# AG FOCUS



# Winter Ventilation by Timothy X. Terry, Harvest NY

It's no secret. Winter will soon be here, and, as typical for western NY, it will be here for a while. 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. ft. and your calf barn is 100' long, drop the curtains 1' on each side  $((100 \times 1) + (100 \times 1))$ = 200 ft<sup>2</sup>). If one side is particularly windy, drop it only a little on that side and more on the other, as long as



(Continued on page 3)

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#### Winter Ventilation

(Continued from page 1)

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

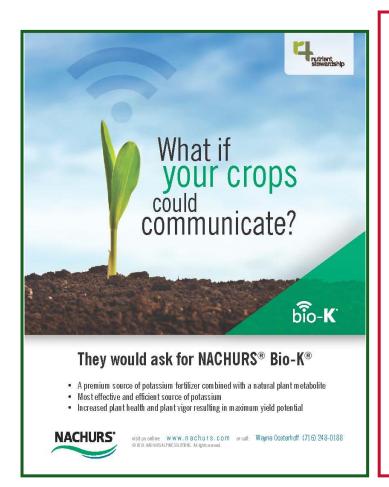
drive fans will need to have the belts replaced and/or tightened, direct drive fans lose efficiency, fan blades get dirty, protective screens become clogged with feed, trash, or snow, and after-market modifications such as heaters and filters can further restrict air flow.

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.

#### **Hot Off the Presses**

As we go to print, Pro-Dairy has also 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. (<a href="https://prodairy.cals.cornell.edu/facilities-engineering/resources/">https://prodairy.cals.cornell.edu/facilities-engineering/resources/</a>)

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## Fall Tillage Management

**Cover Crops** 

by Jodi Putman1
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# Expanded Funding for the Dairy Advancement Program

Increased funding provides the opportunity for more small to mid-size farms to plan for the future of their dairies and offers new program initiatives to foster business success

The <u>Dairy Advancement Program</u> (DAP) (previously known as the Dairy Acceleration Program) received increased funding in this year's New York State budget. The increase in funding allows expansion of the program and enables farms of greater dairy herd size to apply by increasing the maximum herd size from 300-cow to 699-cow farms.

To learn more about DAP visit: <a href="https://prodairy.cals.cornell.edu/dairy-advancement/">https://prodairy.cals.cornell.edu/dairy-advancement/</a> or contact: Caroline Potter, PRO-DAIRY at: 315-683-9268 or dap@cornell.edu

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## **Upcoming Webinars**

November 11, 2019 - Noon (CST) A feed and forage outlook

Mike Hutjens, University of Illinois and Mike Rankin, Hay & Forage Grower Magazine

https://hoards.com/flex-309-Webinars.html

November 12, 2019 - 8:30am (EST)
PDMP 2019 Corn Silage Trials
John Tyson, Penn State

https://extension.psu.edu/technology-tuesdays

November 13, 2019 - 1:00PM (EST)
Understanding Pasture Forage Quality
Mat Haan, Penn State

https://extension.psu.edu/dairy-grazingmanagement-guide

November 25, 2019 - 1:00pm (EST) Earning more milk quality premiums Amber Yutzy, Penn State

https://extension.psu.edu/dairy-managementmondays

## Helping New Employees Become Part of the Team

by Libby Eiholzer

Onboarding is a the process of bringing a new employee into the business, and successful onboarding drastically increases the chances that the employee will stay longer and be more productive and engaged. Components of an onboarding program include completing mandatory paperwork and providing training on safety and the skills necessary to do their job. An essential, but often undervalued part of onboarding is making that new employee feel welcome and like a part of the team.

This is more than just saying "welcome to the team." The employee should hear that, certainly, but words should be reinforced by actions.

### Start from Day 1, or Before!

Provide your new employee with instructions prior to their first day of work. Simple information like when to arrive, where to park and what to wear will help their first morning on the job go smoothly. You could even take it a step further and include this information in a letter that formally welcomes the employee to the business.

On the first day of work, whenever possible, a member of the senior owner/managers should welcome the employee in person. Rather than just a quick "hello," emphasize the importance of the new employee to the team and the hopes that you have for them in the future. Make it personal! Introduce your new employee to everyone they need to know, possibly providing them with an organizational chart to help them keep everyone straight.

