



## Research Farm Fertility Trials

By Randy Simonson, Ph.D.  
Technical Services Manager

The 2004 season was better than average. We got into the field early, but May was wet. We got the corn in on time, but had a difficult time getting the last soybean field planted.

One problem that occurred in July was high winds. Some say there were tornadoes and others say they were just straight-line winds. Whichever it was, it caused some of the corn to go down. Whether the corn fell down or not was very hybrid specific. Most of our corn made out ok, but as you will see later in the table with the corn hybrid trial, some hybrids really went down.

The fertility trials have been in place for 12 years on corn and soybeans. We have a corn and soybean plot each year but we rotate the two crops every year. The same treatments are used on the same individual plots every year. There are six treatments, three TSM® budgets (A, E and I) and three other fertility programs (University of Illinois, Tri-State, and a conventional program with 200 lbs. DAP/acre plus 200 lbs. potash/acre applied only to the corn and no fertilizer applied to the soybeans). Specialty Fertilizer Products® supplied the TSM® Pre-Mix (SN), which was used for the TSM® treatments.

### Corn

Two different corn hybrids were used this year. The hybrids were Kruger® K-9313 and K-9910 YBCB. Lumax® and Force® were provided by Syngenta® to control weeds and corn rootworms in the corn. We used Agrium's® polymer coated, slow release urea called ESN® for nitrogen in the corn. The ESN® was applied pre-plant and incorporated. The TSM® Premium Germinator was applied at a rate of 5 gal./acre on the row.

The first table shows the corn yields for each hybrid used. The Kruger® K-9910 YGCB yielded about 20 bu./acre more than the K-9313. Besides the genetic difference in the two hybrids, the corn borer tolerance could account for much of this difference.

TSM® A, the high fertility plot, was the high treatment for K-9313, but with K-9910 YGCB the highest treatment was TSM® E (medium fertility). The high treatment of the mean between the two hybrids was TSM® E and the low was U of IL. TSM® I had a respectable mean of 190 bu./acre although K-9910 YGCB yielded much better than K-9313 in this low fertility plot. TSM® I averaged similarly to Tri-State and conventional treatments.

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## 2004 TSM® Research Farm

### Corn Yields (bu/acre)

<u>Trt</u>	Kruger®	Kruger®	<u>Mean</u>
	K-9313	K-9910 YGCB	
	<u>bu/acre</u>	<u>bu/acre</u>	<u>bu/acre</u>
TSM® A	185	201	193
TSM® E	184	204	194
TSM® I	176	203	190
U of IL	172	197	185
Tri-State	183	199	191
Conv.	181	195	188
<b>Mean</b>	<b>180</b>	<b>200</b>	<b>190</b>

This past season was good for corn but last year was better. This year produced corn that yielded 9 bu./acre better than the average, whereas last year the yields were 36 bu./acre higher than the average.

The 12-year average shows the TSM® E treatment yielding the greatest with an average of 186 bu./acre. TSM® A is next then everything else is 178 or 180 bu./acre.

## 1993-2004 TSM® Research Farm

<b>Corn Yields (bu/acre)</b>													<b>12 Year</b>
<u>Trt</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>Mean</u>
TSM® A	140	202	160	152	175	174	217	191	191	188	218	193	<b>183</b>
TSM® E	135	216	163	161	185	173	217	189	188	189	222	194	<b>186</b>
TSM® I	135	202	157	146	169	163	210	183	178	182	217	190	<b>178</b>
U of IL	127	209	160	151	182	170	215	178	186	181	218	185	<b>180</b>
Tri-St.	-	-	-	142	173	169	214	178	182	180	215	191	<b>178</b>
Conv.	125	205	160	154	180	170	213	182	187	179	214	188	<b>180</b>
<b>Mean</b>	<b>132</b>	<b>207</b>	<b>160</b>	<b>151</b>	<b>177</b>	<b>170</b>	<b>214</b>	<b>184</b>	<b>185</b>	<b>183</b>	<b>217</b>	<b>190</b>	<b>181</b>

*Continued on page 3.*

## **Soybeans**

The soybean variety used was Kruger® K-393 RR/SCN. DowAgrosciences® provided FirstRate® and GlyphoMax® herbicides. The FirstRate® was applied with the first application of GlyphoMax® and then a second application of GlyphoMax® was applied by itself.

