



Ceres Solutions AgVantage Green Notes



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Nitrogen Loss from Fall Nitrogen Not Likely, Yet

By Jim Camberato and Brad Joern, Purdue University Agronomy Department—Farmers that applied anhydrous ammonia (AA) in the fall for corn in northern Indiana are wondering how much nitrogen (N) they may have lost due to the heavy rains and flooding that occurred during the late fall and so far this winter. Nitrogen loss from fall-applied AA occurs most years, but the loss usually occurs in the spring, not in the winter. Before the ammonium (NH₄⁺) applied as AA can be lost from the soil it has to be converted to nitrate (NO₃⁻). Fortunately for the majority of situations to date, most of the fall-applied AA likely still remains in the NH₄⁺ form, so little N would have been lost despite the excessive rainfall.

The most important factors to consider when determining the amount of NH₄⁺ applied as AA that has been converted to NO₃⁻ are the time since application, whether the nitrification inhibitor N-Serve® had been applied, and the soil temperature and moisture conditions since application. Fortunately northern Indiana soil temperatures were cold this fall and winter, unlike last year. Soil temperatures

were generally below 50F at the beginning of the second week of November and then were consistently cold (< 40F) after the third week of November. Anhydrous ammonia delays the formation of NO₃⁻ for about 2 weeks after application without N-Serve® and for about 4 weeks after application with N-Serve®. Therefore, little formation of NO₃⁻ likely occurred with mid- to late-October AA applications and loss of N should be minimal. Significantly earlier applications, unfortunately, may have resulted in some N loss.

Although the news is good now, it is too early to celebrate. Typically N loss occurs in the spring when soils warm and rains promote denitrification and leaching from saturated soils (<http://www.ces.purdue.edu/extmedia/AY/AY-318-W.pdf>). Spring N loss can be substantial. Previous research has shown that N loss from fall-applied AA averaged about 30% without N-Serve® and 10% with N-Serve® on a poorly drained Crosby silt loam.

As the spring unfolds, we will keep you posted on our estimation of potential N loss.

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Condition of the Indiana Wheat Crop

By Ellsworth Christmas and Charles Mansfield, Agronomy Department Purdue University—Soil moisture and weather conditions during the 2007 fall seeding period for the Indiana soft red winter wheat crop were quite good. Most of the crop was seeded in a timely fashion with a small percentage of the acreage seeded a little later than normal. Establishment was good with good stands and adequate, but not excessive, growth prior to entering dormancy. Wheat entered dormancy in mid to late November across northern Indiana and early December in the southern portion of the state. The wheat crop has remained in dormancy since and has been subjected to single digit or below zero temperatures on four occasions across northern Indiana. These were December 6-7, January 3-4, January 20-26 and January 31. Snow cover was present during most of these events in a thickness sufficient to protect the wheat crop.

Observations from three of the outlying Purdue research farms in southeast, southwest and northeast Indiana plus the Agronomy Research and Education Center near West Lafayette suggest that the wheat crop appears to be in very good condition. The wheat plants have remained very green until recently and in some areas are now exhibiting a slight yellowish-brown color, typical for this time of year. This is normal leaf burn caused by cold temperatures and is nothing to cause concern.

Recent rains have resulted in standing water in a number of fields across the state. Usually wheat is not planted on flood plains where it is subject to flooding. The standing water should drain from the upland fields in a few days. When wheat is dormant, it can withstand at least a week under water or in saturated soils without causing damage to the plants.

Growers should be alert for a potential heaving problem that could occur in some wheat fields throughout Indiana but of more concern in southern Indiana. As a result of the heavy rains that have fallen over the past two months, most soils in Indiana have been saturated for an extended period. These very wet soils coupled with the alternating freezing and thawing that has occurred in recent weeks and may occur in the coming weeks, makes the possibility of heaving very likely. Problems with heaving may be more serious where the wheat seed was broadcast with fertilizer and worked lightly to incorporate the seed in the soil. With this method of planting, those seeds near the soil surface have developed weak root systems and will be more vulnerable to heaving.

By Betsy Bower, Ceres Solutions Agronomist—I looked at a couple of wheat fields in Knox Co, IN. Growth represented our excellent fall growing conditions. Weeds were present in both fields. One exhibited over 30% coverage with winter annuals such as (cont page 4)

Biotech Yield Endorsement (BYE)—

As many of you may have heard USDA's Risk Management Agency (RMA) has approved a one-of-a-kind pilot crop insurance program for corn that, for those eligible, will reduce their crop insurance premiums by as much as 20-24%.