Give them an orienting tour around the farm. Remember to point out not only the things that are important on your end (the time clock, safety equipment, work area) but also what's important to them (bathroom, drinking water).

Throughout the first day, encourage questions. Your new employee will have them, so make sure you encourage them to ask. By the end of the day, circle back to provide a little feedback to ensure that the employee is on the right track and that he or she will have a successful first week.

For employees who are moving into housing owned by the farm, remember that the housing is where the employee will rest and recoup after work. Therefore, the housing should be just as welcoming as the farm and staff. Give the housing a check before move in to make



sure that it is clean and in good working order. This provides a welcoming atmosphere for your new employee and sets the standard. If you want your employee to keep your housing neat, then they need to see what you consider neat.

#### Don't Underestimate Kindness

Bringing cookies on the employee's first day of work or taking a photo to add to the farm employee bulletin board can go a long ways towards making the employee feel like they belong and that others want them to be there.

Don't underestimate the value of showing people respect and courtesy by calling them by their names. Make sure that your farm team doesn't refer to the new employee as "the new guy/girl" past the first day or so. After two months, he may still be the newest guy, but everyone should be able to remember his name long before then!

How do you welcome new employees on your farm? Send Libby a note at geg24@cornell.edu or 607-793-4847 if you have a great way of making new employees feel like part of the team.



# Ag Workforce Development Council's

# Labor Road Show III

All New York farm employers are affected by new laws that take effect beginning January 1, 2020! New York Labor Road Show III is your opportunity to learn about the changes and position your business for compliance and success in a very different environment.

Featured Speakers:

Charles Palmer- Chuck is a go-to lawyer for complex cases involving OSHA, employment law, labor negotiations, independent contractor and joint employment matters. Clients rely on his years of experience in dealing with state and federal enforcement agencies to develop human resource, safety and environmental policies and practices that prevent problems and save them significant expense.

Joshua Viau- Josh works with a variety of national and local clients including employers in agriculture, manufacturing, construction, hospitality, and retail. He is the former Chair of the Labor and Employment Law Section of the Georgia State Bar and is active in several business groups. Josh has been selected to the Best Lawyers in America since 2017, and was recognized as a Georgia Super Lawyer since 2015 and Georgia Super Lawyer - Rising Star from 2006 through 2014.

## Featured Topics:

- Compliance with Wage and Hour Laws: Overtime and Day-of-Rest Requirements
- Understanding Unions and Labor Organizing
- Managing the Collective Bargaining Process
- The Increasing Importance of Farm Supervisors
- Sexual Harassment Prevention: Updates to the NY Law
- Compliance Priorities and Enforcement Plans for 2020, NYS Department of Labor
- Industry Quality Assurance Program Updates
- Insurance Update: Disability, Paid Family Leave, and Employment Practices Liability, What is Available?

#### Ag Workforce Development Council Member Organizations

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# USDA Opens Enrollment for 2020 Dairy Margin Coverage Program by John J. Hanchar

This article contains excerpts, highlights from an October 7, 2019 press release issued by the USDA regarding the 2020 Dairy Margin Coverage Program, with selected observations from Professor Andy Novakovic, the E.V. Baker Professor of Agricultural Economics, Cornell University/ CALS/Charles H. Dyson School of Applied Economics and Management.

#### **Summary**

- A USDA, October 7, 2019 press release announced that producers can now enroll in the Dairy Margin Coverage (DMC) Program for calendar year 2020 with enrollment ending on December 13, 2019.
- While the 2019 and 2020 programs are quite similar, two aspects that differ are notable.
- To aid decision making regarding enrollment, producers should consult the many resources available at the DMC website, including the DMC Decision Tool.

#### October 7, 2019 USDA Press Release

The 2018 Farm Bill created the DMC program to improve upon the previous safety net for dairy producers. DMC is one of many programs that the Farm Services Agency (FSA) and other USDA agencies implement to support

America's farmers.

