

Cornell University **Cooperative Extension** South Central New York Dairy & Field Crops Team

### **Preparing for Corn Silage Harvest.**

When will corn be ready? Planting was staggered this year and maturities are following suit. Corn ranges from not yet pollinated to early dent. Use this information for planning harvest order for grain and silage.

**60 days**, that's the length of time, on average, that it



takes for corn silage to mature from silking (pollination) to blacklayer (physiological maturity). We use  $\frac{1}{2}$ milkline as the point to start checking whole plant moisture. Seventy percent moisture is the accepted target for beginning harvest, but consideration needs to be given to your farm storage. Bunk silos pack better at the top of the range, while uprights may have excessive seepage above 68% moisture. Dry matter tests will run 2-3 pts above actual field conditions. See Table 1. Target Crop DM Levels for Vertical Silage Systems. Knowing the maturity of your crop and how many days or weeks it takes to harvest allows you to target the moisture for beginning harvest. Moisture will decrease by .5-1 point/day depending on the weather conditions. See Table 2 Description of Kernel Growth Stages and Development.

Table 1. Target Crop DM Levels for Vertical Silage Systems				
Oxygen limiting	structure			
Corn silage	40-65% DM	[35-60% moisture]		

Corn silage	40-65% DM	[35-60% moisture]		
Conventional Concrete & Stave Structure				
Corn Silage :				
Under 60 feet	32-36% DM	[64-68% moisture]		
Over 60 feet	Increase 2% DI	M per 10 ft vertical height		
Source: Mike Hutjens, U of Illinois, Urbana.				
http://qualitysilage.com/wp-				
content/themes/twentyten/PDF/TowerSiloManagement.pdf				



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### TABLE 2. Influence of Corn Maturity on Grain Yield, Whole Plant Silage Yield and Moisture Content

	-	-				
			% Max Yield		% Moisture	
Maturity	Avg. Cal	GDU to		Whole		Whole
Stage	Days	Maturity	Grain	Plant	Grain	Plant
	To Maturity					
Silk	50-55	1100-1200	0	50-55		80-85
Blister	40-45	875-975	0-10	55-60	85-95	80-85
Late Milk	30-35	650-750	30-50	65-75	60-80	75-80
Early Dent	20-25	425-525	60-75	75-85	50-55	70-75
Full Dent	10-15	200-300	90-95	100	35-40	65-70
(1/2 Milkline)						
Blacklayer	0	0	100	95-100	25-35	55-65
Assumes 20 GDU/day to maturity. Adapted from Carter, P.R. 1993. Pioneer Hi-Bred						
International, Inc.						
If your fields planned for grain corn are more than 6 weeks away from						
blacklayer, strongly consider shifting gears and leave the more mature corn for						
grain harvest.	grain harvest. (Continued on page 13)					ige 13)

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Cornell Cooperative Extension South Central NY Dairy & Field Crops Program



We are pleased to provide you with this information as part of the Cooperative Extension Dairy and Field Crops Program serving Cortland, Chemung, Tioga and Tompkins Counties. **Anytime we may be of assistance to you, please do not hesitate to call or visit our office.** 

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Dairy Digest Designed By: Sharon VanDeuson, Administrative Assistant, CCE Cortland County, (607) 753-5078, <u>shv7@cornell.edu</u>.

### Key Points for a Successful Corn Silage Harvest –

Betsy Hicks, Dairy Specialist

September is upon us, and farms are gearing up to harvest corn silage. The steps producers take today to harvest their corn will most definitely impact profitability the whole rest of the year. That being said, it is important to review a few key points about properly harvesting for corn silage before farms are in the thick of it. Appointing a person now to monitor a few things during harvest will surely pay down the line.

### Processing

One of the most important things that affects the amount of milk per acre of corn harvested is how well kernels are processed. The surprising thing is how much producers trust the person who is actually chopping to be the one paying attention to that factor. Appoint a person – your nutritionist, your feeder, anyone you trust to do the job – to evaluate kernel processing. This should be done more than once: most definitely at the start of chopping and minimally a few times during the day but also at every new start up or after an adjustment since breakdowns happen when we least expect them to. The best is evaluation of processing at least 3 loads every hour. New fields or different varieties of corn should also be evaluated since whole plant dry matter and maturity can affect the degree of processing.

There are a few ways of evaluating kernel processing. Pioneer suggests filling a 32 ounce cup with your sample of corn silage, spreading it out and observing the kernels. Ideal processing is achieved if two or less whole or half kernels are observed. Another strategy is to fill a bucket with water and

dump some corn silage in it, agitating slightly. The kernels will drop to the bottom and can be observed after the top is poured off. Almost no cracked or whole kernels should be present. Lastly, a shaker box can be utilized to separate the kernels. Evaluation of whole or cracked kernels is similar to the bucket method.

A diet with optimally processed corn silage contains about two pounds more milk than a diet containing only adequately processed corn silage, Dr Randy Shaver (University of Wisconsin) states. Further, the optimally processed corn silage is four pounds higher than inadequately processed corn silage. Taking the time to inspect the loads coming in for kernel processing will most definitely pay off in the long run. Setting your team up from the start will ensure that not only your crop will be in the bunk, but it will be put up the best way possible.

### Packing and Load Delivery

Let's take packing and covering bunk to the next level. Before the chopper even leaves the shop, you should know how much weight you need to adequately pack your bunk. The person pushing and packing the bunk needs to know a couple things. The most important thing is knowing that layers 6 inches or less are the only way to get maximum bunk density. Along with that, how are loads coming in going to be managed to achieve that 6 inches or less? Options include spray painting side walls at 6 inch increments or marking with tape. The second part of the job includes knowing how fast corn is being brought to the bunk and how much weight is required to adequately pack the bunk in 6" layers or less. The included chart shows the relationship between these two variables and where the cutoff point is for how fast feed can be delivered. Using this chart can help the person in the packing tractor know how many loads they should be putting on the bunk per hour. Adding more weight beforehand, however, will help increase the loads per hour and keep bunk density at the maximum.

### Covering Bunk/Excluding Air and Water

Plans for covering the bunk should include putting plastic on the side walls before corn even reaches the bunk to further minimize the amount of air and water reaching your stored feed. Farms have even placed tile lines in the bottom of the bunk outside the plastic to reduce water infiltration. When the pile is full, the sides should be folded on top with another layer of plastic on top of that, sandwiching in the store feed. Whichever anchor the farm chooses to use on top of the bunk, as much air as possible should be pushed out, and anchors should be placed so they are touching. A little preparation work now will save dry matter losses in spoilage and sugar loss down the road.



