

# Cornell University Cooperative Extension SCNY DAIRY & FIELD CROPS TEAM

## Newsletter

BROOME - CHEMUNG - CORTLAND - ONONDAGA - TIOGA - TOMPKINS

July/August 2018

### Dairy Situation & Outlook

*Bob Cropp, Professor Emeritus, University of Wisconsin Cooperative Extension*

USDA estimates May milk production 0.9% higher than a year ago. This is a little stronger growth than April which was up just 0.5%. Milk cow numbers were 2,000 higher than April, but just 3,000 higher than a year ago. The increase in milk per cow remains well below trend at just 0.7%. Nine of the 23 reporting states had lower milk production than a year ago and two had

\$2.3784 early June but has fallen to \$2.31. Cheddar cheese barrels averaged \$1.5870 per pound in May, were \$1.5983 early June but have fallen to \$1.3250. The 40-pound cheddar blocks averaged \$1.6397 per pound in May, were \$1.6525

*Cont'd on page 6*

Milk Component Prices			Milk Class Prices				Statistical Uniform Price & PPD				
Month	Butterfat	Protein	I (Boston)	II	III	IV	Jamestown, NY		Albany, NY		Albany \$/gal. to farmer
May 17	\$2.41	\$1.77	\$18.45	\$14.84	\$15.57	\$14.49	\$15.36	(\$0.21)	\$15.96	\$0.39	\$1.38
June 17	\$2.71	\$1.75	\$18.56	\$16.15	\$16.44	\$15.89	\$16.38	(\$0.06)	\$16.98	\$0.54	\$1.41
July 17	\$2.95	\$1.22	\$19.84	\$17.48	\$15.45	\$16.60	\$16.86	\$1.41	\$17.46	\$2.01	\$1.51
Aug 17	\$3.01	\$1.55	\$19.97	\$17.56	\$16.57	\$16.61	\$17.18	\$0.61	\$17.78	\$1.21	\$1.48
Sep 17	\$2.86	\$1.70	\$19.96	\$16.80	\$16.36	\$15.86	\$16.74	\$0.38	\$17.34	\$0.98	\$1.49
Oct 17	\$2.11	\$2.66	\$19.69	\$15.95	\$16.69	\$14.85	\$16.29	(\$0.40)	\$16.89	\$0.20	\$1.46
Nov 17	\$2.55	\$2.34	\$19.66	\$15.32	\$16.88	\$13.99	\$15.99	(\$0.89)	\$16.59	(\$0.29)	\$1.38
Dec 17	\$2.50	\$2.03	\$20.13	\$14.49	\$15.54	\$13.51	\$15.56	\$0.12	\$16.16	\$0.72	\$1.39
Jan 18	\$2.45	\$1.66	\$18.69	\$14.11	\$14.00	\$13.13	\$14.55	\$0.55	\$15.15	\$1.15	\$1.31
Feb 18	\$2.34	\$1.62	\$17.50	\$13.44	\$13.40	\$12.87	\$13.73	\$0.33	\$14.33	\$0.93	\$1.24
Mar 18	\$2.42	\$1.80	\$16.61	\$13.88	\$14.22	\$13.04	\$13.91	(\$0.31)	\$14.51	\$0.29	\$1.25
Apr 18	\$2.51	\$1.78	\$17.35	\$14.03	\$14.47	\$13.48	\$14.31	(\$0.16)	\$14.91	\$0.44	\$1.29
May 18	\$2.62	\$1.86	\$17.69	\$14.47	\$15.18	\$14.57	\$14.99	(\$0.19)	\$15.69	\$0.41	\$1.35

**May Utilization (Northeast): Class I = 30%; Class II = 26%; Class III = 25%; Class IV = 19%. Class I = fluid milk; Class II = soft products, cream, and yogurt; Class III = cheese (American, Italian), evaporated and condensed products; Class IV = butter and milk powder.**

no change. Ten had fewer cows than a year ago and ten had lower milk per cow. Two states with the most added cows were Colorado with 16,000 and Texas with 12,000. California had the largest decline in cows with 18,000. States with the largest increase in milk production were Colorado at 11.6%, Kansas at 9.7%, Texas at 6.6% and Utah at 5.2%.

But, the market appears to be negatively reacting to U.S. decision to place tariffs on Mexico steel and aluminum and tariffs on a number of China goods and products. In retaliation Mexico announced that they will place a tariff on U.S. cheese and China announced tariffs on some dairy products, corn, soybeans and other products. Mexico is the largest export market for U.S. cheese. In 2017, Mexico accounted for 28.3% of U.S. cheese exports. While these tariffs don't take effect until July and the degree of impact on U.S. dairy exports is unknown at this time dairy product prices have already fallen.

On the CME butter averaged \$2.3751 per pound in May, was

*South Central NY Dairy & Field Crops Digest*

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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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*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"*



## There's an app for that!

Check out these NIOSH health and safety mobile apps for your smartphone or tablet:

- Sound Level Meter App**— Measures sound levels in the workplace and provides noise exposure parameters to help reduce occupational noise-induced hearing loss.
- Pocket Guide to Chemical Hazards App**— The industrial hygiene information found in the Pocket Guide should help users recognize and control occupational chemical hazards.
- Ladder Safety App**— Designed to improve extension and step ladder safety for those working in construction or any other task that requires ladder use.
- HEAT Safety Tool App (OSHA/NIOSH)**— Features real-time heat index and hourly forecasts, specific to your location, as well as occupational safety and health recommendations from OSHA and NIOSH.
- Lifting Equation App**— This application provides risk estimates to help evaluate lifting tasks and reduce the incidence of low back injuries in workers.