Dairy producers can now enroll in the DMC Program for the calendar year 2020. USDA/FSA opened sign up on October 7, 2019. Enrollment ends December 13, 2019. The program helps owners of dairy farm businesses manage economic risk attributed to milk price and feed cost disparities. The DMC program offers reasonably priced protection to dairy producers when the difference between the all milk price and an average of feed costs falls below a certain dollar amount selected by the producer. The DMC program refers to the difference as the margin.

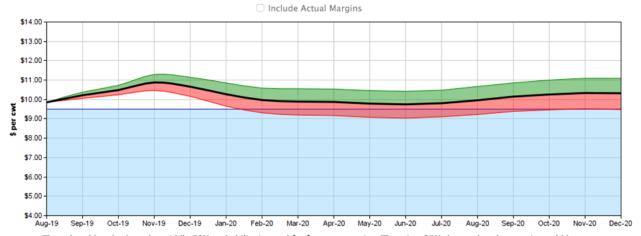
All producers who want 2020 coverage are required to visit the FSA office near them during the signup period to pay the annual administrative fee (<farmers.gov/service-locator>). For more information, including access to the online DMC Decision Tool that assists producers in selecting coverage for 2020, visit the DMC webpage.

<a href="https://www.fsa.usda.gov/programs-and-services/dairy-margin-coverage-program/index">https://www.fsa.usda.gov/programs-and-services/dairy-margin-coverage-program/index</a>

## Selected Observations from Professor Andy Novakovic, Cornell University/CALS

Professor Novakovic observes that while the design and

(Continued on page 8)



The colored bands show the middle 50% probability interval for forecast margins. There is a 25% chance that the margin could be above the green band and a 25% chance that the margin could be below the red band. The graph data and probabilities are calculated from futures market data available on 10/07/2019.

Dairy Margin Forecasts through December 2020, DMC Planning Tool, Data as of October 7, 2019.

## USDA Opens Enrollment for 2020 Dairy Margin Coverage Program

(Continued from page 7)

parameters of the 2020 program are identical to 2019, two differences are notable when comparing 2020 with 2019.

• Unlike 2019, for 2020 farmers will have to make a decision without absolute certainty that they will realize benefits that exceed enrollment costs. That unusual but favorable situation existed because Congress generously made the 2019 DMC program retroactive over a period of time when the national margin (the Actual Dairy Production Margin or ADPM) was below the new \$9.50 trigger for the first 5 million pounds enrolled. Producers knew with certainty that benefits would exceed costs.

While 2019 was a year that began with an unfavorable price, feed cost, returns environment with the environment becoming more favorable through the year, analysts see 2020 as benefitting from continuation of favorable conditions through the year.

#### Professor Novakovic reinforces the value of

- utilizing available resources to make enrollment decisions, noting that the DMC planning tool is also available at the DairyMarkets.org website
- focusing on cash flow management given a more favorable environment – if at all possible, and when positioned sufficiently, farm business owners should strive to build cash reserves, preparing for future less favorable conditions



## Maintaining Stored Grain Quality over the Winter

by Mike Stanyard

Despite some early wet weather and lots of unplanted acres, it looks like a better harvest than expected for most NY producers. As of October 1, New York grain corn production is forecast at 81.1 million bushels, down 20 million from last year. Area for harvest is expected to total 530 thousand acres, down 115 thousand from last year. Yield is forecast at 153 bushels per acre, down 6 bushels from 2018. Soybean production in the Empire State is estimated at 10.6 million bushels. Area for harvest is down 90 thousand acres to 230 thousand. Yields are expected to average 46 bushels per acre, down from 52 bushels last season (USDA's NASS, Northeastern Regional Field Office 10/11/19).

Grain storage is an important step in protecting your investment and lots of money can be lost in reduced quality when it's time to deliver. I have talked about the importance of chemical and cultural control of insect pests prior to harvest in the past but temperature and aeration are also a crucial pest management tool. Dry grain should be cooled to less than 60 degrees as soon as possible after harvest, and between 20 - 30 degrees for winter storage. Temperature benchmarks for stored grain:

80°F: The ideal temperature for insect and mold growth.

70°F: Insect reproduction begins to decrease.

50°F: Insects become dormant below this temperature.