The average yields this year tied with 2002 for having the highest average yield in the fertility plot. TSM® E topped the plots this year as it does when the 12 past years of production are averaged. Again, the TSM® I treatment is doing surprisingly well for the amount of fertilizer that is being applied. The TSM® I treatment produces as much as the non-TSM® treatments.

### **1993 - 2004 TSM® Research Farm**

<b>Soybeans Yields (bu/acre)</b>													<b>12 Year</b>
<b>Trt</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Mean</b>
TSM® A	57	58	43	53	64	52	72	60	66	76	54	72	<b>61</b>
TSM® E	62	73	44	57	61	55	72	64	65	75	58	74	<b>63</b>
TSM® I	58	65	40	54	60	52	62	55	63	72	55	71	<b>59</b>
U of IL	56	65	38	56	57	52	65	60	60	67	54	68	<b>58</b>
Tri-St.	-	-	-	56	54	53	66	59	62	72	57	71	<b>59</b>
Conv.	56	59	41	55	60	53	70	60	63	66	55	70	<b>59</b>
<b>Mean</b>	<b>58</b>	<b>64</b>	<b>41</b>	<b>55</b>	<b>59</b>	<b>53</b>	<b>68</b>	<b>60</b>	<b>63</b>	<b>71</b>	<b>56</b>	<b>71</b>	<b>60</b>

## **TSM® Micro-Boost**

Last year we came out with a new product called Micro-Boost (MB). It is a liquid product for agricultural crops and is fashioned after our dry TSM® Pre-Mix and TSM® Base-Mix. Over the last several years we have tested different liquid products with different combinations of nutrients before coming up with the analysis in Micro-Boost.

Micro-Boost has performed well on the TSM® Research Farm the past two years with the results shown below. The results in 2003 were better than in 2004, although both years showed yield increases for corn and soybeans. In 2004, we tried a lower rate of 1 qt MB Pre-Mix/acre. This rate actually did better than the 2 qt/acre rate in corn, however, in 2003 the 2 quart rate showed excellent results. In soybeans the 2 qt/acre rate did the best. Thus, we are recommending 2 quarts MB Pre-Mix/acre for soybeans and 1 to 2 quarts MB Pre-Mix/acre for corn.

Many of the products added to Roundup contain sulfur, or if you have some other sulfur source, you can use MB Base-Mix at half the MB Pre-Mix rate of 1 qt/acre for soybeans and 0.5 to 1 qt/acre for corn. The MB Pre-Mix is half ammonium thiosulfate, thus if you are adding sulfur already you can use the MB Base-Mix at the lower rate.

*Research Farm Fertility Trials: TSM® Micro-Boost, Continued on page 4.*

## 2003 TSM<sup>®</sup> Micro-Boost Trials

### Corn

	Pre-Emerge	Post	Mean
<u>Micro Boost Pre-Mix</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
2 qts/A	189	191	190
4 qts/A	189	188	189
Check	175	178	176

### Soybeans

	Pre-Emerge	Post	Mean
<u>Micro Boost Pre-Mix</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
2 qts/A	51.6	45.9	48.8
4 qts/A	50.4	45.3	47.9
Check	46.5	40.9	43.7

## 2004 TSM<sup>®</sup> Micro-Boost Trials

### Corn

	Pre-Emerge	Post	Mean
<u>Micro Boost Pre-Mix</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
1 qt/A	171	172	172
2 qts/A	161	165	163
Check	165	166	166

### Soybeans

	Pre-Emerge	Post	Mean
<u>Micro Boost Pre-Mix</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
1 qt/A	64.1	64.1	64.1
2 qts/A	65.5	65.5	65.5
Check	64.0	63.9	64.0

## 2003 & 2004 TSM<sup>®</sup> Micro-Boost Trial

### Corn

	Pre-Emerge	Post Emerge	Mean
<u>Treatment</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
Micro-Boost	180	182	181
Check	170	172	171

### Soybeans

	Pre-Emerge	Post Emerge	Mean
<u>Treatment</u>	<u>bu/A</u>	<u>bu/A</u>	<u>bu/A</u>
Micro-Boost	58.8	55.5	57.2
Check	54.9	52.7	53.8

## New Retail Prices For Micro-Boost

The prices have gone up for Micro-Boost, but there are big savings if you order it by February 28, 2005.

