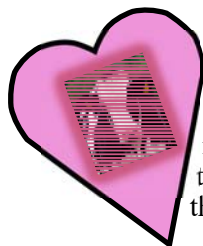




### Succession Planning – The Do's and Don'ts of Family Succession



Succession and estate planning in any business is a complex process that requires good communication, planning and ideally a long lead in time to maximize the chance of a successful transition. A family farming business adds to this complexity due to the following reasons:

- The emotional nature of family connections and the associated difficulty in having conversations about these difficult subjects;
- often only some of the next generation will be involved in the future running of the business and others children are not. These individual family members are generally at different ages and life stages;
- the older generation will often still be involved in the operations of the business. There are varying needs and wants of the “retiring” generation as compared to the new farmer(s) and their partners;
- there is often long multi-generational family history of the land and business in question. Maintaining a viable farm in the family is often a key objective and can conflict with other objectives; and
- the farm is a large tangible asset with a value that is independent of the operational return of the business. The business return on the asset value is generally low and variable (relative to other investments).

A large asset is therefore required to have a viable farming unit. The farm usually makes up the majority of the family wealth. The combination of all of these factors makes it very difficult to “pass on” a viable farming business and have an equal or even fair distribution of the family assets.

#### Communication On Succession And Estate Planning

Research indicates that the level of communication on succession and estate planning within small businesses is pretty poor. While the research statistics on succession in farming business is now pretty old and therefore its relevance could be questioned, it does, however, give some historical perspective and some guidance to what professionals, active in providing successional advice, see.

#### Communication

The data on the level of succession communication that occurs in the farming community is quite damning for the main farmer (usually male):

- 30% - 42% have not discussed succession with spouse;
- 50% - 63% have not spoken to farm based children;
- 82% have not spoken to daughter-in-law. (1 study); and
- 60% of second generation have not spoken to their spouse (1 study).

*Sources: Gamble et al (1995), Crosby (1998), Barclay et.al. (2007).*

Is this the same today? Experience suggest that there has been some improvement as there has been significant exposure of the issue, many seminar sessions and opportunities to build awareness of the need to tackle the issue. However, the improvement has been low and lack of succession communication before an “issue” has arisen is still a major barrier to successful outcomes.

- It involves emotional discussion and the

*Cont'd p. 9*

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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, Onondaga, 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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**We put knowledge to work in pursuit of economic vitality, ecological sustainability, and social well-being. We bring local experience and research-based solutions together, helping our families and our community thrive in a rapidly changing world.**

*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 provides equal program and employment opportunities"*

## Welcome Shannon Myers, our new Administrative Assistant!

Shannon Myers joined the South Central NY Dairy and Field Crops Team in October, 2018. She brings to us five years of administrative assistant experience and nearly two decades of customer service and office support experience.

Shannon has also worked as a freelance writer for local newspapers since 2003. She has authored, edited, formatted, and self-published Volumes I and II of The Uneasy Series, a three-volume horror story collection. She released "Blood and Bone: A Smattering of Unease" (Volume I) in 2016, and "The Shady Side: Shortcut to Uneasy Street" (Volume II) in 2018 and "Stuffed Animals", an offshoot of Volume II, also in 2018. Her total published written works, including essays, how-to articles, opinion pieces, local event pieces, book reviews, and articles about local businesses number approximately 200, to date. Her goal is to write as many books as she can and become a prolific author of books for both children and adults.

Shannon loves working with the SCNYDFC Team and assisting with the creation of their interesting printed materials, helping with their events, and learning about agriculture, especially dairy cows!



## 2019 January Dairy Situation & Outlook

*By Bob Cropp, Professor Emeritus, University of Wisconsin Cooperative Extension, University of Wisconsin-Madison*

With the government shutdown key USDA reports we not available—Milk Production, stocks of dairy products, production of dairy products, dairy exports, and slaughter cow numbers—all useful in assessing the dairy situation and milk price outlook. But, I will make some observations based on what we do know.

Dairy producers faced a very difficult year last year. Milk prices have been depressed for four years with last year being the worse of the four. Milk prices fell sharply the last quarter of the year. In September the Class III price was \$16.09 but had fallen to just \$13.78 in December. The average for the year was \$14.61 compared to \$16.16 in 2017. The Class IV price did better with improving nonfat dry milk prices. The Class IV price was \$14.14 in July but improved to \$15.09 in December. The average for the year was \$14.23 compared to \$15.16 in 2017.

Milk prices will average higher in 2019 depending upon the level of milk production, domestic sales and dairy exports. Most forecasts are not overly optimistic as to how much high with increases no more than \$1. The latest milk production report was for November of last year. At that time cow numbers were declining and averaged 3,000 head or 0.03% lower year-to-date. With four years of low milk prices more than the usual number of dairy producers were exiting the industry. Milk per cow was running below the normal trend at just 1.0% higher and averaged 1.0% higher year-to-date. The result was milk production less than 1.0% higher than a year ago for September to November and averaging just 1.0% higher year-to-date. It seems logical with low milk prices that cow numbers continued to decline in December and going into January. Likewise the increase in milk per most likely continued to be no more than 1.0% for December going into January netting less than a 1.0% increase in milk production for December and probably for January.

USDA's latest dairy forecast was last December. At that time USDA forecasted the average number of milk cows for 2019 would be 20,000 head or 0.02% lower than 2018 and milk per cow would be 1.5% higher netting an increase in total milk production of 1.3% over 2018. But, milk production could well turn out less than this. The number of dairy producers exiting for at least for the first half of the year is expected to remain relatively high, and if so the decline in cow numbers could well be more than 20,000. Wet weather the spring and again the fall of 2018 lower the quality of hay and corn silage potentially dampening the increase in milk per cow to less than 1.5%. Domestic demand normally can handle about a 1% increase in milk production for reasonable milk prices.

Increase above 1% require exports.

The 2018 economy was favorable for domestic demand with low unemployment and higher wages. However, beverage milk sales continue to decline. The latest milk sales was for November of last year. Sales January through November were 2.0% lower than the year before. When less milk is drank milk needs to be made into manufactured dairy products like cheese. Both cheese and butter sales were modestly higher last year. Concerns are rising that the economy may slow from last year which could dampen milk and dairy product sales.

Dairy exports will be important for higher milk prices in 2019. As long as there is a trade war between the U.S. and Mexico and China dairy exports will be curtailed. As of now this trade war doesn't appear to be ending soon. The latest export data was for October of last year. Nonfat dry milk/skim milk powder exports were still running 19% higher than a year ago with cheese exports even, butterfat exports 75% higher and whey exports 19% lower. Mexico placed a retaliatory tariff on U.S. cheese but not nonfat dry milk. Mexico is U.S. largest market for cheese and nonfat dry milk and China is the largest market for whey products and China had cut whey imports by about half. On the positive side world milk production is not increasing and world dairy product prices are improving which may offer opportunities for U.S. exports. While New Zealand's milk production is running well above a year ago, drought in Australia and the EU has reduced feed supplies forcing reduced cow numbers and lowering milk production. Also higher whey and nonfat dry milk exports to Southeast Asia replaced some of the loss exports to China. Mexico is still buying cheese with October sales to Mexico actually higher than the year before. So exports are likely to be lower than last year but still at a level to give some support to milk prices.

In summary, the increase in milk production not much more than 1%, modest growth in domestic sales and a level of exports to support milk prices I am a little more optimistic about milk prices this year. The Class III price is likely to be in the \$14's first quarter, in the \$15's second and third quarters but then in the \$16's fourth quarter and averaging \$1.10 to \$1.20 higher than last year. Class IV will start the year in the \$15's and could be in the \$16's the last half of the year and averaging \$1.40 to \$1.50 higher than last year. Yet these prices are not what dairy produces need to start to recover from four years of low milk prices. But, I am also not ruling out that we could see a better recovery in milk prices by fourth quarter.

### Succession Planning Workshop For Farm Business Register now!

Registration fee is \$60 per person, which includes all three sessions, materials and lunch.

**Dryden, NY**

**February 27, March 13 and 27, 10am-2:30pm**

**Dryden Fire Hall • 26 North Street • Dryden, NY 13053**

**Email or call Shannon Myers to register at [srm242@cornell.edu](mailto:srm242@cornell.edu) or (607) 391-2662**

**Or register online using a credit card at: <https://scnydfc.cce.cornell.edu/events.php>**

**Program  
Details Page 9!**



# Pesticide Applicator Training

Dryden Fire Hall

26 North Street, Dryden

**March 28, 2019 - Registration: Noon**

**Workshop: 12:30-3:30pm**

(Light snacks provided and Bag lunches welcome)

**Exam - TBA**

**Cost - \$25/Instruction Class**

**~3 Core DEC Re-Certification Credits Available~**

## Who Should Attend:

- Individuals seeking a license for use of pesticides on their own properties (Private License).
- Individuals seeking a Commercial License (Please note: This course will provide a basic introduction to safe pesticide handling and use but additional coursework and experience may be necessary for eligibility).
- Current applicators seeking Re-Certification Credits.

## Agenda:

- Pesticide Laws & Regulations
- The Pesticide Label
- Protecting the Pesticide Handler
- Guidelines for Proper Handling of Pesticides
- Pesticides and the Environment
- Integrated Pest Management
- Core & Category Manual Review and Practice Exam

- Register online at <http://scnydfc.cce.cornell.edu/events.php> or contact Shannon Myers at 607.391.2662 or email [srm242@cornell.edu](mailto:srm242@cornell.edu).
- Order Manuals online at <https://store.cornell.edu/c-876-pmep-manuals.aspx> or call Shannon Myers at 607.391.2662.
- Questions: Janice Degni at 607.391.2672 or email [jgd3@cornell.edu](mailto:jgd3@cornell.edu).

