



## Planning Farmstead Changes? There are Resources Available to Help

The Southern Tier Agricultural Industry Enhancement Program is providing grant funding up to \$100,000 with a 20% cost share. In our area, farmers in Broome, Chemung, Tioga and Tompkins may be eligible for funding. Round 2 applications will be accepted from July 11 – September 19. **The following capital and professional services costs are eligible:**

- Construction and renovation of buildings and structures (e.g. fencing)
- Water Management Practices (e.g. Irrigation, drainage and/or erosion control practices).
- Environmental Best Management Practice System(s)
- Trellis systems
- Greenhouses
- Permanently installed equipment
- Permanently installed root stock
- Legal services
- Architectural and/or engineering services
- Cultural resource impact determinations

Eligible expenses include, capital costs and professional services costs necessary to complete an eligible project.

There are eligibility requirements. You can read the details at <http://www.tiogacountyny.com/media/2664/tioga-southern-tier-rfa-staiep-011516-final.pdf>. If you would like help with the application process please contact one of us on your dairy and field crops extension team.

The Dairy Acceleration Program (DAP) has funding for another year to support business planning that will increase your farm’s viability in the dairy industry and/or development of an AEM Certified Nutrient Management Plan. For both, preference is given to farms under 300 cows. Funding for the design of BMP’s is available for farms under 700 cows. The funding is provided on a 20% cost share basis. There are several new levels of financial and environmental planning available. An extension professional facilitates the

process with the farm and outside consultants. The project is administered by the PRO-DAIRY Program. Applications go through an approval process.

### Eligibility Requirements:

- Must be a dairy cattle farm shipping milk in NYS Dairy heifer operations are eligible for environmental planning
- Must have complete financial records for business planning
- Must complete and submit an application

### Program Funding

The Dairy Acceleration Program funds 80% of the cost of the plans (up to established limits) with 20% of the cost of the plans paid by the participating farmer directly to the provider of the service, including any in excess of awarded funds. Awarded funds are disbursed through Cornell University upon receipt of invoice and completed project delivery form. The program ends when funds are depleted or no longer available. Projects are expected to move forward in a consistent manner or farms risk forfeiting the award.

### Business & Environmental Planning Projects\*\*

- ✦ Up to \$5,000 for business planning or a combination of business planning, facility planning and/or farmstead development planning.
- ✦ Up to \$2,500 for previously awarded farms to continue working with their farm business consultant in a subsequent year to refine and/or implement their business plan.
- ✦ Up to \$1,000 to prepare farm financial records and benchmark farm financial status.
- ✦ Up to \$6,000 for a new CNMP (or existing CNMP more than three years old) plus the first year of service.

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We are pleased to provide you with this information as part of the Cooperative Extension Dairy and Field Crops Program serving Broome, Cortland, Chemung, Tioga and Tompkins Counties. **Anytime we may be of assistance to you, please do not hesitate to call or visit our office.** Visit our website: <http://scnydfc.cce.cornell.edu> and like us on Facebook: <https://www.facebook.com/SCNYDairyandFieldCropsTeam>.

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*"Diversity and Inclusion are a part of Cornell University's heritage.*

*We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities."*

## Considering Going Organic?? Fay Benson, Small Dairy Extension Educator

If you are thinking about transitioning to organic dairy production you may find the following tools helpful.

**There are two paths to becoming a certified organic dairy:**

- **The 3 year transition** where you establish a date with a certifier and an organic milk processor of when you begin managing your land organically. At the beginning of the third year forages and grain from your fields can be fed to your herd. Any additional forages and grain purchased must be certified organic.
- **The short transition** is when a farmer has acreage which will be available to become certified in less than three years. Considerable planning will be required to do this. This entire article is available on our website <http://scnydfc.cce.cornell.edu/submission.php?id=536&crumb=organic/6>

For more in depth tools go to our web site for the NY Organic Dairy Program and click on "Resources" among them is another tab to "Transition". <http://blogs.cornell.edu/organicdairyinitiative/>

A recorded webinar from last May with Fay Benson and NOFA Certifier Lisa Englebert reviewing the process and tools to help farmers and extension educators <http://blogs.cornell.edu/organicdairyinitiative/2015/06/01/tools->

[for-transitioning-to-organic-dairy-webinar](#)

Fay strongly advises farmers to talk to one of the organic dairy processors before they start their transition. There have been a lot of requests for contracts and depending on the area there may be limited opportunity to get on an organic milk truck route. The processors also offer between \$3-\$4 per cwt for the last year of conventional milk production to help with purchasing organic grain. This is another reason farmers considering the transition should contact either: Organic Valley, Horizon, UpState Niagara or Byrne Dairy before they make their decision.



## When More IS Better

Joe Lawrence, Forage Specialist, PRO-DAIRY  
Ron Kuck, Cornell Cooperative Extension of Jefferson County

As harvest season approaches it is a good time to make sure everything is in order to make the season as successful as possible. There are lots of rules and sayings regarding quantity; “too much of a good thing”, point of diminishing return, optimum range and the list goes on. Often times in crop production we pay close attention to these rules. We have very good data to show the point of diminishing return on fertilizer applications, seeding rates, forage quality versus yield, etc.

