



# Dairy One

Forage Laboratory

## November 2015 Newsletter

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### Fiber Measurements in Grass and Alfalfa Samples

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Last month, the Forage Lab introduced the NIR measure of % grass versus alfalfa for fresh, fermented, and hay samples. The survey in the October newsletter had 83% of responders seeding new fields to an alfalfa/grass mixture. So, what have we found for results from the new calibration? Pasture samples averaged  $72.4 \pm 29.8$  % Grass, silage samples averaged  $56.7 \pm 29.5$  % Grass, and hay samples averaged  $50.9 \pm 39.7$  % Grass. The results for the hay samples (Figure 1) show a cluster of results less than 30% grass and a cluster of samples greater than 70% grass. The silage samples (Figure 2) had the most even distribution of the % Grass. The majority of the pasture samples were grass (Figure 3).

Figure 1. Hay: aNDFom%-ADF%

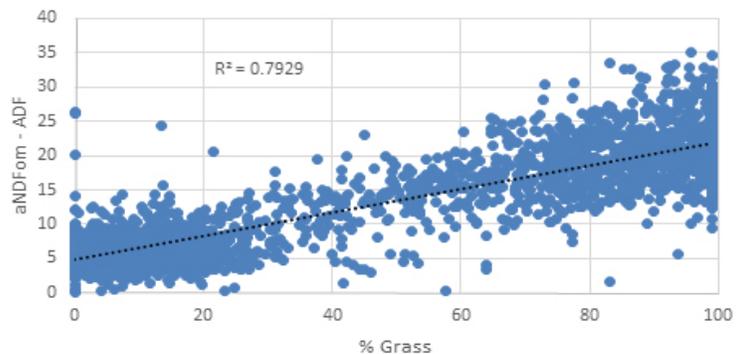


Figure 2. Silage: aNDFom%-ADF%

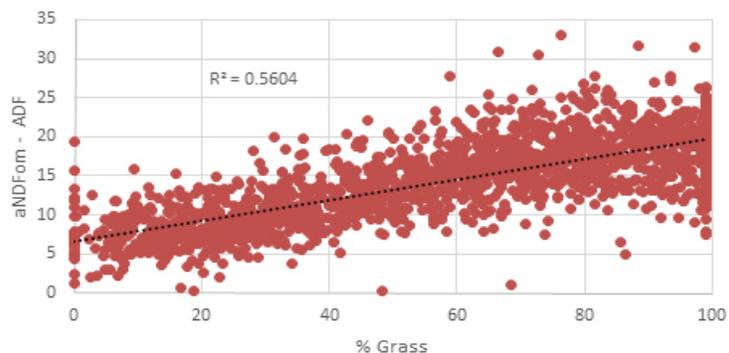
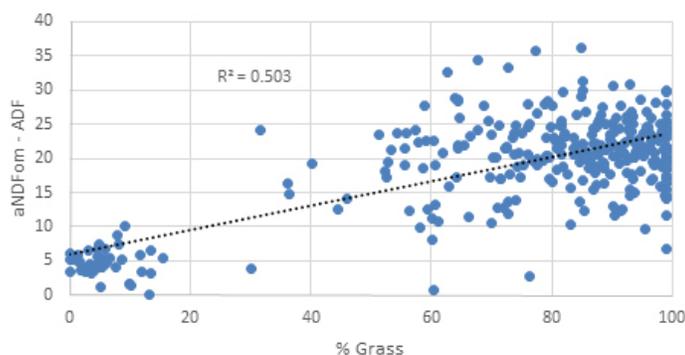


Figure 3. Pasture: aNDFom%- ADF%



In the past, the difference between aNDF and ADF has been used to estimate the amount of grass versus alfalfa in a sampled forage. As the amount of grass in the sample increases, so does the difference. Based on the data in our Interactive Feed Composition Library the difference between aNDF and ADF for grass averages 23.1, mixed mostly grass is 20.7, mixed mostly legume is 13.7, and alfalfa is 9.0 percentage points. With the availability of aNDFom (aNDF adjusted for ash content) the difference in aNDFom and ADF may change. Using the results from samples that we received in the Forage Lab in October, we examined the relationship between the % Grass and the difference between aNDFom and ADF (Figures 1 to 3). The ash correction from the aNDFom procedure reduced the difference from ADF as opposed to aNDF (Table 1). It narrowed the gap between the two fiber measures by an average of 2.4 percentage points.

**Table 1.** Comparison of the differences between aNDF, aNDFom, and ADF for samples analyzed in October.

Sample Type	Difference (aNDF% - ADF%)	Difference (aNDFom% - ADF%)
Grass	23.2	20.2
Mixed Mostly Grass	21.3	18.5
Mixed Mostly Legume	13.2	10.6
Alfalfa	7.2	6.1

This relationship was reinforced when % Grass was plotted versus the difference between aNDFom and ADF. The best relationship was observed in hay samples, which also had the largest number of samples submitted, 3,117 (Figure 1). The range in the difference in aNDFom and ADF at each level of % Grass are due mostly to stage of maturity of the crop and species. Other environmental factors like rainfall and temperature can influence the development of ADF and aNDFom in a plant.

Combining the % Grass analysis with your forage analysis package and field records will give you the most complete information to make feeding and field management decisions.

## Holiday Forage and Agro-One Lab Closings

With the upcoming holidays the Forage Lab and Agro-One Lab will be closed on Thursday November 26th, Friday November 27th, Friday December 25th, and Friday January 1st. Please plan ahead for submitting your samples and receiving results.



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