

## 2011 Field Corn Nitrogen Testing Program Fact Sheet

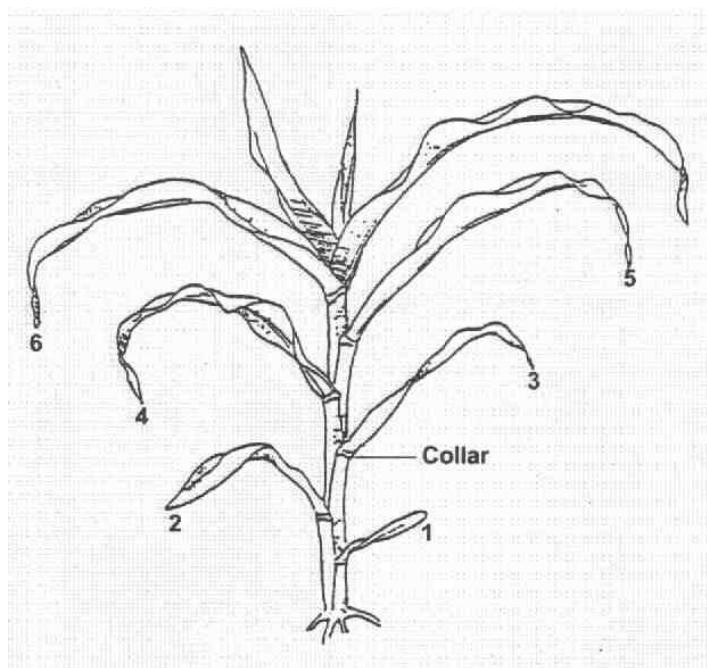
The Snyder County Conservation District thanks you for your interest in the Field Corn Nitrogen Testing Program through the Chesapeake Bay Special Project's Funding Program.

The Conservation District will visit your farm and test your corn fields to determine whether additional nitrogen (N) will be needed. The Conservation District has purchased a chlorophyll meter that clamps on a corn leaf. This meter measures the amount of chlorophyll that is in the corn leaf. Generally, the less stress a corn plant experiences, the more likely a corn plant's leaf will contain more chlorophyll.

### When should I call for the chlorophyll meter test?

When you call, the corn fields should be between the V6 and V8 stage. (Accurate tests are not possible if taken before corn plants reach the V6 stage.) Normally, this will occur when the corn plants are between 10 – 20 inches tall. However, height does not accurately determine leaf stage. Corn is at the V6 stage when the sixth leaf from the bottom has a collar at the stalk. There will be more leaves above it, but the sixth corn leaf will have a collar. Below is a picture showing a corn plant at the V6 stage.

Figure 1: Corn Plant at V6 Stage



In many corn fields, the first leaf (which is more round than the others) will have dropped off. Sometimes, it is hard to determine whether the bottom leaf is really the first or second leaf.

After the Conservation District technician gathers enough readings from the chlorophyll meter in each field, the readings are converted into nitrogen sidedress recommendations. How those readings are converted to nitrogen sidedress recommendations depends on crop history and prior nutrient application.

How does field history affect my test results & nitrogen recommendations?

If a corn field falls within the “High Organic” category on the Nitrogen Input table below, nitrogen sidedress recommendations are relatively simple. If not, the Conservation District technician will need additional information from the farmer for more accurate results.

Table 1: Nitrogen Input Table: Based on Prior Crop and/or Nutrient Application History

N Input Category	High Organic	Moderate Organic	Low Organic
Individual Field Description	Applied manure on field after 2010 crop was harvested.	Last applied manure on field before 2010 crop was planted.	No manure was applied for at least 2 years.
	The field had a legume forage crop (alfalfa, alfalfa/grass, clover) in 2010.	The field was in alfalfa in 2009, but raised a different crop in 2010.	The field was in alfalfa in 2008, but raised different crops since that time.
	Warning: Field not considered “High Organic” if it received: <ul style="list-style-type: none"> <li>• More than 15 lb. N/acre in starter fertilizer</li> <li>• Any N fertilizer with herbicide</li> <li>• Broadcast pre-plant N fertilizer</li> <li>• At-Plant fertilizer</li> </ul>	The field was in soybeans in 2010.	The field was in soybeans in 2009, but raised a different crop in 2010.
			Any other fields not described on chart.

If any fields do not fall within the “High Organic” N input category, the Conservation District Technician will need some additional information (#1 and #2) and hopefully some assistance from you (#3).

1. What is your yield goal (realistically) in bushels/acre?
2. Did the field receive any manure since the 2010 crop was harvested?
3. Plant a “reference plot” where **additional N fertilizer or no N fertilizer** was applied to the corn field. This will allow the Conservation District Technician to compare the “reference plot” with the rest of the corn field with the chlorophyll meter for more accurate results.

The Conservation District cannot force you to follow recommendation #3 above if you have a field that is not determined to be “High Organic.” However, realize that the Conservation District’s N sidedress recommendations will be less accurate.

