

AGVISE

LABORATORIES

SUMMER/FALL 2010

SOUTHERN TRENDS

For those in southern MN, planting season was one of the best ever! The weather conditions were exceptional and all crops look tremendous. For those in SD, there is a slightly different story, where in many areas the planting season started pretty well, then they got wet, wetter and then really wet. Hopefully all our trade area has good weather for harvest.



RICHARD JENNY
AGRONOMIST/CCA

AGVISE now sells an automated ATV topsoil sampler called the Wintex 1000 (see Wintex article). I demonstrated the Wintex unit to many AGVISE customers this spring and summer. This is an awesome sampling unit and several AGVISE customers used their own Wintex 1000 in May and June to collect thousands of soil samples from southern MN. This unit has proven to be fast, efficient and consistent. Every customer who now has a Wintex, comments on how it reduces operator fatigue. After a full day of sampling with the Wintex, you are still operating at 100% compared to hand-probing and being worn out at the end of the day. I have a Wintex unit in Benson and I will demo it for you, just give me a call.

Finally, we have a new Agvisor Gold 2.8.1 Update available. This has fixed some bugs and works on all types of PC's with XP, Vista or Windows 7 computers. Call either John Lee or myself and we can get your system upgraded.

AGVISE Developing New "Online" Soil Sample Submission

AGVISE is developing a new "Online" process for customers to submit soil sample information directly to our web site. With this "Online" sample submission, you can develop your own database of grower names and their field ID's, which will save you time and eliminate spelling errors. You will be able to setup your own Defaults for crop choices, yield goals and fertilizer guidelines. To use the online sample submission, you will have to print the bar-coded reference number stickers to place on the sample bags (**Laser printer required**). An inkjet printer will **NOT** work as the ink will smear on the stickers and be unreadable. The bar-coded reference numbers stickers will be placed on the sample bag, just as you do now.

Once you enter the sample information on our web site and print out the reference number stickers, the sample information will be electronically transmitted to our lab. You will go to the field and collect the soil samples and place the bar-coded reference number stickers on the sample bag. When your samples arrive at the lab, our system will identify these samples as being submitted to our web site and the sample information will be brought into our database and used for testing these samples. We are currently testing this new "Online" system with a few customers. We will make this new service available to everyone as soon as we work out all of the kinks. While we are sure there will be bumps along the way, we are very excited to be moving towards less time required and less paper work when sending samples to AGVISE.

Special Offer on 24" Sample Systems

AGVISE is offering special pricing on the first 25 soil sampling systems sold this fall. The special price is on our 24" electric/hydraulic soil sampling system. AGVISE will credit \$200 of free laboratory analysis to your account with the purchase of one \$2650.00 sampling system. This offer is good for the first 25 sampling units sold this fall. You can view all of the components of this sampling system on our web site. Just go to www.agvise.com and click on "Products and Equipment" then "Hydraulic Sampling Equipment."

Last fall we sold all of the specially priced systems before September 15. If you need a new sampling system or just want to improve the equipment you are currently using, don't wait too long.

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Soil Testing Behind the Combine

It is more the rule than the exception that soil sampling begins in mid-September instead of immediately following small grain harvest. However many growers miss an excellent window for soil testing by waiting too long. The reason for waiting is the fear that additional nitrogen will be made available through mineralization (decomposition of crop residue and organic matter). A review of research has shown that following small grain harvest, soil nitrate level changes very little and no sampling date adjustment should be made. Soil sampling right after small grain harvest is recommended and has numerous advantages:

