



# Dairy One

Forage Laboratory

## October 2015 Newsletter

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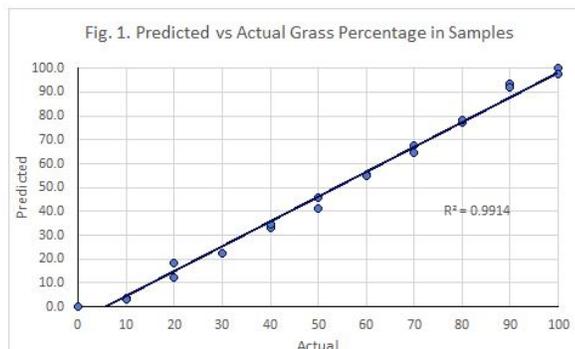
### Introducing Percent Alfalfa and Percent Grass Determination

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

This summer, we worked with Drs. Debbie and Jerry Cherney of Cornell University to develop an NIR calibration that analyzes fresh, fermented, and hay samples for alfalfa and grass percentage. In the fall of 2014, the Cherneys conducted a survey of how alfalfa acreage in NY is seeded. Most of the alfalfa acreage in the survey (68 percent) was on large farms (greater than 1,500 acres), and large farms averaged only 15 percent pure alfalfa for their alfalfa acreage. The largest percentage of alfalfa acreage that was pure alfalfa was found on small farms (less than 500 acres, 22 percent), the opposite of what was expected ([Progressive Forage Grower, September 2015](#) and [Progressive Dairyman, September 2015](#)).

The NIR calibration was developed with a Cornell set of 1,360 samples of fresh and fermented alfalfa, grass, and alfalfa grass mixtures collected during 2012, 2014, and 2015. Samples for the calibration were mixed to range from 0 - 100% grass, with the percentage of alfalfa and grass determined on a dry weight basis. The samples were forwarded to Dairy One for NIRS analysis and calibration development.

After testing, there was no benefit from calibrating the fresh and fermented samples separately, so they were combined into a single calibration with an R<sup>2</sup> value of 0.994. Illustrated in Figure 1 is a comparison of predicted vs. actual values for a subset of samples not included in the original calibration set. The R<sup>2</sup> value of 0.991 for this unknown group demonstrates the accuracy of the calibration.



Why is it important to know the alfalfa-grass ratio both pre- and post-harvest?

1. Help to identify the optimum quality harvest date.
2. Allow ranking of fields for harvest, based on alfalfa %.
3. Help to decide when to start treating a stand like grass, from a fertility standpoint.
4. Provide information for deciding when to rotate a field.
5. Assess stand deterioration due to alfalfa insect/disease problems, such as alfalfa-snout beetle in northern NY.
6. Some nutrient record keeping software requires input of alfalfa %.
7. Required information for some forage quality software, such as MILK2006, alfalfa-grass version.
8. May help with ration balancing.
9. Quality control: serves as a check on just how representative the forage sampling is. Highly variable alfalfa % over time indicates unrepresentative sampling.

The NIR calibration was predominantly funded by the Northern NY Agricultural Development Program and as such, the %Grass analysis will be added at no charge to all samples requesting a regular NIR package and submitted to the Dairy One Forage Lab from Clinton, Essex, Lewis, St. Lawrence, Jefferson, and Franklin counties in NY. This applies to fresh, fermented and hay samples received from October 1st, 2015 to October 1st, 2016. The %Grass service (179) can also be added to fresh, fermented, or hay samples for \$5.00/sample when the sample is submitted for analysis with an existing NIR package, or for \$12.00/sample if no other analysis is performed.

Click on the link below to take an alfalfa survey!

<http://survey.constantcontact.com/survey/>



**Dairy One**  
Forage Laboratory

Alfalfa Survey

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## Did you know...

A free sample submission phone app is available for your Droid or iPhone. Using the R2phone app, the sample submission process is made faster by storing all of your customer information on the phone. The app stores and remembers account number, customer name, e-mail addresses, and customer feeds, along with menus for identifying sample types and services. The app allows you to assign an individual bar code label to each sample which then becomes its "tracking number". Once the bar coded data and sample information is entered, it is uploaded directly to the lab - and you are done! Ship the samples and the data is married to the sample upon arrival at the lab. Visit the [Submitting Forage Samples](#) page on our website for more information on installing the app on your phone and ordering bar codes.

What is the easiest way to track sample results? Have online access to your account and all your sample results! With a login for our online access, you can see all of your sample results (feed, soil, and manure) as they are completed.



You can search your results by sample name, sample type, and date. Then you can select sample results you want to print pdf reports of or summarize in a spreadsheet that you can download for further sample comparison and analysis. The login is based on a customer account number, so if you have an account number, you can get one! Contact Marti Jo in the Forage Lab at 1-800-344-2697 ext 2156 or [Marti-Jo.Russell@DairyOne.com](mailto:Marti-Jo.Russell@DairyOne.com).

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Dairy One - Forage Laboratory  
730 Warren Road ~ Ithaca, NY ~ 14850  
Phone: 1-800-344-2697 Ext. 2172

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