

AGVISE

LABORATORIES

SPRING 2011

NORTHERN NOTES Plant Tissue Testing—Next Day Turn Around!

Spring planting may come early this year. This will be a nice change from 2011 when so many areas were seeded late or not at all in northern areas.



JOHN LEE
SOIL SCIENTIST/CCA

Spring soil testing is always a rush and this year is no different. AGVISE is ready to provide the highest quality analysis and fast service this spring. If you need sampling equipment, we have everything you need on hand. If you need sampling supplies to get through the spring, please call so we can ship them out ASAP!

Many customers are now using the AGVISE “Online” sample submission program on our website for soil samples. If you have given it a try, you already know the benefits which include no paperwork and no misspelled grower names and sample information. The best part is you only have to enter the grower name and field information one time! (never again!) You will also be able to use the “Online” sample submission for plant samples this summer. AGVISOR Lite is now replacing AGVISOR Gold. There are many aspects of AGVISOR Lite, the online program for getting test results that are better than AGVISOR Gold! You really need to check out AGVISOR Lite! I hope everyone has a safe spring season!

Plant tissue testing requires a smooth system from start to finish. The system includes sampling, shipping, laboratory analysis and test results delivered over the Internet. We are proud to say that AGVISE has a great track record for fast turnaround time on tissue samples. Last year, AGVISE Northwood lab tested more than 99% of tissue samples the next business day after the samples arrived at the lab. Our Benson lab would also have had a 99% record, except for a problem with our server for one week last summer.

Having great turnaround on lab analysis of plant tissue is not an easy task. In the past two years, AGVISE has invested over \$100,000.00 in new instrumentation and equipment at both of our laboratories. This enabled us to test much larger volumes of tissue samples. Our employees are also committed to serving our customers. Many days there were AGVISE employees testing tissue samples before 5 AM and they were still testing samples well into the evening. This shows AGVISE commitment to our customers and tissue testing is just one of many services AGVISE has provided for 36 years!

Sampling - Getting fast service on tissue testing starts with collecting a good tissue sample. Collecting the right plant part for the stage of growth and sending the required amount of plant parts for testing.

Shipping - Next day shipping is critical to maintain the quality of tissue samples. Under warm summer conditions, plant samples will deteriorate quickly. Just two days in shipping under warm conditions

can convert a high quality tissue sample into moldy, watery, mush which cannot be tested. Next day service is not always expensive. Any customer in North Dakota can use UPS ground and the tissue samples will get to Northwood the next day. If you are shipping UPS from another state, regular UPS ground service will take from 2-3 days. The same is true for samples being shipped to the Benson lab if you are shipping from another state. This delay in shipping is a game breaker if you want to have fast turnaround time on your plant samples. If you are shipping across state lines with UPS, FedEx or Purolator, you need to use next day service to get the fast turnaround you need on tissue samples. In Canada, PUROLATOR ships from most locations in Manitoba to Winkler the next day by ground.

Online Tissue Sample Submission – AGVISE is introducing “Online” tissue sample submission this spring. We think customers are going to like the “Online” tissue sample submission just as much as the “Online” soil sample submission. The online system will eliminate writing on tissue sample bags in the field, eliminate misspellings, etc. For customers who use their own online sample submission, it is critical for sample information to be transmitted to AGVISE before the samples arrive. Please be certain that your sample information has been transferred to AGVISE right away. Without the sample information, testing will be delayed because we will not know who the samples are

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Ortho or Poly Phosphates?

Every year we get questions on what form of phosphate fertilizer is better. The debate over orthophosphate or polyphosphate has been going on forever, and just when we think we have put this question to bed it comes up again. The truth is, either form of phosphate fertilizer will give you the same yield response.

