

Regional Dairy Newsletter



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Questions about the content of this newsletter? Call Emily Myers at 518-353-4949

July 2010

Cutting Height Important for Stand Survival

Joe Lawrence, Agronomist, CCE Lewis County

In catching up on a pile of farm magazines in the office I came across an article by Ev Thomas in a recent Hoard's Dairyman (Disc Mowers Can Devour Grass Yields, April 25, 2010) that reminded me of some research from Miner Institute and some recent conversation I had been having with farmers about hay stands that have been underperforming. While you may have read about this topic before and it may be too late for 1st cut grasses this season, I thought it was still worth mentioning as a consideration for harvest management for the remainder of this season and future years.

There are many factors that influence cutting height on individual farms but the adoption

of the discbine allows us to cut closer to the ground (if we choose) without as much risk of costly damage that often occurred with our traditional sicklebar haybines. This makes it very tempting to lower the cutting height a few inches to get that extra yield; research from Miner Institute indicates that you can gain up to ½ ton DM/season (3 cuttings) by lower cutting height from 4" down to 2" without a real sacrifice of quality.

So if increased yield is the benefit, what are the issues? Simply from a mowing standpoint the things to watch when you get down to this cutting height are the risk of

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scalping an uneven field and increasing the ash content (amount of dirt and debris) in the forage.

HOWEVER, the biggest issue seems to be the affect of stubble height on a grass's ability to re-grow after cutting. While alfalfa has a deep taproot and crown that store the reserves for the new alfalfa to grow from following a cutting, grasses have to re-grow from the stubble that you leave in the field. Therefore if you cut grasses to short you are robbing the plant of the energy reserves it needs to re-grow.

So what is too short? In research
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conducted at Miner Institute, the effect of cutting height on orchardgrass and reed canarygrass was measured in a greenhouse experiment. This work showed that 1st year reed canarygrass was completely killed at a 2" cutting height, while the orchardgrass did regrow but at a much slower rate. In contrast, at the 4" cutting height both grasses performed fine with the reed canarygrass measuring 16" of

regrowth in 21 days.

Take home points:

- Grasses – a minimum of 3-4" of stubble should be left
- Stands could be even more sensitive in the seeding year
- The loss in grass stand productivity from cutting too low far outweighs any yield boost you might get from harvesting a few extra inches in that one cutting
- It is ok to cut alfalfa at a 2" cutting height (except for fall

cutting in which a taller stubble height is recommended for winter survival)

- In mixed stands cutting height could actually be used as a management tool for stand composition by choosing a cutting height that either favors grass or alfalfa.

Joe Lawrence
CCE Lewis County
Phone: 315-376-5270
E-mail: jrl65@cornell.edu

Silage Season, Pack Thin Forage Layers for Increased Silage Density

Kurt Cotanch, W.H. Miner Research Institute

In last month's Miner Institute farm report, Ev discussed packing forage in bunkers and piles, and specifically noted our use of 3 packing tractors last fall on the BMR corn silage pile. We have been feeding from that pile for a couple months now and have measured silage densities consistently $>14 \text{ lbsDM/ft}^3$ (45lbs/ft³ as fed) using the Dairy One "Master Forage Probe". Only at the tails and top do we see density less than 14lbsDM/ft³.

When packing forage for silage, aside from making certain of sufficient packing weight and time relative to delivery rate of chopped forage, DM and particle length, my "favorite" variable to consider is layer depth. A thin layer of forage will pack faster and "tighter", more densely than a



Tractors packing the bunk at Miner Institute in Chazy, NY

thick forage layer. A standard recommendation is to keep forage layer at 6" or less for maximal packing density. More than 6" of forage allows for dispersal of the tractor packing pressure. Through many of our research trials packing forage in

mini-silos, midi-silos, 5 gallon pails or just packing a forage sample bag, it is quite apparent that we can pack more forage into a container, with greater density if we pack small amounts at a time. And it seems

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that we can obtain greater density with less time packing.

Considering that, I visited a University of Wisconsin website to determine how packing time varies with forage layer thickness. (www.uwex.edu/ces/crops/uwforage/storage.htm).