Learn more or download these apps at: <https://www.cdc.gov/niosh/pubs/apps/default.html>



**Facebook: @NYCAMH**

**[www.nycamh.org](http://www.nycamh.org)**



## Pipeline Location Information

*Reproduced with permission from Pipeline Association for Public Awareness\**

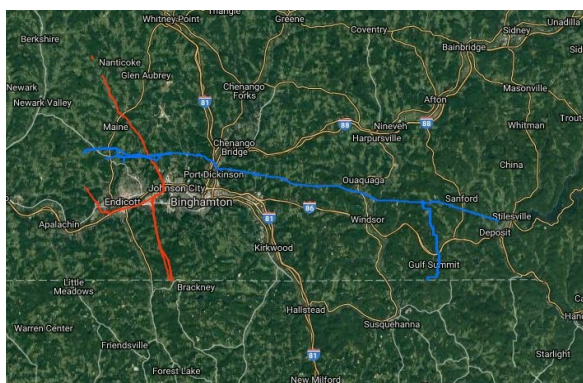
*Written by Amy Nelson, as originally published in the 2018 PASA Farm & Ranch Excavation Safety Guide\*\**

Pipelines are buried in areas called rights-of-way. Pipeline markers are used to designate the general route of the pipeline. Markers can also be found where a pipeline crosses a street or railroad, emerges from the ground, or in waterways. **BE AWARE:** Pipeline markers will not designate the exact location, depth, or number of pipelines in the area. **When viewing pipeline maps in any NPMS application, please note that NPMS data is for reference purposes only. It should never be used as a substitute for contacting a One Call center prior to excavation activities. Please call 811 before any digging occurs. \*\***

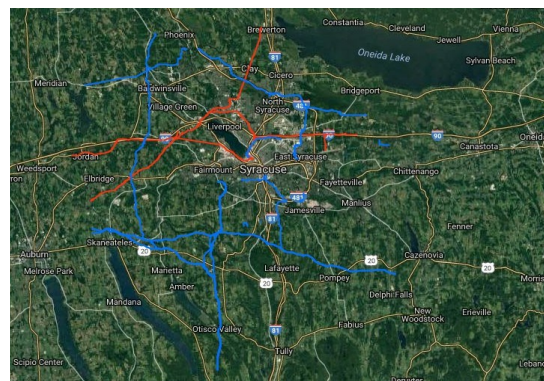
Are you curious about pipelines in your area or on your property? The National Pipeline Mapping System is the only complete and accurate source of maps showing hazardous liquid and gas transmission pipelines in the U.S. These pipelines are usually located underground and carry commodities such as natural gas, crude oil, product, and other gases and liquids. These pipelines can be viewed using a web application or an iPhone mobile application at [npms.phmsa.dot.gov](http://npms.phmsa.dot.gov). \*

The images below show gas transmission pipelines in blue and hazardous liquid pipelines in red for six Central New York counties.