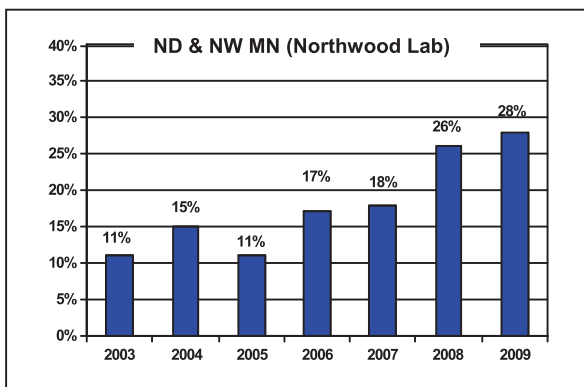
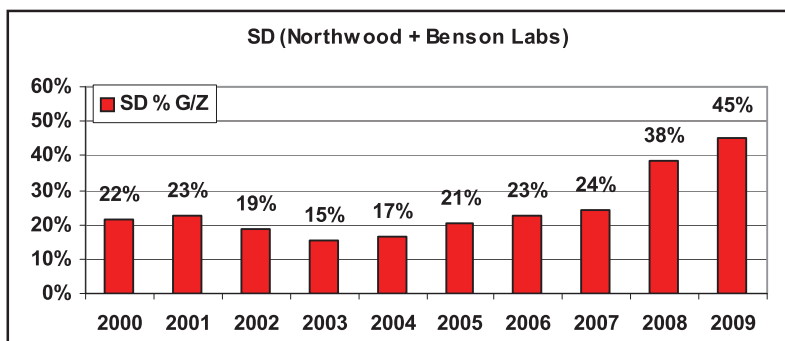
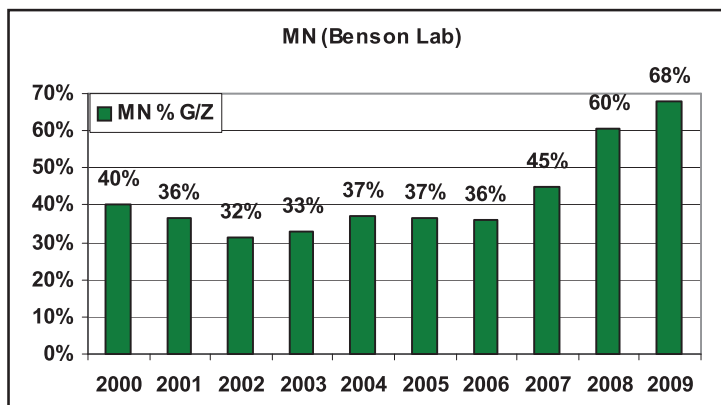


DAVE FRANZEN
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1. Growers are more likely to actually use the test results to direct fall N application if the soil test results are in their hands soon enough to consider before fall fieldwork begins.
2. Soil testing prior to fall tillage will result in a more consistent 0-6" sample core, which provides the best sample for testing phosphorus, potassium, %OM, zinc and other nutrient tested on the topsoil.
3. Regrowth of volunteer grain will not hide available nitrogen. Early sampling will show the nitrate that will be available for next years crop.
4. Sampling right after harvest guarantees that fields will get tested and not missed due to weather problems that could happen later in the fall.

Progression of Precision Soil Testing

In working with agronomists, crop consultants and fertilizer retailers for 34 years, AGVISE has observed a steady increase in precision soil samples, especially in the past 8-10 years. It started with 2.5 acre topsoil grid sampling in southern Minnesota, then 4.4-acre deep nitrate grid sampling for sugar beets and now with management zone sampling (both topsoil and subsoil) for most crops. The steady growth is shown in the graphs as the percentage of all samples that are either grid one zone samples tested at each of our laboratory locations. While our Benson lab has done a higher percentage of grid or zone samples for many years, the same trend is evident at our Northwood laboratory. With most AGVISE customers becoming involved with either grid or zone soil testing, we expect this trend to continue in the future.



New Posters and Postcards Promote Soil Testing!

AGVISE is providing customers with “newly designed” posters and post cards to promote soil testing this fall. The new poster has an eye catching soil profile and a colorful management zone map. The message on the poster and post card is simple and to the point, “Soil Testing Makes Dollars and Cents.” We hope this fresh look helps you promote soil testing to your growers this fall.

This is the 7th year AGVISE has provided customers with free “Post Card Mailers” to promote soil testing. These post cards will get growers attention directed towards soil testing right after harvest. AGVISE will customize the message on your post card so you can tell the growers exactly what you want!



Here is an example of what one customer had AGVISE print on his post cards last year:

“Give Brady a call today to sign up for soil testing (320-123-4567). Soil testing is the first step towards a profitable crop next year!”

Once you receive your post cards with the customized message from AGVISE, all you have to do is write the growers name and address on the post card, add a stamp and put them in the mail. These post cards also fit into most statement envelopes so you can include it with the statements if you want.

Any AGVISE customer who tested more than 50 samples last year will receive a mailing which includes a poster and an example of the free post card and an order form. All you have to do is write the message you want printed on the post card on the order form you received and fax or mail it back to us. If by chance we missed you with our mailing, or you have questions on how to use the post cards, please give John Lee or Richard Jenny a call.