In other cases there are guidelines that offer a minimum value or goal to shoot for but there has yet to be proven that there is a point of diminishing return and sometimes these minimum guidelines give us a false sense of accomplishment. There are a few examples of this relative to forage harvest.

Here we will address bunk silo density, while this is not new information it remains an opportunity for many. Based on research conducted by Curt Ruppel at Cornell in the mid 1990’s the benchmark was set that the minimum density for silage should be 14 lbs dry matter (DM)/ cubic foot. At some point in time the word minimum seemed to be lost from this and many began to think about 14 lbs as their goal not just the minimum. As a guideline for achieving this density the



rule of thumb of 800 lbs of packing weight per ton of forage per hour was developed, again as a minimum.

In reality we have yet to see a bunk packed too much or any negative outcomes from extra resources committed to packing during silo fill. Silo filling is a very dynamic process and parameters can change from hour to hour. If you set your goal for the minimum of 14 and your assumptions for filling are not accurate the risk of ending up with a density lower than 14 becomes high.

Investing in “packing power” to get the highest density possible assures that even when things are not going exactly as planned you have a better chance of keeping the density at 14 lbs or above. A higher density will improve forage quality, reduce dry matter losses and increase the efficiency of your storage footprint.

The calculations can be done for various storage strategies; bunks with wall, drive over piles, etc. A simple example would be a modest size bunk that is 40’ wide by 100’ long with 10’ sidewalls. This provides 40,000 cubic feet. With a density of 14 lbs DM per cubic feet that would result in a storage capacity of 280 tons of DM and expected DM losses (shrink) of approximately 16.8% (Ruppel, 1992).

Now let’s take that same storage space and increase the density by 4 lbs DM to 18 lbs DM per cubic foot. This increases the capacity of your bunk to 360 tons DM, an increase of 80 tons DM or approximately 36%. Additionally, DM losses would be expected to drop by 3.4% to approximately 13.4% (Ruppel, 1992).

Increasing the capacity of your current storage by this amount could eliminate the need for investing capital into more storage space and also reduce the necessity to pile forage above the walls in the case of bunk silos. Staying with the walls alone can drastically cut down on spoilage and improve safety around the feed storage.

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- ✱ Up to \$6,000 for a new CNMP (or existing CNMP more than three years old) plus the first year of service.
- ✱ Up to \$4,500 for a CNMP update plus the first year of service.
- ✱ Up to \$5,000 for the design of a single BMP recommended in the farm CNMP or up to \$10,000 for the design of a combination of BMP’s.
- ✱ Up to \$2,500 for the certification of an existing manure storage.

- ✱ Up to \$1,000 for a soils investigation and/or topographic survey associated with the design of an eligible BMP.

*The DAP, under Governor Cuomo’s leadership, and in partnership with the NYS Department of Agriculture and Markets and the NYS DEC facilitates long term viability of NY dairy farms while maintaining a commitment to environmental stewardship. ◇*

## Dairy Situation and Outlook

Bob Cropp, University of Wisconsin-Madison Cooperative Extension

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April milk prices continue well below a year ago. The Class III price will be near \$13.65 compared to \$15.81 last year and \$24.31 two years ago. The Class IV price will be near \$12.80 compared to \$13.51 a year ago and \$23.34 two years ago. Other than butter dairy product prices have shown little movement. On the CME both 40-pound cheddar blocks and barrels have been in the low \$0.40's per pound most of the month and will average around \$0.43. Nonfat dry milk will average about \$0.70 per pound. Dry whey will average about \$0.25 per pound. But, butter which fell below \$2 per pound early March, reached a low of \$1.92 on March 23rd, but then increased reaching \$2 on April 5th, peaking at \$2.17 on April 11th and has fallen back to \$2.04.

We can't expect much upward price movement over the next month or two. Milk production is increasing seasonally which means higher production of dairy products. The latest dairy product report already showed higher production than a year ago for February. Butter production was 5.8% higher (adjusted for leap year) than a year ago, and cheese 4.0% higher. Domestic sales of butter and cheese remain good, but exports continue to be weak. While February butter exports were 61% higher than a year ago, they were still a fraction of the level of exports in 2014. Cheese exports were 17% below a year ago, the 17th straight month the volume of exports have lagged a year earlier. Dry whey exports were 5% lower. However, both lactose and nonfat dry milk/skim milk powder exports continue above year ago levels. Lactose exports were 13% higher and nonfat dry milk/skim milk powder was 16% higher. Higher butter and cheese prices than world prices continues to attract imports. While January-February imports of butter under quota were 13.5% lower than a year ago, high tier imports were 266.9% higher. Quota cheese imports were 48.4% higher and high tier 43.4% higher.

Growing stocks will keep downward pressure on dairy product prices. Compared to a year ago, February Butter stocks were 31.5% higher and 26.2% higher than the 5-year average for this date. Total cheese stocks were 10.8% higher and 13.5% higher than the 5-year average for this date. Relatively strong exports resulted in nonfat dry milk stocks to be 10.5% lower, but still 12.5% higher than the 5-year average for this date. Dry whey stocks were 20.1% higher. With growing stocks butter makers are not seeking higher levels of cream to make butter. Available storage capacity for cheese plants in the Midwest is also becoming tight.