**\*\*Manuals available at an additional cost and MUST BE ORDERED BY MARCH 21, 2019 to ensure that they will be received before the class date. Manuals needed: Core Manual and Field and Forage (21).**



## Winter Ventilation

By Timothy X. Terry, Farm Strategic Planning Specialist, CCE, Harvest, NY

It's no secret. Winter is here and, as typical for NY, it will be here for a while yet. Also typical is the closing up of livestock facilities, especially calf barns, to minimize the effects of winter. Unfortunately, this action usually proves to be counterproductive as it leads to a stale, humid environment and greater morbidity (incidence) of disease, especially respiratory illnesses.

For this reason the individual calf hutch is still the "Gold Standard" for calf care (even though it may not be considered as such by the caregivers themselves). The primary justification for closing up a barn is fear of cold air, however, a properly designed ventilation system will introduce the minimum volume of air to maximize calf health. Like the calf hutch, a barn can be cold and the calves healthy if they are adequately bedded and properly fed. The minimum volume of fresh air is 15 cfm per calf or 4 air changes per hour (4 X barn interior volume), whichever is greater.

Some may argue that air movement at that rate will produce drafts, and I would agree, if the introduced air is not distributed either through wall / ceiling vents or a positive pressure tube ventilation (PPTV) system. By definition, a "draft" is air moving at greater than 60'/minute, and "still air" is moving at less than 60'/minute. A properly operating system will achieve still (not stagnant) air at roughly 4' above the bedded floor. This is often where issues arise. Caregivers will complain that they feel a breeze on their face, so therefore, the barn must be drafty. However, they forget that they are feeling that breeze at 5' - 6' above the floor. Try it down at calf level, and while you're down there, check for any foul odors. If you smell something other than fresh air you may have a dead zone. This is quite common in individual pens, especially if they have solid sides. If possible, replace one or two sides with a livestock panel, particularly if they are perpendicular to the flow of air.

Unfortunately, even a well designed system can be thwarted if the entrance of fresh air and/or exit of stale air is too small or even nonexistent. Too small of a cross sectional inlet area creates too much resistance to air flow – like choking an engine or kinking a hose. Too small of an exhaust area means stale air can't leave, and if stale air can't leave fresh air can't come in. Remember, you can breathe through a straw, but you can't breathe through a soda bottle. I have been called out to calf barns with PPTV system problems only to find that the doors have been shut and the curtains closed tight. Once opened an appropriate amount the problem was solved. What's an "appropriate amount"? You want air to enter or exit at 400' – 500'/minute (4.5-5.5 mph), so you total the cfm capacities of the fan(s) and divide by 400'/minute. This will get you the minimum required square feet of cross

sectional area. For example, if your calculations say you need 200 sq. feet and calf barn is 100' long, drop the curtains 1' on each side ((100 x 1) + (100 x 1) = 200 ft<sup>2</sup>). If one side is particularly windy, drop it a little on that side and more on the other, as long as the total equals 200 sq. ft. Alternatively, you could install an exhaust fan(s) equal in capacity to the tube fan(s).

I have seen where producers have wanted to use barn attic space as a warming plenum during cold weather. This does work providing the same cross sectional rules are maintained for fresh air into the attic and any ductwork supplying air to the fan. Some contractors may want to install mixing dampers or place the fan offset from the wall to mix warm interior air with the cold outside air – DON'T DO IT! All you'll be doing is spreading humid, pathogen-laden, polluted air faster and farther. One cough will become three which will become eight... You get the idea.

Since these systems (minimum ventilation) operate 24/7/365 they have a life expectancy of only five years, and that's only if they have been regularly serviced. Belt drive fans will need to have the belts replaced and/or tightened, direct drive fans lose efficiency, fan blades get dirty, protective screens become clogged with feed, trash, or snow, and after-market modifications such as heaters and filters can further restrict air flow.

So get out there and clean and service those fans. Make sure the inlets and/or tubes are unobstructed and moving freely. If you have an older system, have your equipment supplier evaluate its performance – it may be time to make repairs or do something different.



Photo by Tim Terry

### Hot Off the Presses

As we go to print, Pro-Dairy has just released a set of fact sheets on tube ventilation in pre-weaned calf barns. They have also published a decision tree on evaluating ventilation needs in pre-weaned calf barns. These are available on the Pro-Dairy website on the Resources page, just scroll down. (<https://prodairy.cals.cornell.edu/facilities-engineering/resources/>)

## Hard Times Easy Choices

**During economic hard times many farmers are forced to change only to find success in those changes**

***Written By Fay Benson, Educator, South Central NY Dairy Team***

Vaughn Sherman of Jerry Dell Farm, Dryden NY thought he had arrived at success with his dairy business in 1995; his BST treated herd of 300 milkers had the highest average production level in Cortland County, and his Harveststores were full of alfalfa and hi-moisture corn. By the spring of 1997 the creditors were calling, his cash flow failed to meet his cost of production and he was ready to talk to an auctioneer. A grazing advocate for the county stopped to talk to him about grazing. The hard times made the choice



fairly easy; either, give up the business and the cows he loved, or take a chance on putting the cows out to graze.

Today Jerry Dell is a successful dairy, with three grazing herds of 300 milkers each. They have brought four family members back into the business, and the future looks bright. This transformation isn't guaranteed by the transition to grazing but the key to success seems to be not what works on most farms but rather what works for the individual farmer.

### ***Intensive Grazing vs. Confinement Farms: Average 1996-2006\****

Item	Grazing Farms	Confinement Farms
Number of cows	91	90
Milk sold/cow	17,025lbs.	18,982lbs.
Operating cost/ cwt	\$10.73	\$11.40
Total cost/cwt	\$16.21	\$16.81
Net Farm income/cow	\$467	\$365
% Return on equity	3.94%	1.18%
Purchased feed+crop exp./cwt	\$5.05	\$5.29
Veterinary+medicine exp./cow	\$65	\$87
Machinery cost/cow	\$509	\$591

***\*This data was compiled from annual averages reported in the year-appropriate DFBS. The data set for each year may include different farms, as the farmers who return surveys vary.***

Vaughn says that he was managing his farm to maximize production, a way that works for many operators. The problem was that it didn't work for him. Managing a grazing operation seems to fit his abilities better than the production style that he was operating in 1995.

During this period of low milk prices most farms are experiencing hard times. Hard times can be a good time to evaluate your business and decide whether changes are necessary. Grazing is a proven way to produce milk in New

York. Generally, there is less capitol required per cow, production may be lower but the cost of production will also be lower. It isn't for every farmer, but it is a viable alternative if it suits your management style. A key piece of advice if you are considering making any type of changes to your operation you need to have good records to guide you. Financial records allow you to monitor how the change is affecting your farm, before you have gone too far down the road.

### **You Can't Manage What you don't Measure**

Since 1996, The Department of Applied Economics and Management at the Cornell University College of Agriculture and Life Sciences has collected and published business summaries for 30-50 NY dairy farmers that make use of Intensive Grazing on their farms. The following are some of the excerpts from the Grazing Dairy Farm Business Summaries (DFBS). The Grazing DFBS is no longer published since many of the farmers have transitioned to organic production.

One of the biggest challenges confinement dairies face when they begin the transition to a pasture based dairy is the probable drop in milk production. For years there has been an unstated link between milk production and profitability. Many dairies will give up on the transition when the level of milk in the bulk tank starts to drop. For those that complete the transition and who have kept good records, they find that there is usually an economic return from pasture (as indicated by the above table).

Profits are not the only benefit that NY dairy farmers have discovered by converting to a pasture based system. The Grazing-DFBS asks each year, "Has the adoption of grazing impacted your families' quality of life?" The respondents have answered positively 80% of the time. Some of the other comments are:

- Environmentally friendly
- Reduced chore time
- Healthier cows
- More opportunity to involve the children

### **How to Get Started in Grazing**

There are three ways to begin the evaluation of how grazing might impact your farm:

1. First: Contact Fay Benson for information on grazing.
2. Second: Contact your County SWCD office to inquire about planning a grazing system for your farm and whether there are any grants to help with the infrastructure required.
3. Third: Talk to other dairies in your area that practice grazing.

## Dairy Manager Training

Two day program held on farm  
with a combination of presentations,  
demonstrations, farm walk-throughs  
and discussion.  
9:30 am-3pm both days!

Registration Required!

Wednesday, March 6  
Flemingville United Methodist Church  
540 W Creek Rd, Owego, and  
Visit Todd and Josie Spencer's Dairy Farm  
3657 W Creek Road, Owego

Wednesday, March 13  
McMahon's EZ Acres  
5930 West Scott Road, Homer

Questions:  
Betsy Hicks,  
(607)391-2673



Cost is \$50  
Includes two day  
program,  
materials & lunch

**Register:** Call or email Shannon Myers [srm242@cornell.edu](mailto:srm242@cornell.edu), (607)391-2662  
or online at <https://scnydfc.cce.cornell.edu/event.php?id=817>

Photo courtesy of ethan-kent-1245706-unsplash

## Ten things to know about Dairy Revenue Protection

*Dr. Jennifer Ifft and Jerzy Jaromczyk, Cornell University*

There are many options for dairy farms to manage milk price, feed price, and production risk. RMA recently announced a new insurance product, Dairy Revenue Protection (Dairy-RP). Below are a few reasons why farms may want to consider learning more about Dairy-RP.

1. Dairy-RP provides protection against revenue decline due to either unexpected price or state – or regional-level – milk yield declines.
2. Flexible price protection: producers have either a class pricing option (Class III and IV) or a component pricing option. Prices used for the final revenue guarantee are based on USDA Agricultural Marketing Service monthly average prices
3. Milk yield protection: Dairy-RP provides protection against state- or regional-level milk yield declines (as estimated by NASS).
4. Purchased quarterly: coverage levels and protection factors can be changed for each 3-month coverage period.

5. Dairy-RP and LGM-Dairy can be used by the same farm in the same crop year (July 1-June 30), but not in the same quarter

6. Farms can participate in Dairy-RP and MPP (Margin Protection Program) *at the same time*.

7. Protection can be purchased for up to 15 continuous months (5 quarters).

8. Coverage levels range from 70-95% in 5% increments and premium subsidies range from 44-59%. Producers select a protection factor between 1.00 and 1.5 in 0.05 increments.