40°F: Mold growth prohibited below this temperature.

20-30°F: Grain should be cooled to this range for winter storage.

The University of Minnesota has an excellent site on Managing Stored Grain with Aeration. Some of their recommendations are summarized below and the webpage can be found at: <a href="https://extension.umn.edu/corn-harvest/managing-stored-grain-aeration">https://extension.umn.edu/corn-harvest/managing-stored-grain-aeration</a>.

Stored grain should be cooled by aeration whenever the grain temperature exceeds the average outdoor temperature by 10 to 15 degrees. Expect storage time to approximately double with each 10 degree reduction in temperature. Grain should be cooled to about 25 degrees as outdoor temperatures get colder. Check the condition of stored grain about every two weeks while grain is cooling, then about monthly after grain has cooled for winter storage.

When the fans are off during the winter holding period, they should be covered (with canvas or plywood) to prevent the grain near the ducts from getting too cold during

severe winter weather. Large temperature differences result in condensation in the cold grain. Spoiled grain over the aeration ducts or perforated floor is a common problem caused by not covering the fan during extended off periods. Also look for melting snow on the roof of the bin as a telltale sign of temperature problems.

Accumulation of fine particles, weed seeds, and other foreign material interferes with airflow. Such accumulations are prime locations for increased mold and insect activity, which result in localized heating and grain deterioration. Normally, these fines collect in the center of the bin as the grain flows toward the walls.

Several good management practices can reduce the storage risks incurred through accumulation of foreign material. Screening the grain reduces the amount of foreign material and greatly improves long-term storability. Spreaders are used to more uniformly distribute fines throughout the bin and helps provide more uniform airflow during aeration.

A common practice in bins equipped with center unloading hoppers is to unload some grain from the center "core" to remove some accumulated fines. Fill the bin so it is peaked and unload some of the grain (300 to 1,000 bu, depending on bin size). This removes some of the accumulation and increases airflow in the center if enough grain is unloaded to allow the center core to fill with clean grain.

Another great resource is from the University of Nebraska, <a href="https://cropwatch.unl.edu/grain-storage-management">https://cropwatch.unl.edu/grain-storage-management</a>. It is a thorough summary of articles written by other University on all topics related to grain storage management. Check it out!



Photo: M. Stanyard, CCE NWNY Team



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For more information, visit: https://prodairy.cals.cornell.edu/conferences/dairy-executive-program/

**Questions?** Contact Heather Darrow, conference coordinator at 607-255-4478 or hh96@cornell.edu or Jason Karszes, Director, Cornell Dairy Executive Program at 607-255-3809 or jk57@cornell.edu

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 2004
 KENWORTH
 T800;
 525
 HP
 CAT
 BNZ;
 2003
 PETERBILT 367;
 Daycab;
 485
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 Cummins ISX;
 Allison
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2006 INTERNATIONAL 7600; 330 HP Currmins ISM Dessi 10-Spd.; Color: Red/Riads; 22.5 Tires; Steel Wheels; 256° WB Double frame Rating withoffer farviff Carrier; Steerable Lif Aule; 22° Deck( We Will Separate The Deck); 319,213 Miles Sk. #5731 - \$37,900 턊 捒



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 87,267 Miles; Stk #5907 - \$62,900





1999 MACK RD688S DUMP TRUCK; 400 HP Mack F7; 500S PETERBLT 357; 370 HP Cummins ISM; BLL Trans; 500S PETERBLT 357; 370 HP Cummins ISM; BLL Trans; 18 MB; Stacke Body; 20,000# F/k; 46,000# F/k; 22.5 Tires; 245" 44K, Full Locking Rears; (2) 11K Steerable Lift Axles; WB; Spake Wheels; EXPORT PRICEDIE; 777,148 Miles; St. #\$302\_\$19,500 Miles; St. #\$302\_\$19,500



2 KENWORTH T800; 475 HP CAT C15 642; god. Manual; Double Frame; Daycab w(20,000# F/A); 00# Locking Pears; MEMBY Air Ride Susp.; 529 R30; WB; 16° Of Frame; 186,151 Miles; Stk. #6097 - \$39,500



