Cornell University Cooperative Extension
SCNY DAIRY & FIELD CROPS TEAM
Newsletter
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February/March 2018

Changes to the Margin Protection Program for Dairy Producers

Information Letter 18 **19 February 2018**

Andrew M. Novakovic*

DMaP Dairy Markets and Policy

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The Legislative Changes to MPP-Dairy

Significant changes to the 2018 implementation of the Margin Protection Program for Dairy Farmers (MPP-Dairy) are included in The Bipartisan Budget Act of 2018 that was just passed. This briefing paper summarizes the legislative changes and begins to review the possible implications of the changes. As is common with any agricultural program legislation, USDA will need to review the law, make a few decisions about how to implement the changes and issue new or modified regulations that provide specific instructions about what farmers can do and when they can do it. It is anticipated that this process will happen fairly quickly.

2018 Program Sign-up is Reopened

The normal procedure has been for a dairy farmer to elect coverage levels under MPP-Dairy for the coming year in the month before the start of that year – a December sign-up deadline for a year that begins in January. As farmer dissatisfaction with MPP- Dairy became more apparent and grew, it was widely anticipated that few farmers would utilize the program in 2018. The new legislation instructs USDA to reopen the 2018 sign- up process and allow dairy farmers, including those who signed up and those who did not, to elect their choices anew. Specifically, the bill states:

> *The Secretary shall extend the election period for the 2018 calendar year by not less than 90 days after the date of enactment of the Bipartisan Budget Act of 2018 or such additional period as the Secretary determines is necessary for dairy operations to make new elections to participate for that calendar year, including dairy operations that elected to so participate before that date of enactment.*

This would seem to indicate that USDA can reopen the enrollment process in between February and April and allow ply to the entire calendar year. It seems logical that USDA would want to open the enrollment period sooner rather than later.

Andrew M. Novakovic is the E.V. Baker Professor of Agricultural Economics in the Charles H. Dyson School of Applied Economics and Management at Cornell University.

Monthly Election

MPP-Dairy pays dairy farmers the difference between the Actual Dairy Producer Margin (ADPM) and the coverage level elected by the farmer. Thus, if a farmer chooses coverage at $6.50 per cwt and the ADPM falls to $6.10, the farmer is paid 40¢ per cwt on the amount of milk covered. The original language of the program calculates the ADPM each month but payments are based on the average of successive two-month periods: Jan/Feb, Mar/Apr and so on. This resulted in a few instances where a month fell below a coverage level but the adjacent month was sufficiently high to put the two-month average outside of the payment level. The new MPP-Dairy is converted to a monthly payment.

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

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

Building Strong and Vibrant New York Communities

Meet our new Administrative Assistant!

Meet Stephanie, our new Administrative Assistant at the South Central NY Dairy and Field Crops Team. Stephanie graduated from SUNY Cortland with a degree in English and Professional Writing. While attending school, Stephanie was an intern for *Social Lifestyle Magazine,* where she wrote restaurant and product reviews, and interviewed local business owners on Long Island. She's had several short stories published in other publications, including her latest horror piece, "The Death Door", which was published in the *Chicago Literati* on Halloween. Some of her other works include "The Thing That Happened", "Salted Avocado", and "My Grandmother's Bathroom", all published in *The Cortland Writer.* Her goal is to become a novelist and write historical fiction novels for adults. She is enjoying learning about agriculture and working with the team.

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Thus, payments will be made on 1/12 of the production enrolled in any month that the ADPM falls below the producer's coverage level.

Changes in Premiums

Three changes were made in the premiums and fees producers are required to pay.

First, the $100 fee that everyone enrolled in the program was required to pay will be waived by farmers who meet USDA criteria as "beginning, limited resource, disadvantaged, or military veteran farmers".

Second, the dividing line between Tier 1 (lower) and Tier 2 (higher) premiums is raised from 4 million pounds milk covered per year to 5 million pounds.

Third, the premium rates in Tier 1 are substantially lowered, as illustrated in Table 1. Beyond making the $4.50 and $5.00 coverage free of any buy-up premiums, the rates at all other levels are lowered 40 to 70%. **Coverage levels of $7 and above are especially more attractive under the new pricing plan.**

Cover Level Threshold	Tier 1– 2014 to 2017	Tier 1– 2018	Tier 2
	4 M lbs or less	5 M lbs. or less	Above 5 M. lbs
$4.00	0	0	0
$4.50	$0.008	0	$0.020
$5.00	$0.019	0	$0.040
$5.50	$0.030	$0.009	$0.100
$6.00	$0.041	$0.016	$0.155
$6.50	$0.068	$0.040	$0.290
$7.00	$0.163	$0.063	$0.830
$7.50	$0.225	$0.087	$1.030
$8.00	$0.475	$0.142	$1.360

What Will or Should Dairy Farmers Do?

Although as of this writing the decision aid tool for MPP-Dairy on the Program on Dairy Markets and Policy website: https://dairymarkets.org/MPP/Tool/ has not yet been updated, the changes to the program for Tier 1 are sufficiently improved to more than justify giving the program a hard look. The expected results for the ADPM (margin) are illustrated in the decision tool. Although they are currently shown as two-month averages, the changes to the structure of the program do not impact the projection of the margins. As is indicated by the decision tool and obvious from any prospective market analysis in the press, it is widely expected that margins will be well below the $8 threshold and have a better than 50% probability of being below $7 through June. Expected margins show improvement in July and August and the probability of payments for the last four months of the year are 1 out of 4 or 5 at the highest, $8 level. Every farmer must evaluate their own risk level and make their own decision, but the reductions in the Tier 1 premiums warrant a second look at an enrollment and coverage decision. If a farmer has an LGM-Dairy contract for any months of 2018, he will not be able to enroll in MPP-Dairy for those months.