Research Farm Fertility Trials: Corn & Soybean Variety Trials, continued on page 5.

## Corn Hybrid and Soybean Variety Trials

Most every year we put out a corn hybrid and a soybean variety trial. This year we had 19 different corn hybrids and 10 soybean varieties. The tables below show how the hybrids and varieties performed.

### Corn

The weather was pretty good for corn this year although we had one problem. We had high winds in July that knocked some of the corn down. You will notice that some hybrids did not yield very well because they fell over or were completely cut off about knee high. However, many hybrids did quite well with the highest yield at 216 bu./acre from Kruger® K-5313 YGCB.

We had mostly Kruger and Stine in the plot this year with one Mycogen® and one Dekalb® hybrid. The Dekalb® hybrid had a special seed coat on it although its yield was only average.

### 2004 TSM® Corn Hybrid Trial

<u>Rank</u>	<u>Hybrid</u>	<u>Moisture Percent</u>	<u>Yield bu/acre</u>
1	Kruger® K-5313 YGCB	16.6	<b>216</b>
2	Stine® 9803	17	<b>201</b>
3	Stine® Ex 112A YGCB	16.3	<b>199</b>
4	Kruger® K-0516 Poncho	17.4	<b>197</b>
5	Stine® Ex 112B	16.6	<b>190</b>
6	Kruger® K-5414 YGCB Poncho	16.6	<b>189</b>
7	Mycogen® 2G768	16.7	<b>186</b>
8	Stine® 9721 YGCB	16.2	<b>185</b>
9	Kruger® K-9910 YGCB	16.1	<b>184</b>
10	Stine® Ex 112C YGCB	16	<b>175</b>
11	Kruger® K-9313	16.5	<b>174</b>
12	Kruger® K-9212 YGCB	16.3	<b>173</b>
13	DKC® 60-12 CbRw, Seed Coat	16.4	<b>170</b>
14	Stine® 9723	16.5	<b>163</b>
15	Stine® Ex 115A	16.6	<b>149</b>
16	Stine® 9722 YGCB	16.2	<b>130</b>
17	Stine® 9620 YGCB	16.1	<b>94</b>
18	Kruger® K-9111 YGCB	16.2	<b>87</b>
19	Stine® Ex 114 YGCB	16.6	<b>59</b>

### Soybeans

Our soybeans yielded very well this year with a high yield from Kruger® K-393 RR/SCN of 76.3 bu./acre. The Kruger® K-434 RR/SCN yielded well, but it is really too long a variety for us with a maturity of 4.3. Three Stine® varieties came in next with very respectable showings. The Kruger® K-349 RR did very well for this is a very hearty variety that will do well on poorer soils. The K-355 RR/SCN variety was the highest yielding soybean variety at the University of Illinois plots in Urbana.

*Research Farm Fertility Trials: Corn & Soybean Variety Trials, continued on page 6.*

## 2004 TSM® Soybean Variety Trial

<u>Variety</u>		<u>Yield (bu/acre)</u>
K-393 RR/SCN		76.3
K-434 RR/SCN	New	75.5
Stine® S3942 RR/SCN		73.3
Stine® S3532 RR/SCN		70.0
Stine® S3832 RR/SCN		69.7
K-349 RR		68.5
K-355 RR/SCN	New	67.5
K-381 RR/SCN	New	63.6
K-380 RR/SCN		62.5
K-282 RR/SCN		56.1

## 2005: A Time to Look Forward

By Larry Schonert

President

I'm sitting here writing this article as we begin the 2005 New Year. This time of year always causes me to both reflect back on the past year and to look forward to what lies ahead. It goes without saying that all of us at TSM® are very thankful for the privilege of being able to work side by side with all of you in the Ag retail business (along with your growers). It is also a time to consider ways that TSM® can better serve you, our customer.