Driving some of the water from phosphoric acid during the manufacturing process produces short chains of orthophosphate which become linked together forming polyphosphate or long chains. Once some of the water is removed, the fertilizer material now contains mostly longer chains of phosphorus or polyphosphate with smaller amounts of orthophosphates (short chains). When polyphosphate fertilizer is applied to the soil, the

fertilizer reacts with soil water quickly and produces orthophosphates again (short chains). Even at soil temperatures of 40 degrees F, over 40% of the polyphosphate is converted to orthophosphate within

72 hours. Most dry fertilizers are orthophosphates where most liquid fertilizer materials contain polyphosphates and orthophosphates. All phosphorus fertilizer materials are affected the same way when they are put into the soil. Polyphosphate chains become orthophosphate chains once the soil water reacts with the fertilizer. Plant uptake is mostly in the orthophosphate form. One example from years of research showing that both fertilizer materials produce the same yield is shown in the table. If you would like a more complete explanation of this question and several other common fertilizer questions, do a Google search on "Effectiveness of Using Low Rates of Plant Nutrients". There is a lot of good information on this site!

Polyphosphate vs. Orthophosphate?

P – Applied	P – Source	P – Source
lb/a P ₂ O ₅	Polyphosphate	Orthophosphate
	Corn bu/a	Corn bu/a
15 lb/a	124	124
30 lb/a	134	134
45 lb/a	142	142

University of Nebraska – Low P Soil Test Site

Early Summer Soil Sampling

The trend for "topsoil" samplers in our trade area is to move as much of their soil sampling from after harvest, to early summer (mid-May to early July) sampling. Nearly all of this early summer sampling is done in a standing crop such as soybeans. Sampling is done before soybean height becomes too tall to minimize any crop damage. This trend has worked hand-in-hand with the increase of 2.5 acre topsoil grid sampling as well. When all things are considered, everyone involved benefits from early summer sampling. The growers and agronomists benefit from having their results early, the applicator benefits because he has more time to plan for the VRT application and the laboratory benefits by having a few less samples to test during the fall rush. .

One major benefit in earlier summer sampling is soil core quality. Sampling conditions in early summer allow for better depth control and consistency compared to normal fall conditions. Early summer sampling allows you to avoid sampling dry, cloddy, tilled fields in the fall. It is well known that sampling fields after fall tillage makes it difficult to get a quality sample (i.e. disked, chisel, rip or plow). Tillage makes it difficult to get good quality soil cores that provide a consistently "true" and repeatable soil test result.

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Turn Around Cont...

from or what nutrients to test on the samples.

Laboratory Analysis – AGVISE is committed to testing tissue samples the next business day after the samples arrive at the lab. We are adding additional instrumentation, equipment and personnel to handle increased tissue sample volumes this summer. We expect to deliver the same next day service, just as we have in the past.

Test Results Delivery to the Internet - All tissue test results are posted to the AGVISE web site at the end of each day of testing, which could be from 5 PM to 9 PM, depending on the volume of samples tested that day. Some tissue test results are also sent to other internet sites, which are out of our control. Please let us know if your results are being delayed from other sites, so we can contact them and let them know there is a problem.

Putting the System Together – Here is how this system should work from start to finish.

1. Day 1 – Samples are collected and placed into a refrigerator at the end of the day
2. Day 2 – Samples are shipped so the samples arrive at the lab the next day
3. Day 3 - Samples arrive at the lab and are placed into dryers overnight
4. Day 4 – Samples are tested and results are posted to the AGVISE web site between 5-9 PM.

In a nutshell, samples shipped Monday through Wednesday will get tested and reported the day after they arrive at the lab. Samples shipped on Thursday must arrive at the lab on Friday to avoid samples deteriorating over the weekend. Samples arriving at the lab on Friday will be tested on Monday. Samples collected on Friday need to be placed in a refrigerator over the weekend and shipped on Monday. AGVISE expects to test a record number of tissue samples again in 2012. We are prepared to provide very good turnaround on tissue samples again this year. If you have any questions, please give us a call.

Online Services Updated

We've had very positive comments from customers on our web based "Online" services which are growing all the time. At the time I am writing this newsletter article, these are the online services you can use right now: (online tissue sample submission this spring!)