Using the Packing Factor (PF) equation below we can calculate time required to pack forage when initial layer thickness varies.

$$PF = (W/L) \times \sqrt{(T \times D)}$$

W = Avg Tractor wt (lbs)

L = Initial forage layer depth (inches)

T = Packing Time (Tractor hrs/T forage as fed)

D = forage DM% (expressed as decimal value)

From the website, a PF of over 432 results in silage density of >14lbsDM/ft³. Holding PF constant at 432 and using a tractor weight

(24,000lbs), forage DM (0.35) and 30T of forage/hr, we can calculate the Tractor hrs required to pack 3", 6" or 12" of forage. With these values, to obtain similar Packing Factor requires only 15 minutes to pack those 30T with 3" layer compared to 1hr of packing of 6" layer and 4 hr of packing a 12" layer of forage. Note, in this example that equates to 2min/T and 8min/T to pack a 6" or 12" layer.

The question then is how best to gauge forage layer depth from the cab of the tractor?

Here are some thoughts:

1. Calculate cubic feet of forage delivered and area required to spread over at 6" or less depth. Ex. 930 ft³ of forage at a depth of 6" or (0.5ft) in a 24' wide bunker requires 77.5' of length in bunker or pile. If it is spread over less than 77', the layer is too thick. Calculate cubic feet of forage delivered in your trucks and distance required to spread that volume specific to your bunk or pile.

2. Mark bunker walls for distance and height. Consider painting surveyor style height markings, alternating white/black with each foot of height. Space these every 50' to gauge surface length.

3. For piles try cones at the edges to mark width and distance dimensions

And please, do not try to over fill bunkers. Big rounded tops do not allow for adequate packing, are wastes of time, fuel and forage quality not to mention dangerous to the packer as well as potentially falling on people at feed out.

All the best this cropping season

This article was originally printed in the May 2010 Miner Institute Farm Report

Kurt Cotanch

Phone: 846-7121 ext. 123

E-mail: cotanch@whminer.com

Cow Manure Protects Farmers From Lung Cancer?

Emily Myers, CCE Regional Dairy Specialist

A study reported in New Scientist magazine in January of 2008 reported that dairy farmers were five times less likely to get lung cancer than the average person. The researchers suggest that microbes on particles of manure help to increase a person's immunity once breathed in. Increased immune function and

a well developed resistance to microbes could potentially be responsible for the decreased cancer rates that were reported in this study.

Although I would love to promote cow manure as an anticarcinogen, I think further research needs to be done before we try to make that link. Farmers also tend to live in rural areas

with cleaner air and they spend more time outside doing physical labor. Perhaps these factors are really responsible?



Northern NY Forage Quality Cup Winners

Emily Myers, CCE Regional Dairy Specialist

With the completion of the Northern NY forage quality cup contest, we are now able to announce winners for both Franklin and Clinton Counties as well as the regional winners. For those of you unfamiliar with the forage quality cup; it was a 5 county forage contest across Northern NY looking at forage quality of corn silage and haylage. Forage samples submitted by farms and nutritionists were judged based on the University of Wisconsin MILK2006 program.

The Corn Silage category winners by county are:

Clinton County: Hidden View

Farm: Dan, Don & Dale Tetreault

Franklin County: Vincent Farms:

David & Silas Vincent

Jefferson County: Forrester

Farm: Dennis Forrester

Lewis County: Silvery Falls

Farm: Dale & Steve Farney

St. Lawrence County: Lavack

Farm: Jay & Karen Rizza

The haylage category winners by county are:

Clinton County: Hidden View

Farm: Dan, Don & Dale Tetreault

Franklin County: Vincent Farms:

David & Silas Vincent

Jefferson County: Finney Family

Farm: Jim & Dan Finney

Lewis County: Company

Homestead: Gary & Carla

Company

St. Lawrence County: Lavack

Farm: Jay & Karen Rizza

The haylage category

regional winner is the Finney Family Farm: Jim & Dan Finney. Runner-up in this category is Hidden View Farm: Dan, Don & Dale Tetreault.

The corn silage category

regional winner is the Silvery Falls Farm: Dale & Steve Farney. Runner-up in this category is Forrester Farm: Dennis Forrester.

Thank you to everyone who entered samples!

Keep Them Cool This Summer

Emily Myers, CCE Regional Dairy Specialist

This spring we really got off to a jump start with some hot, sunny days. Although the past week has been cool and rainy, more hot, humid days are sure to be in the forecast for the rest of the summer.

Although the Northeast doesn't have the extreme heat seen in the Southeast or Southwest, heat stress is still a critical issue for our dairy cows both in the barn and on pasture. Hot cows lay down less, eat less, have a harder time getting pregnant and are more prone to acidosis. Long holding area wait times where many cows occupy a small area are

particularly prone to exceedingly high temperatures at cow level. Additionally, body temperature in heat stressed cows can exceed 104° F, making it more difficult to determine if a cow has an infection or is just far too hot.

