

swnyteam@cornell.edu

# Cornell Cooperative Extension

Southwest NY Dairy, Livestock and Field Crops Program

swnydlfc.cce.cornell.edu



A partnership between Cornell University and the CCE Associations in these five counties: Allegany, Cattaraugus, Chautauqua, Erie, and Steuben.

## November 2020 Monthly Update

### Preparing for Dairy Calf Care in Winter

*Cornell Cooperative Extension shares best management practices for dairy calf care during cold weather*

*By Alycia Drwencke, Dairy Management Specialist, with the SWNY Dairy, Livestock, and Field Crops Program*



With temperatures dropping and the first snow flying, it is important to confirm farms are ready for the winter. While animal care is a top priority for dairy farms year round, there are some additional considerations to keep in mind during cold months, especially for vulnerable groups like calves. Ensuring our calf care is up to date for the winter season can set them up for success in the future.

There are three top considerations for calves during the winter: maintaining body temperature, ventilation, and nutrition. While these areas are important year-round, they become even more critical in cold weather. Beginning with body temperature, calves are born with only 2-4% body fat, making them susceptible to freezing. Providing calves an adequate amount of clean, soft, dry bedding can help them stay warm. In cold weather, it is recommended to provide calves with straw that is deep enough they can nestle into. The University of Wisconsin has developed a nesting score card which describes a score of 3 as ideal for winter where the calves legs should generally not be visible when they lay down. Additionally, calf coats or jackets can be put on in extreme weather, but should be examined for proper fit, dryness, and cleanliness.

Monitoring ventilation during winter is important for preventing an increase of dust, moisture, pathogens, risk of pneumonia, and other respiratory issues. Providing good ventilation at a rate of 4 air exchanges per hour while avoiding drafts is critical to promoting calf health. Some farms choose to move calves from an outdoor housing system into a barn for additional weather protection. This can be a useful management tool if ventilation in the barn is sufficient. Farms that continue to utilize outdoor based systems should ensure calves have protection from strong winds with plenty of soft, dry bedding.

Finally, it is important to increase the quantity of milk calves receive for growth and warmth. Additional calories are burned by calves in the winter to keep warm, making an increased milk quantity without compromising quality vital. Calves can consume 16 liters of milk per day with no negative health effects. Calves are also susceptible to dehydration during cold weather, making water provision essential. A plan for providing calves with clean, fresh, non-frozen water should be communicated with all caretakers. Providing additional care to calves during the winter, especially in the areas of maintaining body temperature, ventilation, and nutrition can set a dairy herd up for success.



**Katelyn Walley-Stoll**  
Farm Business Management  
& Team Leader  
716-640-0522  
kaw249@cornell.edu



**Joshua Putman**  
Field Crops  
716-490-5572  
jap473@cornell.edu



**Alycia Drwencke**  
Dairy Management  
517-416-0386  
amd453@cornell.edu



**Amy Barkley**  
Livestock & Beginning Farms  
716-640-0844  
amb544@cornell.edu

## Ear Rots and Mycotoxins of Corn Grain in New York

By Josh Putman, Field Crops Specialist, with the SWNY Dairy, Livestock, and Field Crops Program

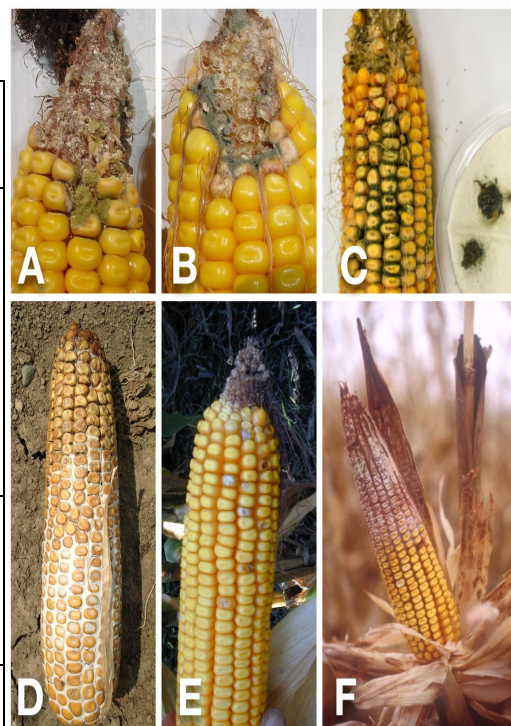
Mycotoxin is a general term for **a poison produced by a fungus** and can be toxic when inhaled, absorbed through the skin, or consumed at very low concentration levels. Corn and small grain cereals are especially prone to mycotoxin accumulation in their seed tissue. In the past, it was believed that the fungus affected grain only during the postharvest stage, particularly when grain was stored under suboptimal conditions (hot and humid/moist). Although these factors can promote fungal growth in storage, this occurs during the growing season as well. In the field, mycotoxin outbreaks are seasonal, and will occur under favorable weather conditions for disease development. Bird and insect damage can also increase the risk for mycotoxin contamination. These pests will damage the kernels and allow mold to establish on an ear of corn.