2011 KENWDRTH W9008 DAYLAB; 800 HP Cummiss ISX; 18-5pd; Engine Brake; Air Ride Susp; 14,900 # Fid. 46,0000 # Fidl Locking Reas; 22.5 Tires; 236\* W6; Air Side 5th Wheet Engine Rebuild ⊚ 176,170 Miles; Service Records Available; 327,006 Miles; Stx. #\$238, \$56,900



1998 KENWORTH T880; 335 HP CAT C10; 10-Spd. Manua; Double frame Rabed wiPallinger 24001 Knudde Boum 2006 INTERNATIONAL 7600; 335 HP Cammins ISM w68' Reach; Max Lift Capacity 18,700 bs; (2) Curtigors; Allison Auto.; S.SS Ratio; 22.5 Tise; 220' WB; 20,004 R/A; Double frame Cab & Chassis C22'SeS Sted Dest; Rear Mounted Lift Ade; 343,738 Miles; w17' Frame Ethina Cab/Muffer; 136' CT; 83,267 Miles; Sk. #5923 - \$39,500



泵



**2006 KENWORTH T800**; 475 HP CAT C15; 18-Spd. Manual; Clean, Low Mile Water Tarker w/Hamm's 4,400 Gal. Steel итр; 20К F/A; 46К R/A; 256" WB; Neway Air Ride; : 121.630 Miles: S1к. #5988 - **\$50.000** 



2005 KENWORTH W900 CAB & CHASSIS; 335 HP CAT C13; 8LL Trans.; Engine Brake; Hendrickson Susp. 18,000# F/A; 46,000# Full Locking Rears; 4.88 Ratio; 24.5 Tires; 250" WB; Clean, Low Mileage Southern Truck;



2005 PETERBILT 357; 355 HP CAT C11; Allison Auto; Twin Steer Ready-Mix Truck w/CBMW 11 Cu. Yd. Mixer; 280° WB; Chalmers Susp. 21'6° Frame Behnd Cab; 200° CT; 18,834 Hours; 119,190 Miles; Stx. #6062 - \$49,500



CONSTRUC' 2005 INTERNATIONAL 5600; 400 HP Outmins ISX; Alison 6 Spd. Auto. Tara. xg/P10; Cuble Frame Cab & Chassis xg/20K Fig. 58X Ress; 19 Couble Frame. 8 chind Cab will 201 Single Added On; 140° CT 205° Will; Handhickson SpringReam Susp.; 6.37 Ratio; 136:225 Miles; 팋 5% #6072 - \$43,500



2008 KEHWORTH T800 WINCH/OIL FIELD TRUCK; 400 HP CAT C13, | 2016 Nation 303\* WB; | Team Place | Nation | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1







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# Reducing the Risk of Compaction When Grazing Cover Crops by Nancy Glazier

The benefits of cover crops have been known for many years; one is remediating compaction. Cover is critical for soil health, reducing erosion, and scavenging nutrients. What about adding livestock? The first hurdle is fencing and water. Temporary or semi-permanent fencing can be set up relatively easily and taken down to get out of the way of equipment. Water demand will be less with cooler temperatures and the remainder needed can be hauled. Adding cover crop grazing can give permanent pastures a longer rest period before the next grazing season or help with that summer slump.

The predominant concern of grazing cover crops is soil compaction. A recent report from Practical Farmers of lowa was published highlighting a four-year study looking at this issue. Two farm locations were used, both with conventional cash crops that partnered with nearby livestock farmers. The control was no cover crops and no livestock, the treatment was cover crops that were grazed. On both farms compaction was significantly less with cover crops and grazing treatment. The grazing periods were short for both fall and spring. Possibly a truer comparison would be to add a third scenario of cover crops with no grazing.



