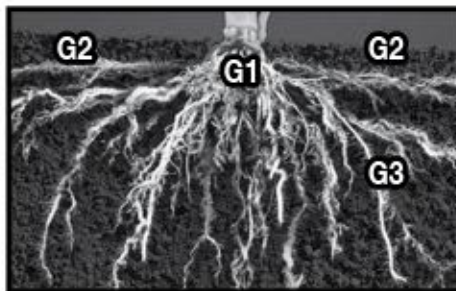
With that in mind, the Growers Research & Education Team worked with farmers to see if this approach of various placements of GMS in soil helped the growing crop.

The image see here shows the different positions that farmers have placed GMS in the soil while planting corn:

- G-1:** Conventional in-furrow application position
- G-2:** Surface applied position with a small amount of soil covering (spider covering wheels)
- G-3:** Conventional 2 x 2 position (2 inches beside the seed and 2 inches below the seed)

With the upheaval in the fertilizer industry for the 2022 crop year, the Growers Research & Education Team believes that placing GMS in various positions may help the producer get the most effect from their fertilizer dollar.

Also, research work conducted for the Growers Research & Education Team suggests that more added GMS to the seed environment may result in better economic results than using products that are considered necessary for the most economic results for growing corn. Anyone interested in pursuing more seed placement information should contact their local GMS sales representative or Growers Mineral, Corp. at Milan, Ohio. ■



## SPOON FEEDING AND HIGH FERTILIZER PRICES

by Jim Halbeisen

The article "Next Year and Beyond, Challenges for Ag Inputs Realized" appeared on agweb.com on November 15, 2021. This article used a term for fertilization that I had not encountered for many years. The term I am referring to is "spoon feeding" of fertilizer to crops. My first exposure to the term spoon feeding came during the 1970s and 1980s when the agricultural establishment suggested that spoon feeding of crops would only work for use in high value vegetable or fruit crops. In fact, the agricultural establishment suggested spoon feeding of row crops would not be economically acceptable. For example, we were told by soil fertility experts at that time to forget any type of row fertilizer application and proceed with bulk spreading of fertilizer nutrients.

So for me it was very interesting to read the quote by Jeff Tarsi, Senior Vice President of North American Operations at Nutrient Ag Solutions. His quote was, "We use a lot of in-furrow type products today, and that brings economics into the picture. We see more spoon feeding of products than we have done in the past." Therefore, it now seems like the agricultural establishment is condoning a practice that was discredited for many years, and it is interesting that this advice occurs when year over year prices of fertilizer have increased between 80 and 100 percent.

Since 1955, Growers has suggested to farmers they experiment with target fertility so as to learn the science of in-furrow and/or foliar feeding (spoon feeding approaches). Then, if economic conditions create a problem, the producer can "weather the storm." In the early years, Dr. V.A. Tiedjens told farmers that they will never control the price of their product due to competition. Rather, Dr. Tiedjens believed the farmer would only have a profitable operation by controlling the inputs used to control the crop.

By using the Growers Mineral, Corp.'s "Cost and Nutritional Analysis," a producer can determine the most environmentally and economically successful fertility plan, according to both cost and nutrient availability. ■

"Ten Cent," continued from page 1

Since 1955, Growers Mineral, Corp. has used the soil pit to promote the use of the Growers Program. The company contends that by using Growers Mineral Solutions (GMS) and the correct amount of calcium (Ca) that the root environment of a plant will enlarge so as to benefit the growing crop. In years past, soil pits, such as the one shown in the month of August of the 2022 Growers calendar, have shown farmers the benefits listed by the Orthman Manufacturing agronomist in the [www.dtnpf.com](http://www.dtnpf.com) article. However, sometimes soil pits can occur quite by accident without any planning.

In the summer of 2021, GMS customers in the Red River Valley of Minnesota were required to cut a five foot deep trench through a growing corn field in order to install a main for a tile drainage system. For years these GMS customers had heard about the improvement in crop rooting environment when using the Growers Program. So the old adage "seeing is believing" definitely came into play in this case. As the farmers checked the depth of the trench to ensure the proper depth for the main tile, their eyes caught sight of the rooting depth of their corn crop shown in Photograph A. This particular field had received between 10 and 15 tons per acre of sugar beet lime from several applications while GMS was being used as a starter on the corn crops grown in this field. In fact, this soil pit was viewed by various farmers who were participating in a GMS field tour.