The three common types of ear rots that have been seen in SWNY are Diplodia ear rot, Fusarium ear rot, and Gibberella ear rot. Diplodia ear rot usually begins at the base of the ear and can overtake the entire ear creating a lightweight mummified ear. Although this disease does not produce mycotoxins, it can significantly reduce grain quality. Fusarium ear rot typically takes advantage of wounds created by insects, birds, or hail. It can be identified on the ear by scattered tufts of mold that may be white to light pink in color and accompanied by starburst patterns on the kernels. Gibberella ear rot is commonly recognized by the red or pink discoloration of kernels and mold around the kernels. This infection typically begins at the tip of the ear. If you are noticing a high number of infected kernels in your bin, here are a few action items to consider: adjust your combine so that it is removing fines and broken kernels, dilute contaminated corn with clean corn to reduce levels for livestock consumption, dry grain to less than 15% moisture within 48 hours of harvest and, when possible, avoid storing grain from fields with high incidence of ear rot disease. This could lead to the development of hot spots in your grain bin.

**Table 1. Main Mycotoxins Occurring in Corn Produced in the Northeastern U.S.**

(Adapted from Gary Bergstrom, Plant Pathology and Plant-Microbe Biology, Cornell University)

Mycotoxin	Predominant toxigenic mold	Lowest level of concern	Common effects on animals
Deoxynivalenol (vomitorin) or <b>DON</b>	<i>Fusarium graminearum</i> ( <i>Gibberella zeae</i> )	1-3 ppm  * <i>USDA recommends less than 1 ppm deoxynivalenol in finished food products and less than 2 ppm in unmilled grain destined for human consumption.</i>	Feed refusal in mono-gastric animals; severity increases with level. Swine and dogs are the most sensitive species; adult cattle and poultry tolerate > 10 ppm.
Zearalenone	<i>Fusarium graminearum</i> ( <i>Gibberella zeae</i> )	1-5 ppm	Hyperestrogenism and infertility. Swine (gilts) are most sensitive; adult cattle tolerate 50 ppm.
Fumonisin	<i>Fusarium verticilloides</i> ; <i>F. proliferatum</i>	5-10 ppm  >100 ppm	Brain deterioration, death (horses); liver damage (horses, swine, cattle, poultry, others). Lung damage in swine



**Figure 1.** (A), Aspergillus ear rot (B) Penicillium ear rot, (C) Trichoderma ear rot, (D) Diplodia ear rot, (E) Fusarium ear and (F) Gibberella ear rot

## Stalk Rots of Corn in Southwest New York

By Josh Putman—Field Crops Specialist, with SWNY Dairy and Field Crops Team

In addition to mycotoxin contamination, mycotoxigenic fungi cause stalk rots in corn. Stalk rot diseases are common in corn. They can weaken the stalks, leading to stalk lodging and harvest difficulties for producers. It is important to note that many stalk rot disease symptoms have similarities and that identification can be difficult to confirm in the field. Some corn fields in SWNY are beginning to lodge due to stalk rots. Photos were sent to Dr. Gary Bergstrom, Field Crops Plant Pathologist at Cornell University, and it was confirmed that we are experiencing stalk rot damage; the type of stalk rot was not confirmed. “It is believed that drought stress was a likely contributor this year,” says Bergstrom. It is critical to scout fields to determine which ones might need to be harvested first or earlier to avoid losses due to lodging. To help reduce the risk of late-season corn disease next year, here are a few practices to consider: plant locally adapted corn hybrids that have tolerance to the diseases, avoid corn-after-corn rotations, apply appropriate amounts of fertilizer, and plan ahead.

Continued on page 3...



**Early signs of lodged corn in Southwest NY**  
(Source: Josh Putman)



**Breakage of corn stalk near crown of plant**  
(Source: Josh Putman)



**Splitting the stalk reveals discoloration & decay in SWNY** (Source: Josh Putman)



**Entire field lodged due to stalk rot**  
(Source: Dr. Damon Smith, University Wisconsin-Madison)



**Healthy corn stalk (left), diseased stalk (right)**  
(Source: Tamra Jackson-Ziems)



**Gibberella Stalk Rot of Corn**  
(Source: G. Munkvold)

## **Cover Crops in New York—Improving Soil Health While Providing Other Benefits**

*By Josh Putman, Field Crops Specialist, with the SWNY Dairy, Livestock, and Field Crops Program*

The harvest of low residue row crops, such as corn for silage or soybeans, usually means the soil surface of a field will be left fallow until the next crop is planted. In the Northeast, the next planting and new crop canopy establishment, may be several months away. During this time, bare soil can be subject to soil erosion; cover crops offer an opportunity to reduce this effect. New York is prone to heavy rainfall events, snowmelt and wind which is why cover crops are usually established and grown in the fall months and remain during the winter. Properly planned and executed, cover crops will protect farmland during this vulnerable period and may serve as a beneficial forage crop as well. Cover crop use and management should be based on your objective(s): soil erosion, soil quality and health, nutrient management, or forage use. Not only can soil erosion be significantly reduced, many other benefits can be derived as well. However, there can be some risks involved too.