While butter and cheese sales are expected to remain good exports are not expected to show much improvement until late in the year or early next year. World dairy product prices, with the exception of nonfat dry milk/skim milk powder, remain depressed and well below U.S. prices. World milk production continues to run well above a year

ago primarily due to higher production in the EU countries. And the two largest world importers of dairy products, China and Russia remain rather inactive. So the level of U.S. milk production will be a key factor for milk prices for the remainder of this year.

USDA's milk production report for March milk was not good news for milk prices. March milk production was 1.8% higher than a year ago from 0.2% more milk cows and 1.6% more milk per cow. This is a lot of milk considering milk production a year ago was also running 1.4% higher than the year before. Milk cow numbers increased monthly for each of the three months this year and were 10,000 head higher than February. Despite low milk prices producers may be keeping cows longer due to rather low slaughter cow prices. Plus, there is a good supply of dairy replacements.

California's milk production continues to run below a year ago with March production down 2.2% from 0.3% fewer cows and 2.2% less milk per cow. With just 0.7% more milk per cow and 3.7% fewer cows New Mexico's production was 2.9% lower. Texas also had 1.3% fewer cows but 3.4% more milk per cow resulted in 2.0% more milk. More cows and higher milk per cow pushed milk production up 3.2% in Arizona and 2.4% in Idaho. March milk production was well above a year ago in the Northeast. New York's production was up 5.5%, Michigan 7.7% and Pennsylvania 1.7%. Other than for Pennsylvania each of these states had more cows and higher production per cow. Milk production was also well above a year ago in the Midwest. March production was up just 0.7% in Iowa, but up 2.8% in Minnesota, 5.3% in Wisconsin and 10.9% in South Dakota. Cow numbers were unchanged in Minnesota as was milk per cow in South Dakota. This rather high level of milk production will likely stress milk plant capacity in both the Northeast and Midwest as we go through the spring flush period.

Looking ahead most price forecasters show a slow increase in milk prices as we move through the year but staying relatively low. Class III futures don't reach \$14 until July and \$15 until September and peaking in November in the low \$15's. Class IV futures each \$13 in May, \$14 in July, \$15 in September and also peaking in the low \$15's in November. USDA now forecasts the Class III price for the year to only average between \$13.65 to \$14.15, the Class IV price to average between \$12.90 and \$13.50 and the U.S. All Milk price to average between \$15.00 and \$15.50. If milk production continues to show rather strong increases and exports do not improve more than now projected, these prices are quite likely. But, there is still a good possibility prices could do somewhat better than this for the second half of the year. ☯

## Oversupply Could Speed Consolidation

Tom Bailey, Farm Journal's Milk

The past few decades, the U.S. has seen a rise in the number of dairies with herds of more than 1,000 head. This trend was recently examined in a report on dairy consolidation in the U.S. released by the Rabobank Food and Agribusiness Advisory Group.

This consolidation has brought positive change to the U.S. dairy industry, including reduced environmental impact through efficiency of production. It has picked up speed the past ten years, as market volatility and industry changes made dairy farming a more challenging but—if done right—more profitable practice, particularly for well-managed, large, and efficient producers.

The increasing rate of change has boosted consolidation of U.S. milk production, putting increasing influence in the hands of large farms and sending ripples throughout the U.S. dairy industry. With large farms likely accounting for the majority of growth in the coming years, U.S. dairy producers and processors alike should be considering the potential impact of this change.

**Milk Supply Drives Global Markets.** Milk supply has continued to expand despite very low milk prices for most producers and a very bearish pricing outlook for the coming year. The driver of this supply has been the European Union (EU), which was up 2.2% for all of 2015 and saw an additional 3.2 million MT of milk introduced to the market. The main supply growth has come from the Netherlands, which was up 7%, Ireland, which was up 13%, and Poland, up 3%. In 2016, EU supply is showing few signs of slowing, with Dutch production up 15.5%, Ireland up 19%, and Poland up 7.5% for January.

The reason for the EU growth has been the removal of the

EU quotas that placed milk supply caps on the market for the past three decades. In the build-up to the removal of the quotas, the market saw record-high milk prices, which drew in significant investments at the farm gate in anticipation of the removal of these quotas. As a result, the post-quota period has seen very rapid growth in milk-supply.

European milk supply will take time to slow as milk prices remain well above breakeven for many producers, since processors are able to pay a higher milk price due to profitability in their value-added product categories.

New Zealand's story is much different. Fonterra has again reduced its milk price, now at \$3.90/kg of milk solids for the 2015/2016 season (around \$8/cwt). This puts the majority of New Zealand dairy farmers below breakeven. This will add further pressure on New Zealand's milk supply, which was down 2.1% in January.

**Consolidation to Continue.** As we study the U.S. dairy industry, we are more convinced than ever that producers and processors alike need to consider how continued consolidation would impact their business. The profitability of large dairy farms is driven by economies of scale, leading Rabobank to believe the long-standing trend of consolidating milk production is here to stay. The bottom line: the global market is oversupplied, and has been oversupplied for more than 12 months now. We at Rabobank believe the laws of supply and demand will sooner or later prevail, and prices will eventually fall to a level, or remain low long enough, that it will mean production will slow to rebalance the global dairy market.