Photographs A and B are two photographs of the same plant root taken at different depths. The large root mass in photograph A is at the soil surface and very impressive for a depth of 14 to 16 inches; however, the large feeding root at the bottom of Photograph B was measured close to 48 to 50 inches in depth.

The GMS customers had used the GMS calculator in August to predict corn yields over 200 bushels per acre, which eventually proved to be correct. However, these customers were more impressed with their crop because of the total amount of rainfall they had received up to the viewing date. That total amount of rain received was about 3 inches by August 18.

Our company believes strong plant foundations help crops to deal with stress situations. ■



*"Agriculture is the most healthful, most useful, and most noble employment of man."*

— George Washington





SPRING  
2022

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*Inside this issue:*

**WHY GROW A CROP ON A  
TEN CENT FOUNDATION?**

**GMS PLACEMENT FOR CORN**

**SOIL TEST—COVID TEST**

PAGE 4 THE GROWERS SOLUTION

SPRING 2022

*"Soil Test," continued from page 2*

Growers Mineral, Corp. does not know if the microBIO-METER is the proper soil test. That is why the Growers Research Team was established: to investigate the methodologies that will be helpful to the GMS customer. ■



*"Difficult Test," continued from page 2*

documentation is deemed not needed!

So how to show GMS benefits cattle when presented correctly? A swab of a recently ruminating cow was taken (and that itself is a story) and instantly placed on an agar plate (a medium that promotes bacteria growth) and labeled "S" for spit (see the photos below). Then a liquified mixture of a common dry mineral at the same TDS as the diluted GMS was placed horizontally crossing the vertical spit line. The plates were immediately placed in a heating chamber at 100 degrees.

One must understand the degree of difficulty to do each step very quickly as the ruminant bacteria do not survive long outside of the animal.

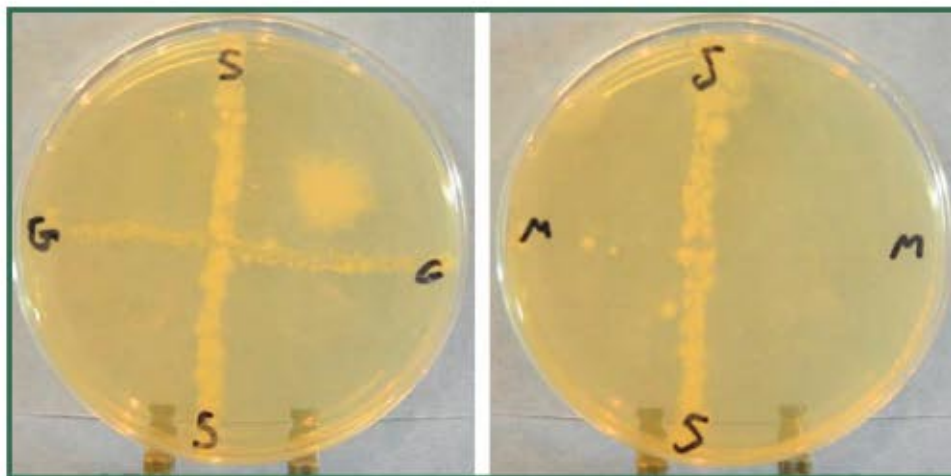
After 24 hours, one easily observes that, like in the many soil and plant experiments done over the years, the stomach bacteria of the cow show favor to the GMS. We now have a visual observation to go along with the hundreds of stated benefits farmers have observed over the decades GMS has been fed to animals. ■

## The Growers Solution

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About 1 gram of dry cow mineral liquefied and diluted to the same TDS as 500-1 GMS. Both mineral solutions (G=GMS; M=dry mineral) applied horizontally between letters. pH of dry mineral solution 3.80 at application; GMS solution had a pH of 6.8.