Wintex 1000 — The Ultimate Hydraulic Topsoil Sampler

AGVISE Laboratories has been selling soil sampling equipment for 35 years. Late this spring AGVISE started selling the “Wintex” automated **topsoil** sampling unit that mounts on an ATV(4-wheelers or utility vehicle). We decided to start selling the Wintex because it would help our customer get good quality soil samples easier. We call the Wintex the “**Ultimate**” sampler because of its speed, labor saving qualities and consistent sampling depth. While sitting on the ATV, a topsoil core sample can be collected automatically and expelled into a collection box in 3 seconds with a push of a button. No more jumping off the ATV every time to collect a soil core!!! The Wintex 1000 (www.wintex1000.com) has been in production for 10 years and is manufactured in Denmark (www.wintexagro.com). Over 150 of these units have been sold in the U.S. in the past 4 years. Precision Technologies in Bancroft, IA provides installation and technical support for the Wintex unit. AGVISE has a Wintex sampling unit on an ATV for demonstration purposes. If you call Richard Jenny at our Benson office he will do his best to demonstrate the Wintex 1000 in your area.



Some benefits of the Wintex 1000 include:

- A) Much less sampler fatigue
- B) Increased speed/productivity
- C) Consistent sampling depth
- D) Ease of use for all operators
- E) Minimal maintenance
- F) Probe does not need to be lubricated
- G) Probe **does not** get plugged, even in wet/mucky clay
- H) Excellent quality cores in all soil types, from sand to heavy clays and everything in-between
- I) Sample depths can be changed easily from a minimum 4" to a maximum 12"
- J) Very durable construction (built for commercial use)
- K) Simple installation, fits on nearly all ATV/utility vehicles and can be removed in 10-15 minutes

Wintex 1000 Soil Test Values Compared to Hand Probing

In a comparison of soil test values conducted on May 27, 2010 south of Granite Falls, MN, we compared the manual hand probe topsoil sampling method to the Wintex 1000 method. In the soybean field, we selected 4 points and took 12 cores in a row

about 30-40 feet in length. The hand probe took cores right next to the Wintex cores. Phosphorus (Olsen and Bray-P1), potassium, pH and OM were tested for 5 times each (5 Reps) for each sampling point. As the data below indicates, there is no difference

in the soil test data between the 2 methods of sampling. It shows very consistent results comparing the hand probe to the Wintex 1000 in both individual samples (data not shown) and when averaged over all the reps.

	Olsen-P		Bray-P1		Potassium		pH		OM	
	Wintex	Hand	Wintex	Hand	Wintex	Hand	Wintex	Hand	Wintex	Hand
Point 1	38	40	75	73	144	150	5.6	5.6	3.5	3.3
Point 2	12	14	-	-	155	153	8	8	4.1	4.1
Point 3	24	24	38	37	166	159	5.9	5.7	4.1	4
Point 4	27	29	43	46	138	144	5.8	5.6	3.9	4
Average	25	27	52	52	151	152	6.3	6.2	3.9	3.9

Top Soil Sample Depth Needs to be Consistent

Last year we did an article in this newsletter (Fall/Winter 2009) about the importance of consistently sampling the correct topsoil depth. We showed the affects sampling depth had on soil test values for nutrients such as P,K, and zinc. The major affects were that if a topsoil was sampled too deeply, the phosphorus and potassium values generally decreased due to dilution with subsoil. On May 28, 2010, we conducted a more complete comparison of this sampling depth issue on a non-fertilized, soybean field about 10 miles south of Benson, MN. We used the Wintex 100 ATV sampler for this demonstration project. This demonstration project had 7 sampling points and 4 depth comparisons (0-4 inch, 0-6 inch, 0-8 inch and 0-10 inch) at each point. We collected 12 cores per point in a line perpendicular to the planted rows of about 30-40 feet in length. This field

is a well drained with sandy loam to loam texture and history of conventional tillage methods.

The soil test data in the table shows the soil test levels of phosphorus, potassium and zinc decreased as the sampling depth increased. Since phosphorus moves very little in the soil profile, we would expect the P soil test level to decrease as more inches are included in the soil core. Subsoil P levels are usually lower because the fertilizer P we apply moves very little in the soil. The same

would be expected with zinc. Potassium levels may increase or decrease with depth, depending on the soil texture in the subsoil. It is important to be as consistent as possible in sample depth collection. Samples of the same depth will give consistent soil test levels year to year for non-mobile nutrients like phosphorus, potassium and zinc. The Wintex 1000 has proven to be very consistent when collecting topsoil samples in all soil types.