Fans and sprinklers in the barn and cooling shades for cows on pasture are all good steps that can be taken to reduce heat stress on-farm. Close-up dry cows and fresh cows are a highly



susceptible group of animals that need to be treated with extra care during the heat. Fans in calving pens can make a big difference for a calving cow in

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the heat of summer. Another critically important practice is to ensure that adequate water is available. A hot cow can increase water intake by 10 gallons or more per day, with a high producing cow able to drink 30 or more gallons per day.

For cows on pasture, water tanks need to be available in every paddock and within a relatively short walking distance. Cows should not have to return to the barn via a lengthy laneway in order to reach a water tank. Rich Redmond of the Clinton County Soil and Water Conservation office suggests that water lines be run along the fence line in the hopes of keeping the line in deeper grass and out of the sun. Water in a black line in the direct sun can reach near the point of boiling by the time it reaches a distant water tank.

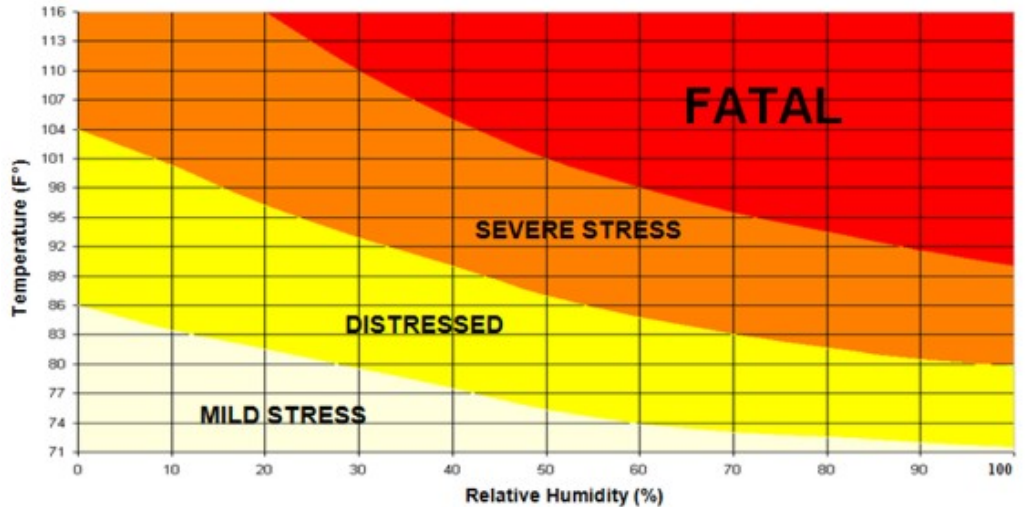
The water line also needs to be able to provide enough water so that the tank doesn't slowly empty as cows continually drink.



If three cows can drink half a tank of water before it can refill, and the next three cows start drinking when the tank has only refilled to 3/4, then it will be less than 1/4 full after 6 consecutive cows. This not only makes it

Lactating cows are of course, not the only group of animals that needs adequate water throughout the summer. Heifers and dry cows do need less water than a lactating cow, but should have access to an absolute minimum

HEAT INDEX CHART



difficult for a cow to drink, but it becomes more likely that the tank will get knocked over entirely. A water tank is only fully useful if it has enough water in it at ALL TIMES for several cows to drink. A 3/4 inch water line may be acceptable for short distances or paddocks with fewer cows, but a 1.5 inch water line may be more suited for long distances and higher cow numbers/paddock.

of 5 gallons of water per day while on pasture. Wet calves must also have free access to water throughout the day.

Overall, keeping cows cool can have a big impact on milk production throughout the summer. If your farm sees large slumps in milk production after a hot day or two, it is a good indication that heat stress is significantly impacting the herd.

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Alfalfa and Manure Management

Dr. Eric Young, W.H. Miner Research Institute, Agronomist

Applying manure to grass and grass-alfalfa (fields with more grass than alfalfa) fields after cuttings is a typical practice on many dairy farms. Deciding which alfalfa-grass fields (fields with more alfalfa than grass) should get manure is a bit less straightforward. There are basically two approaches when it comes to using manure on alfalfa ground: (1) Manure application prior to seeding and (2) Manure application following cuttings (topdressing).



Meeting P and K needs with manure prior to seeding an alfalfa-grass stand is a good nutrient management practice. A four year study at the University of Minnesota showed that manure applications of 12,000 gal/ac increased alfalfa yield compared to no manure or fertilizer. They also found that manure application tended to increase yields more than nutrients from fertilizer and attributed the effect to the micronutrients and soil conditioning from the manure.