1. Online soil sample submission
2. Agvisor Lite soil sample reports, exports and summaries
3. Plant tissue reports and exports
4. Manure test reports
5. Electronic download of price per sample and invoice information

We have been able to incorporate many of your ideas, comments and suggestions into these services. New for 2012 will be the online plant tissue sample submission system. This will be the same process as many of you are currently doing for soil samples except it's for your plant tissue samples. Instead of handwriting your sample information on the plant tissue envelopes, it'll be quicker and cleaner than hand writing with an ink pen in the field. As in the online soil sample submission where you input your sample/field information online and print the barcode sticker, the online plant tissue submission were the same. You will enter the sample/field information online, print the barcode sticker and place the sticker on the plant tissue sample bag. No writing on the bag! Hurray!

Online Sample Submission, Getting Started

For those of you who haven't started using the online sample submission process, you'll find that it is quicker and easier to submit samples online and will minimize typos or spelling errors that are common with hand written sample information. To start this process, go to www.agvise.com. The first thing to do is build your database of Growers and their Fields. Please follow the instructions listed below. If you have any problems, please give our staff a call. You must use a Laser printer to print the online bar-coded sample stickers (Inkjet printers DO NOT work, the ink will smear off the label). AGVISE will send you the new "online" sample forms at no cost. This online system will eliminate all handwritten

sample information/field sheets you use.

- 1) Go to www.agvise.com
- 2) At the homepage, select either the "Agvisor Lite" or "Submit Samples" Link
- 3) Login using your Agvise account number and password (call if you have trouble)
- 4) Select the "Submit Samples" link
- 5) Select the "Manage Growers and Fields" link
- 6) Select the "Add a new Grower" link and start inputting some grower names. You can add a "Test Grower" for learning purposes. To get used to this, just add a couple of your growers as you can always add more later.
- 7) Once you have some Growers' names entered, add some fields by selecting the "Add a new Field" link.
- 8) Now, go through the Submit Samples process. Select the "Submit Soil Samples" link, and choose either a "conventional sample" or a "grid/zone sample." Then select one grower name and one of his fields. Finish the process by selecting the various items. You can

choose up to three crops for next year, yield goals, P & K guidelines, test options, sample depths and finally choose the "Submit data to AGVISE" button.

- 9) The next step is to print the barcode reference number stickers on the "Online form" provided by AGVISE. Choose the "Soil Test History" link. Select a sample from the list to print and then hit the green "Print Barcoded Labels for selected Tests" button. This will open a pdf of the selected sample and will show you what will be printed on the "Online sample submission form. Once printed, you can peel off the stickers and attach to the paper soil or tissue sample bags. For soil samples sent in plastic sample bags, the bar-coded stickers must be placed on a paper sample bag before being placed inside the plastic sample bag with the soil cores.

If you have any questions, just call either lab and ask for John Lee (Northwood, ND) or Richard Jenny (Benson, MN).

Early Summer Soil Sampling cont...

Another benefit to early summer sampling is in the consistency of soil test result values when compared to fall sampling. In a 2-year AGVISE demonstration project, we collected 73 sample points in 9 fields in central, west-central MN and southeast SD. We marked the points with GPS and sampled in June and then resampled after soybean harvest (before tillage). When averaged over all 73 points between fall and early summer sampling, the only minor difference found was in the potassium test levels. The fall 2011 samples tested slightly lower in potassium than the early summer samples due to the dry conditions last fall. Research has shown that very dry soil conditions can cause lower than normal K test values. When soil samples are taken in May through early July, the soil is much more likely to be moist, which will result in slightly higher K test values, which are more closely related to crop response in research. Early summer sampling would mean more consistent K soil test levels with less fluctuation caused by dry soil conditions in the fall.

Growers, retailers, agronomists and samplers benefit because much of this work gets done early in the summer where they can meet together, discuss the fertility plans and have plenty of time in the fall to make the applications without all the rush of fall season. For a more detailed look at this comparison and topic, you can go to our website (www.agvise.com) and choose the link for "2012 Seminar Presentations" and then choose the link for "Early Summer Sampling."