South Central NY Dairy & Field Crops Digest

### "Help! I'm low on Corn Silage! What do I do?" - Options for Running Out of Corn Silage Before New Crop is Cooked

Betsy Hicks, Dairy Specialist

Maybe you've added on cows, maybe the cows you have are milking better and eating more forage, maybe you just didn't get enough forage put up last year, or perhaps you're short on corn silage because you forgot to take inventory soon enough and the pile shrank faster than you thought. Whatever the reason, now you're staring at the grim fate of not having enough corn silage to make it to feeding cooked new crop corn silage, or even with this year, corn silage that still isn't ready to chop. As ugly as this situation can be, there are a few options to pull your herd through this transitional time

and a bunch of things to learn from for next year.

*Option 1:* Buy corn silage. Yields were not all that bad last year and some farms do have a little extra that they're willing to part with. Prices out there have ranged from \$50-65 per ton, depending on factors such as dry matter, nutrient profile, and being inoculated or acid-treated. Yes, it is a price you have to pay but not having

to put cows through eating partially fermented feed has its benefits. Make sure you get a sample analyzed for nutrient content, as well as a mycotoxin screening to know what you're buying.

*Option 2:* Forgo feeding corn silage when you run out and feed forage solely of hay crop. Big changes in the diet have to happen if this is the option you choose. Having a bin for corn meal would be a huge bonus since the haylage you're feeding won't have near as much energy in it as the corn silage did. The protein blend you feed probably won't line up with the timing of running out of corn silage, so having your nutritionist figure out how to use what is left is imperative. You must make up the salt and bicarb that is left out, however, if you choose to limit how many pounds of protein blend you feed.

*Option 3:* Feed green corn chop or partially fermented corn silage. Both can and have been done every year on a lot of herds. The steps you take with your nutritional program to set your herd up when you make the change will likely be a gauge of how successful you are in feeding green or partially fermented corn silage. Additives to limit heating and oxidative stress to nutrients in the feed may be a good choice

South Central NY Dairy & Field Crops Digest



at this point. Adjusting the diet for the digestibility of starch should be taken into account. As soon as you can, a sample of this year's crop should be analyzed for nutrient composition so your nutritionist can see the differences from last year's feed. Monitoring fresh cows is super important if you choose this option; they will be the first to feel the effects.

*Option 4:* Save fermented feed for higher risk animals (fresh cows, prefresh, high group) and use the partially fermented feed for the other groups and heifers.

*Learning Lesson 1:* Take some time to determine forage needs for the year, calculating in shrink and carryover for a few months. Putting more into corn silage than for grain should be a priority to build up inventory if running out happens more than it should.

*Learning Lesson 2:* Keep track of loads coming into the bunk to determine tonnages that were actually put in. Estimating amounts likely won't help much - it's far better to have firm

numbers of the amount that you started with than to have to guess. An article on estimating the weight in a forage wagon can be found at -

http://fyi.uwex.edu/forage/files/2014/01/Fora geBox.pdf. In brief, the density of corn for silage is about 5.0 lb DM per cubic foot in the forage wagon. Determine the volume of the forage wagon by multiplying the length, width and height of the wagon. To determine the dry weight of the corn in the wagon, multiply the volume by the density. To determine the wet weight, do the same

calculation then divide by the percent dry matter of the feed.

*Learning Lesson 3:* Do feed inventories minimally once a month, more frequently to even once per week is better. The University of Wisconsin spreadsheets for predicting density of bunkers and piles are probably the most reliable tool out there and will help in gauging your forage inventories. They can be found at <u>http://fyi.uwex.edu/forage/h-s/#inventory</u> under the "Forage Inventory" section.

*Learning Lesson 4:* Do everything you can to minimize spoilage and dry matter losses. Pack your bunk in layers of 6" or less, line the sides with plastic, anchor and cover the top in such a way to exclude as much air as possible. Minimize spoilage by keeping as clean a face as you can and only pulling down what feed you need for that day.

*Learning Lesson 5:* If you think you're running short, make changes sooner rather than later. Sticking your head in the sand will not make the problem go away. Utilize your nutritionist, crop advisor or extension agent to determine inventories and to make adjustments in diets early on. Small changes are always better for the cow, and evaluating usage from the beginning of feed-out may allow for a little wiggle room later on.

### Purdue Ag Economists: There's Potential Help to Counter Low Prices

Keith Robinson, Ag Answers: Business and Science of Agriculture, July 2014

Farmers already seeing corn and soybeans prices plummet as the markets expect bountiful harvests have some potential safety nets that might help protect them financially, two Purdue University agricultural economists say.

Corn and soybeans futures prices have dropped to their lowest levels since 2010 - corn below \$4 per bushel and soybeans under \$11. That is partly because of higher yields expected for many farms this fall. Although high yields result in more bushels for famers to sell, the abundant supply leads to much lower prices, eroding profits.

"Midwest crop producers have been shocked by the sharp drop in corn and soybean prices as favorable weather has increased yield prospects this summer," <u>Michael</u> <u>Langemeier</u> and <u>Chris Hurt</u> said in a review of crop insurance and a new government program. "Such large decreases in prices are raising anxieties among producers and their lenders regarding weak margins and the potential for tight cash flows."

Langemeier and Hurt said producers should evaluate how two safety-net programs might help protect them:

\* Crop insurance: Revenue policies - those that consider both yield and price - are the most popular. The economists said that even with above-normal yields, prices could drop low enough to trigger insurance payouts on some high-coverage policies. As an example, a farm with an 85 percent policy and yields this year 10 percent above its base actual production history of 170 bushels per acre might trigger an insurance payment if December corn futures in October average below \$3.57 a bushel, a level the market is approaching.

The same farm with an 80 percent policy, however, would not trigger an insurance payout until the December corn futures average in October drops below \$3.36 a bushel. Langemeier and Hurt said that is a less likely situation but still one that provides some protection against catastrophic low prices.

Soybean insurance payouts because of low prices seem much less likely for all coverage levels.

\* Agricultural Risk Coverage-County Option: This new government program, also referred to as ARC-CO, currently has a higher probability of adding support to corn and soybean farmers, the economists said. They explained that under the current projections of above-normal yields, the program would begin making payments when the marketing year average of corn drops below about \$4 per bushel. The payments would increase as prices drop to about \$3.50 a bushel.

At \$3.75 a bushel, estimated Indiana average payments would be about \$25 to \$40 per acre of corn base, and at a \$3.50 marketing year average price they would grow to the maximum of about \$55 to \$80 per acre.

For soybeans with above-normal yields, ARC-CO payments might begin with a marketing year average price below about \$10.60, with maximum payments occurring at a price of about \$9.40. As an example, a \$10 per-bushel marketing year average price would result in payments of about \$20 to \$30 per acre of soybean base. If prices fell to about \$9.40, the payments would range from about \$40 to \$60 per acre. Langemeier and Hurt noted that the U.S. Department of Agriculture's Farm Service Agency is still working out details of the program and that payments will vary from county to county.

