Timely information for agriculture

AGVISE LABORATORIES

FALL 2007

SOUTHERN TRENDS

RICHARD JENNY
AGRONOMIST/CCA

Imagine That…. Only 16 years ago… prices/costs/wages/salaries/taxes/crop yields are sure different today than in 1991! Technology has made leaps and bounds since 1991. Who used GPS in 1991? Autosteer was your knee under the steering wheel while you held a sandwich with one hand and a cup of coffee or a can of pop (soda) in the other hand. Mobile phones were on the way out and cell phones on the way in. You either had the cell phone hard wired in your vehicle, a bag phone or a hand-held "brick" phone. Who knew what the Internet was, GIS software or VRT? What was your email address in 1991? The price of a loaf of bread was $0.71 and a gallon of gas $1.14. In 2007 nearly 90% of all soybeans and 85% of all corn acres now have herbicide or insect resistance via biotechnology. Average yields for corn and soybeans were 41and 15 bushels per acre higher in 2006 than in 1991.

Anyway, I just came across our 1991 lab fees and was totally surprised by what I found. Since 1991, the average annual inflation rate has been about 2.6% per year. That would mean a $10 item in 1991 would cost

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Special Offer on 24" Sampling Systems

AGVISE has a special offer again this fall on our 24" electric/hydraulic soil sampling system. AGVISE will credit $200 of free laboratory analysis to your account with the purchase of one $1990 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.

Soil Testing Behind the Combine

DAVE FRANZEN
Extension Soil Scientist
North Dakota State University
701-231-8884

It is more the rule than the exception that soil sampling begins in mid-September instead of immediately following small grain harvest. 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:

1. Growers are more likely to use the test results to direct fall N application if the soil test results are in their hands 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.

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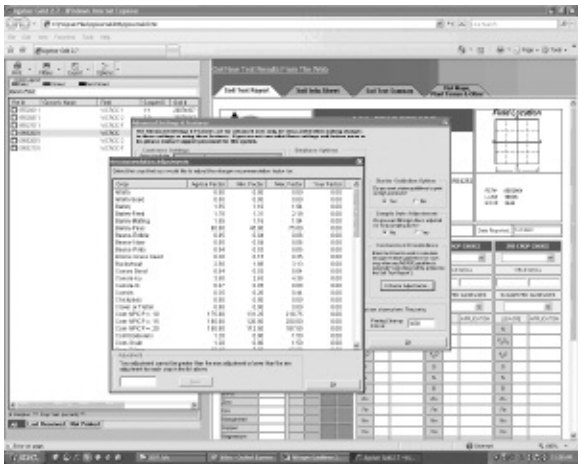
Southern Trends continued...

$15.60 today (about a 56% increase). If you look at the cost of soil and tissue analysis since 1991 you may be surprised. The cost of soil laboratory analysis has increased only 12% since 1991 and plant tissue analysis has actually decreased 11% since 1991. Hard working employees and automation have allowed us to make soil testing and tissue analysis better values now than 16 years ago!

AGVISE has strived to provide the highest quality testing and technical support since 1976. We are here to serve you and your growers testing needs. Thank you and "Have a Great Fall Season." Call if you need assistance.

Nitrogen Guidelines are Changing... AGVISOR Gold can help.

Nitrogen fertilizer guidelines are changing for some crops in our region. If you want to customize the nitrogen guidelines to recent research in your region, our AGVISOR Gold software allows you to do this. You can customize the nitrogen fertilizer guideline to the research in your area. A good example is the corn nitrogen guideline. For those who soil sample to a 24-inch depth, our basic equation is "estimated yield goal multiplied by the factor 1.2. From this total you subtract the soil test nitrogen test (0-24") and any crop credit. The AGVISOR program allows you to change the factor (1.2) to better match the research in your area. To customize the nitrogen factor for each crop in your AGVISOR Gold program following these instructions:



1. Open AGVISOR
2. Choose the "Options" down-arrow.
3. Choose "Advanced Setting" from the drop down menu.
4. Choose the "N Factor Adjustment" button (lower right corner of box)
5. Once the "Recommendation Adjustments" window is open, you then choose your crop and input the new factor. Note: This also shows you the current AGVISE nitrogen factor for each crop.
6. Take a look at this feature to see how it works, you can always change it back to the original default guidelines at any time.
7. Give Richard or John a call if you have any questions

Precision Helpers

Check out our homepage and click on the "Precision Helpers" link. This will take you to our list of companies who provide various site-specific agronomic technical support, services and products for you and your growers in the Midwest. If you are a provider of these services and are not listed, you can get yourself on the list by providing us with your company info and we'll add your information to our "Precision Helpers" list.

