



Dairy One

Forage Laboratory

May 2016 Newsletter

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Read the latest posting: [Bringing It All Together Nutrient Series - 1. Nitrogen](#)

Why should you sample when you are still feeding first cut?

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Here in the Northeast U.S. haylage harvest has either already started or will be upon us in the next few weeks. As with every year, this comes at the same time as farms are trying to get corn planted. So the choice is often which to do first, plant corn or harvest first cutting haylage? This is a concern because as they mature, haylage crops rapidly lose quality with increased ADF, NDF, and lignin and decreased CP and NDF digestibility. I worked with Lynn Gilbert (lynn@agmodelsystems.com) at AMTS to see how the CNCPS based ration balancing software would evaluate the 2 forages that would reflect an early and a later first cutting. We randomly selected 2 samples from the Forage Lab database to use as the early and the late forages (Table 1). The concerns with the late MMG haylage are a low DM, lower CP, and high NDF (Table 1). The low DM indicates the feed was ensiled a little too wet and this could lead to poor fermentation and excess leachate. Additionally, there is twice as much uNDFom at 30 hr and higher uNDFom at the 120 hr and 240 hr time points.

Item	High Quality MMG Haylage	Low Quality MMG Haylage	Dairy One Forage Lab Historical Average
DM	35.9	28.9	39.4 ± 12.6
CP, % DM	23.1	15.1	15.9 ± 3.5
ADF, %DM	32.4	39.3	37.5 ± 4.2
aNDFom, % DM	41.6	64.0	55.9 ± 6.6
Lignin, % DM	6.6	5.9	6.6 ± 1.7
uNDFom 30hr, % DM	15.1	30.0	24.1 ± 8.4
uNDFom 120hr, % DM	14.1	22.2	19.2 ± 6.7
uNDFom240hr, % DM	10.0	17.1	15.0 ± 6.2

Table 1. Analysis results for an early and a late haylage compared to Forage Lab averages

Feed	Early Haylage Diet		Late Haylage Diet	
	lbs/day (DM)	lbs/day (DM)	lbs/day (AF)	lbs/day (AF)
CORN SILAGE	19.0	19.0	51.4	51.4
MMG SILAGE HQ	9.1	0.0	25.4	0.0
MMG SILAGE LQ	0.0	9.1	0.0	31.5
Brewers Grain Wet 102915	4.571	4.572	16.991	16.998
Corn Grain Ground Fine	8.000	8.003	9.091	9.094
HMSC 102915	2.605	2.606	3.583	3.585
Soybean Meal 47.5 Solvent	1.204	1.205	1.338	1.339
LOW COW MIX 101715	8.0000	8.0030	8.7983	8.8017
<i>Click to add...</i>				
Total	52.5000	52.5000	116.5572	122.6879

Figure 1. Diets with high quality haylage and low quality haylage.

Diets were formulated in the AMTS software with equal amounts of corn silage, brewers grain, fine corn grain, high moisture corn, and a low cow mix (Figure 1). The haylages were swapped out at equal amounts (Figure 1).

Item	Early MMG Haylage	Late MMG Haylage	Difference
Income Over Feed Cost (\$/cow/day)	8.71	8.20	-0.51
ME Allowable Milk (lbs/cow/day)	85.89	83.27	-2.62
MP Allowable Milk (lbs/cow/day)	84.11	80.11	-4.0

Table 2. AMTS model response for a diets with early MMG and late MMG.

When the late haylage was switched into the diet at an equal amount to the early haylage, income over feed cost (\$/cow/day) decreased by \$0.51 and ME allowable milk decreased by 2.62 lbs/cow/day (Table 2). In order to make the same milk from this diet with the late haylage, cows would have to eat about 54.5 lbs of DM, 2.0 lbs more than formulated and would likely be limited by intake.

This example illustrates two points about forage testing and feed storage management.

1. Testing before a feed change is made is essential to knowing what other changes in the ration are needed to maintain milk production. For example, in this ration if the diet is optimized, the late silage can make as much milk and cost less, but the farm has to feed more brewer's grain and corn meal. While you can make the diet work for milk and cost, feeding high levels of wet brewer's grains or corn meal can create other digestive problems for the cow.
2. If it is possible when harvesting feed, segregating can help. For instance, if you end up harvesting some acreage early and then

rain or planting gets in the way and you harvest the rest a week or more later, keeping that feed separate makes it easier to plan for how to feed it. The potential for dry matter losses in the bunk will also decrease, especially if you are uncovering or leaving a bunk uncovered in order to store all the feed harvested in one place.

