



Servi-Tech Review

Professionals In Your Field

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May/June 08, Vol. 37 Issue 3

Review Contributors

Mitch Counce..... General Manager
Dodge City, Kansas

Orvin Bontrager Director of
Education & Training
Aurora, Nebraska

Steve Kramer..... Technology
Specialist
Stromsburg, Nebraska

Norb Boyle..... Division Manager
Ackley, Iowa

John Payne..... Area Manager
Ransom, Kansas

Mike Ferrari..... Division Manager
Yuma, Colorado



Corn growing in a very high residue cover to protect the soil.

Servi-Tech Directory

"The Servi-Tech Review" (ISSN No. 0884-5573) is published bi-monthly by Servi-Tech Inc., 1816 East Wyatt Earp, Dodge City, KS 67801-7707. Prepaid subscription rate is \$12.00 per year. Postmaster send address change to: Circulation, Servi-Tech, Box 1397, Dodge City, KS 67801-1397. Periodicals postage paid at Dodge City, KS.

Biofuels and Soil Management

by Orvin Bontrager
Director of Education and Training, Aurora, Nebraska

The government mandated use and need for an increase in biofuel usage in the USA has obviously driven up the commodity prices of corn. There is real concern in many environmental organizations, government entities, and individual opinions that our natural resources will be squandered to provide the extra crops and yields to produce these fuels.

Many Servi-Tech crop specialists have long term soil fertility records to show that nutrient levels have been maintained, and in some cases increased, with proper soil fertility and residue management, even while continuing to harvest increasingly higher yields. With proper annual monitoring of the soil by regular, accurate, and consistent testing, the long term soil fertility and quality trends can be determined.

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Featured Crop Consultant



Brett Mermis

Crop Consultant

Yuma, Colorado

11 Years of Experience

Kansas State University

Why Brett chose Crop Consulting:

"Farming really wasn't an option for me, so crop consulting seemed to be the next best thing related to production agriculture."

Favorite thing about his job:

Brett enjoys working outdoors. He also values the close relationship with his producers and helping them meet their goals.

Hobbies:

Brett likes spending time with his two daughters, as well as remodeling his home.

Biofuels and Soil Management (cont'd)

As long as weed control can be maintained with herbicides in enhanced genetically modified crops, minimal or no tillage will be needed. The resulting residue that is left on the soil surface will greatly help in reducing any soil, wind, or water erosion. All of these tools need to be available for erosion control.

It is concerning to see some marginal areas being brought into crop production now with the high commodity prices. Caution will need to be taken by producers and their crop consultant to maintain high stewardship practices to keep the soil resources from eroding. The boom and bust history of crop production has usually caused government programs to be initiated to correct the abusive use of the resources. Expensive programs may not be provided in the future for cost share to growers and land owners to re-establish vegetation and erosion control measures.

Sudden Death Syndrome in Soybeans



by Steve Kramer

Technology Specialist, Stromsburg, Nebraska

Sudden Death Syndrome (SDS) in soybeans has been documented in the U.S. now for about 35 years. The disease was first found in Arkansas, and soon spread through the Mississippi basin. In recent years the disease has begun to show up in eastern Nebraska.

SDS is caused by a soil fungus called *Fusarium Solani*. Like most other soil borne root diseases, this disease appears in spots throughout a field. It will most likely first show up in low, poorly drained or compacted areas.

SDS is more likely to occur when soybeans have been planted early and are exposed to cool, moist soil conditions early in the growing season.

SDS begins as a root disease. It restricts the growth and nodulation ability of the soybean roots. The roots will also often rot. This obviously reduces the ability of the soybean plant to uptake moisture and nutrients correctly.

The roots may have a blue coloring on the tap roots from the fungi growth. When splitting the root open, the inner core of the root will be white, while the area around it will be a liquid brown color.

On the soybean leaves, yellow spots will appear on the upper leaves. These spots grow together to form continually growing blotches of chlorosis between the veins on the leaves. As this progresses, the chlorotic areas turn brown and die. The leaves will have a distinct pattern of yellow and brown with green leaf veins. As time goes on, the leaves dry up and fall off the plant, leaving the leaf stems still attached, giving the plant a skeleton look.

Obviously this scenario is not good for soybean production. Flowering, pod set, pod fill, and general photosynthetic ability are reduced. The severity of yield loss is highly dependent on the growth stage of the soybeans when the disease symptoms occur. Losses can range from minimal to a near total loss in highly affected areas.

SDS can be tough to manage. There are no soybeans that are truly resistant to SDS, but soybean varieties do range greatly in their ability to tolerate SDS. Most seed companies now rate their varieties in regard to SDS, as well as most other diseases.

Fields should be scouted for the disease as well; this will allow the grower to potentially keep the disease at a manageable level. If you know where it's at, then hopefully it can be contained and then the affects can hopefully be reduced.

Try not planting more susceptible varieties early. This may also be helpful to reduce the risk of SDS. SDS gets started in cool wet conditions. If you have a lower rated variety that you still like because of yield potential, consider planting it on the later end of the planting schedule instead of the front end.

Also improve the drainage of the soil as much as possible in the field, to help those wet areas not stay wet as long. Clean off your equipment when moving from field to field. The disease can be transported by your implements. Cleaning the equipment will hopefully slow movement from field to field.

If you have other questions about this disease or others, talk to your local Servi-Tech agronomist about what you can do to lower the risk of having to deal with SDS on your farm.