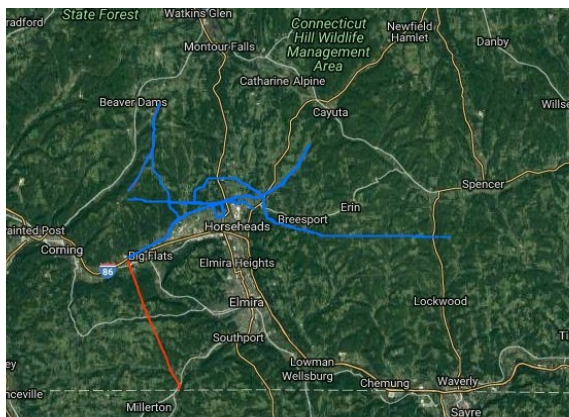
### Broome County



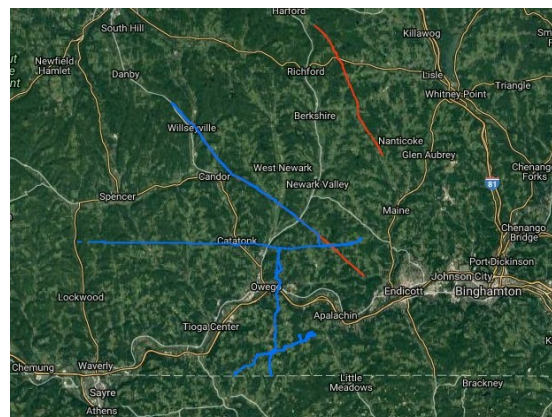
### Onondaga County



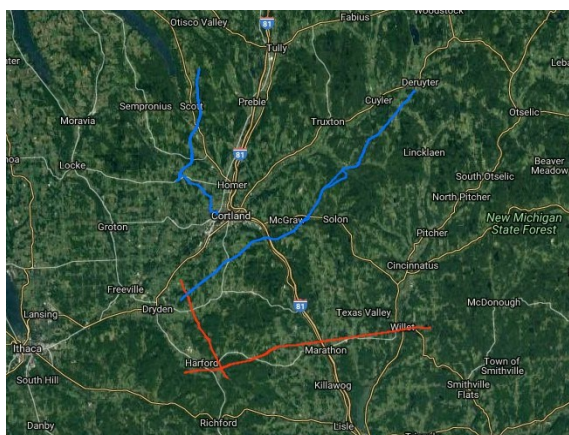
### Chemung County



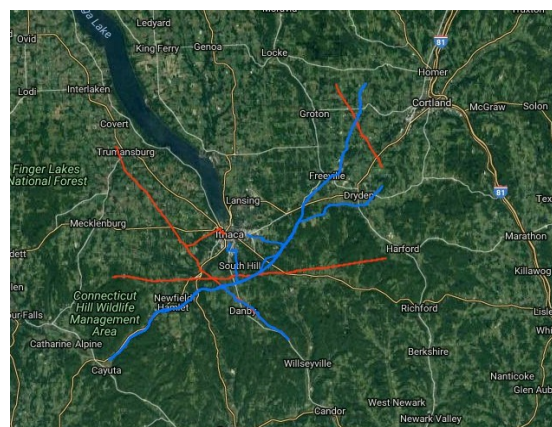
### Tioga County



### Cortland County



### Tompkins County





# Evaluation of Cow Comfort in Northern New York

*Kim Morrill, Regional Extension Dairy Specialist, CCE North Country Regional Ag Team*

Management protocols, record keeping, cow comfort, and animal health—these are all hot topics in the dairy industry and have an impact on the overall profitability of a dairy operation. In the spring of 2017, we were awarded a New York Farm Viability Institute topic specific grant. The objective of the project was to evaluate Northern New York dairy farms on cow comfort and lameness, as well as evaluate the current record keeping system for protocols, herd health plans, treatment records, and employee training documentations. This article will focus on the results of the animal observations portion of the study.

A total of 1,357 animals (all age classes) from 16 dairy farms were evaluated in the fall of 2017. An average of 51 lactating cows, 7 dry cows, 22 weaned heifers, and 5 pre-weaned heifers were evaluated on each farm (Table 1).

Average herd size for participating farms was 546, with a range of 145 to 977 lactating cows. All farms participating in the study housed their lactating cattle in a freestall barn.

Farms were located in Jefferson, Lewis, St. Lawrence, Franklin, and Clinton counties.

Body condition, hygiene, locomotion, and hock and knee scores can be used as indicators of cow comfort and animal well-being. Body condition score can be an indication of both animal health and if a balanced diet is being provided (and consumed) by the animals. Body condition score is based on a 1 to 5 scale, where 1 = a gaunt animal with no fatty tissue around the tail head or short rib region, and 5 = an obese animal. The National Dairy FARM Program goal for BCS is that 99% of the herd score a 2 or more on the body condition score card. In this study, no cows had a BCS < 2. This is excellent.

The goal of evaluating animal hygiene is to gauge the on- going sanitation management in both the cattle resting areas and the barn traffic lanes. Hygiene is scored on a 1 to 4 scale, where 1 = clean; 2 = manure splatters on lower legs; 3 = manure splatter on upper leg, udder, and belly; and 4 = manure splatters on udder, belly area, and towards the top of the cow. The National Dairy FARM Program goal for hygiene score is that 90% or more of animals should score a 2 or less on the hygiene score card. Poor hygiene can impact milk quality and animal health. In this study, less than 70% of all animals

Table 1. Average number of animals per farm evaluated in each age category

Variable	N	Mean	Std Dev	Min	Max
<b>Number of Animal</b>					
<b>Observations</b>					
Lactating cows	16	50.50	12.64	26	81
Dry Cows	16	6.75	4.89	0	16
Weaned heifers	16	21.88	15.62	0	42
Preweaned calves	16	5.25	4.63	0	15
Bulls	16	0.31	0.87	0	3

had a hygiene score of 1 or 2. Breaking this down by age category, 28% of lactating cows, 20% of dry cows, 7% of pre-weaned calves, and 50% of heifers had a hygiene score of 3 or 4. This indicates that animal hygiene can be improved on most farms, primarily in the heifer pens, but also even in the lactating herd.

Locomotion was evaluated on a 1 to 3 scale, where 1 = sound (normal posture and gait); 2 = moderate lameness (stands well but is noted to favor a limb when walking); and 3 = severe lameness. The National Dairy FARM Program goal for locomotion score is that 95% of the lactating and dry cow herd score a 2 or less on the lameness score card. In Northern New York, 4.3% of lactating cows had a locomotion score of 3. On a per farm basis, locomotion score of 3 (severe lameness) ranged from 0 to 15.8% of the lactating herd.

Hock and knees were evaluated on a 1 to 3 scale, where 1 = no injury or hair loss to the hock and knees; 2 = some hair loss (quarter size or greater) and no swelling; and 3 = visible swelling and/or abrasion through the hide. Hock and knee lesions are an indication of inadequate bedding, a rough stall surface, or improperly sized stalls. Dairy farms with a higher prevalence of hock and knee lesions also tend to have a higher number of lame cows. Skin breakage (abrasions) provide an opportunity for infection to occur, which can lead to swelling, discomfort, and lameness. The National Dairy FARM Program goal is that 95% of the lactating and dry cow herd score a 2 or less on the hock and knee score card. In Northern New York, 14% of lactating cows



*Photo taken by CCE of Jefferson Coun-*

had a hock and knee score of 3. On a per farm basis, a hock and knee score of 3 ranged from 0 to 72% of the lactating herd.

Every farm that participated in the study received an individualized report with their results, a comparison to the whole data set, and recommendations for improvements (Table 2). Many farms have implemented management changes and we are actively re-evaluating these farms.