Unseeded Acres—Making an N Fertilizer Plan

Millions of acres went unseeded in the region last year. Some fields had massive weed pressure without any control until late in the season while other fields had good weed control. Some fields were tilled several times through the summer, yet other fields had little or no tillage. Rainfall was more than excessive in some areas, while other areas had just a little too much rain to get seeded. All of these variables caused tremendous variability in residual soil nitrate in unseeded fields last fall.

Soil testing went at a record pace last fall. Early on it became obvious that soil nitrate levels were extremely variable from field to field. The best way to show people this variability is to use soil test data to tell the story. AGVISE Laboratories in Northwood, ND tested over 185,000 soil samples last year from all over the region. The nitrogen test results from these samples show that there is more variability than we have seen for many years. This includes cropped fields and fields that were not seeded this year (7-10 million acres in the region). Everyone knows the reasons why fields have different levels of soil nitrate in the fall (even fields within a mile or two). The list includes, different crop yields, different N fertilizer rates, more or less N lost to leaching or denitrification, more or less N gained from soil OM mineralization, differences in weed control, differences in tillage, differences in previous crop, manure applications etc. etc. The list of reasons is very long. Each region experienced different environmental conditions, so the data is broken down by zip code or postal code area. The data in the table is from areas that had the highest amount of unseeded acres in 2011. The first table reflects the nitrogen soil test data from over 30,000 wheat fields tested last fall. The second table reflects the nitrogen soil test data from over 8000 fields which were not seeded in 2011 (fallow/unseeded). In the “fallow” table it is obvious that the soil N test levels vary a lot from field to field. There is also a large percentage of fields testing higher than 60 lb/a, which reflects nitrogen that has accumulated in the soil profile due to fallow practices such as controlling weed growth through the

Wheat Fields in 2011 (30,000 wheat fields tested last fall)													
Zip code	582	583	587	584	586	588	567	565	ROG	ROA	ROL	ROK	ROH
Soil N range (0-24" total)													
0-20 lb/a	18%	16%	11%	10%	12%	30%	20%	27%	32%	27%	25%	11%	14%
21-40 lb/a	49%	46%	43%	38%	40%	36%	49%	46%	41%	31%	49%	38%	41%
41-60 lb/a	20%	24%	26%	29%	30%	19%	19%	18%	15%	21%	15%	27%	21%
61-80 lb/a	8%	9%	11%	13%	12%	9%	7%	6%	6%	12%	6%	9%	11%
81-100 lb/a	3%	3%	5%	6%	3%	4%	3%	2%	2%	5%	3%	8%	4%
>100 lb/a	2%	2%	4%	4%	3%	2%	2%	1%	3%	4%	2%	7%	9%
Fallow (unseeded fields) (8200 fallow fields tested last fall)													
Zip Code	582	583	587	584	586	588	567	565	ROG	ROA	ROL	ROK	ROH
Soil N range (0-24" total)													
0-20 lb/a	8%	15%	7%	15%	13%	11%	10%	18%	1%	11%	1%	4%	2%
21-40 lb/a	22%	19%	22%	26%	21%	27%	24%	31%	8%	16%	11%	8%	19%
41-60 lb/a	26%	22%	25%	25%	26%	39%	25%	18%	23%	24%	15%	13%	27%
61-80 lb/a	21%	17%	19%	15%	20%	16%	20%	16%	30%	14%	22%	18%	18%
81-100 lb/a	12%	11%	13%	10%	8%	5%	12%	6%	16%	18%	16%	15%	13%
>100 lb/a	11%	16%	14%	10%	12%	3%	9%	10%	22%	17%	35%	43%	20%

Soil Testing is the first step towards a successful 2012!

season, and nitrogen released from summer tillage. The value in each column is the percentage of fields testing in each range of soil nitrogen (Example: 18% of wheat fields tested from 0-20 lb/a for the 582 zip code area).

