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Supplemental Fertilizer Nitrogen Worksheet

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Nitrogen (N) fertilizer management is a major component in crop production. Most corn producers apply the recommended rates of N fertilizers before the corn is planted with the assumption that N losses will be insignificant and crop N uptake requirements will be met. In most years, however, conditions for N loss occur in late May and June. These conditions are characterized by significant rainfall, which leads to saturated soils. Saturated soils are often an indicator for N losses due to denitrification and/or leaching in the late spring.



Soil N tests have been developed to ascertain if there is significant N loss and/or if N is sufficient in corn fields during this late May and June time period. While soil N tests are available for use each year, most agricultural professionals do not use the test due to the amount of time and effort involved with the soil sampling and analysis process. The urgency for quick decisions also is important because the potential window for applying additional fertilizer, if recommended, is small. The authors developed a decision aid worksheet in 1993 in response to the hesitancy producers showed in taking soil and plant samples to make supplemental fertilizer decisions. The worksheet was based on both expert and heuristic models in making a recommendation. It was determined that in order to be effective, this decision aid tool needed to be based on scientific principle and research, require little effort and time on behalf of the user, and be simple and intuitive.

The worksheet uses three simple questions, with multiple-choice answers, to arrive at a recommendation. The worksheet provides an advantage to users by eliminating the time and effort of collecting soil samples and the subsequent cost (and time) of analyzing those samples. Each of the questions and the multiple-choice answers is written in non-scientific language making them easy to understand.

The first question is used to indicate how much nitrate-N could be available for loss if conditions are favorable in late May and throughout June. The second question then indicates the likelihood of actual losses as these are a function of soil moisture at this time of year. Finally, in question three, the corn plant is evaluated for its N status.

Each of the questions asked in the worksheet acts as qualitative surrogates for quantitative information that could be measured with soil and plant sampling and analyses. However, the simplicity and convenience of the worksheet make it an accepted alternative by users.

Cont. pg. 2

The Worksheet

This simple worksheet (Figure 1) helps people decide if supplemental, or extra, N

fertilizer is needed. This decision aid is for the situation where all of the fertilizer N was applied preplant, either in the fall or the spring. It is not for determining N rates in a

split N program. Keep in mind that good judgment is still important in using this decision aid. The worksheet should be used in June.

Figure 1. University of Minnesota Supplemental Nitrogen Worksheet for Corn	
	Points
Question 1. When was the fertilizer N applied?	
a) In the fall, with soil temperatures above 50F, 4 in. deep	5
b) In the fall, with soil temperatures below 50F, 4 in. deep	4
c) In the fall, with soil temperatures above 50F, 4 in. deep, with N-Serve	4
d) In the fall, with soil temperatures below 50F, 4 in. deep, with N-Serve	3
e) In early spring (end of March or in April)	3
f) In May	2
Question 2. What was the predominant May soil moisture condition?	
a) Normal or dryer than normal	1
b) Wetter than normal	3
c) There was/is standing water in the fields	4
Question 3. How does the corn look today?	
a) Taller than 15 inches and chlorotic	5
b) Shorter than 15 inches and chlorotic	3
c) Shorter than 15 inches and green	2
d) Taller than 15 inches and green	1
Total Points for this Field	—

With a cumulative score of seven points or less, the current fertilizer N program is fine. With a score of 10 or more, supplemental fertilizer N is recommended at a rate

between 40 and 70 lbs N/acre. A score of eight or nine falls into a questionable zone, and it is recommended that you recalculate the worksheet in a few days because the

corn height and/or color will likely change. The re-evaluation option is only viable as long as there are sidedress N options available.

Guidance on handling poor quality small grains

USDA - Risk Management Agency

If you have poor quality grain, in order to protect your rights under your crop insurance policy, it is imperative that you always report any damage in the required timeframes and seek advice from your insurance company (through your insurance agent) before proceeding with harvesting or destruction of the damaged crop. Failure to do so may jeopardize your claim. Crop insurance policies require that farmers notify their company within 72 hours of noticing a loss. It is important that farmers be proactive in checking their fields to determine if there is any damage to the crop before harvest.