Late Spring Sampling



by Norb Boyle
Division Manager, Ackley, Iowa

Just when we thought nitrogen prices couldn't get any higher, nitrogen prices again are at an all time high this spring, with reports of up to \$900 per ton for anhydrous being reported. This is another excellent opportunity to have late spring nitrogen samples taken and to follow your fertilizer recommendations. The cost of over-application didn't seem like too much of a financial issue in prior years. With the costs as they are now, this is a real chance to save some money and enhance your chances of success by achieving the maximum yield potential. This is not the time to take chances and put blanket amounts out there, hoping they are sufficient. The Late Spring Soil Nitrate Test is a recommended tool to use if nitrogen losses are suspected from applications of commercial nitrogen products, manure, and other sources of nitrogen. The test helps farmers save money on fertilizer while reducing how much nitrate leaves a field by nearly a third — all while maintaining yields. Efficiency will again be a big factor in generating a profit in 2008.

With the late spring nitrate test, the amount of nitrate nitrogen in the soil profile can be determined. Soil samples can be taken when the corn is emerged up to 12" in height, and the results are generally reported in 2-3 days after the samples have been analyzed in the lab. Lab results can reveal that you've done a fine job in managing your nitrogen and amounts are just right, excessive, or that more may be required to produce a crop. Generally we have ample time to react if the test calls for additional nitrogen to be side-dressed. If you've applied fall anhydrous or manure during the fall or spring, it's a good idea to see what's left for your corn crop before it's too late to fix any shortfalls. This is definitely the year to be sure all of your inputs are used wisely.

The key to side-dressing nitrogen is to get it done as soon as possible. This helps avoid clipping roots, when plants become larger and provides N early enough to the crop for full benefit. Various forms of N can be applied, however, they all need to be incorporated into the soil either with tillage or moisture to avoid loss and be available to the root system. Please contact your Servi-Tech crop specialist for further details.



Servi-Tech offices will be closed
Monday, May 26th and Friday, July 4th, so our employees can
celebrate the holidays with their friends and family.

Meet our Staff: Mary Sue Furman

- **Title And Job Description:** *Office Supervisor, Hastings, NE Laboratory- Mary Sue's main job responsibilities include billing, accounts payable, sample preparation and helping out with other job duties when employees are absent.*
- **Favorite Thing About Working At Servi-Tech:** *"I like the diversity of my job and working with my fellow coworkers."*
- **What Co-workers Say About Mary Sue:** *"Mary Sue is a pleasure to work with. She cares deeply about Servi-Tech and its customers. She is an employee who goes the extra mile whenever anyone needs help and her first words are, 'What can I do to help you?'"*
- **Something Interesting About Mary Sue:** *Mary Sue has four children ages 22, 19, 12 and 8. She enjoys spending time with her family in her spare time.*





P.O. Box 1397
1816 East Wyatt Earp Blvd.
Dodge City, KS 67801

Periodical

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Yield Mapping



by John Payne
Area Manager, Ransom, Kansas

With increased input costs and higher crop prices, yield mapping is becoming a more important tool in managing crop production. If you're not mapping your yields, it might be a good time to invest in this equipment. One good idea before creating your maps is to make a copy of the computer files. Even if you're not going to do anything at this time, you may want to in the future. If using a custom cutter, it is a good idea to find out what type of data card their monitors use and purchase your own cards. When they leave, you will have all the time you need to make a copy of them. This will allow you or your Servi-Tech agronomist the ability to take that data at a later date, and use it to help make decisions on that specific field.

Just having a printed map of that year's data isn't going to help when you want to start looking at multiple year trends in yields. Software is available to make yield difference maps, which means overlaying multiple years of normalized yield maps. This shows areas of the field that are always below average, always above average, average, and variable areas of the field. This helps the agronomist know where to evaluate and see if it is possible to improve or change the yield goal in these areas. Normalizing a yield map, means taking the map and breaking it down into areas that are above average, average, and below average. This lets us compare multiple years' yields even if it's not the same crop. The yield map is an important tool on the farm that can be used to your advantage to increase the profitability of each individual field. If you're not sure where to start or what to do, ask your Servi-Tech agronomist to help get the data you need to manage your yield mapping.

What Is A Ton Of Corn Stover Worth?



by Mike Ferrari
Division Manager, Yuma, Colorado

What is a ton of corn stover (stalks, leaves, shucks and cobs) worth in terms of present fertilizer prices?

Using values given below, a ton of corn stover contains approximately 20 lb of N, 4 lb of P and 27/lb of K. Converting the P & the K to P2O5 & K2O for the purposes of applying a fertilizer value (%P2O5 = %P X 2.29 and %K2O = %K X 1.2) to these nutrients, there is roughly 8 lbs of P2O5/ton and 32 lbs K2O/ton. Using nutrient costs of \$0.42/lb N, \$0.52/lb of P2O5, and \$0.35/lb of K2O a ton, corn stover contains about \$23.76 worth of N-P-K fertilizer.

How much total N, P and K are left behind in a field after the combine goes thru? A rough estimate is that there is about a ton of residue left behind for every ton of grain produced. You can do the math on your own fields to get an approximation of what value that amounts to.

Nutrient removal is only one of the negative impacts that occur with total residue removal. Reduced soil tilth, water infiltration and increases in soil erosion that occur as residue (and ultimately soil organic matter) levels decline are probably of greater consequence to the sustainability of a soil than just the removal of nutrients.

Excessive removal of crop residues has both immediate and long term consequences for both soil productivity and crop input costs. These impacts should be taken into account when considering practices that involve removal of crop residues.

	Harvest Units	lbs/unit	Dry Matter %	Nutrient Concentration % Dry Weight		
				N	P	K
Corn, grain	bu	56	85	1.65	0.32	0.40
Corn, silage	tons	2000	35	1.26	0.26	0.39
Corn, stover	tons	200	90	1.11	0.20	1.50

Information taken from USDA, SCS, Agricultural Waste Management field Handbook. 1992