9. Qualifying beginning farmers or ranchers can receive an additional 10 percent of premium subsidy.

10. Like other crop insurance policies, Dairy-RP can be purchased from a local crop insurance agent, which can be found here: <http://cli.re/gzPVWy>

To learn more about Dairy-RP, take a look RMA's livestock policy webpage, which has an FAQ, fact sheet and other details on Dairy-RP: <http://cli.re/GAnpEL>

*Cornell University delivers crop insurance education in New York State in partnership with the USDA, Risk Management Agency. This material is funded in partnership by USDA, Risk Management Agency, under award number RM18RMETS524C018.*



# Apps in Ag – Some Useful Applications for Smart Phone Users in Agriculture

By Betsy Hicks, Area Dairy Management Specialist

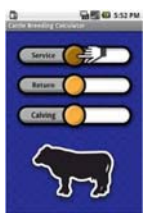
There are times when a latex milking glove only holds so much information, or a pen can only take being used like a pry bar so many times before it doesn't write. Pretty much around the clock, though, having a smart phone on your person is normal. As being such, I've put together a list of applications I find useful in the ag world – ones that I use pretty regularly. I do use an Android, so some of these apps may not work in an Apple system. Feel free to send me a note on other apps you use that should be recognized! *Disclaimer: in no way is the listing of these applications an endorsement of any application or product.*



**Cattle Market Mobile** – a free app that has a few great features, including USDA Auction Reports, USDA Commodity Reports, and Market Submitted Reports, as well as Futures Markets. You can also mark your “favorite” auction reports, and the app will send you a notification when there is a new report available. The app posts some news and resources, and has other useful tools such as a gestation calculator and calf calculator.



**Dairy News & Markets** – the latest dairy news and advice from experts on markets and other topics, in one easy to use, free app.



**Cattle Breeding Calculator** – a free app for calculating forward or backward dates. You can save the dates by animal name or number and view them later, as well as email the calculated dates. It's a very simple app, and useful for making quick notes or determining predicted calving dates when counting back three months just doesn't work.



**Breeding Wheel App** – this app is mimicked after the real breeding wheels everyone used to use and can no longer find pins for the wheel. You can identify animals, define a service schedule and distribution of calves, dry dates and more. This app also lets you send a file with your animal's data to another device so that technicians can provide assistance from a distance. This app is also free, and best used with dairy herds.



**Merck Vet Manual** – This is the same Merck Vet Manual that has been used as an animal health reference for more than 60 years and covers all species and disorders of veterinary interest worldwide.



**Calf Health Scorer** – is actually only available on the iTunes App Store (one of the few times I'm disappointed I have an Android!) This app utilizes the University of Wisconsin's calf health scoring chart to evaluate calf health based

on scoring clinical parameters developed by Dr Sheila McGuirk. After scoring calves, the report button will show the data you choose – list to treat, list today or today treat.



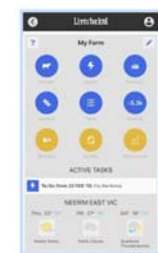
**Bull Search** - Genex's app for searching bulls. Directly from the app store: “Search and sort dairy bulls industry-wide from your device. The Bull Search app includes genetic evaluations on approximately 40,000 bulls, including Holstein, Jersey, Brown Swiss, Guernsey, Ayrshire and Milking Shorthorn bulls. Users can lookup bulls by their short name, NAAB code or registration number to view their genetic details and pedigree information. Active bulls can be sorted or filtered by a main genetic index or individual traits. Ideal Commercial Cow (ICC\$) index values are available on GENEX Holstein and Jersey bulls. The app includes file export options. Export a list of bulls with their genetic trait details to an Excel or CSV file. The file can be saved to the user's device, emailed or sent via text message. After the initial download of data, an internet connection is not needed for searching or sorting bulls. Users will be notified when new genetic data is available for download.”



**BCS Cowditiion** – Bayer's app for simplifying and standardizing dairy cows' body condition. This app allows you to save cows and track changes in BCS over time. It will sync with herd management software on farm as well. It utilizes your phone's camera to line up the cow you're measuring with a cow silhouette to determine BCS.



**ID Weeds** – from the University of Missouri's College of Ag, Food & Natural Resources' Plant Science Division. You can search for weeds by common or Latin name, or identify weeds based on different characteristics.



**Livestocked** – another free app to track herd performance with a business mindset. This app can be accessed via smart phone or computer, and can track herd information, semen & embryo inventory, sales and financials as well as pasture. This app is also multi-species and can track used with cattle, sheep, goats, pigs, alpacas and llamas.



**Calf Book** – this app is more for beef producers and is not free, although it comes with a free one-month trial period. This is the app that I use with my herd. You can track calving data, weaning and yearling performance and generate reports by sire or calf crop. It also can generate individual cow productivity by keeping annual calf performance.

Cont'd on p. 18



### Why The Poor Statistics?

People do not communicate about succession for a number of reasons. Experience suggests it is due to one or a combination of the following reasons:

- potential parties to a discussion can't see a solution to meet everyone's needs so they "bury their head in the sand"; and
- it is not urgent so the urgent activities take over.

### The Result Of These Poor Statistics:

Due to the statistics listed above, succession is finally raised when:

- Someone is frustrated and "had enough" – disagreement; and/or
- there has been an "event" such as – death, disability or divorce.

The lack of early, constructive communication and planning on succession results not only in disagreement between family members and personal stress, it also leads to business underperformance and potential erosion of family wealth. This is backed-up in the literature:

- This issue is the most underrated impediment to business performance. From my experience, differences between generations and siblings can stall business development for a decade or more, until the issue is resolved (Elaine Barclay, 2007).
- Lyn Sykes (a renowned succession facilitator) estimated there is an average 20% drop in productivity during periods of unresolved issues and conflict surrounding succession.

- Lack of purposeful planning and open communications will result in a significant and direct financial loss, not only to individual farming families, but also to Australian primary industry as a whole (Rural Law Online forum, 2005).

Perhaps most importantly the forum postings highlighted the emotional trauma, financial loss and the often irrevocable damage sustained to family relationships, which can occur where planned succession is not an integral part of managing the farming business (Farm Succession planning – Rural Law online Forum - Dec 2005 report - 6000 visitors accessed 31,600 times).

Key message:

- Don't be one of these damning statistics.
- Don't leave it until there is frustration or an 'event'.
- Do get help if communication is 'not your best skill'.

Source: <https://grdc.com.au/resources-and-publications/grdc-update-papers/tab-content/grdc-update-papers/2014/08/research-update>

### Take Home Messages

Succession and estate planning in a family farming business is a complex juggling of the needs and wants of the "retiring" generation, the new farmer(s) and their partners and often siblings of the new farmers who will not be farming in the future. In addition to this there is generally a long multi-generational family history, family members at different ages and stages, a large asset with low and variable return, and a "spoonful of emotional baggage" just to increase the complexity.

## Succession Planning Workshop Series for Farm Busi-

Specialists from Cornell Cooperative Extension and PRO-DAIRY are organizing a three-part workshop series for farm owners and managers to acquire **skills, tools and tactics for success in multi-generational farm businesses**. The workshop series will be offered during February and March in two locations: Morrisville, NY and Dryden, NY.

The three sessions will build on each other, starting with skills for effective communication, teamwork and problem-solving. Additional topics will include assessing business viability, setting individual and team goals, and developing a transfer plan. The interactive small-group format will incorporate presentations, activities, and peer-to-peer discussion to address the following:

1. **Feb 27th: Family Business Communication:** build communication skills and awareness of different styles; practice effective strategies to communicate during a conflict; learn how to facilitate productive business meetings.
2. **March 13th: Business Across Generations:** assess the current state of the business; evaluate future business viability; understand strengths and weaknesses of individual team members; identify similarities and differences between the goals and values of the junior and senior generations.
3. **March 27th: Developing a Transfer Plan:** consider various mechanisms to transfer management and ownership between generations; learn about tools and resources to help you manage risk, finance the transition, and plan for tax implications.

**To get the most out of the program, members of each generation involved in the business are encouraged to attend together.**



The New York & Vermont Corn Silage Hybrid Evaluation Program continues to provide side by side evaluation of corn hybrids grown under a range of growing conditions representative of those experienced in the Northeast.

In 2018 the program evaluated 77 hybrids from 17 different seed brands. Each hybrid was planted in replicated plots at 3 locations based on relative maturity (RM; Table 1).

Maturity Group	Location
80 – 95 day RM 20 entries	Willsboro, NY Albion, NY Alburgh, VT
96 – 110 day RM 77 entries	Madrid, NY Aurora, NY Alburgh, VT

**Table 1. Trial locations by maturity group for the NY & VT Corn Silage Hybrid Evaluation Program**

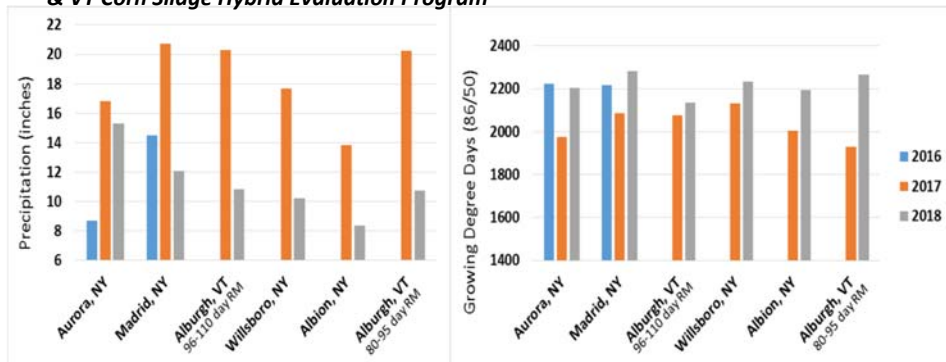
The growing season was defined by below average precipitation and above average heat, measured as growing degree days (GDD) across trial locations (Figure 1). A defining difference between trial locations was the timing and amount of rainfall from late July to early September. While all locations realized some level of improvement in growing conditions with more frequent rainfall in late July and August, its timing and impact

on the crop varied. In general, rain arrived at all locations in time to facilitate normal pollination of the crop development varied by location.