"The important point for producers is that the new government program now appears to have a high potential of providing some protection against low revenues for corn and maybe some assistance with low soybean revenues," they said. "However, 2014 corn and soybean government payments will not be available until the fall of 2015 and thus will not be available to meet more immediate cash-flow needs.

"Crop insurance currently appears less likely to be of assistance for producers with strong yields, although those with high corn coverage levels have some chance of triggering crop insurance payouts."

## MARGIN PROTECTION PLAN FOR DAIRY FEATURING PROFESSOR ANDREW M NOVAKOVIĆ PLANT TOUR & LUNCH

SEPTEMBER 24, 2014 Byrne Dairy Complex, Rte 13, Cortland. Lunch included. Noon – 2:30 pm.

Registration required. Call Sharon VanDeuson at 607-753-5078 to register. For more information contact Janice at 607-753-5215.



### Updating Base Acres and Payment Yields Under the New Farm Bill

Paul D. Mitchell, Agricultural and Applied Economics, UW-Madison

The USDA-FSA just announced that they will begin sending letters to eligible farmers that report two types of information: 1) their current base acres and payment yields, and 2) their historical acres planted and considered planted for program crops during 2009-2012. This information will be coming at a busy time of year for most farmers, but it is important for farmers to check the accuracy of this information and begin assembling crop production records to combine with this information, as it will impact their options for commodity program signup this winter and the level of their payments under these programs.

The new Farm Bill gives farmers three sign up options for commodity support: PLC, county ARC or individual ARC. PLC is Price Loss Coverage and is essentially the same the previous counter cyclical payments programs, but with higher target prices. ARC is Agriculture Risk Coverage, a revenue support program that makes payments based on county revenue outcomes on a crop by crop basis (county ARC) or based on whole farm revenue outcomes (individual ARC). Final program details for PLC and ARC have yet to be announced, and the signup date and deadline for the decision has yet to be determined, but will likely come this winter. Expect more information about PLC and ARC this fall.

The first step for commodity program signup under the new is the potential for farmers to update their base acres and program yields. Once updates are completed, then the signup for PLC and ARC can begin. This letter from the FSA is the start of the base acre and program yield updating process.

This short fact sheet explains what to do with the letter and who to prepare for the next step. Current information will be available on the USDA-FSA Information Page: Base Reallocation, Yield Updates, Price Loss Coverage (PLC) & Agricultural Risk Coverage (ARC):

https://www.fsa.usda.gov/FSA/webapp?area=home&subject= arpl&topic=landing.

### **Confirm your Data**

Total base acres for each FSA farm cannot be increased under the new Farm Bill, but farmers will be able to shift the mix of their base acres to match the crops they planted in the four years 2009-2012. Given crop prices during this period, many farmers may have planted more corn and soybeans than their current base acre allocations. Updating base acres for these farmers will allow them to shift more base acres to corn and soybeans, crops that likely have higher potential payments. Farmers should confirm that the current base acres and associated crops on their letter match the base acres and crops for which they had received direct payments in years past. Farmers should also confirm that the historical planted and South Central NY Dairy & Field Crops Digest considered planted acres on their report from FSA match what they actually planted during 2009-2012, since these historical acreages will define their options for updating their base acres.

Once dates for the updating process are announced, farmers can correct any discrepancies with their FSA office. Farmers will not be required to update their base acre crop mix, but many will likely find it beneficial, as the crops associated with their base acres will define their payments for PLC and/or ARC.

### Prepare for the Next Step

The new Farm Bill also allows farmers to update their payment yields. If elected, the new payment yield for a crop will be 90% of the farm average yield per planted and considered planted acre during the five years 2008-2012. Farmers will likely want to update their payment yields if these yields are higher than their current payment yields, since higher payment yields improve their options under the new Farm Bill commodity support programs.

Higher payment yields increase PLC payments when these payments are triggered, and they increase the ARC Farm Guarantee for the individual ARC program, making ARC payment more likely to be triggered and larger if they are triggered. However, payment yields will not affect payments for the county ARC program, since these payments are only triggered by county yields and national prices. Another reason to update payment yields is that it may be several years before payment yields can again be updated and any new commodity support programs under future farm bills will likely use similar measures to determine payments.

The letter from the FSA will not include any of production information. To be prepared when signup dates and deadlines are announced for updating program yields, farmers may wish to pull together their 2008-2012 historical production records for their farms. For most farmers, crop insurance records will prove useful for this process, but FSA will make the final determination regarding the sufficiency of production records.

### **Final Comments**

The new Farm Bill created several new commodity support programs. For most farmers, updating base acres and program yields will likely to their first experience with the new Farm Bill, but several more programs and options are coming. Besides PLC and ARC, for which signup has yet to be announced, signup for the new dairy Margin Protection Program (MPP) begins September 2, and the sales closing date is September 30 for the new crop insurance Supplemental Coverage Option (SCO) available for winter wheat farmers in several Wisconsin counties. In the meantime, farmers should confirm the acreage data in the letter they receive from the FSA, begin to assemble their crop production data, and wait for the FSA to announce signup dates so they can correct any crop acreage discrepancies and update their payment yields.



### "Margin Protection Program (MPP)" – The Next Step in Federal Support for Dairy Farms

Fay Benson, Cornell's South Central NY Dairy Team

With all the opinions that went into creating the dairy portion of the 2014 Farm Bill, it's no wonder it may seem complicated. Looking at the history of federal dairy support and stabilization programs of the past helps us see that the MPP is just another step in the evolution of support for the dairy industry. Some ask why the federal government is involved at all; and the reason given is the same as the reason there is Crop Insurance: to remove some of the risk inherent to agriculture. It is in the country's best interest to have a safe and secure supply of food. We don't want to repeat disasters from the past, such as the Dust Bowl of the 1930s, when thousands of farmers left the land due to widespread drought.

#### **Steps in Dairy Support**

- In 1950, under the parity price support program, the support price was \$3.07 per 100 pounds of Class 3 milk.
- Ten years later in 1960, it had not increased but was \$ 3.06.
- By 1970 the support price had increased to \$4.66. But, double digit inflation in the 1970's increased the support price to \$7.71 in 1975
- By 1980 the support price increased to \$13.10. This program became too costly for the government so congress reduced the support price to levels where they were rarely triggered.
- The1985 Farm Bill authorized a Whole Herd Buyout program
- The 2002 farm Bill provided for the Milk Income Loss Contract Program (MILC). Under this program dairy farmers would receive a direct payment per 100 lbs of milk (cwt) anytime the established price for milk fell below a set amount.<sup>i</sup>
- The 2008 Farm Bill enhanced MILC to include the "Feed Cost Adjuster," a program that took into account the risk of not only milk price but also feed cost for the first time.