Making a nitrogen fertilizer plan on the unseeded fields is not an easy task. Fields that tested very high in nitrogen (150-200 lb/a) will need some level of nitrogen fertilizer to account for field variability. Even though the field average nitrate may be very high, some parts of the field will need a base rate of 20-40 lb/a to prevent yield loss in those areas that test lower than the field average. It is important to remind growers that fields testing high in nitrogen will likely have some lodging issues, so variety selection will be important as well. Unfortunately, many of the unseeded fields were not soil tested last fall. This means you will be asked to help make an educated guess on the rate of N fertilizer to apply, without the aid of a soil test. You will need to talk with the grower about how each unseeded field was treated last year and make a somewhat informed decision with the grower. Hopefully Mother Nature will cooperate and there will be time to get more of these fields tested this spring before the seed goes in the ground.

Plant Tissue Testing—Collecting Good Samples

There has been a large increase in plant tissue testing the past few growing seasons. As an additional agronomic tool, tissue testing is used in several ways:

- 1) Monitoring nutrient status in irrigated crops like potatoes and corn (spoon feeding).
- 2) Determining if a crop has any deficiencies when no symptoms are present (hidden hunger).
- 3) Help diagnose visual crop symptoms within fields (trouble shooting).

One of the most important aspects of plant tissue testing is collecting a “Good Quality” sample, which represents the field or area in question. Collecting the correct plant part for testing, based on the growth stage for each crop is critical. Tissue sampling information for each crop is printed on the back of the plant tissue

envelopes provided by AGVISE. Once the samples are collected, DO NOT use a Ziploc or plastic bag. Use our special Tyvek envelope or a large manila envelope with air holes punched in it for shipping. It is best to ship the samples as soon as possible. If the tissue samples sit too long in the heat (couple of days in your vehicle) they will turn into a soupy “silage” mess that we’ll have to discard. Tissue samples can be placed in a refrigerator and shipped the next day. Refrigeration does not harm the samples. New for 2012, “Online Tissue Sample Submission”. With online tissue sample submission, you can enter all of the grower and sample information entry online (no paperwork) instead of handwriting it on the tissue envelop, you will print out a bar-coded sticker and place it on the sample envelope.

If you are investigating visual crop symptoms in a field, plant tissue testing plus soil testing is by far the best way to figure out if a nutrient deficiency is the problem. Comparative soil and tissue analysis (“Good” and “Poor”) helps confirm the diagnosis. Together, the tissue and soil tests will help confirm if nutrient deficiency is part of the problem. So, what’s the best time to sample these areas? As soon as you see any symptoms appear in the field it is time to collect tissue samples. If you delay, the symptoms may get worse and many times the nutrient levels in the “Poor” plants will be confounded by the number of days the nutrient stress is present. The longer you wait to collect the tissue and soil samples, the less time to make any corrective actions.

Start Fertilizer Rates

As spring approaches we are getting more questions on starter fertilizer rates. Many questions revolve around what is the lowest rate of fertilizer that can be applied with the seed and still get a starter effect. These questions are the result of growers wanting to seed as many acres per day as possible. Growers also want to keep fertilizer costs down and take advantage of the efficiency of banding lower rates of P fertilizer compared to broadcast P fertilizer.

To give agronomists and growers a better idea how far apart dry fertilizer particles or liquid fertilizer drops are at various rates of P fertilizer, we put together a few tables. These tables show the distance between fertilizer particles or drops of liquid fertilizer at various rates. We also created a visual display of these tables (see pictures below). You can see all of the pictures like this for corn, soybeans, wheat canola and sugarbeets on our website (Thank you to John Heard from MB Agriculture for helping with this project). These displays show the actual seeds of several crops with a dry or liquid fertilizer rate right alongside the seed. These displays are a great way to show growers a real view of the distance between the seed and fertilizer materials at several rates of dry and liquid fertilizer. University research has shown that to get the full starter affect, a fertilizer drop or particle must be within 1.5 – 2.0” of each seed. If the fertilizer particle or drop is more than 1.5 – 2.0” away from the seed, the starter effect is lost. In the tables, you will see what rates are necessary to get the starter effect at various row spacings.

Some people don't believe these displays, but you can prove it to yourself pretty easy with liquid fertilizer. Just run the planter/seeder at normal speed (5-8 mph) across a hard surface/tarp and see what you get. Once you get up to full speed of planting, you will see that what looks like a steady stream of liquid fertilizer when the planter is standing still, ends up being individual drops hitting the ground with some space between them. At low rates of fertilizer the spaces will be wide and you will not get the starter effect you are counting on. The solution is to apply higher rates, which will give you the starter effect you need. This higher rate of P2O5 will also help keep up with crop removal which should be a long term goal of any fertility plan.