The above average GDD accumulation throughout the season and particularly as the crop neared maturity resulted in fast dry down of the crop to target whole plant moisture content for silage harvest. A noticeable characteristic at harvest in many corn fields, including trial fields, was a healthy green plant with a dry ear.

While nutrient inputs at all locations met or exceeded crop needs, a lack of soil moisture may have compromised nutrient uptake at varying stages of crop development. Recognizing these real world influences and how a hybrid might perform under varying stressors is important to understand when evaluating this data.

**Figure 1. Rainfall and growing degree day accumulation by location and season for the NY & VT Corn Silage Hybrid Evaluation Program**



The influence of growing conditions lead to location variability in hybrid performance in 2018 but overall better performance when compared to growing conditions experienced in 2017 (Figure 2). The full report provides detailed data on individual hybrids entered into the program for 2018.

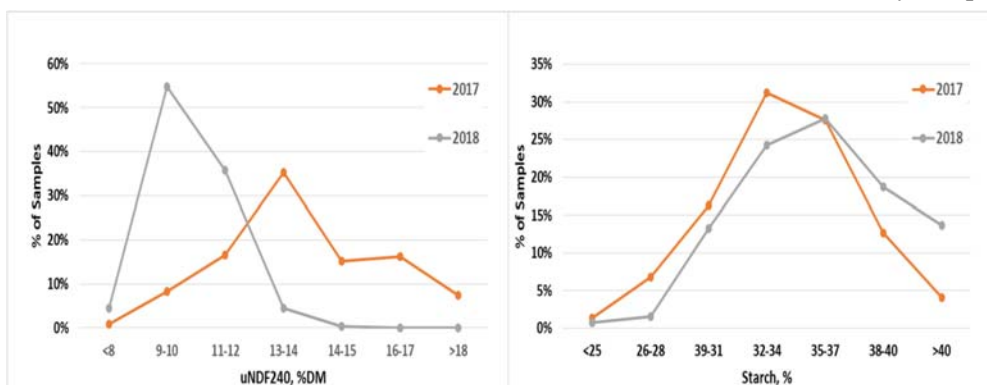
The most significant parameters in the report vary by individual farm and that farms resources but some of the key data includes, yield, whole plant dry matter, starch content, measurements of fiber digestibility including neutral detergent fiber (NDF) digestibility at 30 hours (NDFD30) and undigested NDF at 240 hours (uNDF240), and predicted milk yields modeled in the Cornell Net Carbohydrate and Protein Synthesis (CNCPS) model. The CNCPS model predicts the

expected milk yield of different hybrids based on their inclusion into a high corn silage total mixed ration representative of the diets fed on many NY and Northeast dairy farms.

It is important to evaluate this data in the context of your farm when selecting hybrids. The top performing hybrid at any one location or in any one category may not be a good fit for your feeding program. Factors that influence this vary by farm but include land base, soil resources, forage inventory, quality of available hay crops, access and cost of supplemental ingredients, and expectations of cow performance.

The trial results and location averages serve as a means to calibrate hybrid performance to a particular growing season

and these averages can be used in conjunction with a company's data on hybrids in their lineup, including hybrids not entered into these trials, to understand how a hybrid performed relative to what is realistic for that growing season. For example, in Figure 2 we see that over 50% of samples taken in 2018 had an uNDF240 value between 9 and 10 so this can be used to evaluate how close and far away from these values other hybrids performed in 2018.



Cont'd on p. 18

# Reducing soybean production costs in 2019

**Recommendations for soybean producers on reacting to low commodity prices by reducing production costs without affecting yields.**

*April 4, 2016 - Author: Mike Staton, Michigan State University Extension*

Soybean market prices for the 2019-2020 marketing year are projected to be near or below the breakeven price when land costs are included. Because of this, soybean producers will need to increase efficiencies and reduce production costs in 2016. The following is a list of recommendations from Michigan State University Extension for reducing soybean production costs without significantly affecting yields.

## **Rotate crops**

Planting soybeans after soybeans will reduce your yield potential by 5 percent after the first year and by at least 10 percent the second year. In addition, long-term pests such as soybean cyst nematodes and white mold are more likely to increase when soybeans are planted after soybeans.

## **Reduce or eliminate tillage operations**

Tillage trials conducted across the U.S. and in Ontario have shown that tillage does not significantly affect soybean yield. In some cases, no-till yields were higher than tilled yields. If your fields are relatively smooth and free from

harvest ruts and your planting equipment is equipped to plant through the existing residue, consider planting the field without additional tillage.

## **Select high-yielding and pest resistant varieties**

Variety selection is always your most important decision when planting soybeans. By choosing varieties carefully, you can increase your yield potential by 5 to 10 bushels per acre and reduce yield losses due to white mold, sudden death syndrome (SDS), Phytophthora root and stem rot and soybean cyst nematodes (SCN) without any additional cost. The final step is to strategically match the varieties you selected with the pest pressure and productivity of your specific fields.

## **Plant soybeans early**

Numerous planting date comparisons have shown that the optimum time to plant soybeans is the first week of May on Michigan. Yield losses of 0.3 to 0.6 bushels per acre have been documented for each day that planting is delayed after

May 8. Again, this practice increases yields without any additional cost.

## **Reduce planting rates**

In general, most agronomists agree that 100,000 relatively uniformly spaced plants at harvest will produce the maximum economic return under most conditions. However, data collected from 40 replicated on-farm trials conducted from 2015 to 2018 show that thin soybean stands can produce surprisingly high yields. In fact, the 100,000 seeds per acre planting rate was more profitable than the 130,000-160,000 planting rates. Higher planting rates are recommended when planting into marginal soils and planting late which will limit soybean growth. Higher rates are also recommended when planting in northern Michigan where early maturing varieties

are planted. Under good planting conditions, planting rates should be 15 to 20% higher than your intended harvest populations.

## **Base lime applications on soil test results**

Soybeans will generally perform well at soil pH levels between 6.0 and 7.0. However, the optimal range is between 6.3 and 6.5 as this range maximizes nutrient availability and biological nitrogen

fixation while minimizing soybean cyst nematode population growth. Variable rate lime applications are highly recommended to achieve more uniform soil pH levels within fields.

## **Don't apply nitrogen fertilizer**

Hundreds of university trials have shown that nitrogen fertilizer applications to soybeans are rarely profitable. The potential for a profitable response increases in very high yielding environments (greater than 68 bushels per acre).

## **Don't apply foliar fertilizers**

Foliar fertilizer applications to soybeans are rarely profitable. This has been demonstrated in hundreds of university trials conducted across the U.S. and the Michigan SMaRT foliar fertilizer trials where only eight of the 117 replicated on-farm fertilizer trials increased soybean yields. The exception is foliar applications of manganese fertilizers which are recommended to correct visible manganese deficiency symptoms occurring in the vegetative stages.





### Apply phosphorus (P) and potassium (K) fertilizers as needed to maintain critical soil test levels

The critical level for a given nutrient is the soil test level at which 95 to 97 percent of the crop's yield potential will be reached with no additional inputs of the nutrient. The critical level for P is 15 parts per million (ppm) and the maintenance range for soybeans is 15 ppm.

The critical K level is calculated by multiplying the cation exchange capacity (CEC) by 2.5 and adding 75. For example, the critical K level for a soil having a CEC of 12 meq/100g is 105 ppm  $[(12 \times 2.5) + 75]$ . The maintenance range for soybeans is 30 ppm, so the K soil test level for this soil should be maintained between 105 ppm and 135 ppm. See

"Phosphorus and potassium fertilizer recommendations for high-yielding, profitable soybeans" for additional information on managing P and K.

### Consider applying seed treatments only when warranted

Soybean seed treatments (fungicides, insecticides, inoculants and nematocides) have produced inconsistent yield benefits in university trials. For example, complete seed treatments were profitable in only five out of 21 replicated on-farm trials conducted in Michigan in 2017 and 2018. Seed treatments may be warranted when pest problems such as Sudden Death Syndrome (SDS) or Phytophthora root rot have been verified or when planting conditions favor pest damage. Planting conditions that may promote pest damage include: early planting (Pythium and SDS), planting into grass sods (white grubs and wireworms) and when manure or green plant material has been incorporated within two weeks of planting (seed corn maggot).

### Consider eliminating foliar fungicide applications unless field and weather conditions are favorable for White Mold

Prophylactic foliar fungicide applications have produced modest yield increases in Michigan on-farm research trials.

Stratego YLD was evaluated in nine trials in 2012 and 2013, producing an average yield increase of 1.4 bushels per acre. Priaxor increased yields by 2.1 bushels per acre when averaged across 22 trials conducted in 2014 and 2015. These yield increases are not sufficient to cover product and application costs given the projected market prices. However, foliar fungicides can be an important tool for managing white mold as they have reduced disease incidence by 0 to 80 percent in university trials. Using a combination of tactics is recommended when planting soybeans into fields having a history of white mold. These include: wide rows; resistant varieties; reduced planting rates; irrigation water management, tillage and foliar fungicides.

### Select and apply herbicides to maximize weed control and minimize crop damage, and reduce herbicide resistance:

The MSU Weed Science Program evaluates commercially available weed control programs each year for GMO and no-GMO soybeans. Results are available online at: <https://www.canr.msu.edu/weeds/>. The most profitable weed control programs year-in and year-out provide the highest level of weed control and the least crop injury. Herbicide cost was also considered but it did not affect overall profitability as much as the level of weed control and crop injury.

Reducing production costs and improving efficiency will help soybean producers respond to the projected market prices.