## COMING SOON!

### Betsy Hicks, Extension Dairy Specialist

The SCNY team is going to monitor alfalfa heights again this spring to help predict quality and %NDF for first cutting hay crop. Alfalfa height has been proven to be a reliable indicator of NDF values in the field for alfalfa, alfalfa/grass mixed and all grass stands. Results will be compiled and emailed on a weekly basis – to be included on the email list, please call us at 607.391.2660.

The numbers that are indicators for using alfalfa heights for NDF content are as follows:

- 100% grass stands should be cut when nearby alfalfa is 14 inches tall, to achieve 50% NDF
- 50/50 mixed alfalfa/grass stands should be cut when nearby alfalfa is 22 inches tall, to achieve 44% NDF
- 100% alfalfa stands should be cut when alfalfa is 28 inches tall, to achieve 40% NDF

Predicted days to cut are based on daily NDF increases for grasses of 1.0% point, 50/50 mixed alfalfa/grass stands of 0.8% points, and alfalfa of 0.5% points and are adjusted for the coming week's weather. Typically NDF increases about 0.8 to 1.2 per day for grasses, with cooler weather being the lower end of the range and warmer weather being the higher end. For alfalfa, NDF increases about 0.4 to 0.7 per day, also dependent upon warm/cool weather.

The weekly email for the month of May will have a table of the locations around the region where we have measured the alfalfa height, as well as the elevation. Even if your fields aren't measured, you can use the location and elevation as a guide to conditions that may be similar to your own. ☘

## Cropping Notes

**Janice Degni, Area Ext. Field Crop Specialist**

Another year with an interesting start to the growing season. Spring like weather in early March had me thinking that it could be another early spring like 2013. The week of March 20<sup>th</sup> featured warm, dry conditions and field work was popping; tillage, manure spreading, and ground prepped or planted to small grains or seedings. April came in like a lion and dumped 4-6" of snow and temperatures down below freezing. The weather was as bad as the worst weather we had all winter. Snow persisted in the shaded edges of fields into the end of the 2<sup>nd</sup> week of July. Field activities; hay topdress spreading, and seedings going in, picked up again mid-month with grass greened up & alfalfa out of dormancy.



**Persistent Snow Drifts April 15**



### Cover Crops

What a year for cover crops! The mild and extended fall allowed for successful late planting and supported strong growth of cereal rye or other small grains. On some fields the cover crop grew so well it nearly covered all the corn stalks. At the end of March some fields of cover crops with around 2-4 inches of height were being terminated with tillage



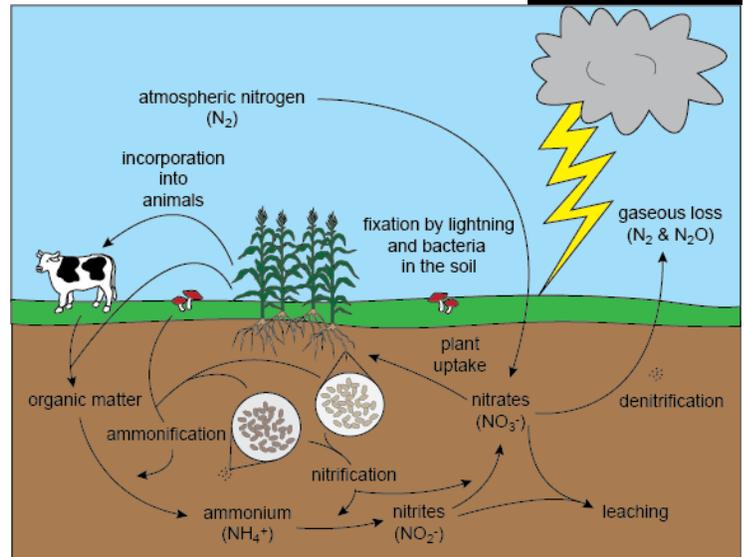
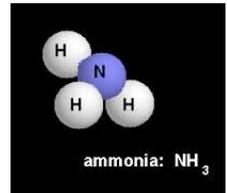
**Late March Growth**



**April 19 on Gravel Soil**

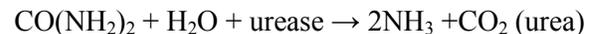
### Nitrogen: To Protect or Not to Protect

I want to provide a quick reminder/review of nitrogen and products available to reduce losses from N- fertilizers. We can lose nitrogen when it out gases to the air called volatilization or we lose it through leaching when it is washed through the soil from excessive rainfall. Some protectants protect for only one loss and some for both. So before picking your product you need to decide which method of loss you are protecting from.



### Urea losses to Air

“Urea breakdown begins as soon as it is applied to the soil. If the soil is totally dry, no reaction happens. But with the enzyme urease, plus any small amount of soil moisture, urea normally hydrolyzes and converts to ammonium and carbon dioxide. This can occur in 2 to 4 days and happens quicker on high pH soils. Unless it rains, urea must be incorporated during this time to avoid ammonia loss. Losses might be quite low in the spring if the soil temperature is cold. The chemical reaction is as follows:



The problem is the NH<sub>3</sub>, because it's a gas, but if incorporated the NH<sub>3</sub> acts the same as incorporated anhydrous ammonia. Also, half of 28% liquid N is urea and the same thing happens with this half as with regular urea.”