### **Benefits of Planting Cover Crops (adapted from USDA-NRCS)**

- ◆ Canopy of a cover crop greatly reduces the impact of rain on the soil surface, decreasing the breakdown of soil aggregates. This reduces soil erosion and runoff, and helps with infiltration.
- ◆ A cover crop slows the velocity of runoff from rainfall or snowmelt events, reducing soil loss from sheet and rill erosion.
- ◆ Over time, cover crop residue can increase soil organic matter, leading to improved soil structure, stability, and increase moisture and nutrient holding capacities.
- ◆ Cover crops increase soil quality by improving biological, chemical, and physical soil properties.
- ◆ As a “trap crop”, a cover crop will store nutrients from manure, mineralized organic nitrogen or underutilized fertilizer until the following years’ crop can utilize them, reducing nutrient runoff and leaching.
- ◆ Cover crops will reduce or mitigate soil compaction. Deep tap roots of some cover crops grown in the fall and spring when compacted layers are relatively soft and can penetrate these layers.
- ◆ A cover crop can provide high-quality material for grazing livestock or haying and can provide food and habitat for wildlife, beneficial insects, and pollinators.

### **Risks of Planting Cover Crops**

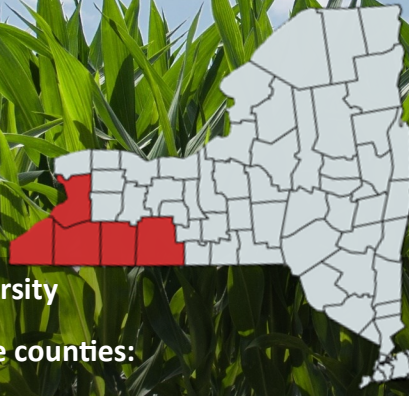
- ◆ Fields with heavy plant residue, or green tissue, may be more susceptible to increase in pest populations. Certain pests, such as slugs, will feed on the cover crop and be present at the time of new crop establishment. Proper pest scouting and treatment, if needed, can reduce the risk of damage by pests to future crops.
- ◆ The cost of establishing and maintaining a cover crop might outweigh some of the benefits.
- ◆ Consider the herbicide program you used in the given year before planting a fall cover crop. Many small grains will be fine, but legumes (clovers) and radish can be very susceptible to certain herbicides.

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Prepared by Alycia Drwencke  
Dairy Management Specialist  
517-416-0386 · amd453@cornell.edu  
Funded by PRO-DAIRY.

A partnership between Cornell University  
and the CCE Associations in these five counties:

**Dairy Market Watch**  
Newsletter

An educational newsletter to keep producers informed of changing market factors affecting the dairy industry.

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
Sep 19	\$2.49	\$2.86	\$21.10	\$16.93	\$18.31	\$16.35	\$17.63	(\$0.68)	\$18.23	(\$0.08)	\$1.57
Oct 19	\$2.40	\$3.17	\$21.09	\$16.68	\$18.72	\$16.39	\$17.57	(\$1.15)	\$18.17	(\$0.55)	\$1.57
Nov 19	\$2.32	\$3.91	\$21.39	\$16.85	\$20.45	\$16.60	\$18.05	(\$2.40)	\$18.65	(\$1.80)	\$1.61
Dec 19	\$2.19	\$3.65	\$22.58	\$16.81	\$19.37	\$16.70	\$18.13	(\$1.24)	\$18.73	(\$0.64)	\$1.61
Jan 20	\$2.11	\$2.96	\$22.26	\$17.05	\$17.05	\$16.65	\$17.63	\$0.58	\$18.23	\$1.18	\$1.57
Feb 20	\$1.98	\$3.03	\$20.80	\$16.84	\$17.00	\$16.20	\$16.97	(\$0.03)	\$17.57	\$0.57	\$1.51
Mar 20	\$1.92	\$2.84	\$20.71	\$16.75	\$16.25	\$14.87	\$16.59	\$0.34	\$17.19	\$0.94	\$1.48
Apr 20	\$1.32	\$2.48	\$19.89	\$13.87	\$13.07	\$11.40	\$13.77	\$0.77	\$14.37	\$1.30	\$1.24
May 20	\$1.38	\$2.09	\$16.20	\$12.30	\$12.14	\$10.67	\$12.32	\$0.18	\$12.92	\$0.78	\$1.11
June 20	\$1.86	\$4.53	\$14.67	\$12.99	\$21.04	\$12.90	\$14.51	(\$6.53)	\$15.11	(\$5.93)	\$1.30
July 20	\$1.95	\$5.62	\$19.81	\$13.79	\$24.54	\$13.76	\$17.93	(\$6.61)	\$18.53	(\$6.01)	\$1.60
Aug 20	\$1.63	\$4.44	\$23.03	\$13.27	\$19.77	\$12.53	\$16.87	(\$2.90)	\$17.47	(\$2.30)	\$1.51
Sep 20	\$1.59	\$3.39	\$21.69	\$13.16	\$16.43	\$12.75	\$15.65	(\$0.78)	\$16.25	(\$0.18)	\$1.40

September Utilization (Northeast): Class I = 30.2%; Class II = 25.6%; Class III = 27.9%; Class IV = 16.3%.