If we wait to see the cow's response to a feed change, we have already lost milk.

Now Available from the Dairy One Forage Lab: Grain Particle Size (226) \$19/sample

Grain Particle size is used to determine the distribution of particle sizes within a grain sample. The particle distribution is determined by shaking the sample through series of 12 Screens. The weight of the sample retained on each screen is divided into the total sample weight to determine the percentage of sample retained on each screen. Reported results include:

- a. % of sample retained on each screen
- b. Mean particle size in microns
- c. Standard deviation of particle size
- d. Graph illustrating the distribution of particle sizes

Most often, this procedure is performed on corn meal, but it can be used for any individual grain or mixture. Wet or hi-moisture grains will be dried prior to sieving. It is recommended to submit two bags of sample if you are also going to request a regular analysis package.

Upcoming Events

May 26th - University of Florida and University of Georgia Corn Silage and Forage Field Day. Citra, FL

http://animal.ifas.ufl.edu/corn_silage_forage_field_day_extension/index.shtml

June 8th and 9th - 2016 Advanced Dairy Nutrition Short Course - Cornell University, Ithaca, NY <http://ansci.cals.cornell.edu/news-events/advanced-dairy-nutrition/registration>

June 15th and 16th - Four-State Dairy Nutrition and Management Conference - Dubuque, IA
<http://www.extension.umn.edu/agriculture/dairy/learning-opportunities/four-state-dairy-conference/index.html>

Dairy One Measurement to Management Tour 2016

Again, this summer the entire Dairy One Team (Forage Lab, Agro-One, Animal Health Diagnostics, Agricultural Management Resources, DHIA Field Testing, and Agricultural Consulting Services) will be taking to the road to bring you information on all the services we have available and how they could be used on your farm or by your consulting team. We will be stopping at 3 different member farms to spend the morning touring the farm to showcase the areas where we can measure things and how they relate to your management. In addition, each location will have a guest speaker in one of the management areas.

Tour Dates and Locations:

Tuesday, August 2nd - Manning Dairy - St. Albans, VT.

Topic: Soil Health

Guest Speaker: Bob Burger - Woods End Lab, Maine -
The Solvita Test and Field Testing for Soil Health

Wednesday, August 3rd - Black Creek Farm - Salem, NY.

Topic: Milk Quality

Guest Speaker: Dr. Mike Zurakowski - Quality Milk Production Services,
Cornell University- Milk quality testing and culturing

Thursday, August 4th - AR Joy Farm - Cochranville, PA.

Topic: Feed Management and Records

Guest Speaker: Virginia Ishler - Penn State University - Using Feeding
Records and Testing when Making Feeding Decisions

Schedule for each event:

10:00 - 10:15 AM,

Introduction of Dairy One and Dairy One staff at the event

10:15 - 11:00 AM,

Feeding Management and Records - Guest Speaker

11:00 - 12:00, Dairy One Business Unit Presentations

Noon-1:00pm, Lunch and discussions

1:30pm, Adjourn

To Register:

Pre-registration is encouraged. If you are interested in one of the M2M dates please call Dairy One at 800-344-2697 and press zero (0) for Jennifer Hamilton, our receptionist or email marketing@dairyone.com to reserve your spot.

Don't forget the NY State Fair Hay Contest!

Just a reminder to start thinking about hay for the NY State Fair Hay Contest. If you're a farmer, it's a chance to show off all of your hard work to manage and put up high quality forages. Likewise, if you're employed in agri-service and know of a farmer who puts up excellent forage year after year, encourage them to enter the Hay contest. ENTRY DEADLINE: 4:30 p.m. on July 29, 2016. The Exhibitor Fee is \$10.00 and includes an analysis from the Dairy One Forage Lab. For entry forms and information visit: <http://nysfair.ny.gov/competitions/how-to-enter>

Here are a few things to keep in mind:

1. The hay crop must have been planted prior to 2016.
2. An entry shall consist of one whole small bale of hay tied or a minimum of 25# maximum of 50# from a large bale in a plastic lined box. Hay will become property of the Fair and will not be returned at completion of the Fair.
3. Hay entries with moisture content above 25% will be disqualified.
4. In judging the hay entries, a scorecard will be used to evaluate physical features which include: lack of mold/odor, freedom of foreign material, maturity, leaf retention, and color. Another 50 points will be based on forage quality analyses which will be determined by DairyOne Forage Lab. The forage quality analyses will include dry matter (DM), neutral detergent fiber (NDF), crude protein (CP) and digestible neutral detergent fiber (NDFd).

Hope to see your feed at the NY State Fair!

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