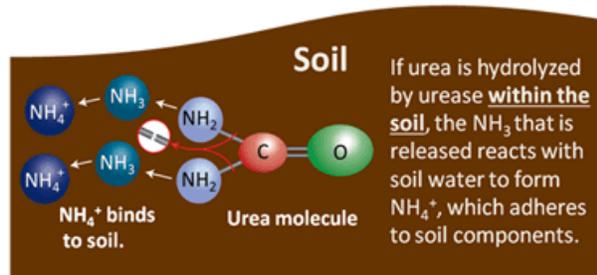
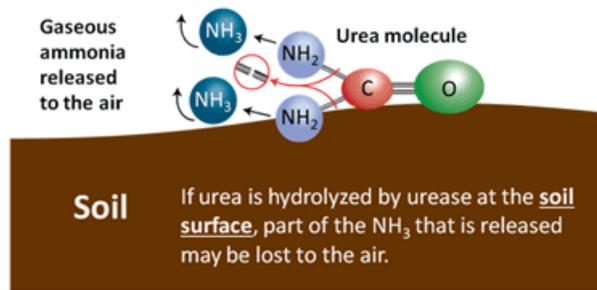
When urea is incorporated into the soil by light disking such as it would be pre-plant applied on crop ground, it no longer volatilizes but is subject to leaching loss if rainfall rates are high.

### “Soil Application and Placement of Urea

After application to the soil, urea undergoes chemical changes and ammonium (NH<sub>4</sub><sup>+</sup>) ions form. Soil moisture determines how rapidly this conversion takes place.

When a urea particle dissolves, the area around it becomes a zone of high pH and ammonia concentration. This zone can be quite toxic for a few hours. Seed and seedling roots within this zone can be killed by the free ammonia that has formed. Fortunately, this toxic zone becomes neutralized in most soils as the ammonia converts to ammonium. Usually it's just a few days before plants can effectively use the nitrogen. Although urea imparts an alkaline reaction when first applied to the soil, the net effect is to produce an acid reaction. Urea or materials containing urea should, in general, be broadcast and immediately incorporated into the soil. Urea-based fertilizer applied in a band should be separated from the seed by at least two inches of soil. **Under no circumstances should urea or urea-based fertilizer be seed-placed with corn."**

Source: Fertilizer Urea, University of Minnesota



Source: Pioneer Common Nitrogen Fertilizers and Stabilizers for Corn Production. Crop Insights by Steve Butzen, DuPont Pioneer Agronomy Information Manager

### The Products:

- **Agrotain®**-Only protects Losses from Volatilization
- **Agrotain® +Plus**-Protects Volatilization and Leaching Losses
- **Super U** - Protects for Volatilization and Leaching

These are the most commonly available products in our region. They have been reliable in field trials. If you are curious about the reliability of other products please give Janice a call. ☐

## High Yielding Annual Forage Options with High Quality

At the Winter Crop Meeting in January, John Kemmeren a no-till farmer from Bainbridge, NY shared how he uses BMR sudangrass and Italian ryegrass for harvesting high yielding, highly nutritious feed. This article highlights his recipe.

These crops could help fill forage shortfalls or fit well in a rotation when transitioning to organic production. High energy forages could be used in place of corn silage and additional energy needs could be met through purchased corn grain.

In the spring of 2015 he planted Italian Ryegrass, no-till, on old corn stubble. He killed the rye cover crop on April 10 when it was 10 inches tall (That's just a side detail). He seeded May 8 at 50 pounds per acre. It was ready to cut 35 days later. Not super tall but very thick. He cut 3 times for a total of 6.2 T DM (2.4, 2.0 and 1.8 TDM for the 3 cuts respectively). I suspect he added nitrogen fertilizer between each cutting. You could also use liquid manure or chicken manure.

Another option that is planted later, in June through July is BMR sudangrass. John plants BMR sudangrass with 10 pounds of red clover. The challenge with this crop is that it is difficult to dry down for good ensiling. For best results wide swathing when mowing is recommended, then ted to aerate crop and get moisture to move out of the thick stems to get to 30-35% for baleage or chopping. Of course after

tedding you have to rake to re-windrow. In a summer with heat, it's ready for harvest in 45 days. For the first cutting cut at 6 inches so that stubble supports fast regrowth. Mow short at the second cutting then clover comes on for hay crop the following year. ☺



# CORN AND SOYBEAN: WHAT'S IN STORE FOR 2016?

Laura Lindsey, Peter Thomison, C.O.R.N. Newsletter, The Ohio State University

This “spring,” the weather has gone from snow and 24 degrees to sunny and 80 degrees within one week. This unusual weather leaves many of us wondering what’s in store for the remainder of the growing season.



In general, unfavorable weather conditions tend to affect soybean yield much less compared to corn yield. In 2012, when we experienced a hot, dry summer, corn yield was reduced by 23% while soybean yield was only reduced by 8%. However, under more optimum weather conditions, corn yield gains are much greater compared to soybean. With more ideal weather in 2013 and 2014, corn yield increased 12-14% while soybean yield only increased 2-8%.

## ***Soybean Perspective.***

Despite the weather, the state soybean yield does not tend to fluctuate much. Soybean vegetative and reproductive stages overlap allowing the soybean plant to compensate for short periods of stress (see the figure). In 2012, while plants were stunted and there was an increased number of flower abortion due to hot/dry weather conditions, soybean yield was “saved” in many areas of the state due to rainfall in August and September promoting seed fill. (This was especially true of our later maturing varieties.)