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.

Dairy Commodity Markets (USDA Dairy Market News – Volume 87, Report 43, October 19th, 2020)

**Cheese:** Cheese production rates continue fairly robustly in most of the country. COVID-19 related quarantines for some plant employees in the Midwest have a handful of plant managers processing with lighter crews. Milk production continues to seasonally increase with cooler weather. Therefore, milk is available for Class III production. Additionally, retail demand is strong ahead of the holiday season. Cheese inventories are reportedly tight on the barrel side, as barrels are reported as balanced to somewhat tighter, as well. Barrel prices continue to push toward those of block prices. That said, questions remain regarding government purchasing past the end of this month.

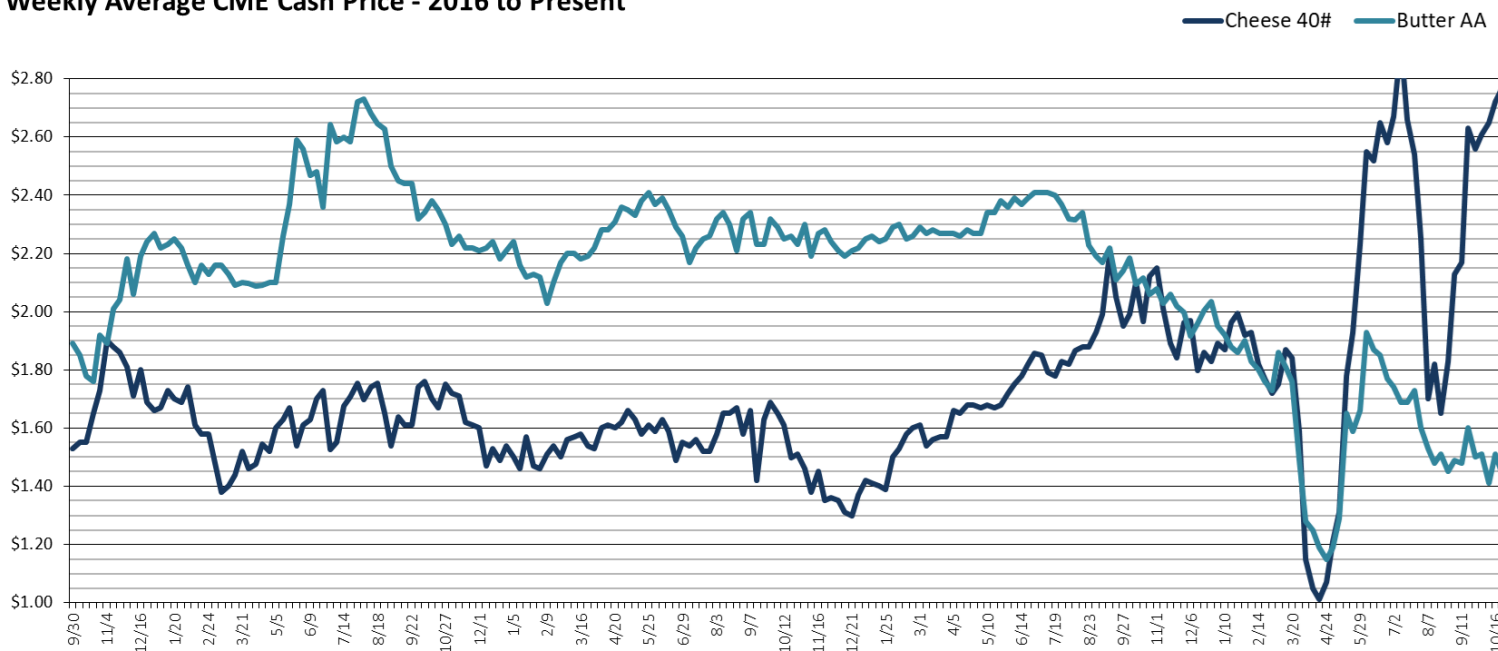
**Dry Products:** Throughout the regions, low/medium heat nonfat dry milk (NDM) prices are steady to higher. Spot trading activities are healthy. Export interest continues to be strong. Buttermilk powder prices are mostly steady. Outside of contractual needs, trading activity is lighter this week. Market conditions hold a stable tone. Dry whole milk prices are unchanged on moderate trading. The market tone is balanced. Dry whey prices are steady to growing. Buyers' demands are solid. Whey protein concentrate 34% prices are unchanged. Market participants note markets are somewhat quiet, as many buyers are holding off on spot purchases. Lactose prices are steady. Current demands are mixed.

