

TSM[®] Infarmation Newsletter

March
2011

Unlock the Potential
For Higher Yields

TSM Services, Inc is dedicated to providing growers and farmers the absolute best soil fertility programs today. The TSM[®] goal is to provide a program that is agronomically sound, economically justified, and environmentally friendly. Our fertility programs are proven to meet all three standards, with 18 years of research to back all of our claims.

For further information. Feel free to call us during business hours at 1-800-626-3806, or visit us on the web at www.totalsoil.com

Special March Edition

Dry Micro Nutrients! Page 1

What Makes TSM[®] Products Different? Page 2

“Products designed to solve a problem!”

Dry Micro Nutrients

In this special edition of the March *TSM[®] Infarmation Newsletter*, I want to share with you some things to think about when buying dry micro nutrients.

Being 73 years old and having been working in the agricultural industry (specifically agronomy) for over 50 years, I was in business when micro nutrients first showed their faces.

No one seemed to know what to do with them. Are they beneficial for raising yields?

Quickly, the universities all said the farmer didn't need them. They did this with no research at all. They based this on the soil test. The soil tests showed medium to high levels in the soil; therefore, they are not needed.

Today, we know that the soil tests for micro nutrients are not reliable. Most of them indicate “total” nutrients available, not just the “available” portion, very similar to a P₂ test.

Over the years, companies manufacturing micro nutrients have come and gone. All kinds of philosophies have come and gone. Today, we find the interest of micro nutrients increasing. **How do you know what to buy?**

There are basically 2 types of markets for dry micro nutrients:

1. “Product” market – you have a product and you try to create the need. With farmers looking into using micro nutrients, if their objective is to get a cheap price, they will fall into this “product” market. **Very little agronomy here!**
2. “Agronomic” market – you have a need and you create a product to solve it. **Total agronomy here!** This is the market that TSM Services, Inc is in.

So, when you are confronted with a micro nutrient product, what should you look for?

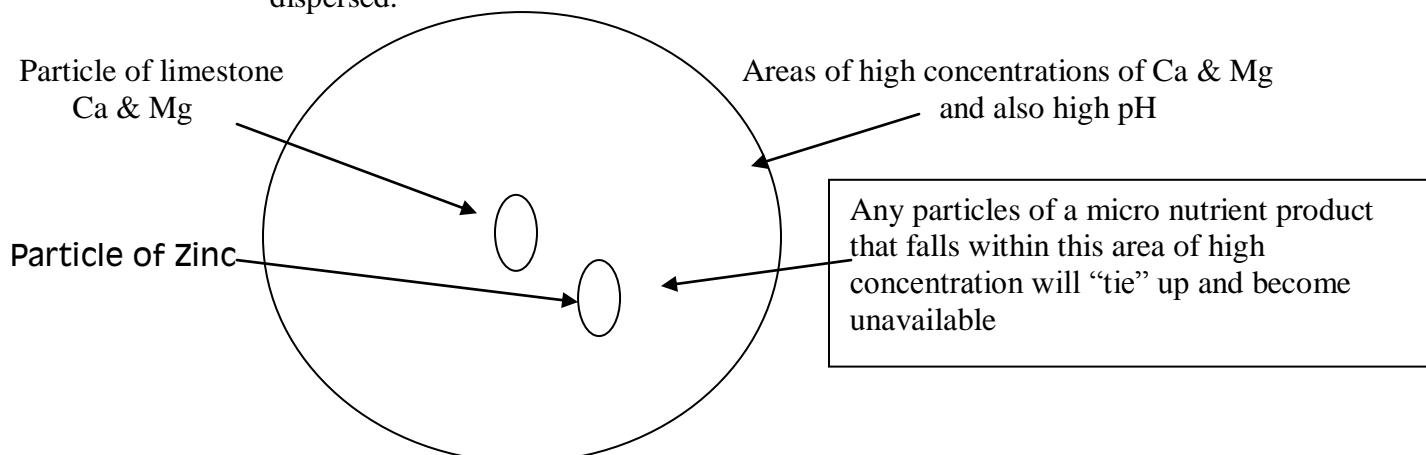
1. Price – most micro nutrient products that are the cheapest are geared for the “product” market with very little agronomy. Good micro nutrients are expensive. This is unfortunate but true. Look for a product that solves your need not just your pocket book.