Quality adjustments are available for loss in value for conditions such as low test weight, damaged kernels, and shrunken or broken kernels. Discounts made for crop insurance loss purposes may not be the same as those seen at the elevator. For example, quality discounts begin when the test weight is less than 51 pounds, defects are above 15 percent or grade is U.S. No. 5 or worse. RMA discount factors for wheat are constructed by compiling and using loan discount data from the Farm Service Agency and national average loan rates for the past 10 years. These discount factors remain uniform between the Actual Production History and Revenue Plans of insurance throughout all counties in Delaware, Maryland, North Carolina, New Jersey, New York, Pennsylvania, Virginia and West Virginia.

Quality adjustments are based on samples obtained by the adjuster or other disinterested parties authorized by the insurance provider such as an elevator employee (per 2013 Loss Adjust Manual (LAM) Par. 96 B for grading/analyzing, page 265 and Par.102, K, page 306 for mycotoxins). Harvested and delivered



production samples taken from each conveyance and then blended may be accepted under certain conditions. It is very important that producers work with their insurance provider if they believe they have quality losses.

Summary:

If you have poor quality grain contact your insurance agent before harvesting and while evidence is still intact in the field, file notice of damage and request an inspection by a loss adjuster. As you complete harvesting any units with damaged grain or low production, notice of loss must again to be filed promptly by unit with the insurance agent.

If you must harvest and deliver grain to an elevator before the damage is evaluated by an adjuster, ask your agent to obtain authority from the insurance company for the elevator to take a representative sample from each load.

The following process should be followed when your insurance company has

agreed to allow the elevator to pull representative samples. When you arrive at the elevator, you will need to let the elevator know whether samples for quality determinations should be taken for non-mycotoxins, mycotoxins, or both.

1. The elevator should take a representative sample from each load and label it with your name, load number, name of farm and field number/name so that the insurance unit of origin can be determined from which the grain was harvested. This sample should be in addition to the quality determinations that the elevator makes for the purchase or storage of the grain.
2. The elevator should maintain the sample until an adjuster makes arrangements to pick up the sample(s) to make further determinations necessary to adjust your loss. Note: the sample(s) must stay in the possession of the elevator until they are picked up by the adjuster.

Crop Reports

Central

Weather has been very changeable this reporting period. Some areas have received as much as eight inches of rain. Strong storms on June 13 brought weak tornadoes, hail and straight line winds, causing damage to crops, buildings, and property. Barley harvest is underway, but forage harvest has been slowed due to frequent storms. Strawberries are struggling in the extremely wet conditions.

Northeast

Recent afternoons of heavy thunderstorms have slowed the days for field work. Full season bean planting is done and stands look good. Most wheat has turned and appears to be a fairly good crop. Corn planting is just about complete and the crop is growing fast. First cutting of hay is complete.

Southern

Much needed rain fell across the entire region over the last 2 weeks. Some areas have received too much rain, however most areas needed the moisture. Crops on wetter soils are uneven, and there is some flooding and crop damage. Corn stands have responded well to increased moisture, and are in good to excellent condition. The earliest planted corn will begin to tassel in the next 2 weeks. Soybeans have also

responded well to the rain. There are some uneven stands due to the dry period during planting 2-3 weeks ago and slugs continue to be a problem in some fields, but overall crops look good. Barley harvest was delayed due to the rain. Test weight has been low for barley. Most barley is now in, and the fields not yet harvested have lodged, so harvest is slow. Wheat is ready to be harvested, but the wet conditions are slowing progress.

