



## A Tool to Estimate the Where, What, and How Much

**N-WATCH** is a management tool designed for N Management Systems to inventory, track, and verify plant-available N in the soil. N Management Systems hedge the risk of N loss by splitting up the N application following the 4Rs of Nutrient Management (Right source, Right rate, Right time, and Right place). It is all about **M**inimizing environmental impact by **O**ptimizing harvest yield, and **M**aximizing nutrient utilization. It is all about focusing on **M.O.M.**

**Who is eligible:** Ag Producers that are adopting N Management Systems

### How to participate:

- ✓ Register with a participating local Ag retailer or the Illinois Council for Best Management Practices (309-827-2774 or [leslief@ifca.com](mailto:leslief@ifca.com)).
- ✓ Collect samples according to provided protocol
- ✓ **Completely** fill-out each submittal form (ex. attached)
- ✓ Test Results – Emailed two business days upon receipt of samples
- ✓ Tracking Report – E-mailed two business days of receiving results

### What is needed to register:

- a. *UPS shipping address* – Your name and shipping address will be used to send you the shipping boxes, pre-paid shipping labels, sample bags, and submittal forms you will need to participate in the program.
- b. *Number of N-WATCH sites requested* – Each customer can request up to two N-WATCH sites. If special circumstances exist and more sites are needed, visit with your local crop specialist to request an exemption.
- c. *Whether or not you need a soil probe and template. See images for probe choices. Soil probes are not provided. They can be ordered through IL-CBMP ([leslief@ifca.com](mailto:leslief@ifca.com) or 309-827-2774).*
- d. *Your commitment to finish what is started*

**WANT TO PARTICIPATE?** To learn more about the value of N-WATCH contact your local Ag retailer or the IL-CBMP ([leslief@ifca.com](mailto:leslief@ifca.com) or 309-827-2774).



## Answers to Common Questions

***How was N-WATCH created?*** Heavy rains in the spring of 2009 left many southern Illinois farmers with the question of how much spring-applied anhydrous ammonia N was lost to the saturated soil conditions. It was determined that if we could determine the concentrations of plant-available N in the upper 12 inches of the soil profile, we could generate an estimate of how much plant-available N was available to the plant, based upon Pm-1714 from Iowa State University (Nitrogen Fertilizer Recommendations for Corn in Iowa). A modified testing protocol was created and a significant concentration of the spring-applied N was found, avoiding the application of unnecessary N fertilizer in several fields.

***Why is a template necessary?*** Knifed-in or banded sources of N fertilizer leave a concentrated band of plant-available N over time. The template allows a sample to be collected that represents the area one knife or band delivers N to (templates are designed for 30-inch N applicator spacing). Without the template, random samples could be collected from the concentrated N bands or from areas with no N application, resulting in the sample having elevated or abnormally low plant-available N concentrations.

***What is “plant-available” N?*** Nitrogen is one of 17 elements considered essential for plant growth. The plant can take up two forms of N; nitrate-N and ammonium-N. N-WATCH inventories and tracks both to estimate total plant-available N.

***Can N-WATCH be used to make N recommendations?*** Although N-WATCH can be used as a way to estimate N loss or movement, is not designed to make an N recommendation for a field. It only provides an estimate of plant-available N concentration over time at a specific point. Farmers are still encouraged to use the N recommendation system suggested by their state land-grant university.

***Where do I get extended soil probes and how much do they cost?*** There are some options to consider when purchasing an extended tube soil probe. The basic 15” tube probe is available through Oakfield Apparatus is <http://www.soilsamplers.com>. The Back-Saver probe is another extended tube probe that makes sample collection at the 1-2 foot depth somewhat easier. The Back-Saver is available through IL-CBMP for \$325 (includes soil tube) while supplies last. Contact Leslie Forrest for more information ([leslief@ifca.com](mailto:leslief@ifca.com) or 309-827-2774).

***Why are all the samples sent to the same lab?*** The system we established during the 2011-2012 program with A&L Great Lakes Laboratory made it obvious that working with the same lab streamlined the program and greatly improved efficiency of the program both in time savings and costs. *The costs associated with samples submitted to other labs other than A&L Great Lakes Laboratories will be the responsibility of the person submitting the samples.*

***Can I check random spots in other fields for Nitrate-N as part of this program?*** No. Soil samples must be collected as defined by the published N-WATCH protocol and must be registered N-WATCH sites. Soil samples collected for other reasons or from sites not registered are not included in this program as well as any tissue or stalk samples submitted for analysis. *The cost of sample shipping and analysis will be the responsibility of the person submitting samples that are not included as part of this program.*



FILL OUT FORM COMPLETELY BEFORE SUBMITTING

**LOCATION SUBMITTAL FORM**

Account No.		
Submitted by	Grower:	
Address	Field I.D.	
City/State/Zip	Nearest Town:	
Cell Phone	County:	
E-Mail	Latitude (required):	
Sampling Date	Longitude (required):	
Growth Stage of Crop	Rain (in) since last sampling:	Soil Type: <input type="checkbox"/> Tiled <input type="checkbox"/> Surface <input type="checkbox"/>

**FIELD INFORMATION**

SAMPLES (nitrate and ammonium NO <sub>3</sub> NH <sub>4</sub> )		2013 CROP (History)	Crop:	Harvest Yield:
Sample Depth	Sample Number (Max. 6 char.)	Lab Number (Lab use only)		
0 - 1 ft				
1 - 2 ft				

**LAST YEAR'S N APPLICATIONS (only needed on first sampling date)**

Date	N Source*	Placement	Rate N Applied	Stabilizer

**TILLAGE SINCE LAST TESTING DATE**

Date	Type of Implement	Depth (in)	Direction (Relative to N)

**NITROGEN APPLIED SINCE LAST TESTING DATE**

Date	N Source*	Placement	Rate N Applied	Stabilizer

**Sampling Instructions: Knifed N Applications:**

- Place the template perpendicular to N application.
- Collect 12" soil cores from each of 11 holes (1 row).
- Thoroughly mix in bucket.
- Fill labelled sample bag with soil.
- Discard remaining soil and repeat for 1-2 ft. sample
- Mark site for return sampling.

**Sampling Instructions: Broadcast N Applications:**

- Identify 20 ft. x 20 ft. site for sample collection
- Collect 4 random cores at 1 ft. depth.
- Mark each sampling point for return sampling.
- Place 4 soil cores in labelled sample bag.
- Repeat for 1-2 ft. sample.

**Additional Information or Instructions**

Ship soil samples and this **completed** form to:  
 A&L Greate Lakes Laboratories, Inc.  
 3505 Conestoga Drive, Fort Wayne, IN 46808

\* Include manure (type). Rates are a actual N, not product.

**PROCEEDINGS OF THE**

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**ON-LINE PROCEEDINGS:**

**<http://extension.agron.iastate.edu/NCE/>**