**Table 2. Frequency and percentage of animal observation by whole dataset and lactating cows only**

	Whole data set		Lactating cows	
	Frequency	Percent	Frequency	Percent
<b>Body condition score</b>				
Goal = <1% scored a 1				
1	0	0.0	0	0.0
2	202	14.9	168	20.8
3	1021	73.4	569	70.4
4	131	9.7	70	8.7
5	1	0.1	1	0.1
<b>Hygiene</b>				
Goal = <10% scored 3 and 4				
1	144	10.6	5	0.6
2	783	57.7	568	70.1
3	300	22.1	199	24.6
4	130	9.6	38	4.7
<b>Locomotion score</b>				
Goal = <5% scored 3				
1	1039	78.4	576	71.3
2	244	18.4	197	24.4
3	42	3.2	35	4.3
<b>Hock and knee score</b>				
Goal = <5% scored 3				
1	862	65.0	423	52.3
2	317	23.9	270	33.4
3	147	11.1	116	14.3

## Stress Management on the Farm - Is my stress normal?

*Reproduced from FarmNet Brochure*

Some stress in everyday life is normal and can help us meet daily goals and expectations, both personal and professional. Stress becomes a negative force when it is severe, prolonged, and begins to change your biochemistry to an acute stress response, or “fight or flight” response.

Everyday stresses move out of the normal range when emotional stress lingers for weeks, or even months, weakening your immune system and causing serious health problems. The epinephrine the human body produces during stressful times can be harmful to your heart and health, facilitating the onset of burnout, accidents, cardiovascular disease, diabetes, depression, and even suicide. Stress can be insidious in how it affects our health.

The good news is, no matter how long you have been stressed, there are ways to reduce your stress and help get you back to where you want to be.

Farmers and farmer families are faced with a variety of stressors on a daily basis. Farms of all sizes are feeling the impact of deteriorating economic conditions in New York’s agricultural sector. Learning to manage feelings and behaviors during hectic times can take patience, practice, and help from a professional.

Some stress in everyday life is normal, and can help us meet both personal and professional goals and expectations. Stress becomes a negative force when it is severe, prolonged, and leads to an acute stress response or “fight or flight.” Signs of increased stress may include feeling depressed, irritable, impatient, and overwhelmed in addition to sleep disturbances, and a lack of energy and motivation with usual tasks.

Taking time to relax and manage stress well during chaotic farming seasons requires discipline, practice, and mindfulness. NY FarmNet farm family consultants can provide you with support for your personal and emotional well-being.

### **Coping with Stress**

**Take care of yourself.** Take care of your body. Exercise, eat well-balanced meals, and get plenty of rest. Try to avoid stimulants like caffeine or tobacco, or using alcohol or other drugs.

**Take a break.** Park the tractor and take a walk to clear your head. Sometimes events on the news, internet, or newspaper can add to your stress. Schedule information breaks – turn off the television, put away your phone, and focus on something else that you enjoy. Take time to balance your work and play.

*Cont'd on page 6*

**Talk with other.** Share your problems and how you are feeling and coping with a family member, friend, counselor, doctor, or clergy. Talking with someone may help you feel better. Sharing your experience with someone else who may also be struggling and in need of support, can be mutually beneficial.

**Follow a normal routine, as much as possible.** Wake up and go to sleep at your usual times. Eat meals at regular times. Continue to go to work, school, church, or other community meetings.

**To learn more about preventing stress, depression, & burnout call (800) 547-FARM**

### ***Depression***

Depression varies from normal sadness in how it engulfs your everyday life. Feeling hopeless, isolated, or uninterested in activities you once loved are all signs of depression. Other symptoms that may indicate that you are suffering from depression are:

- Chronic fatigue
- Feelings of guilt
- Feeling like you're drowning
- Trouble making decisions
- Sleeping too much or too little
- Appetite and/or weight changes
- Digestive problems
- Aches and pains
- Dizziness
- Thoughts of death or suicide

**Getting effective treatment is important for your health and well-being. If you or someone you know might be suffering from depression, call your doctor, local clinic, or NY**

### **FarmNet.**

#### ***Am I burned out?***

While burnout can result from a number of stressful situations, prolonged stress in any setting can increase your likelihood of becoming burned out. Some common symptoms of burnout are:

- Emotional and physical exhaustion
- Irritable and Impatient
- Lacking in energy and motivation
- Feeling unsatisfied or disillusioned
- Unexplained aches and pains
- Relying on drugs or alcohol to cope

Prevention can be as simple as making small variations in daily work and life. To help prevent burnout, or for more information if you or someone you know may be suffering, please call your doctor, or call

#### **Free and confidential resources:**

##### **NYFarmNet**

1-800-547-3276, [www.nyfarmnet.org](http://www.nyfarmnet.org)

##### **National Suicide Prevention Lifeline**

1-800-273-8255 (TALK), [www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

##### **Crisis Text Line**

Text "START" to 741-741, [www.crisistextline.org](http://www.crisistextline.org)

#### **Local Resources:**

##### **New York State County Mental Health Directory**

<http://bit.ly/NYCMH2018>

Sometimes taking healthy steps on your own to lower stress is not enough, and that is ok. Recognize when you need more help. If problems continue, or you are thinking about suicide, talk to a doctor, social worker, or professional counselor.

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### *Dairy Situation & Outlook, Cont'd from page 1*

early June but have fallen to \$1.5675. Nonfat dry milk averaged \$0.8441 per pound in May, were \$0.8277 early June but have fallen to \$0.7525. Dry whey averaged \$0.2981 per pound in May, was above 0.40 in June and has fallen to \$0.3950.