Soil test averages from 7 sampling points at 4 different sampling depths.

Depth	Phos-Olsen	Phos-Bray1	Potassium	Zinc
inches	Ppm	Ppm	ppm	ppm
0 - 4	20	45	122	1.5
0 - 6	15	34	120	1.3
0 - 8	11	21	101	1.1
0 - 10	10	18	98	0.9



Used Soil Sampling Equipment Online

AGVISE now provides a place on our web site to sell used soil sampling equipment. We want to help customers who have sampling equipment they didn't need, connect with those who could use the equipment. To see the used equipment currently for sale, go to www.agvise.com and click on "Used Equipment." We have had several requests, so if you are looking to sell or looking to buy equipment, you should check it out!

AGVISE Soil Fertility Seminar 2011 Dates Set

We have had several requests from customers to let them know as soon as we have solid dates for our Soil Fertility Seminars next January. The dates and locations for our 2011 Soil Fertility Seminars are listed below: We are in the process of confirming speakers and topics for these meetings. A registration letter will be sent to AGVISE customers in early November so they can sign up first. A week or so later we will also send an email to everyone on our mailing list about registration for these seminars. If you received this newsletter you are on our mailing list, but we may not have your current email. If you want to be sure to receive an email announcing our seminars, please call Teresa at our Northwood office (701-587-6010)

**Tuesday, January 4, 2011 –
Holiday Inn, Willmar, MN**

**Wednesday, January 5, 2011 –
Watertown Events Center, Watertown, SD**

**Thursday, January 6, 2011 –
Alerus Center, Grand Forks, ND**

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LABORATORIES

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PRESIDENT'S CORNER

The summer of 2010 for AGVISE Laboratories can be summed up by two words: "Plant Analysis". Both our Northwood and Benson laboratories have been very busy testing plant samples for nutrients all summer. The number of samples tested each day has often been 2 times the number of samples tested in past years. At least 3 reasons come to mind as to why tissue testing has increased so much this year.

We have tested an increasing number of tissue samples for University and private researchers from the U.S. and Canada. Many of these research projects involve hundreds or thousands of samples per project. Considering we receive one sample for every replication and treatment on these studies, the numbers really add up quickly.

A second reason for increased tissue testing can be attributed to the low protein wheat crop in 2009. Farmers, dealers, and crop consultants wanted to avoid another low protein wheat crop in 2010 if possible. Research from a number of areas seems to indicate the flag leaf nitrogen content should be at least 4.2% to 4.3% total N at the heading stage to obtain average protein for that variety. Research data would indicate wheat plants testing below this level will respond to foliar nitrogen applications after flowering and protein levels will be increased.

The third reason for the increasing tissue testing is fertilizer manufacturers are using plant analysis as a screening tool to identify fields for possible nutrient deficiencies. Tissue testing (along with soil testing) helps identify specific nutrient deficiencies, so the correct nutrient can be applied instead of applying nutrients based on the "Shotgun" approach.

AGVISE expected plant tissue testing would increase somewhat in 2010, so we had expanded our capacity to test plant tissue last winter. We increased instrumentation, sample drying capacity and other equipment needed to handle the extra volume. Our turn-around time has been excellent, even with the increase in volume. While many employees worked long hours (starting at 2:30 AM sometimes), over 99% of the samples were tested and reported 24 hours after we received them. Hats off to all AGVISE employees for doing a great job on tissue testing this summer!



BOB DEUTSCH
PRESIDENT
SOIL SCIENTIST/CCA

NORTHERN NOTES

This season has been about normal up north. By normal, I mean some seeding was early, some was late, it has been too wet, too cold, it has even been too dry in some areas! Yea, I guess we are having a normal year for a change.



JOHN LEE
SOIL SCIENTIST/CCA

As we approach small grain harvest, there are questions about what protein levels will be and how disease will affect grain quality. Most growers applied higher rates of N this year, so we all hope the protein levels are good. I guess we will know the answer when the combines start rolling. Soil testing will start early in the wheat growing areas and there are many good reasons to soil test right after harvest (see Soil Testing Behind the Combine on page 2).

If you need soil sampling equipment, please give us a call. We have a good supply of soil probes and many different types of probe tips. If you have very wet sticky soils, you will want to try our "Heavy Duty" over size probe with a wet tip. This oversized probe body and special tip works great for wet sticky soils and frozen soil as well. We are also offering an early fall special on the first 25 hydraulic sampling systems we sell this fall.