We encourage you to go to www.agvise.com, click on “New - Starter Fertilizer Distribution Display,” and print out a full set of these displays (an example of the seed placed fertilizer with wheat and corn is shown). Having a full set of these displays and the tables from this article on your desk will make it easier to explain to growers what happens when they try to get by with low starter fertilizer rates. Please give our staff a call if you have any questions.

Seed Placed "Dry" Fertilizer
Distance Between "Granules" (Narrow Row Spacing)

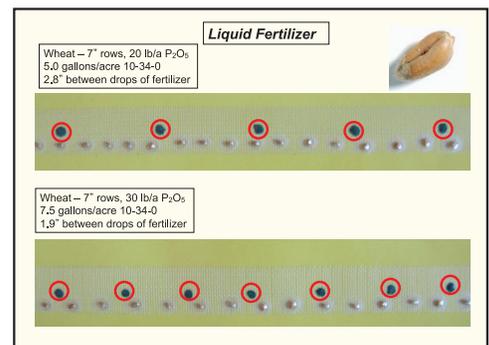
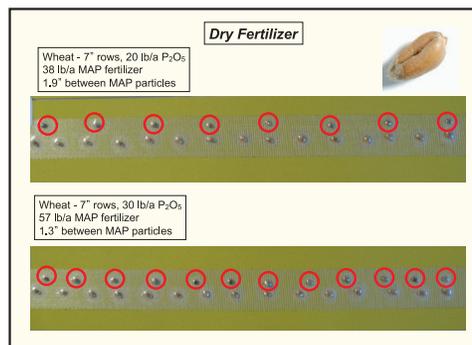
Row Spacing	MAP (11-52-0)	P ₂ O ₅	Distance between Fertilizer particles
7"	10 lb/a	5 lb/a	7.6 inches
7"	19 lb/a	10 lb/a	3.8 inches
7"	29 lb/a	15 lb/a	2.5 inches
7"	38 lb/a	20 lb/a	1.9 inches
7"	57 lb/a	30 lb/a	1.3 inches

Seed Placed "Dry" Fertilizer
Distance Between "Granules" (Moderate Row spacing)

Row Spacing	MAP (11-52-0)	P ₂ O ₅	Distance between Fertilizer particles
10"	10 lb/a	5 lb/a	5.3 inches
10"	19 lb/a	10 lb/a	2.7 Inches
10"	29 lb/a	15 lb/a	1.8 inches
10"	38 lb/a	20 lb/a	1.3 inches
10"	57 lb/a	30 lb/a	.9 inches

Seed Placed "Liquid" Fertilizer
Distance Between "Drops" (Narrow Row spacing)

Row Spacing	APP (10-34-0)	P ₂ O ₅	Distance between Fertilizer drops
7"	1.25 g/a	5 lb/a	11.2 inches
7"	2.50 g/a	10 lb/a	5.9 inches
7"	3.75 g/a	15 lb/a	3.7 inches
7"	5.00 g/a	20 lb/a	2.8 inches
7"	7.50 g/a	30 lb/a	1.9 inches



Troy and Bobbie Jo Uglen—National Outstanding Young Farmer Award

Northwood ND farmer Troy Uglen and his wife Bobbie Jo recently received the “Outstanding Young Farmer Award.” Candidates were judged on progress in their agricultural career, soil and water conservation practices and contributions to their community. This award is sponsored by John Deere, supported by the U.S. Chamber, the National Association of County Agents and is administered by the Outstanding Farmers of America Fraternity (OFA). Congratulations Troy and Bobbie on this national award for all of your hard work!