This field would be an ideal for grazing, contains a mix of crimson clover and small grains. Photo: N. Glazier, CCE NWNY Team

Planning can work through a lot of the issues. Fall precipitation can make the process even more challenging. Some points to ponder:

- Remember the three grasses, legumes, and forbs (broadleaves). Ideally, more than one of each type is in the mix.
- Allow adequate growth of at least 8" prior to grazing.
   This is two-fold provides adequate forage plus sufficient root mass for cushioning.
- The motto, "take half, leave half" still applies. Leave at least 4-5" of residual.
- Ideally, graze when ground is frozen or dry. Livestock will need to be moved to another area (sacrifice area, barnyard, etc.) with rain events over 0.5", unless ample plant cover is there (over 2 tons DM/acre).
- Be aware of sorghums, sudan, and millets with frost and prussic acid. Some of these annuals may be frostkilled by the time you read this.
- Cover crops are highly digestible; you may need to add some dry hay to slow digestion down. The right mix may balance fiber and protein.
- Bloat may be a concern with winter wheat. Feed dry hay prior to putting livestock out for the first time.
- If possible, move the livestock to a new paddock every one - two days. This helps reduce the risk of compaction while more evenly dispersing manure and urine.

The key to success is adaptation. A different type of grazing plan is needed for cover crop grazing. This would not have worked last year as it was too darn wet. Another challenge we face is we have less frozen ground through winter months. Livestock may do a great job of reducing heavy spring biomass if cover crops have grown too much. Let me know if you have any questions, or would like to show me you've made it work. I'll post some excellent resources on our website:

https://nwnyteam.cce.cornell.edu/.





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## Ice Ice Baby by Margaret Quaassdorff

Our goal is to keep calves growing and free of disease during the cold months in order to raise healthy, profitable animals for the future milking herd. Combining good management with proper nutrition is the key to successful calf care during the cold months. Let's recall that calves less than 21 days of age begin to experience cold stress when the temperature drops below 59°F. Without manipulation of nutrition and environment, calves begin to use body reserves to meet maintenance-only requirements, which does not allow for growth. When body reserves are exhausted, immune response begins to decline, and the risk of calf sickness increases.

#### **Key Focus Areas for Calf Care during Cold Weather:**

- **Nutrition (including water!).** Depending on your current feeding program, the cost of feeding calves may rise due to increased plane of nutrition or additional feedings. Know that this is a good investment, but also know that you can help mitigate this cost by manipulating the calves' environment to keep the warmth generated, by the calf with the calf (read more below). Ensure that both milk/milk replacer is served to calves at or slightly above body temperature (105°F is a good goal). A cold meal requires the calf to expend energy to warm it up within their body, and brings overall body temperature down, pulling nutrients from growth potential. Water (105°F) should also be provided several times per day to keep calves hydrated. Water intake will help decrease the risk of nutritional scours and detrimental effects of disease. and promote the consumption of starter grain and the development of the rumen. Once a calf begins ruminating, the heat produced by the fermentation process helps to keep the calf warm.
- Ventilation. Proper air exchange serves to reduce bacteria accumulation and ammonia where calves live. Signs of poor ventilation are condensation on the calf barn walls and ceiling, a strong odor of ammonia, draftiness across calf lying space, and coughing in calves (after respiratory disease has infected calves). Calves in hutches may suffer less often from poor ventilation, but are affected if hutches are closed for too long during a cold snap. Summer tube ventilation is not always effective in winter, and may need to be adjusted or exchanged during the winter months. See Timothy Terry's article "Winter Ventilation" on the



Proper ventilation and insulation? Photo: J. Bertoldo

cover for more specific information on ventilation.

**Bedding Type and Jackets.** In cold weather, calf body heat is easily lost to the environment, as a calf lying down has a large surface area contact to the ground. Choosing deeply bedded, dry, clean straw allows the calf to snuggle down and take advantage of the heat pockets trapped by the straw. Shavings and sand do not provide adequate heat retention. Jackets put on DRY calves work wonders, especially when applied to pre-weaned calves. Make sure the calf is completely dry and the hair is fluffed before putting on a jacket, otherwise the calf will stay wet, and very cold. The combination of a jacket and deeply bedded straw retains the most body heat, and insulates the calf best. The cost of a calf jacket ranges from \$20-\$40, but is washable, and reusable year after year. Investing in a jacket for each young calf during your highest calving months in the winter is worth the cost, and jackets with buckles tend to stay on calves better than those with Velcro only.