*This article was produced by the SMaRT project (Soybean Management and Research Technology). The SMaRT project was developed to help Michigan producers increase soybean yields and farm profitability. The SMaRT project is a partnership between MSU Extension and the Michigan Soybean Promotion Committee.*

*This article was published by Michigan State University Extension. For more information, visit <http://www.msue.msu.edu>.*

## Foliar Fungicides with Good to Very Good Suppression of White Mold

<b>DuPont™ Approach®</b> FUNGICIDE Group 11, picoxystrobin	8-12 fl. oz/A at first flower and repeat 7-10 days later
<b>Omega500F</b> Group 29, fluazinam	0.75-1 pt/A at first flower and repeat 10-14 days later
<b>Endura®</b> Fungicide Group 7, boscalid	3.5-11 fl. oz/A at first flower; may last through final flowering
Group 7, fluopyram Group 3, prothioconazole <b>PROPULSE</b>	6 – 8 fl. oz. /A at first flower and repeat 10-14 days later

Gary C. Bergstrom, Plant Pathology and Plant-Microbe Biology Section, Cornell University

Cornell CALS  
College of Agriculture and Life Sciences

Table 4b: 2018 Hybrid traits and performance for 96-110 day RM groups at Madrid, NY

Company/Brand	Hybrid	Trait Code +	Relative Maturity	Harvest Population	Dry Matter	Yield, 35% DM	Starch	Crude Protein	Lignin	Ash	Total Fatty Acids	aNDFom	NDF	12 hr NDFD	Wet Chem NDF	30 hr NDFD	30 hr % NDFom	120 hr NDFD	240 hr NDFD	240 hr % NDFom	240 hr uNDFom	RFC-Fill Ratio <sup>1</sup>	Predicted Allowable Milk Yield lbs/day	Predicted Dry Matter Intake lbs/day
MycoGen	F2F499	34	99	31833	31.6	24.9	36.6	7.4	1.9	3.0	2.5	35.2	35.8	44.5	34.7	66.4	69.1	77.4	80.8	6.8	6.8	5.4	133.6	71.5
Growthmark FS	FS 49879SS	34	99	33833	32.0	28.8	31.5	8.3	2.8	3.6	2.3	38.3	38.9	36.7	38.1	56.8	60.2	67.6	70.7	11.3	11.3	3.5	102.6	60.3
Viking	O 79-00	1	100	33000	32.1	27.3	37.5	7.2	2.7	3.2	2.8	35.7	36.2	38.6			59.3	67.8	70.8	10.5	10.5	3.9	109.0	61.9
MycoGen	BM97937	35	97	34167	32.3	25.2	34.5	7.4	2.2	3.1	2.5	37.5	38.1	43.2	35.9	64.4	68.2	75.7	78.9	8.0	8.0	4.9	127.0	69.2
Dairyland	HIDF-3197RA	35	97	33333	32.6	29.0	36.4	7.7	2.6	3.3	2.5	36.7	37.2	39.5	35.3	55.8	60.8	69.5	72.5	10.1	10.1	4.0	110.2	62.7
Channel	197-905TXRIB	36	97	35167	32.7	29.1	33.4	8.0	2.7	3.2	2.3	37.2	37.8	36.7			60.8	67.8	70.7	10.9	10.9	3.8	107.7	61.9
Wolf River Valley	3900FL	48	100	34667	32.7	31.5	26.9	7.8	3.2	3.5	2.2	41.6	42.2	35.1			57.8	64.9	67.7	13.5	13.5	2.8	88.0	54.5
CROPLAN	4004	1	100	33333	32.8	26.9	34.7	7.3	2.7	3.3	2.7	37.7	38.3	38.6			60.5	68.3	71.3	10.9	10.9	3.8	107.6	61.8
Doehler's	4018AMXT	9	100	33833	33.2	29.3	37.1	7.4	2.4	3.2	2.6	34.9	35.4	39.6			62.3	70.8	73.9	9.2	9.2	4.4	117.6	65.4
Augusta Seed Corp.	A2448	20	98	33333	33.3	28.5	33.6	8.0	2.8	3.3	2.6	36.8	37.3	35.3	36.5	53.0	57.4	64.6	67.4	12.0	12.0	3.5	98.4	58.2
Dekalb	DKC51-40RIB	42	101	33167	33.4	27.5	35.0	7.5	2.6	3.5	2.5	36.1	36.6	38.0			60.5	69.1	72.2	10.1	10.1	3.9	111.1	63.2
Local Seed Company	Z59725 VP3111	17	97	32833	33.4	27.3	37.2	8.0	2.7	3.7	3.0	33.8	34.3	35.7			58.6	66.9	69.6	10.3	10.3	4.0	110.5	62.8
Hubner	H6219RCSS	36	100	34333	33.5	26.8	34.4	7.8	2.6	3.3	2.2	36.9	37.4	38.3	36.2		61.6	69.0	71.9	10.4	10.4	4.0	110.8	63.1
Dekalb	DKC50-09RIB	42	100	33333	33.7	27.8	38.1	7.7	2.5	3.3	2.8	33.9	34.4	38.7			61.7	69.7	72.7	9.3	9.3	4.4	118.3	65.7
Dairyland	HIDF-3202P	31	102	32667	33.7	29.2	37.9	8.0	2.3	3.0	3.0	34.2	34.7	40.3	34.6		62.6	69.8	72.9	9.3	9.3	4.5	120.4	66.4
Channel	202-815TXRIB	36	102	33667	33.9	30.2	34.8	7.6	2.6	3.2	2.6	36.4	36.9	38.3			62.3	70.2	73.2	9.8	9.8	4.1	115.1	64.7
Hubner	H6225RCSS	36	102	33833	33.9	27.8	37.1	7.5	2.4	3.2	2.4	35.5	36.0	39.8	35.8		62.1	71.4	74.5	9.2	9.2	4.3	116.0	65.0
Masters Choice	MCT4934	17	99	27167	34.0	23.5	31.9	8.1	2.5	3.3	2.1	36.9	37.8	36.9			62.9	71.1	74.2	9.6	9.6	3.8	113.0	63.9
Augusta Seed Corp.	A3750	16	100	35000	34.4	28.5	34.3	7.4	2.8	3.4	2.5	37.8	38.3	36.0	38.3	56.6	58.4	66.3	69.1	11.7	11.7	3.5	100.4	59.0
Hubner	H6124RCSS	36	96	34333	34.8	30.2	33.6	7.9	2.7	3.2	2.3	37.8	38.3	38.1	38.0	57.9	61.1	68.2	71.1	11.0	11.0	3.8	107.0	61.6
Syngenta NK	NK9738-3220	20	97	33167	34.9	27.8	35.0	8.1	2.5	3.3	2.5	35.3	35.8	37.3	35.2	57.1	61.1	67.7	70.6	10.5	10.5	4.0	109.9	62.5
Pioneer	P9998AMXT	9	99	33833	34.9	31.3	42.9	8.0	2.4	3.0	2.8	29.5	29.9	37.1			59.7	67.6	70.6	8.7	8.7	5.0	124.6	68.0
Doehler's	3618AMXT	9	96	34000	34.9	28.8	37.4	8.2	2.4	3.2	2.4	33.9	34.4	37.9	32.9	55.0	60.9	68.6	71.6	9.7	9.7	4.3	115.9	65.0
Doehler's	4115AMXT	9	101	33833	35.1	30.1	36.6	7.0	2.5	3.2	2.2	36.5	37.1	39.0	35.8		61.5	71.0	74.0	9.5	9.5	4.1	112.6	63.7
CROPLAN	3899	42	98	33167	35.5	28.7	40.6	7.5	2.2	2.9	2.8	32.4	32.9	40.0			62.7	71.0	74.0	8.5	8.5	4.9	123.8	67.6
Growthmark FS	FS 46877SS	34	96	33500	35.8	26.7	31.4	7.5	2.7	3.1	2.1	39.5	40.1	37.1	37.6	57.1	61.5	68.2	71.1	11.5	11.5	3.6	103.6	60.4
Dekalb	DKC47-27RIB	42	97	34333	36.1	28.4	36.8	7.5	2.5	3.4	2.4	35.5	36.0	38.5			61.3	69.4	72.4	9.8	9.8	4.1	113.9	64.1
Masters Choice	MCT4632	16	96	30000	36.5	27.5	38.6	8.7	2.3	3.4	2.4	32.0	32.5	39.4			63.0	72.0	75.2	8.2	8.2	5.1	125.1	68.7
		<b>96-102 day RM Mean</b>		<b>33524</b>	<b>33.9</b>	<b>28.2</b>	<b>35.6</b>	<b>7.7</b>	<b>2.5</b>	<b>3.2</b>	<b>2.5</b>	<b>35.9</b>	<b>36.5</b>	<b>38.4</b>	<b>35.9</b>	<b>57.5</b>	<b>61.4</b>	<b>69.3</b>	<b>72.3</b>	<b>10.0</b>	<b>10.0</b>	<b>4.1</b>	<b>112.6</b>	<b>63.7</b>
		LSD (0.10)		<b>2099</b>	<b>2.2</b>	<b>2.8</b>	<b>4.9</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>4.0</b>	<b>4.0</b>	<b>2.1</b>	<b>3.8</b>	<b>3.1</b>	<b>2.3</b>	<b>2.7</b>	<b>2.9</b>	<b>1.7</b>	<b>1.7</b>	<b>0.8</b>	<b>12.3</b>	<b>4.5</b>
		Overall Mean		<b>33576</b>	<b>32.9</b>	<b>28.5</b>	<b>35.4</b>	<b>7.7</b>	<b>2.5</b>	<b>3.2</b>	<b>2.5</b>	<b>35.9</b>	<b>36.4</b>	<b>38.6</b>	<b>36.2</b>	<b>58.2</b>	<b>61.8</b>	<b>69.9</b>	<b>72.9</b>	<b>9.8</b>	<b>9.8</b>	<b>4.2</b>	<b>114.0</b>	<b>64.2</b>

Footnotes for Table 4.