AGVISE Soil Fertility Seminar 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 2008 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 to 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).

January 8, 2008 - Willmar, MN
January 9, 2008 - Watertown, SD
January 10, 2008 – Fargo, ND

Most Corn Planted Since 1944!

This June USDA reported that planted corn acreage was 92.9 million acres for 2007. This is 19% higher than the 78.3 million acres planted in 2006. This is the highest planted acres of corn since the 1944. Ethanol demand is the main driving force for higher prices and more corn acres.

Record corn acres were set for Illinois, Indiana, Minnesota and North Dakota. In millions of acres, Illinois is up 1.9, Indiana up 1.1, Minnesota up 0.9 and North Dakota up 0.8 (48% increase) from the 2006.

In the Corn Belt and the Great Plains, corn replaced soybeans acres and in Southeast cotton acres were reduced. Nationwide, USDA estimates a 15% reduction in soybeans and 28% less cotton acres as compared to 2006.

All wheat is reported up slightly in 2007 at 6%. Winter wheat was up 11%, spring wheat down 12% and durum was up 19%. The largest declines in spring wheat were 1.0 million acres in ND and 400,000 acres in MT.

Corn: 2007 Planting Report. June 29, 2007

State	2006	2007	Increased Acres	% Increase
(Ranking)	(million acres)		(million)	
IA (1)	12.6	14.3	1.7	13%
IL (2)	11.3	13.2	1.9	17%
NE (3)	8.1	9.1	1	12%
MN (4)	7.3	8.2	0.9	12%
IN (5)	5.5	6.6	1.1	20%
SD (6)	4.5	5	0.5	11%
ND (11)	1.69	2.5	0.81	48%
US	78.3	92.9	14.6	19%

Soybeans: 2007 Planting Report. June 29, 2007

State	2006	2007	Decreased Acres	% Decrease
(Ranking)	(million acres)		(million)	
IA (1)	10.15	8.8	1.35	13%
IL (2)	10.1	8.35	1.75	17%
MN (3)	7.35	6.3	1.05	14%
IN (4)	5.7	4.6	1.1	19%
NE (6)	5.05	4	1.05	21%
SD (8)	3.95	3.3	0.65	16%
ND (9)	3.9	3.1	0.8	20%
US	75.5	64.1	11.4	15%

Postcards to Promote Soil Testing

This is the fourth year that AGVISE has provided our customers with free "Post Card Mailers" to promote soil testing. Many customers have commented on how great these post cards work for getting their growers attention directed towards soil testing. By using these post cards, customers have told us they have been able to start testing earlier and they end up soil testing more fields for each of their growers.

AGVISE will customize the message on your post cards so you can tell the growers exactly what you want! Here is an example of what one customer had us print on his post cards last year:

"Give Dave 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 we you receive your post cards with the customized message, 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 wish.

We will be mailing an example post card to all customers who tested more than 50 soil samples last year. All you have to do is write the message you want on the post card on the form you receive and fax or mail it back to us. If you did not receive this mailing or have questions on how to use the post cards, please give John Lee or Richard Jenny a call.

Zone Nutrient Management in the Corn Belt: What direction are we going?

With the tremendous increase of corn acres in the Midwest, especially in North Dakota where they doubled their planted acres in 2007, zone nutrient management strategies can play an important part in the growers fertility management plans. It is well known that topography, soil texture, soil type, drainage and other physical landscape features affect crop yield. Therefore, knowing how these factors affect crop yield in your area can help you manage this field variability by splitting fields into similar productivity zones. This zone management concept has become very popular over the past 6 or 7 years in South Dakota and is growing in western Minnesota. In 2006, over 25% of all soil samples tested in our Benson laboratory were "Zone" samples, compared to less than 5% in 2000. Nitrogen is usually the nutrient targeted for zone management first due to the high cost per acre for nitrogen fertilizer. Many customers are also managing P, K, Zn and S in zones depending on the nutrient variability from zone to zone and the ability of their equipment to vary more than one product. All of these nutrients are important in high yield corn production.