#### MPP, The Next Step

The 2008 MILC program was a step in the right direction for farmers but there were a number of complaints that the 2014 farm bill hoped to address with MPP. The main one was the inability of larger farms to access risk protection; another was the inability for a farm to choose their level of protection to match their farm's exposure to risk such as when they are a new or expanding farm with more debt.

Farmers wishing to participate in MILC only needed to contact their FSA offices and let them know if and when they were going to participate and a check was mailed if the trigger price was activated all at no cost to the farmer. There are more choices to be made by farmers with MPP support, With MPP, farmers South Central NY Dairy & Field Crops Digest still work through their FSA offices but will have to decide how much milk to cover and how much protection they want. Even for the "Free" level of less than 4 million lbs of milk and \$4 of margin there is a \$100 charge for administering the program. Cost can be seen in Figure #1. To get a historical view of how this program would have protected you in the past see Figure #2. The "Free" level of \$4 of margin would have kicked in only twice.

#### **Decision Time Coming Soon**

Farmers will need to make a decision whether or not to participate and at what levels before the new program takes effect. The actual time has been identified but not released. To help farmers understand the new policy there will be webinars hosted by Cornell Cooperative Extension with support from FSA. During the webinar participants will hear Cornell's Andrew M. Novaković, The E.V. Baker Professor of Agricultural Economics describe the new policy and be able to ask questions as to how it may affect them.

#### Figure 1.

#### Margin Protection Program Premiums

Margin Level Covered	First 4 Million Pounds 2014-2015	First 4 Million Pounds After 2015	More Than 4 Million Pounds
\$4.00	Free	Free	Free
\$4.50	\$0.0075	\$0.010	\$0.020
\$5.00	\$0.0187	\$0.025	\$0.040
\$5.50	\$0.0300	\$0.040	\$0.100
\$6.00	\$0.0412	\$0.055	\$0.155
\$6.50	\$0.0675	\$0.090	\$0.290
\$7.00	\$0.1627	\$0.217	\$0.830
\$7.50	\$0.2250	\$0.300	\$1.060
\$8.00	\$0.4750	\$0.475	\$1.360

Premiums will be fixed for five years at the amounts shown in the tables, but will be discounted by 25% in 2014 and 2015 for volumes up to 4 million pounds.

#### Figure 2.

MPP Margin and Coverage Levels – 2004-2013



Using the MPP's formula, the margin between milk prices and feed costs has averaged around \$8/cwt. since 2004, reaching as high as \$14 in 2007, and dropping to just \$3 in 2009 and again in 2012. This chart shows that even free coverage would have provided a backstop at the \$4 level. Higher levels of coverage, purchased at \$4.50 and above, would have generated more frequent payouts.

<sup>1</sup> Factors causing fluctuations in All Milk Price Received by U.S farmers

Bob Cropp,1, University of Wisconsin, Madison, Wisconsin, US Jelle Zijlstra, Animal Sciences Group of Wageningen University and Research Centre, Lelystad, Netherlands

### Estimating Soybean Yields -

(*Shaun N. Casteel*) – Pest and Crop News. Aug 18, 2014. Purdue Cooperative Extension Service

Soybean yield potential is built on numerous factors including the genetics that have been selected, the management decisions during the season, and the weather. Yield components of soybeans are boiled down to pods, seed size, and number of seeds per pod.

### When Should I Take Yield Estimates?

You need to use these factors and the understanding of your field conditions to estimate soybean yield potential prior to harvest. Soybean yield estimates can begin as soybeans enter into R5 (first seed, Figure 1). At this point, a fair portion of the pods have developed and seeds are filling throughout the whole plant. The yield potential at this point can be low or it can be high depending on the remaining 4 to 6 weeks of the growing season. Yield estimates will improve as the plants continue developing over the following ~15 days and enter R6 (full seed, Figure 2), which last another ~20 days.



Figures 1. Soybean at R5 (first seed). Seeds are 1/8 inch long in one of the pods at the top 4 nodes.



Figures 2. Soybean at R6 (first seed). Seeds filling the pod capacity in one pod at top 4 nodes

### **Estimating Soybean Yields**

Simplified Soybean Yield Estimation. Individual plant production will vary and we must take a representative sample without being extraneous. Every field will have variations based on soils, pests, fertility, and other factors. I have simplified the process of estimating soybean yields, so that you can scout multiple areas quickly while maintaining representative estimates.

The system is based on 1/10,000th acre and the following formula:

Pods X Seeds Per Pod divided by Seed Size Factor = Estimated Bushels Per Acre

### Step 1 – Pods

*Count the number of pods in 1/10,000th of acre.* Yes, 1/10,000th of acre! Nearly 90% of our Indiana soybean acres are planted in 30-, 15-, or 7.5-in rows, so just remember 21. You will count the number of pods in 1 row for 30-in width, 2 rows for 15-in width, or 4 rows for 7.5-in width to equal 1/10,000th acre (Figure 1). Each one of these counts will be 21 inches in

### length.



Figure 1. Number of rows to count to equal 1/10,000th of an acre.

We certainly have other row widths, and this simplified system can be adapted to your row width. If you have a different row width, divide 627.26 by your row width (inches) to calculate the linear length (inches) of 1 row to equal 1/10,000th acre. For example, an 18-in row width would require 34.8 inches of 1 row to equal 1/10,000th acre (627.26 18 inches).

This simplified system is more reliable when you have 8 or more plants in the sampled area, which translates to 80,000 plants per acre. If plant stands are less than 8, you should count additional areas to decrease the variability of the overall yield estimate for the field. If you want to have an idea of final plant stand, multiply the number of plants sampled by 10,000. However, you do not need plant population to estimate yield with this approach.

You will count the total number of pods in the 1/10,000th acre. You will need to use discretion to which pods you will include in the count. A good rule of thumb is to count the pods that are R5 or larger, with the knowledge that some of the smaller pods may or may not make it.

### **Step 2 – Seeds Per Pod**

The starting point is an average of 2.5 seeds per pod, since there can be a range of 1-, 2-, 3-, and 4-seeded pods. This value is conservative since we do not know exactly how the rest of the season will finish. The soybean plants may arrest seed development on several 3-seeded pods or some pods are aborted completely. You can quickly increase or decrease the yield estimate by changing this one value. You can more confidently adjust this value because you are more likely to remember the frequency of 2- or 4-seeded pods within a few hundred pods.