**Fluid Milk:** Milk production is level to increasing in the East. Mid-Atlantic milk loads are traveling to other regions for immediate needs. In the Midwest, current milk output is flat to higher. In California, milk production is down. Class I sales are healthy from the retail sector. In Arizona, milk production is steady, while New Mexico milk output is up. Bottlers' requests are higher for eggnog production. Milk production is strong in the mountain states of Idaho, Utah and Colorado. Educational institutions' Class I demands are mixed throughout the country. Condensed skim markets are fairly steady, with stable loads clearing to seasonal ice cream making. Cream markets are holding a stable tone.

**Butter:** Butter production levels are variable across the country. Nationwide, butter demand reports remain positive. Retail customers are active ahead of the fall/holiday rush. Food service continues to edge up weekly, but pales in comparison to recent years.

Friday CME Cash Prices					
Dates	9/25	10/2	10/9	10/16	10/23
Butter	\$1.50	\$1.51	\$1.41	\$1.51	\$1.44
Cheese (40# Blocks)	\$2.56	\$2.61	\$2.65	\$2.72	\$2.77

## Weekly Average CME Cash Price - 2016 to Present



### October 2020 Dairy Situation and Outlook

By Bob Cropp, Professor Emeritus, University of Wisconsin-Madison

This is an excerpt from the originally published Outlook available here: <https://fyi.extension.wisc.edu/dairy/october-dairy-situation-outlook/>

Somewhat surprising we will see considerable strength in October milk prices. Class III was \$24.54 back in July but had fallen to \$16.43 by September. It looks like Class III for October will increase to about \$21.40 reaching or surpassing the previous record for the month of October set in 2014 at \$21.35. Cheese prices have increased as well as dry whey prices pushing Class III prices higher.

Factors contributing to higher cheese prices include cheese production, retail sales, government purchases and exports. The latest dairy product production report was for August showing American cheese production 1.3% lower than a year ago with total cheese production 2.1% lower. As consumers continue to eat more meals at home retail cheese sales have been relatively strong. The government is purchasing cheese under the third round of the Farm to Families Food Box program which ends on October 31st. With cheese prices above world prices it was surprising that August cheese exports were 17% higher than a year ago. Dry whey exports were 54% high than a year ago.

Butter prices have been rather weak all year. A year ago at this time butter was over \$2 per pound. Butter has been below \$2 per pound all year being as low as \$1.15 in April and only as high as \$1.90 in June. But nonfat dry milk prices have improved with very strong exports. August exports were 35% higher than a year ago. Nonfat dry milk was \$1.03 per pound early September and is now \$1.1275. This will push the Class IV price from \$12.75 in September to about \$13.55 in October but still leaving more than a \$7 spread between Class III and Class IV prices.

Class III dairy futures remain strong for the remainder of the year with November at \$21.44 and December at \$19.38. Whether Class III will hold at this level is not certain, but it looks like Class III for the year will average over \$18 compared to the 2019 average of \$16.96. As we look into next year there remains a lot of uncertainty about milk prices. The level of milk production, domestic sales and exports are crucial. But so important will be how soon the COVID-19 virus

slows down. Until it does restaurants will not be fully open, schools and colleges will be virtual learning rather than in person instruction. Major sports will not have audiences in the stands and major events and conferences will not be held or if they are, they maybe virtual. The COVID-19 virus is hurting not only the U.S. economy but the world economy which impacts domestic sales and exports.

Milk production continues to run at a relatively high level putting downward pressure on milk prices. USDA's report on September milk production showed milk production 2.3% higher than a year ago, the result of 0.4% more cows and 2.0% increase in milk production per cow. Milk cow numbers have been increasing since July with July up 7,000 head, August 4,000 and September 5,000. Of the 24 reporting states 16 had more milk. All the five leading dairy states that produce over half of the nation's milk production had higher milk production. Compared to last year production was up 3.2% in California, 0.7% in Wisconsin, 2.9% in Idaho, 1.4% in New York and 6.5% in Texas. Of all the states South Dakota had the largest increase at 12.3%. Other strong increases were Indiana at 9.0%, Colorado at 7.8%, and Kansas at 6.8%. There were decreases in milk production of 2.2% in Arizona, 3.7% in Florida, 5.5% in Vermont and 0.9% in New Mexico. USDA is forecasting 2021 milk production to be 1.4% higher than this year with just a 5,000 head increase in the average herd size and a 1.4% increase in milk per cow. At this level of milk production, it will take good domestic sales and exports to provide good milk prices.