Which states will qualify in 2008? - The BYE will be implemented as a pilot program in MN, IA, IL and IN.

Which types of insurance policies qualify? - An Actual Production History, Crop Revenue Coverage, or Revenue Assurance plan of insurance that provides coverage for non-irrigated corn for grain qualifies for BYE.

How do I sign up? - The BYE premium rate reduction is applied at the unit level. Growers who plant at least 75% of the insured acres within each insured unit to non-irrigated corn for grain qualifying hybrids that contain YieldGard VT Triple and/ or YieldGard Plus with Roundup Ready Corn 2 are approved to participate in the BYE. In addition refuge requirements must be respected.

Which insurance companies will offer BYE? - All approved insurance providers (AIP) and their representing agents. ([Ceres Solutions Crop Insurance will offer BYE](#)).

Which Products are approved for the BYE? - All hybrids containing YieldGardPlus with Roundup Ready Corn 2 or YieldGard VT Triple technology will qualify. These hybrids are available from over 250 companies. (At this time, Herculex/ or Herculex XTRA hybrids do not qualify).

What do I plant? To be eligible for the program, a farmer must plant at least 75% of their insured acres within each insured unit to non-irrigated corn for grain qualifying hybrids that contain YieldGard VT Triple and or YieldGard Plus with Roundup Ready Corn 2.

How much is the discount? - While there are a number of variables that are grower-specific, the average total cost of a premium will be reduced by approximately 14% on the revenue assurance policies, such as APH, CRC and RA.

No-Till Corner

The following no-till tips are from "NoTill Farmer" Magazine.

Make Sure You Have Good Seed to Soil Contact—Research shows that the earlier you no-till corn, the more likely you are to achieve maximum yields. But you'd better achieve good seed-to-soil contact if you want any chance at hitting those high yields.

Purdue University agronomist Bob Nielsen says the consequences of uneven seed-to-soil contact, particularly in high-residue situations, are uneven germination and emergence. That means plants with delayed development are unable to compete with neighboring corn plants that emerged earlier, with yield losses of at least 10% not that uncommon.

Excessively wet soils may not allow press wheels to completely close the seed furrow. No-till planter coulters may not slice cleanly through surface trash, resulting in hairpinning of residue in the seed furrow.

Nielsen says you should increase down pressure on the press wheels, if necessary, to close the furrows or delay planting until the soil surface dries to a more optimum level. Increasing down pressure on coulters will allow them to better slice through residue. You can also adjust trash whippers so they more aggressively clear residue from the row area.

No-Till Acres Up in Indiana—Both no-till corn and soybeans acres have increased in Indiana within the past several years, the 2007 Indiana Cropland Tillage Transect Survey shows.

Final results indicate that no-till corn jumped from 19% in 2004 to 27% in 2007. No-till soybeans went from 61% in 2004 to 69% in 2007. Estimated soil loss reduction on Indiana cropland as a result of these no-

till increases amounts to more than 1 million tons annually.

No-till revolutionized the industry of agricultural production during the 1990's. Less than 10% of all cropland was managed in a no-till system in 1990.

In this survey, conservation tillage is defined as any tillage system leaving 30 percent or more crop residue cover on the soil surface after planting. No-till is without question the most effective conservation practice for reducing soil erosion and improving water quality. The crop residue cover and infiltration rates associated with no-till maximize the volume reduction of agricultural runoff and contaminants associated with sediment loss, when compared to other conservation-tillage systems.

Better Manage Your Fertilizer with Soil Tests—With fertilizer prices continuing their upward trend, a soil test is the best tool available to farmers to help them manage their crops while leaving more money in their pockets. According to a U.S. Department of Agriculture Economic Research Service report, less than 40% of the corn acreage in the United States was soil tested in 2000 (most recent data available) to make fertilizer management decisions. Robert Mullen, an Ohio State University soil fertility specialist, speculates that number has increased, but those growers not utilizing soil testing are missing out on a huge money-saving opportunity.

That value is the ability to measure the level of nutrients in the soil, such as soil pH, nitrogen, potassium and phosphorus, and from those numbers, make a more informed decision in fertilizer application that's good for the crops, as well as a farmer's budget.