\* All nutrient parameters analyzed by NIR methods, except where indicated. Select companies opted to receive wet chemistry information for an additional fee.

\*\* Tables are sorted by descending dry matter for comparison purposes

\*\*\* NDF = neutral detergent fiber, aNDFom = ash corrected neutral detergent fiber, NDFD = neutral detergent fiber digestibility, uNDF = undigested neutral detergent fiber  
<sup>1</sup> RFC-Fill Ratio = Rumens Fermentable Carbohydrate - Fill Ratio, defined as ((NDFd30 + starch)/uNDF30). Jones, L.R., and J. Siciliano-Jones. 2015.  
Index useful for ranking silage samples. Feedstuffs 17, 19.

<sup>2</sup> NS = Not Significant

<sup>3</sup> One plot replicate had a harvest population count < 25,000

<sup>4</sup> Yield data removed due to 2 plot replicates having missing yield data during harvest

<sup>5</sup> Yield and harvest population data removed due to 2 plot replicates having a harvest population count < 25,000

## Herd Health and Nutrition Conference

April 8-9, 2019 Syracuse, NY

[prodairy.cals.cornell.edu/HHNC](http://prodairy.cals.cornell.edu/HHNC)

This conference provides and opportunity for dairy producers, veterinarians, feed industry representatives and agriservice personnel to increase their knowledge of current herd health & nutrition management techniques while interacting with other professionals.

## Calf Management Online Course

April-May 2019

[prodairy.cals.cornell.edu/online-courses](http://prodairy.cals.cornell.edu/online-courses)

This course is designed for people working directly with calves. Those who work with calf managers will also find this course useful. Course topics start out basic and then quickly build from there. Topics will include calf anatomy and physiology, nutrition, environment, and health.

# Crop Protection Meetings: 2 Locations

**\*\*DEC & CCA Credits in Application\*\***

## Crop Management Topics

Tuesday, March 5, 2019

CCE Broome County

840 Upper Front St., Binghamton 13905

Registration 9:30am Meeting 10:00am—2:30pm

- Climate Update: What Difference Does 2° Make?
- Getting New Seedlings Off to a Great Start
- Investigating health Effects of Glyphosate
- Crop Insurance—Overview of Grain Products for Yield and Revenue
- 2018 Corn Silage Hybrid Trial Results, WBC Damage and Mycotoxin Incidence
- Open Discussion of Agronomic and Pest Topics with Presenters

Registration Cost \$15 /person—Register by contacting Shannon at 607.391.2662

Or email [srm242@cornell.edu](mailto:srm242@cornell.edu) or register online at

[https://scnydfc.cce.cornell.edu/event\\_preregistration.php?event=834](https://scnydfc.cce.cornell.edu/event_preregistration.php?event=834)



## Crop Protection

Wednesday, March 20, 2019

Horseheads Town Hall

150 Wygant Rd., Horseheads, 14845

Registration 9:30am Meeting 10:00am—3:00pm

- Grass and Broadleaf Weed Control for Corn, Soybeans and Alfalfa
- Capturing Forage Quality All Season Long
- Kernel Processing Score Results with Different Hybrid Characteristics
- Crop Insurance—Overview of Grain Products for Yield and Revenue
- Mycotoxin Incidence Across the State and Options for Control in Crop Production
- What is the Infrastructure Needed for Home Grown Soybeans for Grain?

Registration Cost \$10 /person—Register by contacting Shannon at 607.391.2662

Or email [srm242@cornell.edu](mailto:srm242@cornell.edu) or register online at

[https://scnydfc.cce.cornell.edu/event\\_preregistration.php?event=837](https://scnydfc.cce.cornell.edu/event_preregistration.php?event=837)



# Agriculture Energy Audit Program

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**aeep@nyserda.ny.gov**

visit:  
**nyserda.ny.gov/agriculture**

To discuss clean energy  
or technology ideas

email:  
**Kathleen.OConnor@  
nyserda.ny.gov**

### Agriculture Energy Audit Program

**Eligibility:** NYSERDA offers free energy audits to help eligible farms identify ways to save energy and money on utility bills. Eligible farms include but are not limited to dairies, orchards, greenhouses, vineyards, grain, and poultry/eggs.

**Energy audit options:** You can request the level of energy audit that best fits your farm's needs. NYSERDA will assign a Flexible Technical Assistance Program Consultant to visit your farm and perform an energy audit at no cost to you.

#### GET STARTED:

Visit **nyserda.ny.gov/agriculture** to download an application or apply online. Call **1-800-732-1399** to learn more, request an application, or for assistance with determining the audit level.

### Clean Energy Technologies in the Agriculture Sector

Clean energy technologies and practices represent major cost savings opportunities for farms. The Clean Energy for Agriculture Task Force (CEATF) is committed to developing strategies to help address barriers in the agriculture sector.

One strategy under development aims to demonstrate and validate cost-effective, emerging technologies. NYSERDA will be working to increase awareness and adoption, providing technical and economic information that can be used by farms to make sound investment decisions.

**More information about this program will be available later this year.**

To sign up for a free agricultural energy-efficiency audit or for information on NYSERDA's Agriculture Energy Audit Program:

Visit: **nyserda.ny.gov/agriculture**

Call: **1-800-732-1399**

Email: **aeep@nyserda.ny.gov**



**NYSERDA**

For more information on National Grid's energy-efficiency incentives and economic development program:

Visit: **ngrid.com/agriculture**

Call: **1-855-236-7052**

Email: **energysavings@nationalgrid.com**

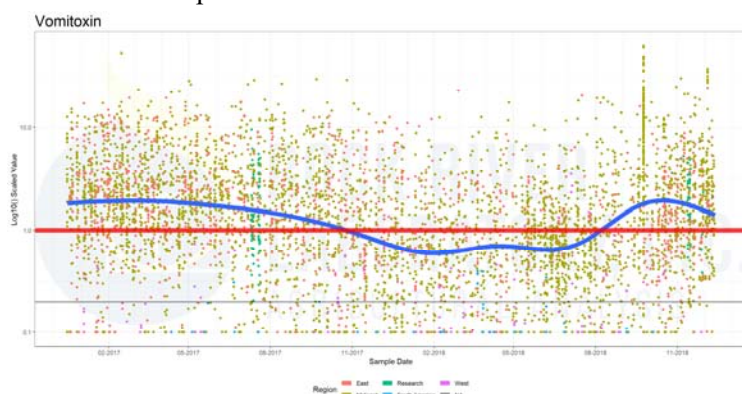


# Managing the Challenging 2018 Corn Crop through Feed Out

John Goeser, Ph.D., PAS, and Diplomate Acan Rock River Laboratory

Regardless of growing location, the 2018 corn crop faced a myriad of disruptions throughout the growing season and harvest. Now that 2018 is almost completely behind us, corn silage is off the fields, and corn grain is mostly off (seems that some is in 'cold storage' at the moment), we've taken numerous questions about not only the challenges that we experienced during growth, but also the challenges that could be lurking in the silos, bunkers, bags, and piles.

To set the stage, at the beginning of 2017, Vomitoxin (DON) levels with 2016 harvested feeds were generally above dietary limits (on average between all regions of the US). Then the 2017 crop came in relatively clean, and mycotoxin loads dropped. With the new 2018 crop, we've seen these numbers creep back up well above average (See Graph 1: Vomitoxin). Dr. Damon Smith, known virtually as the Badger Crop Doc, has addressed how one might reduce vomitoxin levels in corn silage in his recent video, 'Mycotoxins and corn ear rot' here: <https://youtu.be/uM8m-Fvo4U4>. However, vomitoxin is just the tip of the iceberg when it comes to the challenges Rock River Laboratory has received calls about, and we'd like to address the rest of those Frequently Asked Questions (FAQs), as well as those asked of Dr. Damon Smith, University of Wisconsin-Madison Plant Pathology Associate Professor and UW Extension Specialist.



Graph 1: Vomitoxin

## Q: What toxins have been observed most prevalently in the 2018 corn crop?

Record rainfall, delayed harvest, and new fungal plant pathogens have contributed to the vast number of feed hygiene concerns this year. We are recognizing mycotoxins produced by some of these fungi, including Vomitoxin & Zearalenone trending up from Minnesota to Pennsylvania.

Smith has also shared, "I have mostly seen vomitoxin issues in my neck of the woods. Gibberella ear rot combined with wet weather led to high levels of vomitoxin." He goes on, "You can have several mycotoxins of concern with a single disease."

Don't panic though; identify and prioritize opportunities for improving the hygiene of the feed through management and storage. For better or for worse, many growers and farms are experiencing similar outcomes.

## Q: Are some hybrids better than others when it comes to growing and harvesting years like this?

"Hybrids vary for different disease issues. The trouble this season was that there were so many to deal with - some were good on one disease, while not so good on others," explains Dr. Smith. "I would select hybrids rated better on the harder to control issues, such as ear rots and stalk rots. Fungicides can be used on foliar issues more readily and that decision can be made in-season. So, look for good ear and stalk rot ratings and go from there."

As I've learned from Dr. Smith, hybrid resistance is key. Genetic impact on nutritive quality is also substantial, in some cases even up to 50 percent of phenotype. Crop scouting and management are also important to reduce disease issues and subsequent mycotoxin problems.

Dr. Smith echoes, "Crop scouting is key, as is paying attention to weather. If it's hot and dry, diseases are less of an issue. Cooler and wetter weather creates the issues like we've seen this season."

Growers should develop their own custom hybrid plots to monitor yield, disease resistance and quality on their own fields. I recommend assessing digestible tons per acre (which is a good yield measure), with seed costs and disease resistance, in a partial budget to make decisions.

Going forward, hybrid selection will likely be even more of a balancing act. Historically, it's consisted of a yield versus quality discussion. Now, though, we need to balance disease resistance with yield and with Neutral Detergent Fiber Digestibility (NDFD) or quality metrics.