## ***Corn Perspective.***

With the weather forecast calling for “slightly-above” normal temperatures and “slightly below precipitation” for the remainder of April and similar conditions for May, this year offers an opportunity to plant corn at optimum calendar dates for yield. The recommended time for planting corns across Ohio is mid-April through about the first week of May. Grain yield and test weight are increased by early plantings, whereas grain moisture is reduced, thereby allowing earlier harvest and reducing drying costs. In central Ohio, yields decline approximately 1 to 1.5 bu/day for planting delayed beyond the first week of May. Early planting generally produces shorter plants with better standability. Delayed planting increases the risk of frost damage to corn and may subject the crop to greater injury from various late insect and disease pest problems, such as European corn borer and gray leaf spot. With earlier planting, vegetative growth is usually complete and pollination initiated prior to the period of greatest moisture stress in July and grain filling occurs during the periods when solar radiation is high which

promotes greater accumulation of dry matter in the grain.

No-tillage corn can be planted at the same time as conventional, if soil conditions permit. In reality, however, planting may often need to be delayed several days to permit extra soil drying. Corn should be planted only when soils are dry enough to support traffic without causing soil compaction. The yield reductions resulting from “mudding the seed in” may be much greater than those resulting from a slight planting delay. Moreover, given the weather projections for drier and warmer conditions than normal, even with such delays, the crop may be planted before the optimum plant date window ends.

There have been occurrences in past years when early to mid-April planting were adversely affected by an abrupt transition from warm, dry conditions to freezing rains and snow. When dry corn seed absorbs cold water as a result of a cold rain or melting snow, “imbibitional chilling injury” may result. Such injury in corn seed can lead to delayed seedling growth and reduced stands so planting right before such large temperature swings should be avoided.

Appropriate planting depths for corn vary with soil and weather conditions. There is a perception that shallow planting depths (less than 1.5 inches) are appropriate for early plantings -



when soil conditions are usually cool and moist - because seed will emerge more rapidly due to warmer soil temperatures closer to the surface. However, planting shallower than 1.5 inches is generally not recommended at any planting date or in any soil type. Recent Ohio studies that evaluated corn response to seeding depth provide no evidence to support shallow plantings. For normal conditions plant corn at 1.5 to 2-inches deep to provide frost protection and allow for adequate root development. When corn is planted 1.5 to 2 inches deep, the nodal roots develop about 0.5 to 0.75 inches below the soil surface. At planting depths less than 1 inch, the nodal roots develop at or just below the soil surface. Excessively shallow planting can cause slow, uneven emergence due to soil moisture variation, and rootless corn (“floppy corn syndrome”) when hot, dry weather inhibits nodal root development. Shallow plantings increase stress and result in less developed roots, smaller ears and reduced yields. □

## Rye Cover Crop Termination

Mike Hunter, Ext. Field Crop Specialist, North Country

The early, rapid growth of winter rye in the springtime can be challenging to manage before planting corn. There are different methods of terminating the rye cover crop. It can be killed 2 or more weeks before no-till crop establishment, incorporated by tillage, or harvested for forage.

Tilling rye when it is less than 12 inches tall is a good way to terminate the stand. Plowing or disking rye after it is over 20 inches tall ties up soil nitrogen, takes moisture from the soil and is sometimes difficult to incorporate into the soil.

Herbicides are often used to terminate rye. In no till corn, glyphosate is the preferred product of choice for burning down cereal rye. Gramoxone SL, (paraquat), can also be used to burndown cereal rye before planting corn. Remember, paraquat is a non-selective, contact herbicide and will require good spray coverage for optimum control of the rye. Glyphosate is a translocated, non-selective herbicide that is less dependent on spray coverage. Cool weather below 55°F will slow activity of Gramoxone SL as will cloudy, overcast weather but will not affect performance. In contrast, glyphosate is affected by cold nights (<40°F) which can reduce activity, especially when followed by cool (<55°F) days.

The glyphosate rate will depend on the stage of growth of the rye at the time of application. However, in most cases it is only necessary to use the .75 acid equivalent rate of glyphosate. Glyphosate formulations will contain 3 to 5 pounds acid equivalent per gallon. The acid equivalent amount is found on the label by the ingredient statement



section. Depending on the formulation you choose, the rate will be between 19 and 32 ounces per acre. With glyphosate, include appropriate adjuvants (if required) plus AMS at 8.5 to 17 lbs/100 gallons of water.

Gramoxone SL applied at 3 to 4 pints per acre and works well on smaller rye before it reaches the boot stage. Add a nonionic surfactant to the spray tank to enhance penetration and total kill. If you will be planting corn and choose to use Gramoxone SL, consider adding 1 quart of atrazine to the tank mix to improve control of the rye.

Harvesting rye as a forage crop is also an option; however, if used for dairy feed it must be harvested in the boot stage just before seed head emergence for highest quality. According to University of Wisconsin research, rye forage quality declines rapidly with increasing maturity beyond the boot stage, 4 to 5 relative forage quality (RFQ) points per day, making timely harvest critical. After the seed head emerges it might be a much better option to harvest the rye as pre cut straw and use it for bedding purposes. ➤

### On The Lighter Side.....

What do you call a cow with a twitch?

-Beef Jerky

How can you tell which cow is the best dancer?