As of now it seems reasonable to assume 2021 milk prices could be less volatile. Class III could be in the \$16's first half of the year, reach the \$17's in the second a half and averaging in the high \$16's or low \$17's for the year. If the COVID-19 is under control, there could be a good rally in milk prices for the second half of the year. But, this far from certain. Dairy farmers should seriously consider signing up for the Dairy Margin Coverage program for 2021.

## **The Importance of Testing Manure**

*By Amy Barkley, Livestock & Beginning Farms Specialist, with the SWNY Dairy, Livestock, and Field Crops Program*

The time after harvest in the falls allows farms an opportunity to spread manure on agricultural fields to prepare them for the spring growing season. As bunkers, lagoons, and storages are emptied, it is a good idea to test the manure for its nutrient value prior to or during spreading.

Manure nutrients vary quite a bit from season-to-season, farm-to-farm, and species-to-species. While there are published databases of manure nutrient values available to reference to calculate application rates, many come with the disclaimer of high variability. This is because even from the same farm and species, there can be manure variances caused by age and stage of production of each animal group, diet, bedding volume and type, milk house liquid volume (dairy), amount of mortality and/or egg waste (poultry), storage time, and season. Some farmers need to bring in manure nutrients to meet their land needs. Manure that is brought in is subject to additional variables including housing system type, livestock strain or breed, management style, storage method (pit vs shed vs lagoon), removal frequency, storage conditions (temperature, humidity, use of fans or a belt drying system), use of phytases and other enzymatic compounds in the feed, and the use of implants.

While published manure values will get you in the ballpark, testing for manure nutrients should be a part of a farm's nutrient management program. The following information on manure sampling, analysis, and interpretation is shared from Agronomy Fact Sheet #38 by Patty Ristow, Quirine Ketterings, Dale Dewing, Peter Wright, and Karl Zaymmek of Cornell University

Accurate manure analyses are essential for proper nutrient management planning but manure analyses are only as good as the sample taken. Most manure testing laboratories request a pound or quart of sample and only a very small amount of this sample is analyzed to determine the nitrogen (N), phosphorus (P) and potassium (K) content. Yet, the results are used to determine the nutrients applied across the whole farm for the spreading season. This fact sheet is a guide for getting the most accurate N, P, and K quantities from your manure testing program.

### **Sample from the spreader**

Sampling from the manure spreader gives the most accurate representation of what is actually applied to the field. It also avoids the dangers of personal injury associated with sampling manure storages.

#### **Solid manure**

Sample by scooping manure out of the spreader with a pitchfork, shovel or plastic container and avoid large pieces of bedding. Select 4-8 scoops from different places in the spreader, mix well, and draw a sample from this mixture. For daily spread operations sample from three different loads over course of a week or month to generate three independent samples for submission to the laboratory. Solids from piles or bedded packs are highly variable and each different section of the pile or pack should be sampled separately (3 samples per section).

#### **Liquid and slurry manure**

Samples should be taken as soon as possible after loading (unless the spreader has a well functioning agitator). If a slurry storage

(>6% solids) is not well-agitated prior to spreading the nutrient content can be highly variable. In these cases sample when manure is pulled from the top, middle and bottom portions of the storage (3 samples per section), or when the manure visibly changes in solids content. Keep logs that can show to which fields manure from each section of the storage was applied. Sludge that accumulates on the bottom of storages should be tested and spread as a separate manure source.

### **Sample annually or every major event**

If there are no previous sample records, samples should be taken at least twice during the first year and then every spreading event. New York Concentrate Animal Feeding Operation (CAFO) regulations require sampling at least once per year and spreading event.

### **Submit three samples**

Outliers happen in manure analyses. To make sure management plans are not being based on outlier analyses, it is recommended to take at least three samples and have them analyzed separately. The three manure analyses should be compared to identify outliers and if present, outliers should be discarded when determining average manure nutrient content.

### **Freeze the samples**

Fill the plastic sample container provided by the laboratory 2/3rds full. Keep the samples cool until they can be put in a freezer to slow down microbial activity. After the three samples are frozen, send them to the laboratory. It is best to mail samples early in the week to avoid thawing in the post office.

### **What to analyze?**

A manure sample should at a minimum be analyzed for:

- Total Kjeldahl nitrogen (TKN)
- Ammonium nitrogen
- Total phosphorus
- Total potassium
- Percent solids
- Bulk density

### **Interpreting the analysis**

Manure analyses can be reported in many different ways. Useful conversion factors from test results reported "as is" are:

- Lbs/ton = % \* 20
- Lbs/ton = ppm \* 0.002
- Lbs/1000 gallons = % \* 83.4
- Lbs/1000 gallons = ppm \* 0.00834
- Lbs/1000 gallons = 0.24
- lbs/ton Lbs/ton = 4.17 lbs/1000 gallons

Most manure test results are reported "as is" or on a wet basis. If reported on a dry basis, "As-is" = (dry weight / % solids) \* 100. To determine manure N credits, both the ammonium-N and the organic-N content of the manure should be known, in addition to method and timing of application. To determine fertilizer equivalents of manure P and K values should be reported in P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O. To convert: P<sub>2</sub>O<sub>5</sub> = P x 2.27 and K<sub>2</sub>O = K x 1.2

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**Using the results**

Nutrient planning and fertilizer reduction

Accurate manure analyses taken annually allow a planner to use a 3-year running average or the prior year analysis for accurate planning of current-year manure applications. If the nutrient needs of the crop are known, and the spreader is calibrated, manure N, P and K can be applied with sufficient accuracy to meet crop needs and reduce the need for fertilizers.