2. Nutrients included – There are basically 5 nutrients which need to show up in a good “agronomic” product.
 - a. Zinc (Zn) – especially important for corn.
 - b. Manganese (Mn) – especially for soybeans Why would you use a micro nutrient product with only 1% Mn? The answer has to be to cheapen the price! Or this product is specific to corn. Poor soybeans will have to do the best they can!
 - c. Boron (B) – need to be careful not to get it too high for corn (toxicity).
 - d. Copper (Cu) – only a little.
 - e. Sulfur (S) – this should be “sulfate” sulfur derived from the above 3 cations Zn, Mn & Cu. Most of these 3 nutrients will be partially sulfated or what we call “oxy-sulfates”. This means that the 3 cations are in an agronomic beneficial form.

3. Other nutrients are just costing you money. Some of these “extra” nutrients may be costing you agronomically. Meaning that their availability is limited. A good example of this is using limestone as a carrier or filler for a micro nutrient product.

Let me give you the “rules of the road” for availability:

1. High pH (7 or higher) ties up micro nutrients making them unavailable.
2. As soon as the limestone particle hits the ground, it begins to take on moisture. As the rings around the particle get saturated with Ca & Mg, the rings spread out until all the Ca & Mg is dispersed.



One fertilizer dealer said he thought the limestone filler would help his pH in the field and this is true. The real problem is the high pH around each particle of limestone and it's effect on the availability of the micro nutrients. That's the problem.

Why would you consider putting Magnesium (Mg) in a micro nutrient product? Well, one would be that you are located in a low Mg area of the country. But what if you were in an area of the country that has high Magnesium? Both the American Society of Agronomy and the Soil Science Society of America have research that indicates that Mg tightens soils up hampering water movement. Here is a summary statement “As the total Calcium increases in the soil, the water moves 'vertically'. As the total Magnesium increases in the soil, the water moves 'horizontally'.” It doesn't make sense to put Mg in a micro nutrient product for our area.

Here at TSM Services, Inc, we add a surfactant (TSM® Surfactant) to our dry micro nutrients. This increases water management and increases the availability of the micro nutrients.

TSM Services, Inc is in the "agronomic" business, not the product selling business. Our products are all designed to "get the job done". All of our products are proprietary meaning they are made for TSM Services, Inc and no others. As a fertilizer dealer, if we sell to you, we will not sell your competitor. We will not sell your customers, either!

Here are some of the dry micro nutrient products we sell:

TSM® Base Mix(A)

N = 2%

S = 8%

B = 2.6%

Cu = 1.6%

Mn = 10.5%

Zn = 10.5%

Contains TSM® Soil Surfactant

TSM® Pre Mix(A) (also contains elemental Sulfur)

S = 40%

B = 1.4%

Cu = .8%

Mn = 5.5%

Zn = 5.5%

Contains TSM® Soil Surfactant

TSM® Base Mix(AA)

S = 5%

B = 1.8%

Cu = 1%

Mn = 7%

Zn = 7%

Contains TSM® Soil Surfactant

TSM® Pre Mix(AA) (also contains elemental Sulfur)

S = 40%

B = 1%

Cu = .6%

Mn = 4%

Zn = 4%

Contains TSM® Soil Surfactant

NOTE: The TSM® Pre Mix products are made up of the TSM® Base Mix and elemental Sulfur. You get both forms of Sulfur in the Pre Mix products, the sulfate form and the elemental form giving you another agronomic advantage.

If you choose the Base Mix formulas, you will need to add your own Sulfur.

I plan on bringing you many more pieces of information the purpose of which is to convince you that "we are different and better". Why don't you try us and see?

"GOLD" Program
"SILVER" Program
"BRONZE PLUS" Program
"BRONZE" Program

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