Hopefully these declines in dairy product prices are an over-reaction to the imposed tariffs and retaliation. Prior to this it looked like the Class III price would be near \$16 by June and move to the high \$16's by October with \$17 as a possibility. The Class IV price was forecasted to be in the \$15's by June and the higher \$15's by October and may be reaching the low \$16's by November. But, in recent trades dairy futures have tumbled. Class III futures are now in the \$15's July and August, the low \$16's in September to November and back to the high \$15 in December. Class IV is in just the high \$14's July and August and the low \$15's for the remainder of the year.

Domestic sales are anticipated to stay relatively strong for the remainder of the year. A smaller than earlier forecasted growth in milk production is positive for milk prices. USDA is now forecasting milk production for the year to be up just 1.2%. The unknown is how dairy exports will fair for the remainder of the year. Despite the retaliations by Mexico and China USDA still forecasts dairy exports above year ago levels. Class III was \$15.18 in May and may now improve to around just \$15.30 for June. Class IV price was \$14.57 in May and may be around \$15 for June. From here out prices are uncertain. The price outlook is not as optimistic as a month ago. But, the markets could very well have over-reacted and we could see a good correction. And if the growth in milk production can remain no higher than about 1% Class III during the second half of the year could still reach the mid to high \$16's and the Class IV in the mid to high \$15's.



# WHEN PLANTING GOES WRONG...



## Prevented Planting & Replant Provisions in Crop Insurance 2018 Crop Year, NY

**Crop insurance** can help your farm recover from a crop failure. Did you know it can also help you manage risk at planting time? Most crop insurance policies include provisions that can compensate you if you are unable to plant or help you afford to replant your crop if necessary.

### Prevented Planting

Prevented planting provisions in insurance policies can provide valuable coverage when extreme weather conditions prevent or delay planting.

#### Am I covered?

Most policies include a provision for prevented planting with the exception of group risk (GRP, GRIP, and ARPI) and catastrophic-level ("CAT") policies.



#### Eligibility

- You may be eligible to file a claim if:
  - Your acreage is physically available for planting
  - Your acreage was planted in at least 1 of the 4 most recent crop years
  - An insured cause of loss occurred within the insurance period, for example:
    - Excessively wet conditions throughout the growing season which prevented nearby producers from planting similar acreage
- A specific event, like flooding, which impacted only your field
- You were unable to plant by the final planting date (see reverse) or during the late planting period (generally 25 days after the final planting date but varies)



#### So you were unable to plant, now what?

You must provide notice that you were prevented from planting an insured crop within 72 hours after you determine you will be unable to plant. Then you may choose to:

- Leave the acreage idle or plant a cover crop (and receive a full prevented planting payment as long as you do not hay or graze the cover crop before November 1),
- Plant the crop late (your original production guarantee applies but is reduced one percent per day for each day planting is delayed after the final planting date), OR
- Plant a second crop (you may receive a prevented planting payment equal to 35% of the prevented planting guarantee).



#### Payments

The prevented planting guarantee for most crops is typically 60% of the production guarantee purchased for timely planted acreage. Some policies have additional coverage options available.

*Cont'd on page 8*





## Final Planting Dates (NY)

\* Dates differ by county

**5/10:** Barley (spring), Oats (spring), Forage Seeding (spring), Onions

**5/20:** Green peas

**5/30:** Potatoes\*

**6/5:** Tomatoes (processing) **6/10:** Potatoes\*, Corn, Soybeans

**6/20:** Grainsorghum, Sweet Corn (fresh-market)\*, SweetCorn (fresh-

market)\*, Dry Beans, Sweet (processing)\*

**7/1** (previous year): Pasture Hay

**7/10:** SweetCorn (processing)\* **6/30:** **7/20:** Cabbage

**7/25:** Green Beans (fresh Corn and processing)

**8/31:** Forage seeding (fall) and **9/30:** Barley (winter)

## Replant

Replant provisions in insurance policies provide a payment to help producers replant after extreme weather destroys a planting.

### Am I covered?

Most policies include a replant provision with the exception of group risk (GRP, GRIP, and ARPI) and catastrophic-level ("CAT") policies.

### Eligibility



- The acres to be replanted must be:
- Originally planted on or after the earliest planting date
- Either at least 20 acres total or 20% of the insured planted acreage (whichever is less - this is known as the "20/20 Rule")
- Affected by an insured cause of loss such as a late frost
- Appraised as having an expected yield below 90% of the guaranteed yield in your policy
- Determined to be "practical to replant" by an Authorized Crop Insurance Adjuster
- Replanted with the original crop

### So your planting was destroyed, now what?



planting date)

- Notify your crop insurance agent within 72 hours
- An adjuster will appraise your expected yield and whether it is practical to replant
- If applicable, replant with the original crop
- Your original planting guarantee will continue as if nothing had happened (as long as you plant before the final

### Payments

The replant payment is typically equal to lesser of either your actual costs of replanting or a formula provided in your crop insurance policy provisions (for example: for corn, the per-acre replant payment equals the projected price/bushel x 8 bushels).



# 2017 Field Trial: Results from Control of Northern Corn Leaf Blight with Fungicides

Janice Degni, Area Extension Field Crops Specialist



## Introduction

Northern Corn Leaf Blight (NCLB) has become a disease that impacts all corn growers to some extent. The disease has been moderate to severe over the last ten years or so. We had a reprieve in 2016 because of the unusually dry conditions.

Disease resistance in hybrids is variable. The disease organism is continually evolving to overcome partial plant resistance. There are nearly 20 fungicides from two

chemical families that are labeled for control of NCLB. The majority of efficacy testing has been done in the Midwest. In NY, CCE and industry rely on that information for our recommendations.