Although there are increased input costs associated with raising calves in the winter, properly managing calves during cold weather protects the investment involved in the short term (the calves themselves) and the long term success of your milking herd.

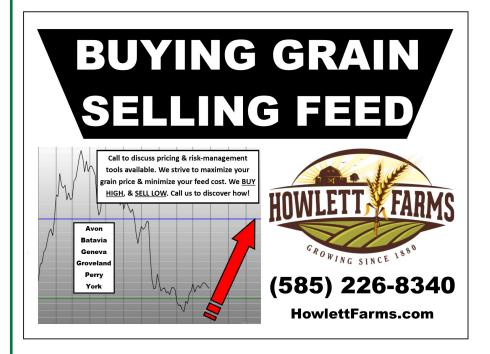
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## Fall Tillage Management by Jodi Putman

As fall harvest continues, many tillage practices will take place this month across western New York. Fall tillage is often needed to manage crop residue, smooth out the ruts in the field, dry out the soil, in addition to incorporating lime, fertilizer, and manure. A number of best management practices can be used to significantly reduce the risk of soil erosion.

#### Why Plant a Cover Crop?

Growers utilize cover crops as a management practice to

- Protect the soil from rain and runoff
- Suppress weeds
- Suppress soil diseases and pests
- Improve soil aggregate stability
- Reduce surface crusting
- Add active organic matter to soil
- Break hardpans
- Fix nitrogen
- Scavenge for soil nitrogen

Winter cereals such as rye, wheat, barley, and triticale, are the most widely used cover crops in corn and soybean crop rotations. They are typically planted in late summer through late fall and produce a small to moderate amount of root and above ground biomass before going dormant in the winter. Vigorous growth will resume in early spring, and large amounts of biomass will be produced by mid to late spring.

#### **Increase Surface Residue**

By increasing the surface residue to 30% ground coverage from 0% will result in a 50% decrease in soil erosion, Figure 1. Smaller decreases in soil erosion occur as more residue is left in the field. It is easier to manage low residue levels versus large amounts (i.e. corn stalks, straw, and other material) in the spring while greatly reducing soil loss.

#### **Contour Tillage**

If timing is an issue and the ground must be left open over the winter without much residue or a cover crop, tilling on a contour perpendicular to the direction of run-off can reduce soil erosion. In some parts of western New York strips of crops are still planted on the hill contours to further prevent erosion losses. However, the fact of the matter is there will still be soil erosion losses during the tillage operations on the sides of hills. Adopting a reduced

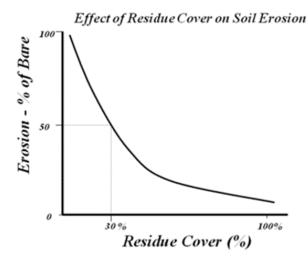


Figure 1: Effect of residue cover on soil erosion, expressed as the percent of that occurring relative to that for a bare surface. Adapted from Laflen & Colvin (1981).

tillage practice on the hill-slopes will help to decrease soil losses.

#### **Tillage Method Options**

The best tillage system depends on the soil (slope and texture), stand establishment of the crop, the fuel and labor costs of the tillage system, and other factors such as long-term sustainability (buildup of organic matter, sequestering  $CO_{2,}$  etc.). Highly erodible soils are best adapted to no-till or a reduced tillage system that leaves more than 50% residue on the surface.

In general, soils that have drainage or cool temperature constraints are better adapted to moldboard plow or chisel tillage systems whereas droughty soils or soils that warm up quickly are better adapted to a reduced or no-till system. Also, large seed crops such as corn, soybeans, and wheat are better adapted to a no-till or reduced tillage system than small seeded crops, such as perennial forages. Soil with good structure is more resistant to erosion. This is due to root channels from previous crops, some residue on the soil surface, and high populations of earthworms etc. that create channels for increased water flow through the soil ultimately resulting in less soil erosion

To learn more about tillage systems and management techniques please visit our websites:

https://nrcca.cals.cornell.edu/crop/CA3/CA0314.php; https://nwnyteam.cce.cornell.edu/topic.php?id=7#topbox



## **Cornell CALS PRO-DAIRY**

### **Cornell Cooperative Extension**

Northwest NY Dairy, Livestock and Field Crops Program

## **Cow Comfort Workshops**

### For Freestalls on December 2

Mulligan Farms, 5403 Barber Rd., Avon, NY

9:30am - 3:00pm

Resister by November 25 to Brandie Waite at: 585-343-3040 x138 or bls238@cornell.edu

Register online at:

https://nwnyteam.cce.cornell.edu/events.php

Cost for NWNY Team enrollees \$20 pre-registration or \$25 day of event. Non-enrollees \$30 pre-registration or \$35 day of event.