### Step 3 – Seed Size Factor

The starting point is seed size factor 18, which equals a fairly representative seed size of 3,000 seeds per pound. If you expect larger seeds (maybe from late season rains) you will use a smaller seed size factor such as 15 (2,500 seeds per pound). Similarly if seed fill will be limited (i.e., small seeds) due to lack of water or other late season stresses, you should use a larger seed size factor like 21 (3,500 seeds per pound).

Table 1. Seed Size Factors.

### Examples:

- Good soybean growth, good pod retention, and adequate late season moisture.
- Good early soybean growth, fair pod retention, BUT little late season moisture.
- Fair soybean growth, limited pod retention, BUT good late season moisture.

### Carry the Market?

John Berry, Ag Marketing, Penn State Extension

# Carry . . . is the difference in price between any two deliver months. Why is this a key concept?

The reason we like to understand the concept of carry is because this is one market signal suggesting appropriate marketing strategies at harvest. A large carry is the market telling us it would prefer that we store the crop and deliver it at some point in the future. A large carry suggests we have an opportunity for a return to our storage enterprise that exceeds the interest cost on the cash value for grain in storage. Storage has two primary functions; 1) speed up harvest, 2) storage after harvest. Here we are referring to the storage function.

Once we determine what carry the market is offering, we should decide if this carry justifies the risks of storage, and our cost of money. If we put grain in the bin instead of selling, we have an interest cost to cover. Our friends at the U of MN, Center for Farm Financial Management suggest anytime the result of *Step 3* (below) is greater than 140% - we have a large carry. A large carry suggests pricing the grain and storing for later delivery.

# How do we make this decision? Follow this three step calculation:

#### Step 1: calculate the *carrying charge*:

(using any two delivery months, subtract the per bushel price for the closer month from the per bushel price for the further away month)

carrying charge = \_\_\_\_\_ cents

### Step 2: calculate a *per bushel interest cost* for grain storage:

cash grain price \* interest rate \* mos. storage / 12 months \$\_\_\_\_\_ \* \_\_\_\_ \* \_\_\_\_ / 12 = \_\_\_\_\_ cents

#### Step 3: compare the size of the *carry* to your *interest costs*:

carrying charge (*step 1*) / interest cost (*step 2*) = \_\_\_\_%

Using this formula and today's market for DEC 14 corn and JUL 15 corn we get the following:

### Step 1

Carry 390 - 362 = \$0.28

### Step 2

390 (local harvest bid) \* 5% (my line of credit rate) \* 7 (months in storage form DEC to JUL) / 12 =\$0.114

### Step 3

\$0.28 / \$0.114 = 246%

If this calculation were done at harvest and we got 246% for Step 3; pricing grain at harvest and storing for later delivery (July is an example, only) is an appropriate marketing strategy.

### The "Dairy Dozen" – What You Need to Know and Where to Get Help

Betsy Hicks, Dairy Specialist

I recently participated on a farm walkthrough with Michael Cappelli with the NYS Department of Labor, focusing on the "Dairy Dozen", or areas of common hazardous activities on dairy farms. These areas are:

- 1. Manure Storage Facilities and Collection Structures
- 2. Dairy Bull and Cow Behavior
- 3. Electrical Systems
- 4. Skid-Steer Loader Operation
- 5. Tractor Operation
- 6. Guarding of Power-Take-Offs (PTOs)
- 7. Guarding of other Power Transmission and Functional Components
- 8. Hazardous Energy Control (Lock-out)
- 9. Hazard Communication (Chemical Safety)
- 10. Confined Spaces
- 11. Horizontal Bunker Silos
- 12. Noise

The walkthrough was very informative and non-threatening. Mr. Cappelli was very knowledgeable on many aspects of safety, and would point out if an issue was a part of the "Dairy Dozen" or if it would be on a typical OSHA inspection. OSHA's Local Emphasis Program (LEP) will be focusing on the Dozen, so that was our main focus, but other areas were noted by Mr. Cappelli during the walkthrough. His consultation took about three hours to complete on a 700cow dairy, but was very extensive as we walked through every building on the farm and met in the farm office both before and after the walkthrough to answer any questions. He also gave good insight on what to do if there is an OSHA representative on farm, and how to approach handling their inspection.

Michael Cappelli can be reached at (607) 721 – 8211. He encourages farmers to contact him directly, or to go through NYCAMH to be assisted in gaining OSHA compliance. NYCAMH also has a consultation program, does walkthroughs and has on-farm safety trainings in both English and Spanish. They can be reached at 1-800-343-7527 or at www.NYCAMH.org. A Farm Safety Checklist, OSHA Record Keeping Standards, and other pertinent information about the LEP can be found in PDF format at http://www.nycamh.org/osha-ny-dairy-lep/. More OSHA materials and information can be found at www.OSHA.gov. Mr. Cappelli stated that the best thing a farm can do to help themselves is to keep records. A fillable excel spreadsheet can be found on the OSHA website to track incidents. If you would like help getting started on gaining OSHA compliance, or are not sure where to start, you can always contact me at (518) 428 - 2064.

Below is a list of areas that we encountered on our walkthrough that may be a good place to start looking for safety hazards on your farm.

Area Investigated	Potential Hazards Encountered
Breaker Boxes	Punch-outs Covered, empty breaker spots inside filled, properly labeled, photos 1 & 2
Fans	Properly Guarded, or located 7 ft above walking surface
Chemicals	Material Safety Data Sheets in the language that the employee uses, proper Personal Protective Equipment for use, labeled and stored correctly, photo 12
PTO-driven Generators	PTO properly guarded, knuckle of PTO guarded also, photos 3 & 4
Compressors	Fans/Belts properly guarded
Manure Storage	Proper Signage, fencing around pit, photos 9 & 10
Formaldehyde	Respirator provided for each employee using one, or the ability to clean it beforehand, stored in a plastic bag, employee received proper instruction on use of respirator
Outlets near water	GFCI, such as outlets located outside, near sinks, wet areas, etc.
Lock-out/Tag-out	System in place for employees to tag a piece of equipment or breaker box when they are working on it so that everyone else knows not to use it, photos 7 & 8
Eyewash station	Available, refreshed periodically according to directions, photo 11
Confined Spaces	Bulk tank, manure pit, grain bins, etc. Plan in place and posted as such, photos 5, 6 & 7
Compressor Room	Noise protection used if employee works in there and is exposed to noise for long periods of time

(Continued on page 11)

Extension Cords

**Bunker Silos** 

For use of 90 days or less and not in place of permanent wiring. If only used occasionally, they should be coiled up and stored on a hook or shelf, not stretched out