In the spring of 2017 I received grant support from the NY Corn and Soybean Growers Association to compare the performance of pre and post tassel fungicide applications in corn for control of NCLB. There were three cooperating farms in our region and an additional site managed by extension colleague, Aaron Gabriel in Washington County in Eastern NY.

The 2017 field study was designed to measure forage quality and compare impacts on yields from early-vegetative and post tassel fungicide treatments for control of NCLB. Yield results will be used to compare cost of fungicide application with value of yield gained. This study provided data to help define the relative benefits of early and late season fungicide application to protect yield and impact quality.

The three fungicides that were used in this study were Affiance, Priaxor and Headline Amp. All have two ingredients providing mixed modes of action. Affiance and Priaxor are said to have 30 days of systemic activity. The early application timing when corn is still vegetative which can be combined with post emergence weed control will allow us to evaluate if it will give adequate season long protection. Headline Amp is rated "very good" for control and is the fungicide used by many custom applicators. Affiance and Priaxor were applied in the V4-V6 stage. Affiance and Headline AMP were applied

post tassel. There were 5 treatments including the untreated control with 3 repetitions per farm. In addition to pathogen control, these fungicides are promoted for offering "plant health" benefits even in the absence of disease pressure.

Mid-west corn belt trial results have been mixed related to the economic returns associated with plant health benefits as well as yield gains. In about 50% of the studies, the yield potential protected by fungicides is more than the cost of the fungicide application.

In 2017 we had very low incidence of NCLB. Most treatments had less than 1% incidence. In a year with minimal disease pressure from NCLB our data from 4 cooperating farms found that yields among farm were statistically significantly different but the treatments were not. The yields are shown in Figure 1, *Corn Silage Yield by Site and Treatment*. Forage samples were collected and analyzed for each treatment. We found no statistically significant impact for any of the components tested. Figure 2, *Quality by Treatment shows an example with Headline Amp*.

The complete project report is available on our web page. Click the forage picture to get to the report.

Fig 1. **Corn Silage Yield by Site & Treatments**

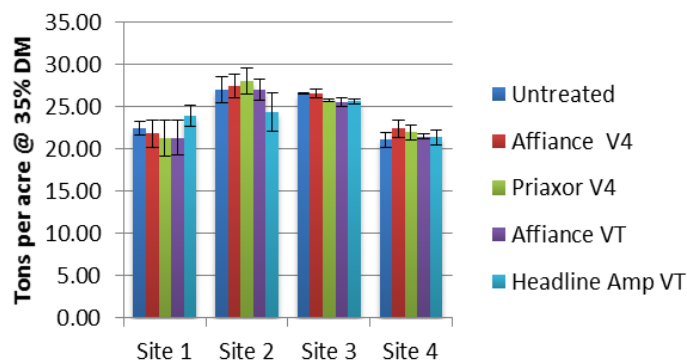
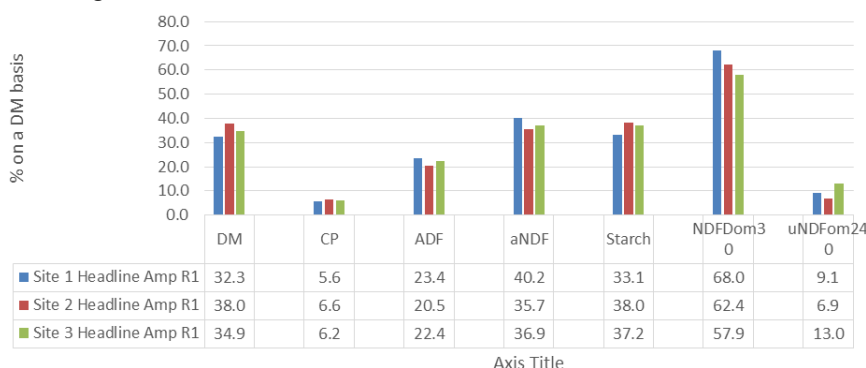


Fig 2. **Quality By Treatment (Headline Amp R1) by Farm**



# Scouting Corn for Foliar Diseases and Fungicide Applications

Heather Marie Kelly, Extension Plant Pathologist

With the earliest planted corn in Tennessee tasseling, corn should be scouted for diseases which are key factors when considering fungicide application

Major corn diseases are favored by humid conditions, so the edges of fields will not be the place to scout. Within fields, especially low spots that hold moisture are good areas to scout for disease as it may develop in those areas first. Be on the lookout for lesions and use the resources on [UTCrops.com](http://UTCrops.com) and particularly under Corn Diseases in the photo gallery ([Corn Diseases in Tennessee](#)) which contains disease images and weather conditions that favor disease development.

The most common foliar corn disease in Tennessee is gray leaf spot (caused by a fungus – *Cercospora zea-maydis*), especially in continuous corn fields. Other diseases that may be seen include anthracnose leaf blight (caused by a fungus – *Colletotrichum graminicola*), Northern corn leaf blight (caused by a fungus – *Exserohilum turcicum*), Southern corn rust (caused by a fungus – *Puccinia polysora*), and common corn rust (caused by a fungus – *Puccinia sorghi*).

There have been and still are small circular spots on corn leaves that can be Gramoxone (paraquat) injury or Holcus spot (caused by a bacterium – *Pseudomonas syringae* pv. *syringae*) or a mix of both Gramoxone injury and Holcus spot. Regardless, nothing needs to be done as both Gramoxone injury and Holcus spot do not usually affect yield and fungicides do not have any effect on bacteria. When in doubt don't hesitate to contact your local county agent for advice on disease management and identification.