Manure Value Estimates

Accurate manure analyses allow for calculation of the fertilizer replacement value of a manure application (Table 1). Manure value estimates can be combined with fertilizer application costs for hauling distance break-even analyses or compared with manure handling operational and ownership costs to negotiate the terms of a manure export agreement.

Table 1: Accurate manure analysis allows for calculation of the economic value of manure (an example).

	Manure nutrient (lbs/1000 gallon)	Manure value (\$/1000 gallon) <sup>†</sup>
Ammonium-N	8.45	\$ 4.23
Organic-N	2.50	\$ 1.27
P <sub>2</sub> O <sub>5</sub> equivalent	7.13	\$ 4.28
K <sub>2</sub> O equivalent	21.21	\$ 14.85
Total value		\$ 24.62
Total value	10,000 gallons/acre	\$ 246.22/acre
Total value	5000 gallon spreader	\$ 123.11/load

<sup>†</sup> Nutrients were valued at \$0.50, \$0.60 and \$0.70 per pound of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O respectively.

Tracking Farm Management Impacts

Testing and recording annual manure analyses can increase your understanding of the nutrient content of the manure and impacts of management changes.

**Disclaimer:** This fact sheet reflects the current (and past) authors’ best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

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[swnydlfc.cce.cornell.edu](http://swnydlfc.cce.cornell.edu)

**Dairy Margin Coverage Program  
 Enrollment for 2021  
 Ends December 11, 2020**

The U.S. Department of Agriculture (USDA) began accepting applications for the Dairy Margin Coverage (DMC) program on Tuesday, October 13, 2020 for 2021 enrollment. Signup runs through Dec. 11, 2020.

DMC is a voluntary risk management program that offers protection to dairy producers when the difference between the all-milk price and the average feed price (the margin) falls below a certain dollar amount selected by the producer. DMC payments triggered for seven months in 2019 and three months so far in 2020.

For more information, visit [farmers.gov](http://farmers.gov) DMC webpage, or contact your local USDA Service Center. To locate your local FSA office, visit [farmers.gov/service-center-locator](http://farmers.gov/service-center-locator). In the Southwest NY region, the county offices can be reached at: Allegany (585) 268-5133; Cattaraugus (716) 699-2375; Chautauqua (716) 664-2351; Erie (716) 652-1400; Steuben (607) 776-7398.



**Monetizing electricity produced by farm-based anaerobic digestion in New York**

PRO-DAIRY Dairy Environmental Systems has produced a fact sheet series that summarizes the options for monetizing electricity produced by farm-based anaerobic digester (AD) systems in New York. The series walks through the current New York State electricity generation tariffs that apply to manure and co-digestion AD systems, both new and existing, compares the value of each and identifies the eligibility guidelines. Examples of how each tariff (net energy metering, value stack and community distributed generation) impacts a farmer’s utility bill is also illustrated.

- Part 1:** Decision tree to identify electricity tariff options available
- Part 2:** Compare and contrast electricity tariff options
- Part 3:** Overview and eligibility guidelines of Net Energy Metering and Phase One Value Stack electricity tariffs
- Part 4:** How the Net Energy Metering (NEM) tariff works
- Part 5:** How the Phase One Value Stack tariff works

For information on the Dairy Environmental Systems Program visit: [PRODAIRY.CALS.CORNELL.EDU/ENVIRONMENTAL-SYSTEMS](http://PRODAIRY.CALS.CORNELL.EDU/ENVIRONMENTAL-SYSTEMS)

**Labor Road Show IV – Virtual**

Ag Workforce Development Council is hosting Labor Roadshow IV as a virtual event. A series of five one to two-hour webinars will be held online through Zoom at noon on November 18, 19, 20, 23, and 24. Cost is \$55 per person to attend all five webinars and to receive links to the webinar recordings.

Register at [tinyurl.com/LaborRoadshowIV](http://tinyurl.com/LaborRoadshowIV). New York Labor Road Show IV is an opportunity to learn about regulation changes and how to best position your business for compliance and success. Several important changes to state regulations occurred in 2020 that farm employers need to understand.