Plans in place for feed out, employees trained



Photo 7 – Tank Confined Space Sign



Photo 8 – Lockout/Tagout Station



Photo 1 – punch out not filled on side of box



Photo 3 – unguarded knuckle on generator PTO



Photo 5 – railing/barrier needed around pit



Photo 2 – well labeled box with no empty spaces



Photo 4 – well guarded PTO shaft and knuckle



Photo 6 – confined space procedure required if entered



Photo 9 – Signs around manure storage



Photo 10 – Fencing around manure storage





Station

Photo 11 – Eyewash

Photo 12 – Personal Protective Equipment Stations

### OSHA INSPECTIONS UPDATE CENTER NYS OSHA begins LEP dairy farm inspections

Article from Pro-Dairy, Printed in Dairy Herd Management on 8/8/14

The New York State Occupational Safety & Health Administration (OSHA NYS) Local Emphasis Program (LEP) inspections have started. At least one central New York dairy farm was inspected during the last week of July under the OSHA LEP, and another inspection was conducted in eastern New York the first week of August. OSHA has six months to issue a report after an inspection, so it will likely be some time before we have any official information about what OSHA is keying in on.

Under the LEP, OSHA will not conduct a random inspection of a dairy that is actively involved with the New York Department of Labor On-site Consultation Program. This means that a farm has to have an active, open file with the DOL On-site Consultation Program. The file opens when the DOL consultant visits your operation, not when the farm requests the consultation.

Once the file is closed, after DOL has issued the report and the farm has addressed issues identified, the farm is once again subject to an LEP inspection by OSHA. OSHA inspectors are not likely to know who is working with DOL, so if OSHA

shows up for an LEP inspection, farm managers need to inform the OSHA inspector of the DOL relationship upon arrival. The inspector will call DOL to confirm your status and will cancel or postpone the inspection if your file is open.

Tonya Van Slyke, Executive Director of the Northeast Dairy Producers Association (NEDPA), confirmed with OSHA officials that if a workplace injury occurs while a farm that is subject to OSHA jurisdiction is involved with the On-site Consultation Program, OSHA can do a targeted inspection at the place where the injury occurred. Should an OSHA inspector stop in after an injury, farm managers should confirm the reason for the visit, and also inform the OSHA inspector that there is an open file with the DOL On-site Consultation Program. Managers should also thoughtfully plan the travel route to the injury location.

In a related matter, at a recent training for OSHA inspectors that NEDPA and PRO-DAIRY staff participated in, one inspector asked if LLC shareholder/employees are included in the family employee exemption for farm operations. OSHA officials have confirmed that for agriculture, all immediate family members that fit the OSHA definition are exempt from being counted as employees, regardless of how the business is organized. Farms that are LLC's will want to remember this in case there is a question of OSHA jurisdiction upon an inspection.

At the same training, there was lots of discussion

South Central NY Dairy & Field Crops Digest

about bunk silo safety concerns. With so many bunk layouts across farms, we recommend that producers give thought to their own condition to see how to make activities related to filling, packing, covering and uncovering can be made safer. We are currently looking for safe, practical options, and will share what we find in the coming months.

We are also hearing about various individuals that are calling or stopping on farms that are offering inspection or training services. At least one farm contact reported by a dairy farmer directly to PRO-DAIRY staff claimed to represent an organization that, for a fee, would help the farm prepare for the upcoming OSHA inspections. In this case, the farm is exempt from OSHA enforcement and though they had taken steps to address safety issues, they knew that they did not need to hire an outside service. However, the initial phone message sounded official and the farm did not feel that it was clearly identified as a sales call.

The New York Center for Agricultural Medicine and Health (NYCAMH should be the first contact of choice for many farms for health and safety training needs regardless of size. Be sure to require unfamiliar callers or especially visitors to clearly identify who they work for (provide identification and supervisor contact) and the purpose of the call or visit. OSHA inspectors carry an official badge, they understand that there are imposters, and they also understand that you have the right to contact their supervisor to make sure they are legitimate.

#### **REPORT FROM A RECENT VISIT.....**

I had the opportunity to speak with Karen Merrill/Merrill Farms, Wolcott and the farms' safety director after their OSHA inspection 2 weeks ago. Merrill's Farm safety director was on safety crew at Nine Mile and Ginna nuclear plants. He admits he might have gone overboard on some things but nuclear reactors have big emphasis on safety.

Even if your dairy doesn't fall under OSHA LEP guidelines safety is still important.

All in all they said it went pretty well. The first impression the inspectors gave that they didn't want to be there and they considered these visits political BS. Two inspectors; one Hispanic (bilingual) and one white. The Spanish speaker did talk to the hired men in Spanish. Have your Spanish speaker with you. Take pictures and notes.

Here are the points of emphasis as they see it. Here is what they asked/looked for first thing.

1.OSHA posters posted at time clock(s)

2. OSHA 300 (injury reports) going back 5 years

3. Written HAZ COM training. He found these on computer. Fillable forms 4. Looked for MSDS binders but did not look in them

The big emphasis was on electrical.

Signage seemed to be very important to inspectors. If you had caution/warning/exit/ fire extinguisher/low clearance/stay back, etc. sign posted all over the farm they inferred that you think farm safety is very important. You can get the signs from Northern Safety catalog. In paved driveways or feed areas have sign saying "no unauthorized entry" or "keep back 50 feet" etc. You can also paint these warnings on pavement.

The inspectors said report should be returned to farm in one month. You then can address issues they find and work for reduction in fines. - Ron Kuck, Dairy / Educator, CCE Jefferson County

#### (Continued from the cover) Preparing for Corn Silage...

We have somewhere between 30-45 days left before we have a frost that ends the growing season. Last year we had the earliest frost since 1970 on Sept 13. Our latest was Nov 5 in 1971. *Do you remember that extended fall?* Fifty percent of the time it has occurred on October 4 in the last 43 years. The earliest last spring frost was April 28 (2004) and latest first fall frost Nov 5 (1971).

Average Season Length by Decade (days between last & first frost)			
70's 142			
80's 140			
90's	133		
2000's	148		
2011-2013	146		

With 6 weeks until early October, it looks like there will be a lot of corn that hasn't reached black layer by the killing frost.

At that point you have to make the best of the crop that you can.

Unfortunately there will be corn that doesn't reach maturity and will be compromised, silage will have less energy and may be sloppy wet to harvest and grain will be light (more kernels to make a bushel). To make the best of a frosted immature crop Dr. Larry Chase, Dairy Science Professor at Cornell advises:

"The following factors should be considered when managing frosted corn silage:

- The leaves will quickly turn brown and the plant will appear "dry". This gives a false reading on whole plant DM since leaves are only 10-15% of the total plant weight on a DM basis. Most of the plant moisture is in the stalk and ear.
- Whole plant DM needs to be determined to assess when to harvest. Corn for silage should be at 32% DM

before you start chopping. The target range for harvest is still 32 – 38% DM.