Deciding to apply a fungicide to corn should be based upon multiple factors including:

- Disease presence
- Weather conditions
- Cropping history
- Hybrid

Foliar fungicide applications in corn is more likely to provide an increase in yield **when disease is present or there is significant risk of disease, weather conditions favor disease development, the field is corn after corn, and a disease susceptible hybrid is planted**. Research data from University of Tennessee and other universities has continuously found these factors to strongly influence the magnitude and consistency of yield response to a foliar fungicide application in corn. Corn fungicide trials from 2010 through 2012, at the Milan Research and Education Center, conducted by Dr. Melvin Newman, reported only a significant, 15 bu/a increase in yield over untreated corn in 2010 (see last paragraph and graphs in previous article: [Expected Outcome of Fungicide Applications at Early Vegetative Corn \(V5-V6 Growth Stages\)](#)).

When factors warrant a fungicide application, the application timing that has provided the most consistent yield increase over

untreated corn is a fungicide application at **VT or R1 growth stages (tasseling to pollination)**. Two tables are below from the 2012 Regional Corn Fungicide Summary data from the Corn Disease Working Group (CDWG), compiled by Drs. Kiersten Wise and Greg Shaner from Purdue University. The mean yield response of fungicide applications compared to non-treated control from 10 states and Ontario, Canada was -1.1 bu/a with applications at growth stage V5/V6, 4.9 bu/a with applications at VT-R1 (tasseling to pollination), and 3.0 bu/a with applications at V5/V6 plus a VT-R1 application (first table). Keep in mind this is across areas with variable weather conditions, field histories, and varying disease pressure.

2012 Regional Corn Fungicide Summary  
Data from 10 states and Ontario, Canada

Timing of application	# of fungicides tested	# of observations	Mean yield response compared to non-treated control (bu/A) <sup>*</sup>
V5/V6	10	65	-1.1
VT-R2	14	243	4.9
V5 + VT/R1	7	35	3.0

<sup>\*</sup>Mean calculated over all fungicides compared in individual state trials

Break-even scenarios for corn

Corn price (\$/bu)	Application cost (\$/A)				
	\$20	\$24	\$28	\$32	\$36
\$3.00	6.7	8.0	9.3	10.7	12.0
\$4.00	5.0	6.0	7.0	8.0	9.0
\$5.00	4.0	4.8	5.6	6.4	7.2
\$6.00	3.3	4.0	4.7	5.3	6.0
\$7.00	2.9	3.4	4.0	4.6	5.1
\$8.00	2.5	3.0	3.5	4.0	4.5
\$9.00	2.2	2.7	3.1	3.6	4.0
\$10.00	2.0	2.4	2.8	3.2	3.6

The increase in yield to break-even on fungicide application can be found in the second table. Using a wide net of break-even scenarios based on past average corn prices and \$24 to \$36 application costs an increase of 3 to 5 bu/a would be required.

There are multiple fungicides labeled for corn and for the control of different diseases. The multistate collaborative, the Corn Disease Working Group (CDWG), has developed information on fungicide efficacy for control of certain corn diseases. This corn fungicide efficacy table can be found at [UTCrops.com](http://UTCrops.com) ([Corn Fungicide Table – CDWG](#)). Application coverage is also important, which includes using sufficient amount of water per acre and adequate droplet size based on the product being applied.

# The Law of Diminishing Returns – How do we know when we’ve reached it?

*Betsy Hicks, Area Dairy Management Specialist*

Today’s economy has every producer struggling to find ways to increase cash flow. We fill stalls, add a few more cows, keep plentiful heifers in the pipeline and estimate our projected inventory of first calf heifers due to calve and add it to the count of cows in our milking string. Banks, profit teams, nutritionists, owners, veterinarians, managers – everyone looks at these numbers. Adding more cows lets us extrapolate out numbers of projections of what milk could look like and potentially positively impact cash flow. We know feed costs, we know how long it takes us to milk extra cows; we put numbers to things to define what these extra cows can do to our bottom line.

But at what point does putting an extra cow in the barn starts to yield negative results? Yes, milk per stall may look great, but what strain or stress has it put on the entire system? With fresh cow groups, or close-up dry groups, we know exactly how many cows we can put in the group before we start seeing metabolic issues. With heifers, though, are we able to define exactly what those negatives are? And what about the added strain on the human element? If you have narrow alley ways, slippery floors in the summertime and more cows in a group than before, what does that do for the efficiency of the worker? How about the worker’s state of mind while trying to sift through that group of cows?

When we overcrowd the system, yes, we’re trying to be as productive as possible – filling the barn to capacity will pretty much always yield more cash flow than a barn that’s half full. Pushing the limits leads us to the law of diminishing returns – we put another cow in the group, but instead of the average of the group being 80 lbs/cow, now it’s 78 or 77. Still positive, being that we added more milk, but not quite as high as we were before. We overcrowd that fresh cow group and blow up with ketosis and DA’s – that’s the point of negative returns, not a fun or profitable place to be.