# **Ten Things to Know Before Leasing Land for Solar Development**

*By Amy Barkley, Livestock & Beginning Farms Specialist, with the SWNY Dairy, Livestock, and Field Crops Program*

*By Daniel Brockett of Penn State Extension and George Thompson of Wilson, Thompson, and Cisek, LLC*

This article reflects information presented in, "10 Things you Should Try to Know Before Leasing Your Land for Solar Development", October 20th, 2020

Development of land for solar energy projects is becoming common across the state of New York. These large projects require land leases from landowners, which can extend 40-50 years. While leasing land for solar development can provide supplemental income to a landowner, here are ten items to keep in mind before signing your name on the dotted line.

## **1. What's your bargaining position?**

If a solar company is coming to you, that means that they need your land for a proposed project. Until you sign the option and/or lease agreements, you have leverage to make sure that the documents reflect your wants and requirements for the land they are planning to occupy. Keep in mind that once you sign, you will lose most, if not all, of your leverage. With these leases, you need to be thinking very long term. Although a lease may outline a contract term of 10-20 years, there will be a series of renewal options.

Understanding where main power hubs and lines are located can be helpful in determining your bargaining position. If you are close to land that includes this infrastructure, your position may be better than if your land is on the fringes of a development project.

Keep in mind that option payments tend to be smaller than lease payments. The option period is essentially a pre-lease; if the project gets approved, then your option agreement will transition to a lease agreement.

Even if the lease is presented with a sense of urgency, there is usually some time to take deliberate actions to review the documents.

## **2. Optimization: What do you want? What do you want to prevent?**

Knowing what is important to you will help you determine what the project on your land will end up looking like. For instance, if you have a pond that you do not want filled in, make sure that this is specifically addressed. If you want to have the option to farm under the panels, make sure that you list what agriculture you would like to have allowed once the installation is in.

If you have established infrastructure that the company would like use of, such as a right-of-way, restricted access road, concrete pads, etc., make sure that you are compensated for these. Maintenance requirements for these should also be written into the agreement.

The level of detail is important here, and everything you want counts. Even something as specific as your wishes surrounding herbicide use needs to be documented.

Think through the financial end of things, too – is it worth the money they are offering you to have your landscape changed? If not, what would that dollar amount look like? Do you want an escalator built in to make sure that lease payments keep up with the rate of inflation?

## **3. Don't assume you can do things that are not written into your lease.**

Even if something is "commonly allowed" under solar panels, that may not be true for a particular project or company. If you want to farm or have other access between the panels, make sure it is written into the body of the lease or in an addendum. The same holds true for access roads; if a company wants to utilize your regularly used access road, make sure you write into the lease that you can maintain use of it.

## **4. Understand the duration of your lease**

Solar leases tend to have lives of 40-50 total years, which is presented as a contract period with a series of renewal options. Understanding a lease's duration is important when establishing other written wants or needs in the lease agreement.

## **5. The option agreement is their option, not your option.**

An option agreement is the first step to a solar lease. At this point, the company is in a phase where they are inventorying and securing land for a proposed development. At this point, there is some uncertainty; if the plug is pulled on a project, a lease agreement may never come to fruition. By signing an option agreement, you may or may not be agreeing to a lease agreement. Read the documents carefully. Involving a legal professional is highly recommended.

There is a chance that not all of your land will be developed when moving from the option agreement stage into the lease stage. If the amount of land developed is important to you to make this worth your time, there is an opportunity to write into the agreement that a certain amount of land must be developed.

## **6. Know how to modify your lease**

Use of legal professional can be key to ensuring that a lease is modified to meet your expectations and demands. Leases usually cannot be altered once signed.

## **7. Be clear when, where, and how you will get paid**

Ensure that payment terms are clear and concise. Also make sure that there are protections written into the option and lease agreements regarding repercussions for missed payments.

## **8. Things that are written count. Things that are spoken don't.**

Landmen will come to your house, sit down, and have a lovely conversation with you. However, it is more likely than not that once an agreement and/or lease is signed, you will never see that person again. This makes it nearly impossible to follow up on demands from conversations had with these representatives. So, even if you talk through all of the items listed above with a landman, nothing "counts" if it isn't written into the documents you are signing. Consult a legal professional for a second opinion if something does not sound right.

## **9. Your neighbors may not like this**

Be mindful that some members of your community may not want a solar array as their next door viewscape. There are also folks who are talking with zoning to try to restrict solar development.

Some landowners may currently lease their land for hunting, fishing, agriculture, etc. If a lease comes knocking, it is good to think about those relationships and if there are any protections that can be put into the lease to get the best of both worlds.

## **10. There's a lot of bad information out there on the internet.**

Take time to speak to people who really know what is going on in the arena of solar development. If you come across information, make sure it is from a reputable source to dispel myths or verify information.

In conclusion, when approached with a solar development option agreement or lease, remember that only those items written down count. It's important to know what you want, and to make sure that any documents that you're signing reflect those needs before you sign. Use of a legal professional to help ensure your needs are met for the duration of a lease is strongly recommended.