Private Applicator Recertification Programs

Feb 20—Holiday Inn Select, Lafayette IN—4-7:00 p.m. EST Weed Management in Roundup Ready Crops, Weed Resistance Issues; Regulatory Roundup. Call Jeff Phillips at 765-474-0793 or Jim Luzar 765-364-6363 for details

Feb 22—Ceres Solutions, Lafayette Elevator—9:00 a.m.-noon EST. Weed Management in Roundup Ready Corn and Soybeans, Fungicide Seed Treatments; Soybean Diseases; Fungicide Use in Row Crops. Call Jeff Phillips at 765-474-0793 for details.

Feb 25—Roselawn American Legion, Roselawn IN— 9:00 a.m. CST Weed Resistance Management; Weed Management in Roundup Ready Corn and Soybeans; Fungicide Seed Treatments; Soybean

Diseases and Fungicide Use; Clean Sweep-Pesticide Disposal. Call Bryan Overstreet 219-866-5741 for details.

March 7—Southwest IN Melon and Vegetable Growers Meeting o Quality Inn, Vincennes IN—PARP 1:00 p.m. EST. Growers meeting 8:30 a.m. Pesticide Research Update, Polytank Breaking, Clean Sweep Pesticide Disposal. Call Stayce Johnson 812-882-3509 for details.

March 10—PARP—Jasper Co Fairgrounds, Rensselaer, IN 6:30 p.m. CST—Insect Pondering for 2008, Look at WCRW, Bean Cut-worms; Soybean Aphids; Soybean Cyst Changes toward SCN and Resistance; Clean Sweep Pesticide Disposal. Call Bryan Overstreet 210-866-5741 for details.

So Can We Get another 10 bu/A of Corn on >200 bu/A Corn?

By Anne Dorrance and Jim Beuerleing, Ohio State University—High quality soybean seed is critical for getting the crop off to a good start. Much of the seed supply in the eastern Midwest has lower than normal quality due to a stressful growing season and being harvested at low moisture. Physical damage caused by harvest and handling is causing low vigor and more abnormal growth in germination test than normal.

For most areas of the state, the seed will need a fungicide treatment to protect it from disease causing fungi. Studies have shown that when soil conditions favor early season seed rot, the seed treatments provide substantial protection and can increase yields.

Fields where treatment will bring good returns are those with a previous history of stand problems, are poorly drained, are under no-till production or in continuous soybeans. All of these factors favor soil borne diseases and the longer these fields take to drain the more time the pathogens have to infect young seedlings.

Seed treatment is also needed for protection from seed borne diseases such as Phomopsis. Fortunately for soybeans, Phomopsis is

the primary fungus that is seed borne and Maxim is highly effective against this fungus.

Tips for handling soybeans during treatment (from Monsanto):

- Minimize mechanical damage by using equipment such as conveyors to elevate seed, and let down devices to slow the fall of seed into bins, trucks, and wagons.
- Handle bagged seed with additional care. Limit drops to 1 foot or less.
- Replace worn augers and operate augers near capacity and lower speeds
- Limit the water content in the slurry mix while treating seed.

Our Ceres Solutions Team will do their utmost to handle your seed carefully during treatment. Please call you local Ceres Solutions Professional to set up a time to get seed treated. Seed treatments are a valuable tool to help protect the seed from disease in our often cool ,wet soils during planting. With the price of seed and the value of this commodity using seed treatments are a good investment.

So Can We Get another 10 bu/A on >200 bu/A Corn?

Most growers would be happy with 200 bu/A corn, especially a whole farm average. Can we do better than, 200 or 220, or 240 bu/A corn? We probably can. How?

We need to ensure we have the optimal plant nutrition at the right time and the right place; we need to plant timely into a good seed bed and do our best to ensure that our crops emerge and establish at the same time; and we need to control our pests such as weeds, insects and diseases before they get the opportunity to reduce yield. Then we need to need to revisit the use of micronutrients, both soil and foliar applied. Micronutrients when applied at the right time can have a very positive impact on yield upwards of 10 bu/A.

Many of you may be saying, I've tried using foliar applied micronutrient products in the past. Sometimes they seemed to work and some times I didn't really see the yield increase promised.

So, what is different about this time around? This time around we would like to be sure the plant needs the micronutrient. We want the plant to tell us if it needs the micronutrient or not. We plan to do this with tissue testing.

Ceres Solutions Nutrient Profile Project—Ceres Solutions is looking for customer volunteers to participate in this unique program and

all you need to do is volunteer a field a two. Ceres Solutions will do the rest.