Upper Eastern Shore

The entire region is wet as of June 17th and some areas will still be wet July 17th!! There are large areas of some fields in the Mid Shore area that still have standing water. And even if there is not standing water, there are large areas of saturated soils with little to no oxygen, which is injuring/killing corn and beans. There is still time to replant beans, but corn in many of those spots will be a complete loss. Corn and beans on sandy or well drained areas are growing well. Many of the pre plant herbicides are failing and new flushes of weeds are emerging. There is some slug damage to small beans in heavy no-till cover; a result of the wet cloudy days. Barley harvest should already be finished and will be once the ground and air dry. Wheat harvest is beginning in the southern

part of the region. At least there is moisture to get double crop beans up.

Lower Eastern Shore

Barley and wheat harvest has begun. However, farmers are busy drying their harvested small grains due to high moisture levels. Barley fields have more lodging than wheat in the Lower Shore area. On average, the region has received over 15 inches of rain in last 15 days which ended this past Friday. The rain has also brought a lot of powdery mildew in grapes and pythium in snapbeans. Corn is suffering from saturated soils and yellowing is evident in many fields. Because of extremely wet conditions soybean planting is on hold. The heavy downpours have washed away any remaining herbicide barrier in the soil. Grasses and broadleaf weeds are emerging in the fields.

Timeline: This crop report is for the field observations from June 11 through June 21, 2013. Crop Report Regions: Western (Garrett, Allegany and Washington), Central (Carroll, Frederick, Howard, Montgomery), Northeast (Cecil, Harford, Baltimore), Southern (Anne Arundel, Prince George's, Calvert, Charles, St. Mary's), Upper Eastern Shore (Kent, Queen Anne's, Talbot, Caroline), Lower Eastern Shore (Dorchester, Wicomico, Worcester, Somerset).

Agriculture Weather Report

Adam Caskey, Meteorologist



Moisture has been plentiful for most of Maryland over the past several weeks, and for some brief instances too much of a good thing. At BWI-Marshall Airport and Salisbury, precipitation is over 4 inches above average so far this month of June. The outlook for the final week of June and first week of July favors increased chances of above average precipitation, so it looks like this trend will continue. Forecasted frontal

passages and brief dips in our upper-level flow favor the continuation of this pattern.

In terms of temperatures, a subtropical ridge should take shape for the last week of June. This suggests increased chances of above average temperatures, and I think afternoon highs will mostly be near 90° for that time period. This, along with increased humidity, favors random afternoon showers thus con-

tributing to the expectation of above average precipitation. The temperature outlook for the first week of July is less certain, but favors near to above average temperatures. Climatology would favor that too, but I think Maryland has a good shot at a brief break from the heat at some point as guidance points toward our upper-level flow shifting for a few days during the first week of July.

Announcements

UMD Farm Manager Job opening

University of Maryland Agricultural Experiment Station, Southern Maryland Research Facility in Upper Marlboro has an opening for Farm Manager (Position #: 103040). The incumbent will coordinate and plan daily activities of research farm personnel so that all research and education requests and assignments are completed in an organized and timely manner. This individual will work directly with scientists and/or their staffs to implement projects using appropriate crop management and experimental design skills. A minimum of a B.S. degree from an accredited institution is required to be considered.

Interested persons should submit their application via the University of Maryland website <https://ejobs.umd.edu/>. Required are a cover letter, resume, unofficial transcripts, and names of three professional references, including names, mailing addresses, telephone numbers and email addresses which all can be submitted electronically no later than July 10, 2013.

2013 Pesticide Container Recycling Program from MDA

Maryland Department of Agriculture's Pesticide Container Recycling Program will be accepting



clean, empty containers from June 4 through September 27, during normal business hours. Containers will be collected from their current owners, for safe disposal and recycling.

Containers must be cleaned (triple-rinsed or pressure-rinsed) according to label directions. Please remember to remove lids and label booklets from the containers prior to drop-off.