This low program fee is only possible because of the generous support of the NY Farm Viability Institute.

### For Tiestalls on December 10

Daryl Z. Martin's Farm, 2086 Havens Corners Rd., Penn Yan, NY

9:30am - 3:00pm

Resister by December 3 to Brandie Waite at:

585-343-3040 x138 or bls238@cornell.edu

Register online at:

https://nwnyteam.cce.cornell.edu/events.php

This FREE program is only possible because of the generous support of the NY Farm Viability Institute, ABS, Select Sires, Trouw Nutrition.

The Cow Comfort Workshop is an educational program for farmers, employees and agriservice professionals who work directly with dairy cows. Each session will include an on-farm portion where attendees walk through the farm and complete an assessment.

The Cow Comfort Workshop is a day-long program held from 9:30 am to 3 pm. The program will be held on farm with a combination of presentations, demonstrations, farm walk-throughs and discussion.



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## November 2019





» UPCOMING EVENTS

- \*New\* Automated Milking System (AMS) Management Discussion Group Mt. Morris, NY,
  5:30pm 8:00pm. Livingston Co. Center for Emergency Operations & Training, 3360 Gypsy Lane,
  Mt. Morris, NY. The focus of the AMS Discussion Group is to allow AMS owners and managers to
  share current AMS management strategies with each other in order to improve efficiencies,
  profitability and sustainability. Cost: \$15 per person, includes dinner. Register online at: <a href="https://nwnyteam.cce.cornell.edu/events.php">https://nwnyteam.cce.cornell.edu/events.php</a> or by phone, call Brandie Waite at: 585-343-3040 x138.
- New York Labor Roadshow III Batavia, NY, 8:30am 4:30pm. Genesee Community College-Batavia Campus, One College Road, Batavia, NY. Room T119 Lecture Hall, Conable Technology Building. See Page 6 for details.
- **19** <u>New York Labor Roadshow III Varysburg, NY,</u> 8:30am 4:30pm. The Lodge at Hidden Valley Animal Adventure, 2887 Royce Road, Varysburg, NY. See Page 6 for details.
- Planning for Transition: A Resource Fair, 11:30am 5:30pm. Cayuga Community College, Auburn, NY. Transitioning to the next farm manager or growing your new farm business? This resource fair will guide you to your next step. For more information visit: <a href="http://senecacountycce.org/">http://senecacountycce.org/</a> or call Judy Wright at: 315-539-9251 x109 or email: jlw24@cornell.edu

### December 2019

- **Cow Comfort Program Freestall**, 9:30am 3:00pm. Mulligan Farms, 5403 Barber Road, Avon, NY. Cost for Team Enrollee is \$20 pre-register or \$25 at the door. Non-enrollees \$30 pre-register or \$35 at the door. See page 18 for details.
- **10** <u>Cow Comfort Program Tiestall,</u> 9:30am 3:00pm. Daryl Z. Martin's Farm, 2086 Havens Corners Road, Penn Yan, NY. See page 18 for details.
- **13** <u>Feed Dealers' Seminar</u>, Tentatively 11:00am 2:00pm. CCE Genesee County, 420 East Main Street, Batavia, NY. \$30 per person, includes lunch (additional attendee \$25 each). Targeted for nutritionists, veterinarians, crop and management consultants, extension educators, and dairy producers with specific interest in nutrition-oriented topics. Register online at: <a href="https://nwnyteam.cce.cornell.edu/events.php">https://nwnyteam.cce.cornell.edu/events.php</a> or contact Brandie Waite at: 585-343-3040 x138 or bls238@cornell.edu