**Note: Any field that receives more than 15 lb./acre of N from starter fertilizer cannot be accurately tested with this method.**

There may be a situation in which the Conservation District will have to retest the same fields. If that occurs, you will not be charged any additional expenses to cover the test. Your one-time \$10.00 fee will cover this extra test.

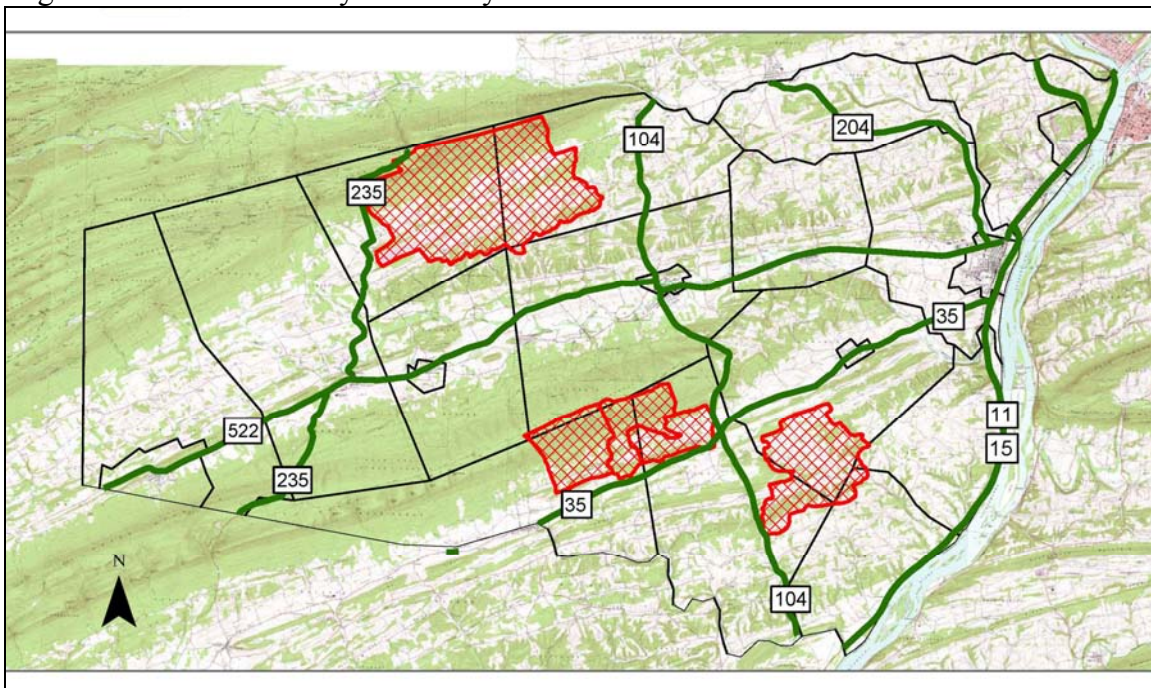
Is there anything else that I should know?

The Conservation District has limited the program to 100 acres per operator. We had interest in this program in prior years. Due to the fact that interested farmers need the information in a short span of time, the Conservation District will try to get to all interested corn fields. (If no fields are tested, your \$10.00 fee will be refunded.)

Therefore, if a large number of requests come in at once, the Conservation District will try to prioritize corn fields based on its location within (as shown below):

- A.) Ag. Impaired Watersheds due to nutrients or organic enrichment, but not from grazing.
- B.) 150 feet from a stream or waterbody with a defined bank.
- C.) Outside areas listed above.

Figure 2: Agricultural Impaired Watersheds (not from grazing) due to Nutrients or to Organic Enrichment in Snyder County.



Note: Farmers who have not had any corn fields tested or have applied manure may be given higher priority over farmers with some corn fields already tested or fields that did not receive manure.

The Conservation District may ask you questions after the crops are harvested. For example, if the chlorophyll meter test results recommended no additional N, did you still reach your yield goal? Information collected will only be used to determine the program's effectiveness and possible improvement. Individual results will not be distributed. Also, this information will be used to see how the Conservation District can improve the program if it offered in 2012.

Again, the Conservation District thanks you for your interest in this program to help your financial resources, but also our water resources. (5/2011)

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#### Acknowledgements

*Editor's Note: Much of this information was taken from the following publications:*

- *Chlorophyll Meter SPAD-502 Instruction Manual, Spectrum Technologies, Inc.*
- *Agronomy Facts 53: The Early-Season Chlorophyll Meter Test for Corn, Penn State College of Agricultural Sciences*
- *A New Test Procedure for Using Corn Leaf Chlorophyll Meter Readings to Predict the Need for Sidedress Nitrogen Fertilizer, Douglas B. Beegle, Ph.D. and William Piekielek, Penn State Department of Crop & Soils Sciences.*

