



Dairy One

Forage Laboratory

September 2016 Newsletter

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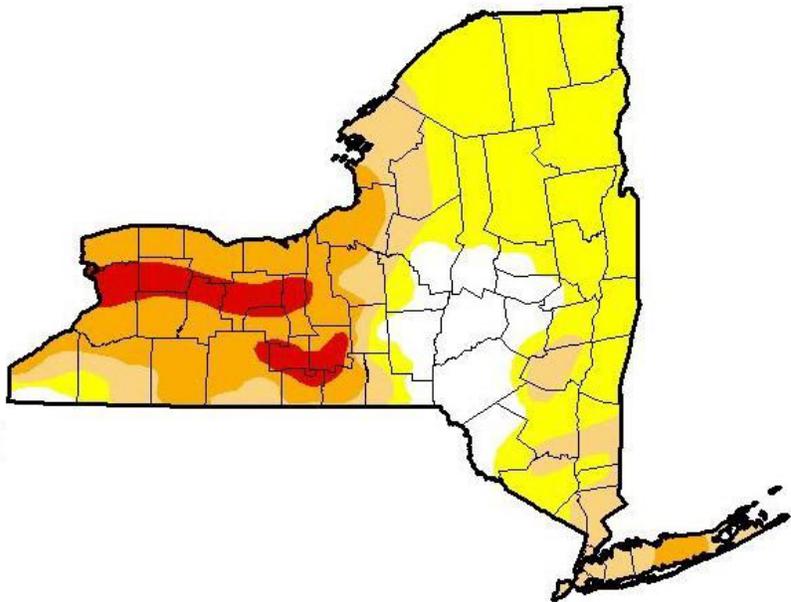


Tracking Nitrates and Dry Matter in New York Corn for Silage

By Sally Flis, Ph.D. - Feed and Crop Support Specialist
Kevin Putnam - Dairy Specialist NY/NE, DuPont Pioneer

There have been lots of questions and concerns in the drought stricken parts of NY about nitrate levels in corn silage and when or if dry matter (DM) is at a level to chop. As of last week, 44.6% of NY was in moderate drought or greater, with 27.2% still in severe drought and 6.0% in extreme drought (Figure 1).

U.S. Drought Monitor New York



August 23, 2016

(Released Thursday, Aug. 25, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.08	85.92	44.61	27.19	6.03	0.00
Last Week <i>8/16/2016</i>	12.57	87.43	45.23	27.82	6.03	0.00
3 Months Ago <i>5/24/2016</i>	43.71	56.29	0.00	0.00	0.00	0.00
Start of Calendar Year <i>1/22/2015</i>	50.48	49.52	7.06	0.00	0.00	0.00
Start of Water Year <i>8/29/2015</i>	37.33	62.67	5.18	0.00	0.00	0.00
One Year Ago <i>8/25/2015</i>	76.09	23.91	1.95	0.00	0.00	0.00

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Brad Rippey

U.S. Department of Agriculture



<http://droughtmonitor.unl.edu/>

Figure 1. August 23, 2016 NY drought conditions.

Drought stressed corn will often look like it is dry enough to harvest for silage because of the visual effects of drought stress, for example, curled leaves, small or no ears, and stunted growth. The fact is that this corn can take longer to dry out because the dry leaves and small or lack of ears do not reflect a dry stalk. Additionally, nitrate accumulation in the plant can be a concern when plants experience drought stress. Nitrate is a major precursor of plant protein. Ensiling suspect forages can often reduce nitrate concentration by up to 50%.

So, what does this stressed corn look like this year? Samples have been taken over the last 2 weeks and tested for DM and nitrate concentration (Table 1). Dry matter is increasing as moisture leaves the plants, but we are still on average about 10 percentage points away from corn being in the ideal range for harvesting for corn silage. Nitrate ranges are well below critical concern levels (< 0.44 % Nitrate). More information on nitrates is available at

<http://dairyone.com/wp-content/uploads/2014/01/Nitrates-and-Dairy-Cattle.pdf>.

Date	DM % Average	DM % Range	Nitrate % Average	Nitrate % Range
8/18/16	23.2	18.4 - 31.2	0.06	0 - 0.19
8/24/16	26.5	22.5 - 30.1	0.10	0 - 0.27

Table 1. Corn dry matter (DM) and nitrate results from Central NY.

Nitrate concentrations in drought stressed corn in NY does not appear to be a problem. This is likely because of late season rainfall causing some additional growth and leaching of nitrates from the soil. Additionally, if side dress N applications were not made due to drought conditions, N may be deficient. As with anything else, sampling and testing is the only way to know what your crop looks like.

Joint Meeting with Dairy One and Agriculture Modeling and Training Systems

By Sally Flis, Ph.D. - Feed and Crop Support Specialist

In May we did a joint meeting with Agriculture Modeling and Training Systems (AMTS) to talk about the CNCPS 6.5 NDF digestibility time points and the recordings are now available as podcasts!

NDF Time Points-Joint AMTS and Dairy One Meeting May 4 Morning Session

AMTS and Dairy One Forage Laboratory hosted a joint meeting/webinar at the DFA Syracuse Headquarters on May 4. The purpose was to get some discussion going about what field people are seeing and understanding about the aNDFom time points for measuring fiber digestibility. In recent years research in the model has focused on better understanding and predicting how the cows are digesting fiber. The published research has measured the disappearance over time of NDF in in vitro digestion establishing a rate of digestion that then appears to correlate to Dry Matter Intake. Time points for measuring aNDFom were established for forage fiber sources (30, 120, 240) and non-forage fiber sources (12, 90, 120) and incorporated into the CNCPS model. The major forage labs quickly developed analyses for forages and non-forages to help implement the results. The alphabet soup of initialisms has been complicated and further confused because everyone is not sure what the time point designations mean.

Lynn Gilbert and Sally Flis presented a morning session where the terminology was explained and an afternoon session where numbers were inputted into the model demonstrating the difference between using the library lignin x 2.4 values and the uNDF (aNDFom 240-forages and aNDFom 120-non-forages) values as a measure of undigestible fiber. They demonstrated the effect these can have on predicted milk production. Both sessions can be watch below.

<http://agmodelsystems.com/ruminations/podcast-player/2151/ndf-time-points-joint-amts-and-dairy-one-meeting-may-4.mp4>

NDF Time Points - Afternoon Session

AMTS and Dairy One Forage Laboratory hosted a joint meeting/webinar at the DFA Syracuse Headquarters on May 4. The purpose was to get some discussion going about what field people are seeing and understanding about the aNDFom time points for measuring fiber digestibility. In recent years research in the model has focused on better understanding and predicting how the cows are digesting fiber. The published research has measured the disappearance over time of NDF in in vitro digestion establishing a rate of digestion that then appears to correlate to Dry Matter Intake. Time points for measuring aNDFom were established for forage fiber sources (30, 120, 240) and non-forage fiber sources (12, 90, 120) and incorporated into the CNCPS model. The major forage labs quickly developed analyses for forages and non-forages to help implement the results. The alphabet soup of initialisms has been complicated and further confused because everyone is not sure what the time point designations mean.

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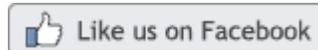
<http://agmodelsystems.com/ruminations/podcast-player/2152/ndf-time-points-afternoon-session-may-4-2016.mp4>

Announcements

The Forage Lab will have an updated sample submission form available soon. This form will have all the new services we have been working on in one place!

Upcoming Events

October 4th - 8th, 2016
50th Anniversary of World Dairy Expo; Madison, WI
<http://worlddairyexpo.com/>



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