-Wait til one busts a

What do you call the spots on black and white cows?

-Holstains

What do you get when you cross a smurf and a cow?

-Blue Cheese

<http://www.jokes4us.com/animaljokes/cowjokes.html>

# Dairy Grazing Apprenticeship

Ellen Fagan, Area Small Dairy Technology Assistant

New York State is the third leading producer of dairy products in the United States. Dairy Grazing Apprenticeship (DGA) is working to keep it there. DGA is a beginning dairy farmer training program that can help transition the state's dairy farms to the next generation.

In the 20 years from 1990 to 2010, New York lost half of its smaller dairy farms, and, with an aging population of farmers, the remaining nearly 5000 farms are a threatened species. The decline of small family farms negatively impacts the rural communities in which these farms are located, and also changes the character of the landscape of upstate New York. The loss of 100 dairy farms in a county could cost that community over \$30 million per year. With twice as many farmers over 65 as under 35 years old, who will be the next generation of small, grazing dairy farmers?

Unless born into a dairy farm business, a young person with an interest in dairy farming has difficulty getting a foot in the door. Barriers can include a lack of access to farmland, capital, and lack of skills. DGA was created by and for farmers to address this challenge. Wisconsin-based grazing dairyman and former agriculture instructor, Joseph Tomandl, III, has witnessed the decline of the family dairy farm firsthand, so he spearheaded the development of a formal apprenticeship in "managed grazing" dairy production to strengthen dairy infrastructure and create opportunities for current and future dairy farmers like himself.

The program is structured similar to other apprenticeships in the skilled trades such as carpentry or plumbing. As such, it prepares the "apprentice" through work-based learning as a fulltime paid employee. Thanks to DGA, "Dairy Grazier" is now a federally recognized occupation. According to DGA's website, "A dairy grazier is a farmer who uses managed grazing. In managed grazing systems the majority of farm acres are planted to perennial forages and cows are rotated through paddocks of high quality grasses that are allowed to rest and regrow. Using this cost effective method, dairy graziers are able to restore natural resources, produce high quality milk, and remain profitable in both conventional and

value-added markets." DGA Apprentices work under the mentorship of approved "Master Dairy Graziers" for a duration of 2 years. At the end of the program, it is not unusual for this relationship to lead to business partnership or even a transition of ownership.

The first accredited Apprenticeship for farming in the nation, DGA is now a National Apprenticeship under the U.S. Department of Labor-Employment and Training Administration and can be implemented in any state.

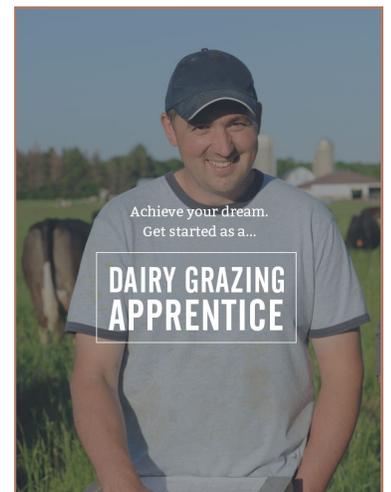
Up until now, DGA's efforts have been mainly centered around Wisconsin and its neighboring states, where the majority of Master Dairy Graziers have applied and been approved. Currently, there are efforts to foster the development of DGA in the Northeast. The Cornell Small Farms Program is partnering with an advisory committee of dairy farmers, extension personnel, and other state industry professionals to formally organize the expansion of the DGA to NY.

## Why an apprenticeship? Isn't that for industries that required skilled labor?

Farming *is* a skilled profession, and that's why DGA is such a great opportunity for both Master Dairy Graziers and Apprentices. The Apprenticeship offers a formal but flexible structure that both Apprentice and Masters follow to ensure comprehensive skill development for an aspiring dairy farmer. In addition to learning the practices of running a dairy farm, Apprentices gain management skills. In return for being a mentor, the Master gets a long-term, dedicated and engaged employee who might even become a business partner in the future.

## Why Grazing?

Managed grazing is a low-cost, efficient forage production system that combines profitability and environmental stewardship. For beginning farmers, buying in grain feed can be expensive and buying machinery to harvest their own crops is a significant investment. Managed grazing reduces costs,



while at the same time improving animal and environmental health that many successful dairies practice. It also means increases access into dairy farming for younger people who do not have much capital.

### **What does one do with a Dairy Grazing Apprenticeship?**

There are a few options! DGA generally prepares Apprentices to own and manage their own farm. An Apprentice might find an avenue to their own farm through the Apprenticeship by gaining equity in livestock or land. The Master and Apprentice can plan to become business partners at the beginning of the Apprenticeship, or the Master Grazer might plan to transition the farm to the Apprentice all together. DGA is flexible and provides support for the unique goals of each Master-Apprentice pair. It is also a good way for a young person to try dairy farming before they commit to it completely.

### **What does the DGA involve?**

DGA is a two year, 4,000 hour hybrid program of on-the-job training and related classroom instruction. The Master Dairy Grazer and the Apprentice, with the guidance of a DGA Education Coordinator, use the structure of a training manual or “the job book” to ensure the development of the specific skills that the Apprentice will need to become a successful dairy farmer. The related instruction includes in-person or online classes, as well as pasture walks, conferences, and other networking opportunities. For NY, this aspect of the Apprenticeship is still in planning.