We need about 30 corn fields and 30 soybean fields from the north to the south in the Ceres Solutions territory. We have obtained funding to for the analysis of 3 tissue tests through out the growing season and 1 complete soil test for each of these fields at no cost to you. We will be taking the tissue tests at the proper time and be sharing the results with you. The tissue tests will reveal if we have adequate amounts of our macro nutrients like N, P, K, Mg and S, but also many of our micronutrients like, zinc, manganese, boron, iron and copper in the plant. At the end of this study we should have a better understanding of how are soils are releasing nutrients to crop plants. As a bonus during this study if a micronutrient is limiting you will get a recommendation for a product, how and when to apply.

So how do you get involved? Just contact your local Ceres Solutions Professional and indicate you would like to volunteer a couple of fields for the Ceres Solutions Nutrient Profile Project mentioned in the newsletter. He or she will discuss which fields would be good candidates. Also as part of this project will be conducting a brief field summary and will need information like hybrid or variety planted, planting date, rotation, tillage type, current fertility program and timing, etc.

Just Stuff

Soybean Rust Update—United States Soybean Rust Commentary (updated: 02/14/08) There have been no new reports of soybean rust in the U.S. since January. However, researchers recently found active sporulation of the pathogen on kudzu in the panhandle of Florida and in Mobile, Alabama. Infected kudzu sites in south Florida are still producing spores as well.

Soybean rust monitoring will continue on kudzu throughout the winter months in the southern states.

Clean Sweep Program—The Office of the Indiana State Chemist is interested in helping you dispose of and suspended, cancelled, banned, unusable, opened, unopened, or just unwanted pesticides (herbicides, insecticides, rodenticides, fungicides, miticides, etc. The disposal service is free of charge up to 250 pounds per participant. Over 250 pounds there will be a \$2 per pound charge. Please contact

Kevin Neal at the Indiana Office of the State Chemist at nealk@purdue.edu or 765-494-4331 for more details. Typically there are disposal sites and times later in the year. Kevin will be able to provide more detail.

Sensitive Sites Website—New from the Indiana Office of the State Chemist is a Sensitive Sites Registry. The registry is to be used by specialty crop growers, fruit and vegetable growers, wine grape growers, nurseries, etc. to register the locations of their sensitive areas. The goal of this project is to have a repository of field locations so that other various industries making pesticide applications can take necessary precautions regarding timing, additives, etc so as not to drift. The Sensitive Sites Website should be up and running around mid-March. Go to the Office of the Indiana State Chemist website at www.isco.purdue.edu for call the Indiana State Chemist office at 765-494-1492 for more details.

Grain Update

USDA Summary—July 12, 2007

Estimates in Million Bushels

Corn	Feb USDA—07/08	Jan USDA—07/08
Carry-in	1304	1304
Production	13,074	13,074
Total Supply	14,393	14,393
Feed and Residual	5950	5,950
Ethanol	3,200	3,200
Exports	2,450	2,450
Total Use	12,955-	12,955
Carry-out	1,438	1438

Soybeans	Feb USDA—07/08	Jan USDA—07/08
Carry-in	574	574
Production	2,585	2,585
Total Supply	3,165	3,165
Crush	1,830	1,835
Exports	1,005	995
Seed	86	86
Residual	79	77
Total Use	3,005	2,990
Carry-out	165	175

Wheat	Feb USDA—07/08	Jan USDA—07/08
Carry-in	456	456
Production	2,067	2,067
Total Supply	2,613	2,613
Food	945	945
Seed	86	86
Feed & Resid	115	110
Exports	1,146	1,200
Total Use	2,321	2,341
Carry-out	292	237

Delivery, Basis and Cash Bids for Ceres Solutions Elevators as of Friday Feb 15th.

