



Dairy One

Forage Laboratory

April 2016 Newsletter

In This Issue

[Lignin vs. uNDFom240 - What else can uNDFom240 be used for?](#)

[uNDFom - What have we learned?](#)

[Upcoming Events..](#)



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Lignin vs. uNDFom240 - What else can uNDFom240 be used for?

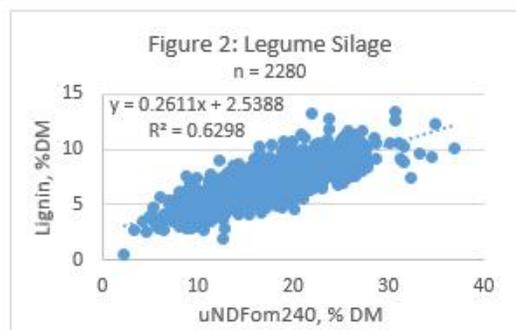
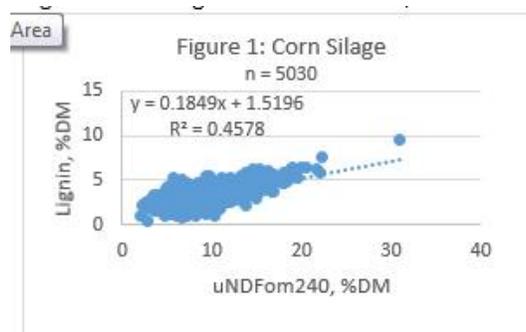
Sally Flis, Ph.D.

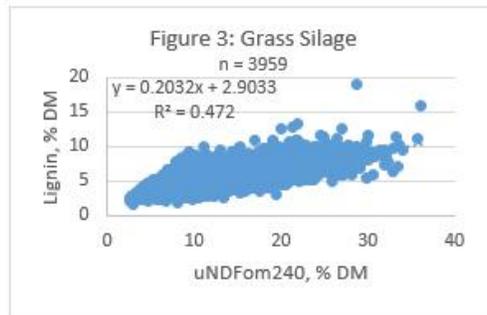
Feed and Crop Support Specialist - Dairy One

The measure of undigestible fiber as uNDFom240 (undigestible neutral detergent fiber on an organic matter basis) has been available for a little more than a year from the Dairy One Forage Lab. When uNDFom240 was introduced, some of the discussion about the number was as a use to replace the measure of lignin. In a recent webinar, Dave Taysom from Dairyland Labs presented some data comparing the distribution of lignin compared to uNDFom240 for alfalfa samples; this made me curious about the data from our lab and how else uNDFom240 can be used in the field.

Relationship of Lignin and uNDFom240

In general, as lignin increased, uNDFom240 also increased for corn silage, legume silages, and grass silages (Figure 1, 2, and 3). The relationship between lignin and uNDFom240 was the strongest for legume silages. These relationships indicate that lignin is not the only fiber fraction that influences the digestibility of a forage.

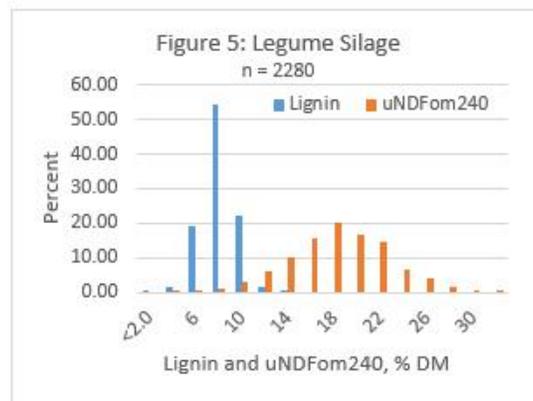
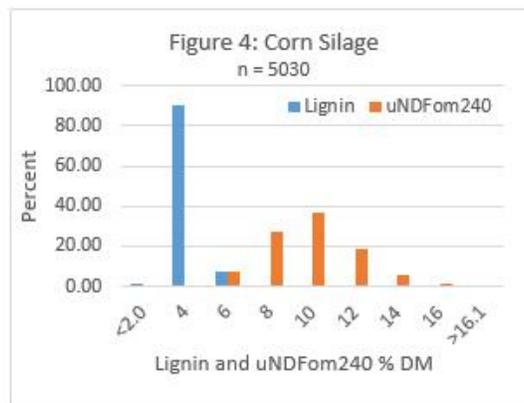