- The frost may kill some of the normal bacteria found on the plant. The use of a research proven bacterial silage inoculant should be used to assist in getting a good fermentation started when ensiling this crop.
- Once you start harvesting, harvest as quick as possible. This will lower the risk of the plant getting too dry and any molds that

could grow on the ear while it is still in the field.

• Follow normal guidelines for packing and sealing the silo.

If possible. Let the corn silage ferment for 3 – 4 months before feeding. This will minimize the typical "October to December" ration adjustments and lower milk production associated with feeding "new" corn silage. When you start feeding the 2011 corn silage, take 1-2 weeks to transition between the old and new corn silage. This will minimize potential fermentation and nutrient changes in the ration. Cows like consistency of both feed and nutrients!" For full article visit our webpage

http://nydairyadmin.cce.cornell.edu/pdf/submission/pdf445\_pdf. pdf.

### Have we been short of Growing Degree Days this year?

Table 4. Monthly GDD Totals for 2014 Compared to the 43 year average (1970-2013) shows we lost ground in July and August this year. For our GGD accumulation through August 28 we ranked  $32^{nd}$  out of 45 years. Meaning there have been 31 years with a greater GDD accumulation at this point in the season. The average being 1863 GDD, while in 2014 we are at 1771. Using the July average accumulation of 19 GDD, it's like we lost 5 days in July this year. It's interesting that the average daily accumulation is about on target with the long term average but a cool July makes a big difference. It takes between 700 and 1000 GDDs depending on the maturity group of your corn hybrid to mature from pollination to 1/2 milkline. Corn will respond to shorter days and can compensate somewhat wiith fewer GDD's. Table 5. Shows the 5 highest and lowest years of GDD accumulation from May – Aug 28 for the same 43 years.

**Table 4.** Monthly GDD Totals for 2014 Compared tothe 43 year GDD Average (1970-2013)

	May	June	July	Aug	Sept.	Oct.
	SUM/	SUM/Daily	SUM/Daily	SUM/Daily	SUM/Daily	SUM/Daily
	Daily	Average	Average	Average	Average	Average
	Averag					
	e					
2014	298/10	482/16	467/18	407*/15		
Long Term						
Average	298/10	467/16	594/19	557/18	367/12	167/5
*August data through 8/28/2014						

Source: CLIMOD. Climate data maintained by the NE Regional Climate Center. http://climod.nrcc.cornell.edu/

5 Lowes	5 Lowest Years		5 Highest Years	
Year	GDD	Year	GDD	
1992	1618	2012	2135	
1985	1670	1991	2101	
1997	1686	2010	2101	
1972	1709	2005	2087	
1976	1712	1999	2040	

**Table 5.** Ranking of GDD (86/50) Accumulation from May1 – August 28, 1970-2014.

#### **Growing Degree Day Calculations**

The base temperature will differ for different crops. For example for alfalfa we use a base temperature of  $45^{\circ}$  for alfalfa. The base temperature for corn is  $50^{\circ}$ . A modified system for corn, called the 86/50 method, sets the highest daily temperature to  $86^{\circ}$  and the lowest temperature to  $50^{\circ}$ . The daily calculation is done by taking the highest daily temperature and lowest daily temperature (or adjusted temperatures) added together and divided by 2 to get a daily average and then subtracting the base temperature. For corn that looks like:

[Daily max temperature  $({}^{0}F)$  + Daily min temperature  $({}^{0}F)$ ] - 50 = Daily growing degree days (GDD).

2

Source: Cornell Field Crops and Soils Handbook. p 9.

	Assessment*	Status
Adding Insult to Injury	If three to five of the lower	
This season is characterized by stress from start	leaves are dead (or nearly so)	proper rate of nitrogen fertilizer was used
to finish including excessive moisture and	by the early dent stage and the	
saturated soils and resulting loss of nitrogen. It	upper leaves on the plant	
seems to me that organic sources (manure	remain medium to dark green	
breakdown) could not keep up with crop	If fewer than three leaves die	Too much nitrogen used. Rate could have been
demand or were lost shortly after mineralizing	by early dent and the top	decreased by 20-40 pounds per acre.
from organic sources from continuous rainfall.	to dark green	Mr. 14 Lotte Vale . 1
As the end of the season nears the influx of		
northern corn leaf blight is a late arriving stress		
that can kill off needed leaf tissue to finish the		
crop. I am seeing severity range from presence		
to brown field edges. Wet weather conditions		
will drive speed of development and severity of		STAR ENALS STA
the disease. Aerial fungicide treatment is an		
option if you need to protect corn that is a		
month or more from maturity.	If the leaves die up to or above	Too little nitrogen fertilizer used. The optimal
	the ear leaf or the entire plant	rate 20 to 40 pounds/ac higher than what was
Lack of Nitrogen is obvious on many fields.	has a light to very light green	applied.
Even protected sources of nitrogen were not	color and the leaves near the	Same Number of Kernel Rows (Girth),
able to withstand the rainfall leading to either	ear leaf are yellow	But Dramatic Difference in Kernel Size
denitrification (loss to the air) or leaching		
losses. Although it may be difficult to sort		
environmental reasons from nitrogen rates		
applied as the cause for signs of deficiencies it		
is worth evaluating fields and making note of		
their nitrogen status this fall & reasons for the		Difference due to N deficiency
deficiency. A simple visual assessment	*(in this evaluation consider on	NR Durba the planet
follows.	not losses caused by leaf light or	drought)
"Examine the lower leaves of the	not losses caused by lear light of	urought).
cornstalks.	Note: Nitrogen deficiency	
	starts as a V-shaped yellowing	
There are several new tools that offer guidance	of the leaf tip, which proceeds	
in assessing nitrogen fertilization levels at the	toward the stalk, followed by	
end of the season from organic and commercial	gradual leaf death. Drought	
sources. They include the Illinois soil nitrogen	symptoms are almost the same	
test (ISNT) which measure a stable source of	as those of nitrogen	
nitrogen in the soil and the corn stalk nitrate test	deficiency, and drought will	
(CSNT).	appear to be worse "	
	appear to be worse.	
More information for both can be found at		
http://nmsp.cals.cornell.edu/guidelines/factsheet		
s.html. Fact sheet 31 pertains to the CSNT and	Source: CORNELL GUIDE FOR IN	VTEGRATED FIELD CROP MANAGEMENT.
36 to the ISNT.		