Gregg Halverson, Black Gold Farms is Producer of the Year—Top Producer Magazine

Gregg Halverson, third generation farmer from Grand Forks ND has been named 2012 Top Producer by “Top Producer” magazine. Gregg is president of Black Gold farms, a family owned potato growing and marketing organization. Black Gold Farms is the largest producer of fresh-crop chipping potatoes in the world. Black Gold Farms grows potatoes in 11 states and has 130 employees including Gregg’s sons John and Eric and his daughter Leah. Congratulations to Gregg and everyone at Black Gold from your friends at AGVISE Laboratories!

PRESIDENT'S CORNER SOUTHERN TRENDS

April 1 will mark my 35th year working for AGVISE. In 1977, a fledging company owned by Dr. Ed Lloyd hired me to start a soil testing lab. Dr. Lloyd decided to incorporate a soil testing lab into his business model because it was taking too long to get results from the lab they were using. AGVISE was initially started as a crop consulting and research company and soil sampling was included as part of the crop consulting package.

We mailed the first soil test reports from AGVISE to local farmers that spring. Since I was the only AGVISE lab employee, my responsibilities included everything from grinding soil samples to doing all of the lab analysis on each sample. That first year our lab equipment consisted of one atomic absorption spectrophotometer used to determine potassium and micronutrients, one meter that could be used for measuring nitrate and soil pH and one colorimeter that was used for testing phosphorus and sulfur.

AGVISE laboratory capacity has grown greatly in 35 years. We have added additional equipment, instrumentation, professional employees and much more space! This summer we are adding 5,000 square feet to our Benson lab, after adding 8,500 square feet in 2009. In our Northwood lab, we have converted some storage space to lab space for 2012. We have ordered additional instruments for testing plant samples this summer at both laboratories. We are also looking at ways to further automate the pH and soluble salt test methods at both laboratories.

Online soil sample submission was a big step for AGVISE in 2011. Our customers have really taken hold of this new technology that leaves paper work behind. We will be expanding the use of the Internet for submitting tissue samples this summer along with other types of samples. While many things have changed at AGVISE in 36 years, our commitment to providing the highest quality testing, service and support to our customers remains.



BOB DEUTSCH
PRESIDENT
SOIL SCIENTIST/CCA

From my perspective, here are the trends for 2012: more corn acres, more grid and zone soil samples, more early summer soil sampling and more plant tissue testing. Corn acres will be up and soybean acres down. Grid and zone soil samples continue to increase and become the new norm in soil sampling. For example, in 2011, at our Benson, MN lab, 72% of all soil samples were either a grid or zone sample. And, early summer grid sampling is growing more each year, with 40% of all our samples being tested between mid-May to early July. In addition, the total volume of soil samples has steadily increased each year for the past 7-8 years. For the past two years the plant tissue samples have skyrocketed and will continue to grow in 2012. Therefore, our Benson lab will expand capacity in 2012 again. We've expanded steadily for the past five years. We had a major building project in 2009 and this summer we will expand our Benson facilities again to keep up with the demand for soil and plant analysis services. This expansion will include increasing personnel, instrumentation and automation as well.

For the past two years AGVISE has been selling the Wintex1000, ATV mounted automated topsoil sampler. Customers have been very happy with the performance of the Wintex 1000. We did discover one problem with the unit this past fall when the ground was hard as rock. The Wintex had a hard time penetrating the soil to get cores. This was a function of the 4-wheeler being too lightweight and lifting the whole unit off the ground. But the unit works great under "normal" moisture conditions and shines in "wet" soil conditions. We are hoping to have a 2-depth Wintex 2000 unit to demonstrate this summer. This is also an automated sampling unit which is supposed to separate the topsoil and subsoil. It is supposed to work in hard dry soil and frozen soil as well (We sure hope it does!).

The use of our web-based Online Sample Submission system for soil samples has had tremendous response, plus we're adding plant tissue to the submission process for this year. This has been well accepted by users because it's easier to do online, it speeds up the process and it minimizes the errors. Our other web-based reporting services, which include Agvisor Lite for soil results, plant tissue and manure reports has also been well accepted and worked very well for everyone. We're open to your comments and suggestions on changes or improvements to the system. And finally, thank you for your business. We wish you great success in 2012.



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AGRONOMIST/CCA