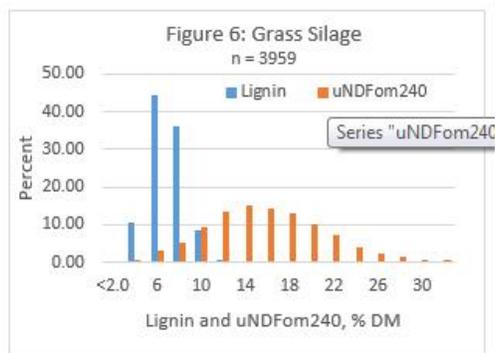


Figures 1. - 3. Lignin vs. uNDFom240, DM basis

Distribution of Lignin and uNDFom240

Corn silage had the narrowest distribution for lignin and uNDFom240 (Figure 4), followed by legume silage (Figure 5), and then grass silage (Figure 6). Corn silage has a narrower range for lignin and uNDFom240 because of harvest management practices. Corn silage is much closer in maturity across farms when harvested compared to the range in maturity of grass and legume silages. The timing and number of the cutting, (1st, 2nd, or 3rd) will also change the digestibility of the fiber in the plant and contributes to the wider range of values observed for these forage types (Figure 5 and 6). The narrow range of lignin observed indicates that it is a crude measure of undigestible fiber, while uNDFom240 has a wider distribution and likely a more accurate indication of the variability in the plant population.





Figures 4. - 6. Distributions of lignin and uNDFom240, DM basis

Overall, these results are helpful in explaining why feeds with the same or similar lignin values do not perform the same when fed. In the case of grass silages, forages with the same lignin can have as much as a 20% difference in uNDFom240 (Figure 3), as uNDFom240 increases intake decreases and the amount of energy the animal gets from the feed decreases.

Testing forages for uNDFom240 can help explain differences in production responses. For example, when a new haylage is being introduced, even though the lignin content may be similar to the old haylage, production may increase or decrease depending upon the uNDFom240.

uNDFom - What have we learned?

When: Wednesday, May 4th, 2016
from 11 AM to 2 PM

Where: DFA Offices, 5001 Brittonfield Pkwy,
E. Syracuse, NY

Why: Come and find out what we have seen in the lab and in the field with the use of uNDFom and the new fiber digestibility time points. In 2015 we got together with AMTS to help introduce the new CNCPS 6.5 Biology, and now we want to share with you what we've seen in the lab, field observations since implementation and most importantly - feedback from you and your experiences.

Agenda

11:00 AM - Welcome and Introductions
Sally Flis, Ph.D. - Feed and Crop Support Specialist, Dairy One

11:15 AM - Review of what uNDFom and uNDF30, 120, 240 Lynn Gilbert - AMTS

11:40 AM - How has the forage looked? Review of analysis from the Dairy One Forage Lab in 2015 for uNDFom and uNDFomD - Sally Flis, Ph.D. - Feed and Crop Support Specialist, Dairy One

12:30 PM - Lunch (Provided by Dairy One and AMTS)

1:00 PM - How is uNDFom and uNDFom30, 120, 240 working in the field - Lynn Gilbert - AMTS

1:30 PM - Question and Discussion - Dairy One and AMTS

RSVP to Sally Flis: sally.flis@dairyone.com or **607-229-5337** or Lynn Gilbert: lynn@agmodelsystems.com or **607-745-7253**



Dairy One
Forage Laboratory



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Upcoming Events

April 13th and 14th - Cornell Herd Health and Nutrition Conferences (Syracuse, NY 13th and Burlington, VT 14th)

<http://prodairy.cals.cornell.edu/conferences/herd-health-nutrition>

April 18th to 20th - Tri-State Dairy Nutrition Conference, Fort Wayne, IN <http://tristatedairy.org/>

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