Grid soil testing on 2.5 acre grids is still very common for corn production areas to the east. Areas to the east generally do not test for nitrate nitrogen. In eastern areas P, K and lime are applied based on small grids. Because lime is applied at rates of tons/acre, grid soil testing is easy to justify. Research in west central Minnesota on sugar beets is attempting to improve the nitrogen recommendations by looking at the variability of organic matter (OM) content and them adjusting the N fertility recommendation based upon this OM level.

While grid soil testing will always be the best way to determine lime needs, zone management seems to be the general trend right now in the Corn Belt.

Zone Nutrient Management on the Plains: Where is it headed?

Timing is everything! Decent prices for grain, high prices for fertilizer and fuel, seeding equipment with variable rate technology and GPS equipment that is easy to use. All of these things have come together at the same time to enable growers across the plains to become big players in zone nutrient management.

Small grain growers know that yields vary a lot across their fields and they want to fix this problem. With the help of an agronomist, they are able to map the different productivity zones in their fields by using several tools. Some of these tools include satellite images of past crop canopy, salinity maps, yield maps, topography maps or a combination of more than one of these layers of information.

Once the productivity zones have been established in each field, soil samples are collected from each zone. With the help of an agronomist, the grower determines if nutrients are limiting yield in each zone. Sometimes, things like high salinity or low water holding capacity limit the productivity of a zone. Many times the soil nutrient levels are quite high in these low productivity zones so little fertilizer is needed, saving the grower money. The growers come to realize that there is no fix for some of these low productivity zones, but they can reduce the fertilizer inputs they apply in that zone and produce the same yield.

There are usually a few management zones where the zone soil test shows that low soil nutrient levels are limiting yield. This situation is "fixed" by applying nutrients at a higher rate to accommodate the higher yield potential.

While some growers are still waiting for more research to fine tune their variable rate nutrient application practices, others are full speed ahead. In the words of one of these forward thinking growers. ***"It's not rocket science to do a better job of nutrient management by breaking fields into parts. I already have the equipment, it doesn't affect my total nutrient input cost on each field very much and I put more of my fertilizer in the most productive parts of my fields!"***

With the growers leading the way and a helping hand from agronomists, we expect soil testing to change quite rapidly in the next 5-10 years. In 2006, almost 15% of all soil samples tested at AGVISE Northwood location were from fields split into several management zones. This appears to be the direction for zone nutrient management on the plains.

Soybean Cyst Nematode Update

AGVISE Laboratories has been offering Soybean Cyst Nematode (SCN) testing for over 7 years at our Benson laboratory and 3 years at our Northwood laboratory. Every year SCN spreads further north into areas we thought SCN would never be much of a problem. Unfortunately for the Northern soybean growing areas, SCN seems to thrive in colder soils with high pH. This means we need to expect SCN problems to move north.

A soil test to detect SCN is a valuable tool for growers to evaluate the presence of and infestation level of SCN in their fields. Management decisions need to be made to avoid devastating yield losses from this pest. As SCN spreads north into the Red River Valley, growers will face new challenges with managing this pest. This area has a lot of sugar beet and vegetable crop production, which introduces many avenues to infest fields with the movement of soil on equipment. The spring flooding of the Red River will also aid in the rapid spread of SCN. Here are some tips for getting the most out of the soil samples you send in to have tested for SCN.

Know how to soil sample for SCN. Make sure the person taking the soil samples for SCN understands that this is a tiny round worm, which attaches itself to the roots of the soybean. The sample should be taken to a depth of 6 inches, and close to the soybean row to get as many roots in the sample as you can. A SCN soil test is very different than taking a nutrient soil test. Nematodes are biological organisms that are not evenly distributed in the soil, and their population is constantly changing.

There are two approaches to sampling, managing the SCN level in infested fields and determining if SCN is present in a field. When managing a field you know has SCN, a random soil sample that is collected from a 20 to 30 acre area is best. This will let you know if the management practices, such as crop rotation and SCN resistant beans are lowering the SCN levels in the field. If you aren't sure if SCN is present in the field, look for a "hot" spot and sample from those areas. Some examples of areas where SCN shows up first in a field include approaches, field edges, areas that flood, areas where the beans turned yellow in late July, or looked drought stressed. Take the soil sample where the soybeans are still alive. If you sample a dead spot, the nematode count may be quite low compared to a sample taken where the beans are still alive.