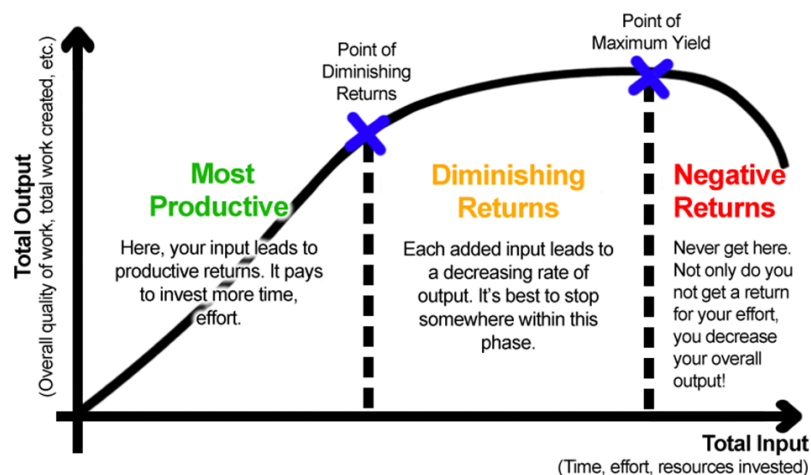
So let’s think about these points in our system and how we can relate it back to results. Yes, we need to cash flow, but more animals aren’t always the answer. I challenge you to look at each point in your system and identify where you are past the point of getting a positive return. If we were making \$24 conventional milk again, I have a feeling that a lot of transition heifer barns would be going up to correct a huge overcrowding issue in our replacement program. Again, though, more animals isn’t always the answer. To relieve crowding, we can either put animals in a bigger space, or we can remove animals from the space. New barns aren’t in the cards that

dairy producers are holding right now, so removing animals from the space is the next best answer. Do you know how many heifers you need to maintain your herd size or maintain growth for expansion? Odds are, with the results in reproductive efficiency that I see on many herds today, we don’t need to keep a 1:1 ratio of heifers to cows – probably 80% of the cow herd is realistic, even with a herd in expansion mode.

If you only keep 80% though, that means some heifers have to leave! I challenge herds all the time – what are the criteria for deciding if that heifer gets to stay? This needs to be decided BEFORE the calf hits the ground. Many times, I’ve seen half beef breeds running around in heifer pens because the producer decided to use beef semen as a way to either get a problem cow pregnant or to convince themselves that they don’t want to keep the genetics from the cow, and they didn’t sell the calf afterwards. In either scenario, the producer needs to make a management decision AHEAD OF TIME. Every herd has a bottom third of cows. This is a good place to start making decisions about who to keep.

What happens when we start maximizing our system instead of overtaxing our system? We have less milk to have to feed – or the capacity to feed more milk to fewer calves and maximize growth. Letting a few calves leave the farm immediately may open up opportunities to starting weighing heifers at specific time points to reveal gaps in performance that can be addressed. We have less crowded heifer pens – or healthier calves that don’t have underlying respiratory disease and have reached puberty faster. We have heifers that reach the milking string more quickly – or heifers of the proper size calving in that start to pay you back sooner. With the milking string, we have cows calving in that have no metabolic issues and reach consistently high peak milks. We have time to not just trim cows that need attention, but do maintenance trims on the whole herd. We have ample bedding in stalls and cleaner pens for cows to spend their day in. From the human aspect, taking care of healthy cows and calves is far less stressful than caring for the poor performers in the group.

Making these management decisions doesn’t happen overnight, and can be overwhelming. Having the conversation with your nutritionist, veterinarian and/or extension educator is a great place to start. Implementing your strategy will be hard, but knowing that taking a proactive approach to managing herd size will only benefit your dairy in the years to come.



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Image source: <https://personalexcellence.co/blog/law-of-diminishing-returns/>



Cornell University Cooperative Extension  
**SCNY DAIRY & FIELD CROPS TEAM**

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**CALENDAR OF EVENTS**

<b>July 29</b>	<b>Tioga County Sundaes on the Farm</b> Mead Dairy Farm, 24 Mead Road, Owego, NY	<b>12pm-3pm</b>
<b>Aug. 3</b>	<b>Organic Dairy and Crops Field Day: Building Resiliency into your Farming Operation</b> 510 Conlon Road Lansing, Contact Fay Benson at 607.745.3807 Call 607.391.2662 to pre-register. Walk-ins welcome. \$5, light lunch provided.	<b>11am-2pm</b>
<b>Aug. 7-9</b>	<b>Empire Farm Days</b> 2973 State Route 414, Seneca Falls	<b>Tues. &amp; Wed. 9 am -5 pm</b> <b>Thurs. 9 am—4 pm</b>
<b>Aug. 26</b>	<b>Chemung County Sundaes on the Farm— FREE family event</b> Hosted by Chemung County Ag Promotion Committee Busholm Farm, 24 May Road, Elmira	<b>10am-1pm</b>
<b>TBA Late Aug.</b>	<b>On-farm Milk Culturing Workshop</b>	
<b>Sept.</b>	<b>Corn Silage Workshop: Tioga County</b>	
<b>Oct./Nov.</b>	<b>Calving &amp; Neonatal Workshop</b> \$75 both days or \$40 for one day	

<b>Aug. 2</b>	<b>Summer Social</b> Cornell Vet School Teaching Dairy Contact Stephanie at <a href="mailto:sav66@cornell.edu">sav66@cornell.edu</a> to pre-register  1pm—Tour of the Cornell Vet School Dairy Barn 2pm— Cornell Dairy Ice Cream Social, Resource Fair and Kid's Activities in Stocking Hall 3pm— Team and Campus Research Updates & NY FarmNet Farmer Panel Pre-registration appreciated, but walk-ins welcome.	<b>12 pm-4:30 pm</b>
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