One potential disadvantage is that some research has shown that manure can increase weed infestations, but this only appears to be a real problem

when application rates are high (>15,000 gal/ac). Cornell recommends manure application rates of no more than 6 to 8,000 gal/ac prior to seeding. If you apply the manure in the spring, ideally there should be time (3- 4 weeks) between manure application and seeding to avoid potential ammonia burn or salt injury from the manure. Alternatively, you could apply the manure in the fall prior to seeding in the spring.

Applying manure to alfalfa after cuttings is a relatively new concept. Conventional wisdom was that a field of alfalfa didn't need nitrogen (N) because it fixes its own and because the risk for damage from manure application was considered too great. However, research has shown that alfalfa can utilize substantial amounts of soil nitrogen and applying manure soon after cutting can minimize plant damage.

Alfalfa is fussier than grass. It doesn't like to be driven on too much; it's sensitive to compaction and can be injured by

ammonia and/or salts in manure. In general, manure should not be applied in the seeding year, as young alfalfa stands are more vulnerable than older ones. For second year and older stands, strongly consider soil fertility. Target fields that need P and K first, as low P and K will probably limit yields more than injury-related factors. Also consider the density of alfalfa in the stand. Try to target lower fertility grass-alfalfa fields first. Another critical factor is timing. It can be difficult getting manure on after first cutting due to quick regrowth and a lack of manpower, but try to avoid applying manure once the foliage has emerged. If fields are wet and subject to compaction, skip the manure. Finally, manure application rate is also important. Cornell recommends applying no more than 4,000 gal/ac when topdressing alfalfa fields to minimize potential injury from manure application.

Eric Young

Phone: 846-7121 ext. 113

E-mail: young@whminer.com

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Introductory Course

DATE: July, 19-September 27, 2010

Registration Fee: \$75 (Registration closes July 12)

The Northern New York Dairy Institute is pleased to announce the newest online training course for the **DairyCOMP305 software program**. Minnesota College of Veterinary Medicine, in collaboration with Valley Agricultural Software is presenting the program with course instructor Paul Rapnicki, DVM, MBA. This web-based learning experience is designed to introduce you to the DairyCOMP305 dairy management program. No previous DairyCOMP305 experience is required.

The course uses a hands-on approach with a customized Demo Version of the DairyCOMP305 software program, especially designed for the course.

Your DC305 skills will be improved through practice exercises and activities that you will be guided through. Take the classes in your own time, whenever it is convenient for you. This 8-week on-line training course offers 8 total classes. Each class requires 5 to 8 hours to complete.

Course Outline

Unit 1: Introduction to the WebVista learning site, background on Valley Agricultural Software and a brief history of the DC305 program.

Unit 2: Introduction to the basic components of DC305 and the individual CowCard. This unit also explains in some detail DC305 Items and DC305 Events.

Unit 3: Covers the basics of command line syntax. This is the command line that allows users to custom-define lists, graphs, and other reports.

Unit 4: Covers basic program SETUP features and some background details on the structure of DC305 files and data storage.

Unit 5: Provides you with additional FOR statement practice. Various ways to use the BY clause are also covered. In addition, this unit shows you how to save and modify DC305 commands using ALTER.

Unit 6: Covers the very important SAVE command, and its use when making database backups. If you are a producer using DC305 to manage your herd, be sure that you have a solid data backup system in place. This unit also introduces the command verbs SUM and GRAPH.

Unit 7: Reviews the use of the "Report Outlook" bar that makes accessing saved reports in a cowfile quick and simple. In this unit, we also go into more detail on DC305 items and their definitions.

Unit 8: Course summary and evaluation. The skills and program features discussed in this course will serve as a solid foundation that will help you get the most out of the DairyCOMP305 program.

Registration Fee: \$75 (Reg. closes July 12)

Contact:

Emily Myers, Cornell Cooperative Extension of
Northeastern NY, 518-353-4949 erm35@cornell.edu

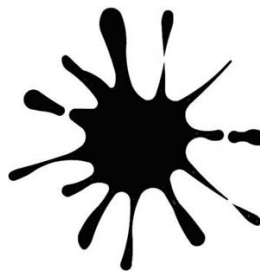
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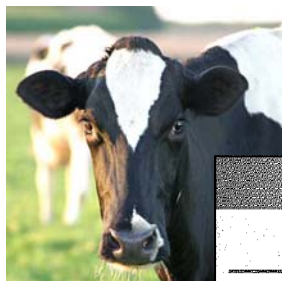
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