Take samples early in the season. SCN testing, unlike nutrient soil testing, does not have many steps that can be automated. This means a lot of technician time in the laboratory, which limits the number of samples that can be processed each day in our laboratories. Taking samples earlier in the season should guarantee that results will be completed in time to make management decisions and purchase seed. SCN samples can be sent to either the Benson or Northwood Laboratories.

SCN is still spreading north and west into new areas every year. If problems are caught early this is a manageable pest. Don't neglect any fields that you may think have SCN. Take a soil sample to confirm your suspicions. Fields with low SCN counts are much easier to manage than fields with extremely high counts.

President's Corner cont. from back page...

concerned about nutrients reaching our river systems and lakes and all new regulations involve documenting soil nutrient levels.

High commodity prices: The price of most commodities has been pretty good in the past couple of years and farmers want to maximize yields and profits. They want to make sure their fertility plan is not limiting yields. More farmers are also testing for micronutrients to be sure they are not limiting yield.

Zone nutrient management: Growers in all of the areas we serve are adopting new zone nutrient management practices. Splitting fields into management zones for variable rate nutrient application is growing quickly. The rate of this growth has surprised me. I did not expect dry land regions growing low value crops like wheat (well it used to be a low value crop) to adapt this technology so quickly. The equipment and software used to create and apply nutrients to these zones has improved to the point where you no longer need a PHD in electronics and engineering to zone sample and spread a field. It is quite easy to do!

These are just a few of the reasons farmers are soil testing more now than they did just a few years ago. The same forces are probably driving the demand for more soil testing in Europe and the former USSR.

Northern Notes cont. from back page...

the cab. They can also get good samples when the soil is very dry or when the soil is frozen (sample through up to 12" of frost). If you need new sampling equipment, give us a call.

Please let us know what you need for soil testing supplies. We can usually ship them to you in a day or so. We hope you have a safe fall season!

AGVISE LABORATORIES
604 Highway 15 West
P.O. Box 510
Northwood, North Dakota 58267
701-587-6010 / FAX: 701-587-6013
Home page: www.agvise.com

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BOB DEUTSCH
PRESIDENT
SOIL SCIENTIST/CCA

Soil Testing Around The World

The number of soil samples tested regionally and worldwide appears to be on the increase. Last week I was asked if AGVISE would be interested in helping set up soil testing labs in the former USSR. This week I took a call from a business in France looking for filter paper to supply their soil testing labs. This French company is in the process of setting up several soil testing labs in Europe. There are a number for forces that are driving the increase in soil testing in our region and these same forces are increasing the demand for soil testing around the around the world.

Some of the forces that are increasing the demand for soil testing are obvious and others are not so obvious:

The rising price of fertilize inputs: Nitrogen and potassium prices have increased a lot in the past few years. When anhydrous ammonia was a cheap source of nitrogen 20 years ago, the logic was to apply enough nitrogen to meet 100% of a crops needs and maybe a little more just to be sure. In today's market this logic is very expensive. The price of potash has also increased causing even more strain on growers fertilizer input budget.

Government regulation. Many growers are now required to soil test fields where a manure application will be made. Some government programs also require a soil test for eligibility of certain programs and/or payments. The governments in both Canada and US are

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NORTHERN NOTES

JOHN LEE
SOIL SCIENTIST/CCA

2007 has been a mixed bag so far. Most acres were planted quite early in the northern plains with some areas being delayed by wet soil conditions. Heavy rainfall in late May resulted in some reseeding and drowned out areas.

As small grain harvest is getting started, most experts still expect high yields. Protein levels in western areas could be on the low side because some growers cut back on nitrogen fertilizer last spring.

With the price of fertilizer and other crop inputs staying high, we expect grower interest in soil testing will be high again this fall. Splitting fields into several management zones for soil testing is becoming more common each year (see Zone Management on the prairie article). With the extra time required for soil testing fields in separate management zones, it is important to start soil testing right after small grain harvest. University researchers tell us that we can soil test right after small grain harvest with little on no change in the soil nitrate test level.

With the increase in demand for soil testing, it is important to have up to date soil sampling equipment. AGVISE customers with hydraulic sampling units mounted in the cab give themselves a big advantage. They can sample about two times as many samples per day compared to systems mounted outside

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