### **How do I sign up to be an apprentice/Master Grazer?**

Although DGA is still in development in NY, potential Apprentices and Master Dairy Grazers can apply to the program online at [dga-national.org](http://dga-national.org). £

## **Tips for Better Sleeping**

### **Change a few daily habits and discover a better night’s sleep.**

Improving the quality of your sleep could be as simple as changing a few habits.

**Take a day off.** One day’s rest every week improves productivity. Set aside a day, probably in the weekend, for fun and relaxation. Involve the family, so you get some quality time together.

**Improve your sleeping arrangements.** Make sure your bedroom is suitable for getting a good night’s rest with block-out curtains and a decent bed. Most bed manufacturers recommend a new bed every 10 years.

**Upgrade your pillow.** Get a decent pillow that supports your neck properly. Make sure your bedding isn’t too warm – your core temperature needs to drop one or two degrees for a proper night’s sleep.

**Silence the snorer.** If you have a snoring partner, kick them into the spare room or use ear plugs.

**Step away from the caffeine.** Avoid coffee after midday. It’s a stimulant that needs time to wear off before you try to sleep. Remember that tea and some soft drinks have caffeine in them. Try decaf coffee or fruit/herbal teas.

**Get off the quad bike.** Walk the farm for at least 30 minutes each day. Exercise during the day helps you to sleep better at night.

**Avoid late night snacks.** Avoid eating or drinking alcohol just before bedtime. Making your body process food and alcohol increases your chance of waking up in the night and makes it harder to go back to sleep. It’s fine to have a herbal tea before bed



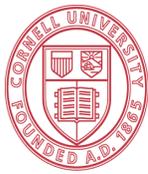
**No screens before bed.** Lit screens – TV, smartphones and tablets – cause melatonin levels to drop, making it harder to fall asleep. After watching in the evening, have a shower, read a book or listen to music for half an hour before attempting sleep.

**Think happy thoughts.** Park any issues and worries until tomorrow. Negative thoughts make sleep more difficult. Think about the good things that happened in the day and go to sleep with a positive thought in mind.

Chronic insomnia? Talk to the doc

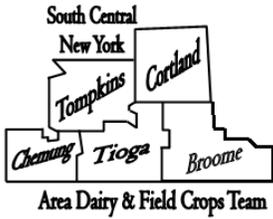
If you follow all of these tips and still have trouble going to sleep or staying asleep, lying in bed willing yourself to nod off can make the situation worse. Don’t be afraid to talk to your doctor. ☯

<http://farmstrong.co.nz/tips-for-better-sleeping/>



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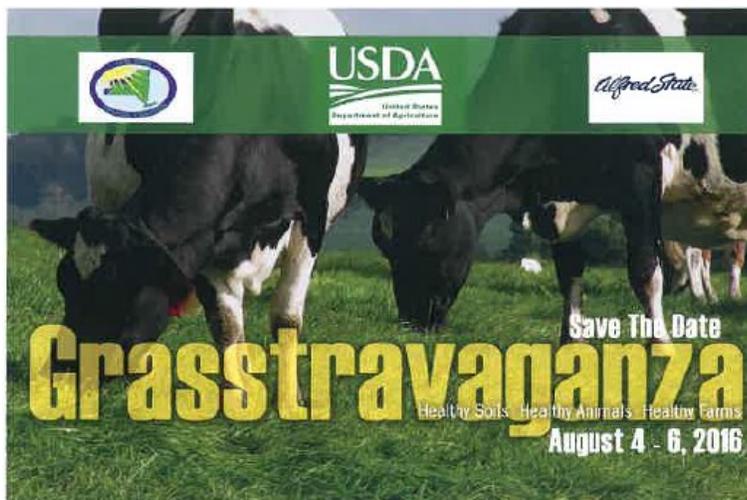


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Change Service Requested

**CALENDAR OF EVENTS**

- Jun 2 Small Grains Management Field Day DEC Credits** Musgrave Research Farm, 1256 Poplar Ridge Rd., Aurora  
 Learn about the latest research and management practices for small grains. 9:30 am—noon
- Jul 7 2016 Seed Growers Field Day DEC/CCA Credits** NYSIP Foundation Seed Barn, 791 Dryden Rd, Ithaca  
 For seed growers, seed treatment applicators, and other seed professionals. For more information, contact Margaret Smith  
 at 607-255-1654 or mes25@cornell.edu. 9:00 am—12:30 pm
- Jul 14 Aurora Farm Field Day DEC/CCA Credits** Musgrave Research Farm, 1256 Poplar Ridge Rd., Aurora  
 Topics will be announced soon. For more information visit <http://www.fieldcrops.org>. 9:00 am—3 pm



**Discover the connection between grazing animal behavior and soil health with Dr. Fred Provenza!**

Please join us for an informative conference relating to human, animal, and soil health. Hosted by Alfred State SUNY College of Technology in Alfred, NY.

**SAVE THE DATE**

**Thursday - Saturday, Aug 4-6, 2016**

Dr. Provenza will provide us with insight into these questions and much more.

For more information or to register, contact Karen Meade at 607-587-4714, [meadekm@alfredstate.edu](mailto:meadekm@alfredstate.edu).

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