



Dairy One

Forage Laboratory

December 2014 Newsletter

In This Issue

[Blog](#)

[Survey](#)

[CNCPS 6.5 Meeting](#)

[2014 CSNT Analysis](#)



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Help us get to know more about you! Take our [Survey on Facebook](#). The survey will be open through Friday, December 12th at midnight. After the survey closes, **1 winner** will be randomly selected to receive a **free forage analysis** and a **few prizes** from Dairy One.



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CNCPS 6.5 meeting

This half day session will be presented by AMTS team members, Adisseo, and Dairy One Laboratories prior to the opening session of the [2015 Western Dairy Management Meeting in Reno, NV](#). The session is designed to help you understand and use the newest version of CNCPS biology to its full potential. The cost is \$50 per participant, lunch will be provided, and space will be limited.

Where: [John Ascuaga's Nugget, Sparks, NV](#)

When: [March 3, 2015](#)

Time: [8am-1pm](#)

Pre-registration is required please e-mail

lynn@agmodelsystems.com by **February 15, 2015** to reserve your seat at the meeting.

2014 CSNT Analysis

Corn Stalk Nitrate Test (CSNT) is a measure of nitrogen availability during the growing season. If corn is deficient in N supply, it will mobilize N later in the season from the lower portions of the stalk and leaves up to the developing grain. This will result in lower stalk N concentrations. Conversely, plants that have adequate or excess N supply available for uptake later in the season will have higher stalk nitrate concentrations. This test is a tool for evaluating your N management, and is most useful when evaluated over several years.

CSNT Results

In 2013 and 2014, the majority of the CSNT samples in the lab were from NY: 86.6% in 2013 and 95.5% in 2014. The total number of samples in the lab were about the same (Table 1). The lowest and highest value in 2013 were both lower than in 2014 (Table 1). In both years, the lowest percentage of samples were in the optimal range (>750 - 2000 ppm). The number of samples that would have benefited from additional N applications (<250 to 750 ppm) and those that had excess N application (>2000 ppm) were similar for NY and for all states. There is room for improved N management in corn on both ends of the spectrum.

Table 1.

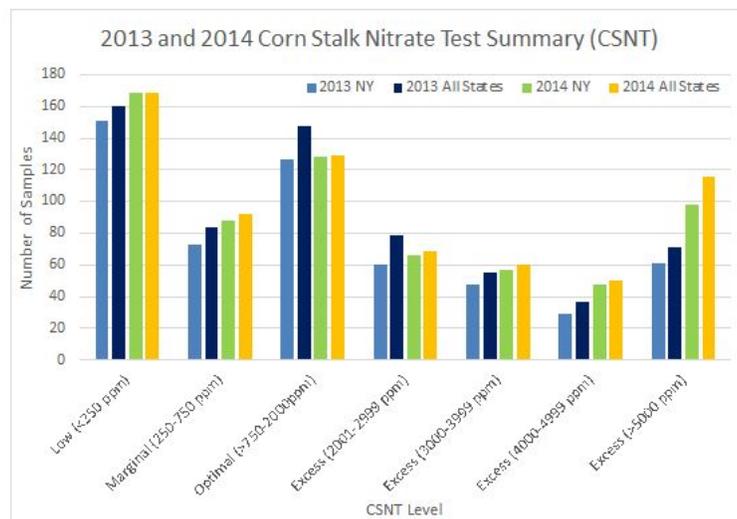
	2013	2014
Number of Samples	634	685
Low CSNT Value, ppm	12	21
High CSNT Value, ppm	10,126	14,659

Table 2.

	2013	2013	2014	2014
	NY	All States	NY	All States
Low-Marginal (<250 - 750 ppm)	242	244	257	261
% of Samples	44.1	38.5	39.3	38.1
Optimal (>750-2000ppm)	127	148	128	129
% of Samples	23.1	23.3	19.6	18.8
Excess (>2000)	198	242	269	295
% of Samples	36.1	38.2	41.1	43.1

Tools for Nitrogen Management

New tools are available for better monitoring and determining N application needs. These range from optical sensors and variable-rate application that measure N needs in the field based on plant color, to computer models like adapt-N that use field history and weather information to adjust N needs throughout the season. There are still in-season soil tests like the pre-sidedress nitrate test (PSNT), but new tests like Solvita® Labile Amino Nitrogen (SLAN) measure potential N availability from the soil. Finally, tissue testing can also be a useful tool for determining N status within season. Using all the tools available can help fine tune N management to maximize yield and minimize N loss.



CSNT Interpretation

Low: < 250 ppm N

High probability that N was deficient and limited yields. Evaluate management practices for causes of deficiency. Nitrogen access can be hindered by inadequate supply, root restrictions, lack of moisture, nutrient deficiency interactions, or a combination of these. At harvest time, leaves are dead at or above the ear leaf and/or the entire plant has a light to very light green color.

Marginal: 250 to 750 ppm N

Depending on growing conditions, N may or may not have been sufficient for economic yields. If plants look like those described above, N was deficient. Producers should target CSNTs to be in the optimal range and evaluate CSNT over time.

Optimal: 750 to 2,000 ppm N

N was adequate for optimum economic yields. In this range, 3 of the 5 lower leaves will be dead by harvest time, while the top leaves remain medium to dark green.

Excess: > 2,000 ppm N

N uptake exceeded the requirement for optimum yield. Most likely, fewer than 3 leaves from the bottom have died and the top leaves remain medium to dark green. Review N application for the year.



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