Here is a question to ponder: What separates your dealership from that of your competition? Almost all retail fertilizer dealers today have the same basic fertilizer products to sell to the farmers in their area, and what is left to say about the direction the herbicide market has taken these past few years, especially with the Round-Up® Ready crops? The answer to what separates you from the competition is "uniqueness". What makes your dealership unique or what separates your dealership from another? Let's focus on this thought here for a few minutes.

Generally speaking, you have 3 basic categories of customers: those who are fully committed to doing business exclusively with you, those who "shop around" and do business with more than one retail location, and those who do not do any business with you. What can be done to make those growers in the 2<sup>nd</sup> and 3<sup>rd</sup> category move closer to the first category? Again, I believe the answer is that you must have something unique, whether it be a product or a type of service, and then go to those "not so committed" customers you have and promote the concept that you have something your competition doesn't.

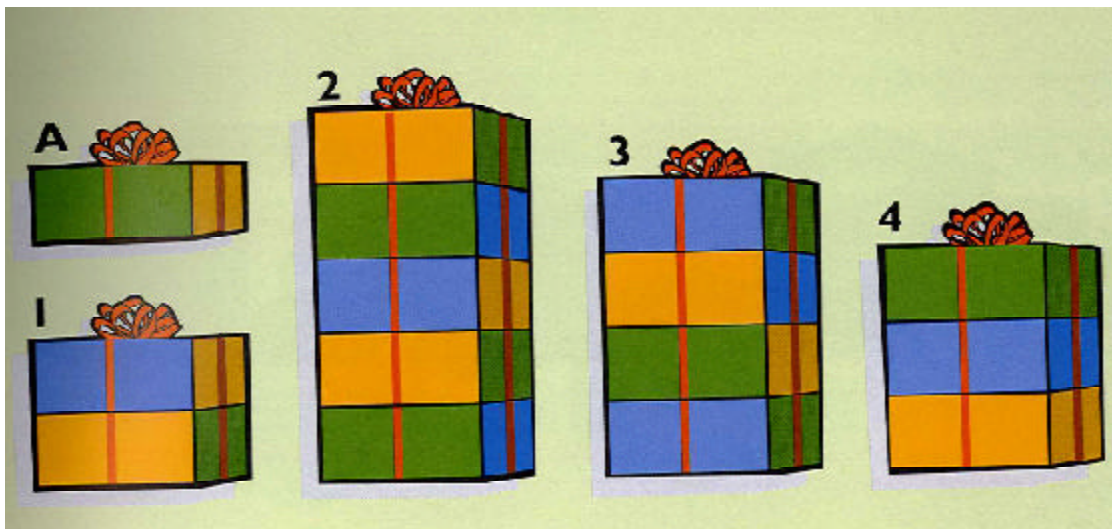
2005: A Time to Look Forward, continued on page 7.

Don't hesitate to put TSM<sup>®</sup> into this category. We work hard to maintain our protected territories around all of the dealerships we work with. Our experience with those dealers who are the most successful with TSM<sup>®</sup> are those dealers who really push the idea that the TSM<sup>®</sup> Soil Fertility program is unique and cannot be duplicated by their competitors. The best part is that TSM<sup>®</sup> is almost always going to provide a better R.O.I. than other types of fertility programs. There are some unique products available to you also, available only to TSM<sup>®</sup> customers.

I would like all of you to consider making TSM<sup>®</sup> your "unique" service in 2005, if you haven't done so already. We are up to the task of helping you to make it happen. Let's get a grower meeting put together this February or early March and push the benefits of TSM<sup>®</sup>. And better yet, invite those customers who are in the 2<sup>nd</sup> or 3<sup>rd</sup> category above, and let's move them into the "committed" customer column.

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## Winter Prize Puzzle



**On which of these piles (1,2,3,4) is Larry going to stack his last present (A)?**

Email your answers to [johnw@tmsr.com](mailto:johnw@tmsr.com) for a chance to win one of our fabulous prizes.

If your entry is one of the first ten correct entries we receive in the TSM<sup>®</sup> Main Office, you could win a prize. Only one winner per location. Incomplete or incorrect entries will be considered for prizes, if they are eligible under other rules. **TSM<sup>®</sup>**



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- Boron (B).....0.125%

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