Call 410- 841-5710 for more details and drop-off instructions. Collection dates and venues can be found at this link, <http://mda.maryland.gov/plants-pests/Documents/recycle.pdf>

Upcoming Events

Potato Field day Twilight Meeting on July 10th



University of Maryland Extension will conduct a Potato Field Day Twilight Meeting on Wednesday, July 10th from 4 - 7 pm. The event will take place at the field between the intersections of Porter Mill Rd and Memory Gardens Lane near Hebron, Maryland and just off Route 50 as it approaches Salisbury. Signs will be posted on adjoining roads.

Anyone who is growing potatoes or interested in growing potatoes should attend this meeting. Participants will get to see new varieties, agronomic practices for optimizing yield and quality, Colorado potato beetle and other potato insects, and disease management for potato production in Maryland and Delmarva Peninsula.

Register by July 5th. Contact Rhonda Barnhart at 410-228-8800 or rbarnhar@umd.edu for registration, details and directions.

Maryland Commodity Classic, July 25, 2013

Mark your calendars and plan to attend the 14th annual Maryland Commodity Classic on July 25 at the Queen Anne's County 4-H Park. This all day event is sponsored by the Maryland Grain Producers Association, the Maryland Soybean Board, and the Mid-Atlantic Soybean Association. The program will begin at 10:00 am at the Queen Anne's County 4-H Park with an educational program that will highlight some grant recipients who will speak on pest management issues. Attending this educational program will allow attendees to receive Private Pesticide Applicator's recertification credit. Lunch and informational displays will be set up at 11 a.m. The business meeting begins at 1:00 p.m., followed by speakers highlighted by keynote speaker, Dr. Jay Lehr. The event

concludes with the famed Crab Feast, Pork and Chicken Barbecue. Entry prior to 2:30 p.m. is \$10, and after 2:30 p.m. the entry fee is \$20, there is no entry after 3:30 p.m.

For ticket information regarding the Commodity Classic, contact the MGPA office at 410-956-5771. Maryland Grain Producers Association members receive a free ticket; call for membership information.

Fall Soil Nitrate Testing Workshop, July 26, 2013

The University of Maryland Extension (UME) Agricultural Nutrient Management Program will offer a workshop on fall soil nitrate testing (FSNT) on July 26, 2013 from 9:30 a.m. to 11:30 a.m. at the University of Maryland Wye Research and Education Center, Queenstown, Maryland.

Certified Nutrient Management Consultants or Certified Farm Operators will receive 2 hours of continuing education credits towards their nutrient management certification.

Pre-registration for the fall soil nitrate testing workshop is required to ensure there is enough equipment available for all participants. Contact Paul Shipley to register (prs@umd.edu or 301-405-2563).

Cut Flower Tour August 6, 2013

University of Maryland Extension will be organizing a Cut Flower Farm Tour on Tuesday August 6th from 8.00am to 4.00 pm. The event will begin at the Long Season Statice Farm at Salisbury and will end at

Seaberry Farm, near Federalsburg, MD. During the tour, University of Maryland Extension Specialists will cover major disease, insect and weed identification and control of some the major cut flower crops seen on the tour. For more information on the program: 301-596-9413

Horticulture Crops Twilight Meeting, Wednesday August 21st

The 2013 Horticulture Crops Twilight Meeting will be held Wednesday, August

21st, from 5:00-8:00 PM, at Western Maryland Research & Education Center, 18330 Keedysville Road, Keedysville, MD 21756

Learn the latest on the Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on vegetables and fruit, apple seedling evaluations, mobile and stationery high tunnels. Registration is not required, but will help us to plan for handouts and refreshments. Please RSVP to 410-386-2760/888-326-9645 or e-mail mabbott@umd.edu



Did You Know

American corn farmers grow 36% of world corn exports.

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If you would like to receive this newsletter via email please contact Rhonda Barnhart at rbarnhar@umd.edu. The subject line should be: Subscribe Agronomy News 2013.

If you would like a hard copy please contact your local county extension office to sign-up for the mailing list. The list of local county offices can be found at www.extension.umd.edu.

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