"Lignin is a defense for disease," says Dr. Smith. "Unfortunately, there might be a tradeoff with stalk integrity and issues with rots and accumulation of mycotoxins by fungi that produce them in stalk portion of plant. The choice of hybrid will be a huge balancing act."

## Q: What about tar spot's repercussions? Can it overwinter and what can we do to prevent it?

"We don't believe tar spot directly leads to mycotoxin issues, but it can reduce feed quality by inducing abnormally fast dry down," explains Dr. Smith.

He recommends a QoI+DMI, or SDHI+DMI, or QoI+SDHI+DMI fungicide to get decent control of tar spot, but warns that timing the application of such fungicides to most closely coincide with the start of the epidemic, is key. But he also suggests planning ahead when choosing varieties. "Look for resistant varieties in hybrid trials. Most are not very resistant, but some partial resistance might be available. Despite some resistance, fungicide application may be needed, and timing of application will be an issue. You will also need something more than a straight DMI or QoI fungicide."

Dr. Smith shares that, "cool 30-day temperatures and high 30-

day average humidity is a good indicator of tar spot onset. If the average 30-day temperature is less than 71 degrees F, combined with a humidity average above 75 percent for the month, tar spot is likely.”

“The evidence is good that tar spot can overwinter, and we will likely see it again,” suggests Dr. Smith. “As far as how bad, it’s hard to say. It will depend on weather conditions and if those conditions coincide with corn at susceptible growth stages.”

Dr. Smith’s lab is currently working on a tar spot model, and have put together a video, ‘Tar Spot: What We Know and What We Don’t Know’: <https://youtu.be/uLygYjMkXQE>.

### Q: What are the biggest issues you've seen to date with the current corn crop?

Our main concern at this point is silage that is too dry, has high wild yeast counts, and less than ideal stability. Low NDFD levels and mycotoxin concerns are secondary, but very real. Unfortunately, there is no ‘one size fits all’ cure to all of these issues.

“The longer the corn sat in the field, the longer it had to accumulate potential vomitoxin or other mycotoxins from ear rot issues,” observes Dr. Smith. “Other ear rots could be present. For instance, further south of Wisconsin, Fumonisin mycotoxin may be of concern. This is caused by *Fusarium* ear rot, not *Gibberella* ear rot.

He recommends continuing to test, so you know what you have. The multitude of issues may be additive. Some dairies are recognizing lesser feed conversion efficiency, meaning less milk per pound of feed. In such cases, either the immune system takes up energy, or digestion capacity is limited. Echoing Dr. Smith, identification through testing is important to then prioritize next steps.

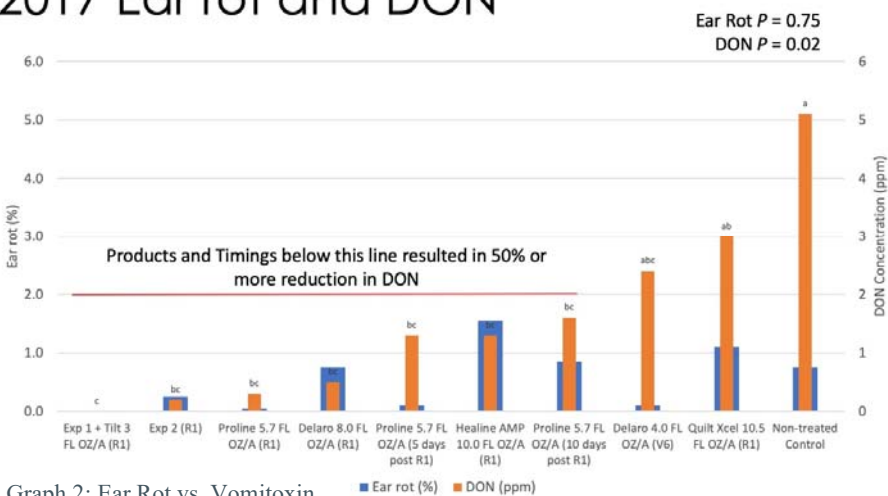
### Q: Can fungicides help for ear and stalk rot? What about mycotoxins?

“In years where pressure isn’t overwhelming, they can be useful,” shares Dr. Smith. “In 2017 we saw good reduction of vomitoxin using fungicide.” (See Graph 2 of Ear Rot vs. Vomitoxin)

However, Dr. Smith goes on to explain that in 2018, the situation was challenging as the weather was conducive for the fungi. Success with fungicide wasn’t as good, but there were some reductions on some hybrids.

### Q: What should I test for in the 2018 corn crop now that it’s harvested?

## 2017 Ear rot and DON



Graph 2: Ear Rot vs. Vomitoxin

## Results - Sorted by DON Level

	GLS Severity (%)	NCLB Severity (%)	Tar Spot Severity (%)	Ear Rot (%)	DM Yield (Tons/a)	TTNDF (%)	DON (ppm)
<b>P0956AMX</b>							
Miravis Neo 13.7 FL OZ/A (V12-V14)	0.0 c	16.3 bc	2.1 bcd	2.9	13.6	36.2	7.7
Delaro 8 FL OZ/A (R2)	0.3 bc	10.5 cde	0.6 d	2.1	11.7	38.5	8.2
Miravis Neo 13.7 FL OZ/A + NIS (V6)	0.5 ab	17.5 cde	1.8 bcd	1.4	12.6	37.3	8.4
Lucento 5 FL OZ/A (R1)	0.0 c	8.0 de	0.8 cd	1.5	11.8	37.1	8.5
Proline 5.7 FL OZ/A (R1)	0.0 c	14.3 bcd	1.2 bcd	3.1	11.8	36.8	8.5
Non-Treated	0.8 a	25.0 a	3.8 a	2.1	12.9	34.9	9.4
Miravis Neo 13.7 FL OZ/A (R2)	0.3 bc	8.1 de	1.2 bcd	1.6	12.1	36.7	9.8
Experimental 1	0.0 c	11.3 cde	1.0 cd	3.3	12.2	37.8	9.8
Proline 5.7 FL OZ/A (R2)	0.5 ab	11.3 cde	1.0 cd	1.4	12.8	36.3	10.0
Delaro 8 FL OZ/A (R1)	0.0 c	11.8 cde	1.0 cd	2.1	11.9	36.7	10.5
Headline AMP 14.4 FL OZ/A (R2)	0.3 bc	13.0 cde	0.6 d	1.0	12.0	37.1	11.9
Headline AMP 14.4 FL OZ/A (R1)	0.0 c	14.3 bcd	0.8 cd	1.4	13.0	35.9	11.9
Topguard 10 FL OZ/A (R1)	0.0 c	6.1 e	1.4 bcd	4.9	11.9	38.5	12.9
Miravis Neo 13.7 FL OZ/A (R1)	0.0 c	9.8 b-e	0.6 d	1.0	12.5	36.4	17.9
F-value	2.08	3.44	5.35	1.17	1.06	0.86	1.32
P-value	0.0393	0.0014	<.0001	0.3383	0.4166	0.5977	0.2414
<b>F2F627</b>							
Proline 5.7 FL OZ/A (R2)	6.1 b	27.5 cde	8.6 abc	6.5 b-e	10.4	39.4	10.7 d
Miravis Neo 13.7 FL OZ/A + NIS (V6)	10.5 a	50.0 ab	4.9 cde	10.0 abc	11.0	37.0	12.0 cd
Delaro 8 FL OZ/A (R2)	3.8 bc	28.8 cde	2.0 ef	9.7 b-e	10.5	37.1	12.7 cd
Proline 5.7 FL OZ/A (R1)	2.1 c	31.3 c-f	7.4 a-d	10.4 b-e	11.0	38.5	13.2 cd
Headline AMP 14.4 FL OZ/A (R2)	2.4 c	17.5 ef	1.4 e	18.4 a	11.5	40.9	14.9 bcd
Topguard 10 FL OZ/A (R1)	2.4 c	23.8 de	5.6 cde	4.8 cde	10.7	38.1	15.1 bcd
Experimental 1	1.4 c	42.5 bc	6.3 b-f	7.7 b-e	11.7	39.7	15.2 bcd
Miravis Neo 13.7 FL OZ/A (R1)	1.0 c	21.3 de	6.9 a-d	11.1 ab	11.1	39.5	17.2 bc
Delaro 8 FL OZ/A (R1)	2.1 c	22.5 de	4.3 cde	12.9 ab	11.2	37.8	17.7 bc
Lucento 5 FL OZ/A (R1)	1.0 c	18.8 ef	5.8 bce	4.5 de	12.2	37.5	18.0 bc
Miravis Neo 13.7 FL OZ/A (V12-V14)	1.4 c	27.5 cde	11.3 a	4.6 e	11.6	36.2	18.6 bc
Headline AMP 14.4 FL OZ/A (R1)	1.8 c	36.3 bcd	2.8 def	14.2 ab	10.6	38.7	18.7 bc
Non-Treated	10.5 a	62.5 a	10.5 ab	8.8 a-d	11.0	38.7	21.2 ab
Miravis Neo 13.7 FL OZ/A (R2)	2.4 c	15.0 e	5.5 cde	7.8 b-e	10.7	39.5	30.3 ab
F-value	8.89	5.86	2.87	1.74	0.71	1.19	1.75
P-value	<.0001	<.0001	0.0043	0.0901*	0.7395	0.3247	0.0880*

Table A: DON levels

From Minnesota to Pennsylvania, I recommend staying on top of crop dry matter. Then focus on routine forage analysis. Check NDFDs as fiber seems to be slower this year. After that, priority analysis should include mold and yeast, followed by vomitoxin if the grower is suspicious of it.

Growers in the Great Plains, and the southern and western states avoided the challenges the eastern US endured. Those who experienced drought should check ash levels. "Normal" corn silage should be in the three to five range. Greater than five to six is "high", and could contaminate the feed, creating poor feed hygiene.