Pleasant Ridge # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.24	4.87
	Mar 08	-0.20	4.91
	Apr 08	-0.25	4.98
	Fall 08	-0.44	4.88
	Jan 09	-0.35	5.05
Soybeans	Feb 08	-0.58	13.10
	Mar 08	-0.56	13.12
	Fall 08	-0.64	12.42
	Jan 09	-0.55	12.52
Wheat	July 08	-0.90	8.51
Kersey # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.32	4.79
	Mar 08	-0.27	4.84
	Apr 08	-0.35	4.88
	Fall 08	-0.51	4.81
	Jan 09	-0.41	4.99
Soybeans	Feb 08	-0.65	13.03
	Mar 08	-0.63	13.05
	Fall 08	-0.73	12.33
	Jan 09	-0.65	12.42
Wheat	July 08	-1.00	8.41
Roselawn # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.32	4.79
	Mar 08	-0.27	4.84
	Apr 08	-0.35	4.88
	Fall 08	-0.51	4.81
	Jan 09	-0.41	4.99
Soybeans	Feb 08	-0.65	13.03
	Mar 08	-0.63	13.05
	Fall 08	-0.73	12.33
	Jan 09	-0.65	12.42
Wheat	July 08	-1.00	8.41
Teft # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.32	4.79
	Mar 08	-0.27	4.84
	Apr 08	-0.35	4.88
	Fall 08	-0.51	4.81
	Jan 09	-0.41	4.99
Soybeans	Feb 08	-0.65	13.03
	Mar 08	-0.63	13.05
	Fall 08	-0.73	12.33
	Jan 09	-0.65	12.42
Wheat	July 08	-1.00	8.41
Ade # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.32	4.79
	Mar 08	-0.27	4.84
	Apr 08	-0.35	4.88

	Fall 08	-0.51	4.81
	Jan 09	-0.41	4.99
Soybeans	Feb 08	-0.65	13.03
	Mar 08	-0.63	13.05
	Fall 08	-0.73	12.33
	Jan 09	-0.65	12.42
Wheat	July 08	-1.00	8.41
Cherry & Whitesville # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.21	4.90
	Mar 08	-0.19	4.92
	Fall 08	-0.47	4.85
Soybeans	Feb 08	-0.63	13.05
	Mar 08	-0.56	13.12
	Fall 08	-0.81	12.24
Wheat	07/031/08	-1.06	8.35
Wingate # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.33	4.78
	Mar 08	-0.31	4.80
	Fall 08	-0.50	4.82
Soybeans	Feb 08	-0.66	13.02
	Mar 08	-0.59	13.09
	Fall 08	-0.83	12.22
Browns Valley # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.36	4.75
	Mar 08	-0.36	4.75
	Fall 08	-0.54	4.78
Soybeans	Feb 08	-0.70	12.35
	Mar 08	-0.62	13.06
	Fall 08	-0.90	12.15
	Jan 09	-0.66	12.41
Brazil # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.33	4.78
	Mar 08	-0.28	4.83
	Apr 08	-0.35	4.88
	May 08	-0.35	4.88
	July 08	-0.35	4.98
	Fall 08	-0.58	4.74
	Jan 09	-0.48	4.92
Soybeans	Feb 08	-0.72	12.96
	Mar 08	-0.67	13.01
	April 08	-0.96	13.01
	May 08	-0.75	13.11
	Fall 08	-0.80	12.96
	Jan 09	-0.53	12.54
Wheat	Jun 08	-1.45	7.96
	July 08	-1.45	7.96
Clay City # 2 Yellow Corn	Delivery	Basis	Cash
	Feb 08	-0.30	4.81
	Mar 08	-0.26	4.85
	Apr 08	-0.33	4.90
	May 08	-0.33	4.90
	Jun 08	-0.29	5.04
	Fall 08	-0.58	4.74
	Jan 09	-0.42	4.98
Soybeans	Feb 08	-0.72	12.96
	Mar 08	-0.65	13.03
	April 08	-0.65	13.21
	May 08	-0.65	13.21
	Jun 08	-0.55	13.40
	Fall 08	-0.80	12.26
	Jan 09	-0.54	12.53
Wheat	Jun 08	-1.45	7.96
	July 08	-1.45	7.96

Winter Wheat cont.

jagged chickweed, chickweed, common chickweed and henbit. In the next 2 weeks it would be a great time to scout you wheat fields for weeds. For those fields with significant weed pressure it will be important to apply weed control as soon as weeds and wheat are actively growing. If wild garlic is also a problem you will want to wait until the garlic has about 2" of new spring growth. Harmony Extra has been the standard for control

We can also see aphids in the spring. Remember aphids can vector the disease barley yellow dwarf; and fall infections are more damaging to yield than spring infections. University of Kentucky indicates that control should be considered when aphid threshold reaches 10 aphids per foot of row in early spring.

There was no disease present in these two fields. With the lush growth this past fall a disease we will need to watch for powdery mildew early this spring early this spring. University of Kentucky indicates thresholds are 10 pustules per fully expanded wheat leaf from early stem erection to first node.

If necessary your weed control can be mixed with both the insecticide (if using Harmony Extra only use pyrethroid insecticides) and the fungicide.