### WHITE MOLD OR SCLEROTINIA STEM ROT IS HERE

Anne Dorrance, Ohio C.O.R.N. Newsletter, The Ohio State University

This disease is caused by the fungus.Sclerotinia sclerotiorum and it is favored by cool damp conditions. Remember those morning fogs this summer and the fact that you hardly used your air conditioner? Perfect conditions for infection. This fungus forms hard black irregular shaped bodies called sclerotia. (photo of sclerotia inside stem) They are actually a mass of hyphae and if you break them open they will be pink inside. They can be mistaken for mice or rat droppings as well, the inside is a different color! When the conditions are cool and the



canopy is closed, this fungus produces a very small mushroom (<u>photo</u>). This usually occurs during flowering and the spores then land on the dead flowers. This provides a perfect point of entry. This fungus produces oxalic acid – which degrades the tissue as it colonizes the plant. The infections that you see now occurred 2 to 4 weeks ago. Symptoms from the road will look like standing plants with a gray-green appearance. Eventually these plants will lodge. Once the leaves fall off – the plants will stand back up to some extent.

Some things to keep in mind:

1. There is nothing to spray at this time to stop the infection. The plants that have stem lesions will die and that yield will be lost. The plants that lodge on top of one another, we have seen the mycelium keep colonizing the upper stems – "plant-to-plant". But overall this will be minimal. Again, nothing can be sprayed on the plants at this time.

2. It takes at least 20% incidence to begin to measure yield loss. We have had several trials out over the past several years, we can measure differences in disease severity/incidence – but in all cases we could not measure yield loss as we were at 15 to 20% incidence.

3. Not all fields have inoculum – there must be sclerotia in the field from a previous crop to have

Sclerotinia develop – so farmers should note this field as they will now have this "forever".

4. Make note of the variety – and remove this from the list. There are more resistant varieties out there, but this year was VERY conducive for infection and I expect that some moderately resistant

varieties are going to have a tough time. As I like to say, it is a good year to get data and some of these varieties will be dumped.

5. Plan to harvest these fields last. The reason is the sclerotia, they will get everywhere in those combines and then become introduced into more fields. Let's keep the spread to a minimum.

6. After harvest, practice no-till. The sclerotia that are left on the surface will degrade more quickly than those that are buried.

7. For severely infested fields, we have tried fall applications of a biocontrol fungus called Contans. Interestingly, in subsequent years, we did not observe white mold developing – but I can't be certain it was from the Contans or the fact that the environment was not favorable in the years that followed or if the varieties were more resistant. So I am sharing the information but not backing the practice.

8. Practice good weed management. This fungus has a very wide host range including many weeds, alfalfa, and other legumes. So best to plan for wheat or corn for the next crop.

9. Choose varieties with better resistance levels.





Cornell University Cooperative Extension South Central New York Dairy & Field Crops Team



Building Strong and Vibrant New York Communities "Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and Change Service Requested

SEPT 2-	CALENDAR OF EVENTS		
NOV 30	<b>USDA FSA MARGIN PROTECTION PLAN FOR DAIRY: Sign-ups 2014 &amp; 2015</b> <b>"Margin Protection Program (MPP)" – The Next Step in Federal Support for Dairy I</b> Registration for MPP-Dairy for the two separate years 2014 and 2015 will occur simultar through November 30 <sup>th</sup> at FSA Offices. Farmers need to make more decisions for this p MILC which is ending this month. To inform your decisions, attend one of our meetings o See page 7 for more information.	F <b>arms</b> neously starting September 2nd rogram then they made for r go to: <u>dairymarkets.org</u> .	
SEPT 10	<b>HORSE HAY WORKSHOP:</b> Cornell Cooperation Extension Tompkins County 4-H Ac Creek Road, Ithaca. 6-8pm. \$10 fee. Light refreshments. Please contact Sharon VanDeu register. For more information contact Betsy Hicks at 607-753-5213.	res Kiwanis Hall, 418 Lower son at 607-753-5078 to	
SEPT 12 SEPT 13	<b>HOPFEST PAIRED BEER DINNER AT:</b> Kenwood and Vine, Oneida. <b>HOPFEST:</b> 435 Main Street, Oneida. 11 am – 5:30 pm. Guest speakers, vendors, beer s For complete 2-day program and registration go to: <u>www.madisonhopfest.org</u> or 1-315-36 fees. Sponsored by the Madison County Historical Society.	ampling and taste of hops. 53-4136. Some events have	
OCT 28, 30 NOV 4, 6	<b>CALF CARE WORKSHOPS:</b> 6:30 pm – 9 pm. 361 Stocking Hall, Cornell University. More details on page 2. On-farm November 8 <sup>th</sup> tentative.	SAVE THE DATE! CCE ANNUAL MEETING	
SEPT 16	<b>MOZZARELLA CHEESE WORKSHOP:</b> Trinity Valley Dairy. Workshop is full. Call to be put on a waiting list if interested in future workshops.	Come and see what Cornell Cooperation	
SEPT 23	MARGIN PROTECTION PLAN FOR DAIRY INFORMATIONAL WEBINARS: 1-3 pm. Featuring: Andrew M. Novaković, Cornell's Professor of Agricultural Economics. See page 7 for more information.	Extension is all about. Oct. 29 <sup>th</sup> 6:30pm – 8:30pm Cortland County Office	
	4-H Building, Chemung Co Fairgrounds, 170 Fairview Rd. Horseheads CCE Tioga, 105 Main St. Owego CCE Tompkins, 615 Willow Ave., Ithaca CCE Cortland, Room 302, 60 Central Ave. Cortland also 7 pm – 9 pm	Building Auditorium (Light snacks provided) 753-5077 to register.	
SEPT 24	MARGIN PROTECTION PLAN FOR DAIRY FEATURING PROFESSOR ANDRE Dairy Complex, Route 13, Cortland. Plant Tour and lunch included. Noon – 2:30 pm. Re Sharon VanDeuson at 607-753-5078 to register. For more information contact Janice at 60	<b>EW M. NOVAKOVIĆ:</b> Byrne egistration required. Call 07-753-5215.	
OCT 3-4	<b>CORNELL SHEEP &amp; GOAT SYMPOSIUM:</b> Friday afternoon 3 October at the Cornel near Harford, NY and Saturday 4 October in Morrison Hall at the Cornell University camp to: <u>http://sheep.cornell.edu/calendar/sgsymposium/index.html</u>	ll University Ruminant Center ous. For more information go	
OCT 10	<b>THE 13<sup>TH</sup> ANNUALTASTE OF TIOGA:</b> The premiere culinary festival and fundraiser County's best restaurants and farms in one unforgettable, delicious experience. Live music	that brings together Tioga c. wine & beer, local farms.	

5:30 - 8 pm. Owego Treadway Inn. Tickets in advance - \$35, at the door \$40. Call 607-687-4020 for more

information.