### Q: What can I do to ‘clean up’ corn with high loads of vomitoxin?

I’ve learned from Professor Lon Whitlow, roasting won’t help, however, cleaning chaff, etc. will.

“Mycotoxins are very stable and resist heating, freezing, roasting, etc.,” explains Dr. Smith. “In grain, cleaning well and drying quickly help stop accumulation. In silage, good fermentation is pertinent.” Learn more about mycotoxin stability in this resource from the Badger Crop Doc: <https://t.co/sy1070V9vl>.

Cont’d on p. 18 →



curing, and some feed stability issues. My three recommendations for dealing with these antinutritional factors includes keeping oxygen out, keeping the tires on, and ensuring all edges are sealed. Detailed management items like this can go a long way.

**Q: How will this year's silage fermentation be affected by the molds, higher dry matter, and general crop stress?**

Excessive rains excited wild yeast and microbes and delayed harvest, ultimately leading to a drier crop that won't pack as well. I'm expecting a slower fermentation,

**Q: Feed was warm when we harvested and saw challenges, but winter is here and the temperatures have dropped. Do we still have to worry about the bugs?**

High yeast loads, which cause heating, are likely present but not dead. They are dormant in refrigeration weather, so growers should be prepared for warmer temperatures and what they may bring in this sector.

**Q: If corn silage looks OK but I send it in for analysis, what are some non-visible challenges you might recommend to analyze for, or I might find via analysis?**

There is so much present in silage that isn't visible to the human eye, including living microbes (mold and yeast), mycotoxins (i.e. Vomitoxin), alcohols, and biogenic amines (fermentation products). All of these and more can affect animal health.

While the corn crop has proved to challenge us in 2018, it has also brought problems to the surface to be addressed, solved, and continue growth in our management understanding. While our industry will remain diligent in researching for better means to manage and avoid such challenges in the future, growers can also feel better prepared for 2019 having endured, and learned from the 2018 crop.

The author can be contacted at [johngoeser@rockriverlab.com](mailto:johngoeser@rockriverlab.com) and at the website [www.rockriverlab.com](http://www.rockriverlab.com)

Cornell Cooperative Extension of Cortland County

**2019 4-H YOUTH  
TRACTOR CERTIFICATION**  
Ages 14-19



**Starts on March 21, 2019**

The Cortland County 4-H program is offering youth ages 14 and older an opportunity to be certified for farm employment, which would include the operation of farm tractors and machinery. Youth will receive their certification by mail after successfully completing the written test and driving course.

**Online Registration:** [https://pub.cce.cornell.edu/event\\_registration/main/events\\_landing.cfm?event=youthtractorsafety-2-2\\_211](https://pub.cce.cornell.edu/event_registration/main/events_landing.cfm?event=youthtractorsafety-2-2_211)

**Signed Acknowledgement of risk form:**  
<http://cortland.cce.cornell.edu/resources/2109-tractor-aor-form>



Questions: Rebecca Ireland-Perry at (607) 391-2660 or email [rli3@cornell.edu](mailto:rli3@cornell.edu)

*Corn Silage Trials cont'd from p. 10*

However, due to the challenging growing conditions experienced in 2017 and the impact of growing conditions on fiber digestibility we see that the highest percentage of samples in 2017 had a uNDF240 value of 13-14 while a very small percentage (less than 10%) of 2017 samples were as digestible as the majority of 2018 samples. Therefore it would not be fair to hold hybrid fiber digestibility or other performance indicators from 2017 to the same standards as 2018.

It is also important to recognize the companies that make these trials possible through their entry of hybrids. The following companies participated in the 2018 trials.

Albert Lea – Viking, Augusta Seed, Channell, CROPLAN, Dairyland (Seed Consultants), Dekalb, Doebler's (Seed Consultants), Dyna-Gro, Growmark FS, Hubner, Local Seed Company, Masters Choice, Mycogen, Pioneer, Seedway, Syngenta – NK, Wolf River Valley

The full report of 2018 can be found at the Cornell Soil and Crop Sciences website.

<https://scs.cals.cornell.edu/extension-outreach/field-crop-production/variety-trials/#corn-silage>

Additional trial information can be found in the following article and webinar.

**Article:** 2018 Corn Silage Overview

<https://prodairy.cals.cornell.edu/production-management/resources/>

**Webinar:** 2018 Corn Silage Hybrid Test Results, New York and Vermont Corn Silage Hybrid Tests – 2018

<https://prodairy.cals.cornell.edu/webinars/>

*Apps in Ag Cont'd from p. 8*



Instagram

**Instagram** – I know, this is a social media app, but there are so many great AG-vocates out there to follow when you need to feel empowered! Some suggestions for you to follow:

- ♦ **nyfarmgirls** – right here in CNY, the Leubner daughters share stories daily
- ♦ **seejessfarm** – Jessica Peters from PA shares some awesome cow stories, especially on #tongueouttuesday
- ♦ **dairycarrie** – Carrie Mess always has great shares about the goodness of milk, from WI
- ♦ **newmexicomilkmaid** – I recently started following Tara, a dairy farmer from NM, it's so fun to learn more about the daily care of a dairy farm in a different part of the US!
- ♦ **dairygirlnetwork** – empowering women in all walks of dairy, a great page to follow
- ♦ **Cortland\_county\_dairy** – the Cortland County Dairy Promotion Committee updates with the happenings of the Cortland County Dairy Princess and other local events
- ♦ **nyfarmnet** – yes, our very own NY FarmNet has an Instagram page! Keep up to date on their workshops and events
- ♦ **trinityvalleydairy** – Trinity Valley posts mouthwatering pictures of all the goodies they make and sell in store, as well as celebrating Ag and Dairy
- ♦ **nyanimalag** – The NY Animal Ag Coalition is a great place to find posts for ag-vocating!
- ♦ **Thefarmerswife** – Krista is a dairy farmer and mom and gets real on both topics

# ***Would you bet the farm on red?***



## **Natural disaster can strike at any time!**

**Don't leave your farm's financial future to chance...**

If you suffer a loss this year, would you be able to plant next year? Crop insurance can help protect you and your family from losses caused by bad weather and volatile prices.

**Be sure you don't miss the following sales deadlines!**

**March 15:** Barley (spring), Beans (dry, green), Cabbage, Corn, Forage Seeding (spring), Grain Sorghum, Green Peas, Oats (spring), Potatoes, Soybeans, Sweet Corn, Tomatoes (processing), Whole Farm Revenue (early fiscal filer)

**May 1:** Nursery (field, container)

**July 31:** Forage Seeding (fall)

**Sep. 30:** Barley (winter), Forage Prod., Wheat (winter)

**Nov. 15:** Apiculture, Pasture Ranchland Forage (PRF)

**Nov. 20:** Apples, Grapes, Peaches, Tart Cherries, Whole Farm Revenue (late fiscal filer)

**Monthly:** Dairy, Swine (Livestock Gross Margin)

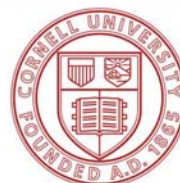
**Daily:** Milk (Dairy Revenue Protection)

To locate an RMA agent visit: <http://cli.re/gzPVWw>

To learn how you can apply crop insurance to your risk management strategy and about crop insurance products available to New York farmers visit:

<https://agriskmanagement.cornell.edu>

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College of Agriculture and Life Sciences







# Cornell Cooperative Extension

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## CALENDAR OF EVENTS

<b>Feb 26</b>	<b>Tompkins County Agricultural Summit</b> , Dryden VFW, 2272 Dryden RD To register, contact Debbie Teeter, CCE Tompkins Co, dlt22@cornell.edu or (607) 272-2292	9:30am-3pm
<b>Feb 27</b> <b>Mar 13 &amp; 27</b>	<b>Succession Planning Workshop Series for Farm Businesses</b> Dryden Fire Hall Register: Call/email Shannon Myers srm242@cornell.edu or (607) 391-2662	Cost \$60 10am-2:30pm
<b>Mar 5</b>	<b>Crop Meeting Binghamton: Climate Update</b> <b>DEC/CCA Credits</b> CCE Broome Co: See page 12 for details and registration information	Cost: \$15 9:30am-3pm
<b>Mar 6 &amp; 13</b>	<b>Dairy Managers Training</b> Mar 6 Flemingville United Methodist Church, W. Creek Rd., Newark Valley Mar 13 McMahon's EZ Acres, Homer Information and Registration Details on page 7	Cost: \$50 9:30am-3pm
<b>Mar 8</b>	<b>Manure Handling &amp; Trucking Safety Workshop</b> NYS Grange, 100 Grange Pl., Cortland To register call or email Shannon Myers at (607) 391-2662, srm242@cornell.edu	9am-3pm
<b>Mar 12</b>	<b>2019 NYCO Winter Meeting</b> , Jordan Hall, 630 West North St., Geneva: Dish to pass luncheon For more information, contact Fay Benson, (607) 391-2669, afb3@cornell.edu	10am-2pm
<b>Mar 15</b>	<b>Ag Appreciation Luncheon with FSA</b> , Dryden Fire Hall RSVP by Mar 8-607-753-0851 ext.2	11am-2pm
<b>Mar 21</b>	<b>Dairy Managers Discussion Group</b> , Cortland Chamber of Commerce 37 Church St. To register call or email Shannon Myers at (607) 391-2662, srm242@cornell.edu <b>Mike Baker, Cornell University/ Meghan Bradley, Genex: Dairy Beef, All Questions Answered</b>	12pm-3pm
<b>Mar 20</b>	<b>Crop Meeting Horseheads: Crop Protection</b> <b>DEC/CCA Credits</b> Horseheads Town Hall, 150 Wygant Rd. Details on page 12	Cost \$10 9:30am-3pm
<b>Mar 28</b>	<b>Pesticide Applicator Training</b> Dryden Fire Hall See page 4 for details	<b>DEC/CCA Credits</b> Cost \$25 12 pm-3:30 pm