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Changes to Livestock Gross Margin for Dairy

In addition to these changes to MPP-Dairy, which is an income support program operated by the USDA Farm Service Agency, the bill makes an important change that affects the availability and appeal of the older Livestock Gross Margin for Dairy risk insurance program (LGM-Dairy). LGM-Dairy operates somewhat similarly to MPP-Dairy in that it gives farmers an opportunity to establish protection against a contracted level of income over feed cost. The calculation of the margin under LGM-Dairy is different but more importantly LGM-Dairy is designed as a conventional insurance product. It is approved by the Risk

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Management Agency of USDA but sold through private agents, like any other crop insurance program. Perhaps most significantly, LGM-Dairy coverage levels and premiums vary from month to month depending on market conditions, unlike MPP-Dairy which always offers the same choice of coverage options at the same price.

As a general rule, when margins are expected to be high, LGM-Dairy offers opportunities to "lock in" an attractive margin and an agreeable cost, but when margins are expected to be low, MPP-Dairy is likely to offer coverage that is both higher and cheaper. A major limitation to the use of LGM-Dairy is that USDA could offer it at subsidized premium rates, relative to an actuarially fair premium, but it had a limited and relative small amount of money for subsidies. When that money ran out, the LGM-Dairy program had to be suspended until the beginning of the next fiscal year. The Bipartisan Budget Act eliminates the previous and longstanding funding cap on premium subsidies for the livestock insurance products, including but not limited to LGMDairy. In and of itself this does not create new funding to support LGM premium subsidies but it creates an opportunity to expand funding for that purpose at a later date.

Background

The U.S. Congress passed The Bipartisan Budget Act of 2018 as the culmination of a particularly difficult set of negotiations to provide ongoing authority for the federal government to pay its bills. This legislation primarily provides a budget framework that will subsequently allow Congress to approve a specific set of appropriations that will enable the federal government to pay its bills. The actual appropriations legislation still needs to be drafted, but the budget plan provides the blueprint for the specific spending approvals.

Beginning with the start of the Federal fiscal year on 1 October 2017, every member of Congress wanted to provide the legislative authority that is required for the government to spend money in support of its employees and programs, but there was considerable disagreement about how much to spend and on what. This created a political environment in which policies that really don't have much to do with a spending plan became part of the negotiation. Funding for military programs and immigration related issues were at the forefront of these negotiations, for example.

The Appropriations Committees of the Senate and the House of Representatives are the starting points for establishing spending approvals for government programs, outside of the so-called mandatory programs, like Social Security, where payments are made based on eligibility not a fixed spending allowance. These spending approvals are essential for "discretionary" spending, including paying the salaries of federal employees. Although the authority of the Appropriations Committees is limited to establishing amounts of money that can be spent by government agencies for various programs and purposes, it is fairly common for members of Appropriations Committees to essentially modify or even create programs by assigning funding to do a certain thing in a certain way. This is sometimes referred to, in a not so complimentary way, as legislation by appropriation.

The Agricultural Act of 2014 created the Margin Protection Program for Dairy Producers. While it was certainly well intended, MPP-Dairy has not proven to be a particularly helpful or effective support for dairy farmers, who have suffered below average returns since 2015. In its first two years of operation, farmers paid $96 million in fees and premiums but only $12 million was paid in "indemnities". Risk management experts would quickly point out that most people don't take out insurance with the hopes of getting paid – you don't want your house to burn or your car to be wrecked, but critics of the program would say, my house did burn and I didn't get a payment. In the face of this rampant criticism, industry advocates and sympathetic legislators sought ways to make the program more helpful to dairy farmers. Unfortunately, this has proven very difficult in the normal course of generating a farm bill in the agriculture committees of the House and Senate simply because any changes that make the program more helpful necessarily make the program more expensive. Without specific approval to spend more money on MPPDairy, the agriculture committees had no room to improve the program. A similar situation emerged with the cotton program that was established under the 2014 Agricultural Act.

Senator Patrick Leahy (VT-D) and Senator Thad Cochran (MS-R) are the Vice Chair and Chair of the Senate Appropriations Committee. Last Spring they worked out a fix for the dairy and cotton programs that they could include in their committee's appropriation legislation. This legislative language was included in the Bipartisan Budget Act that was just passed. 🛠

COW ID	DATE	DIAGNOSIS	TREATMENT AND ROUTE OF ADMINISTRATION	DURATION	WITHDRAWAL TIME		CALCULATED WITHDRAWAL PERIOD EXPIRES MILK/MEAT	ACTUAL DATE MILK IN TANK	RESIDUE TEST		REMARKS	DATE CULLED
					MILK (hrs)	MEAT (days)			DATE TESTED	TEST RESULTS	(for example, Initials of person treating or testing)	

Preventing Residues – More paperwork, but necessary to protect your business!

Betsy Hicks, Area Extension Dairy Specialist

Do you keep track of cows – and calves – that you treat?? I don't care the size of your operation, or whether you have lactating cows or just raise heifers. If you treat a cow, do you have a system of keeping track of who was treated and when? Talk to a producer that has had a drug residue violation – chances are, they wish they had tracked animals a little bit closer and they now know far more about the process that they wished they knew sooner.

Electronic Records Aren't Enough

You may track your herd via electronic means – Dairy Comp, PC Dart, some notepad app on your phone – and that's great. It may give you instant access to a whole history of what a particular cow has been through. But what the FDA really wants is paper records with specific information recorded that may not be necessarily recorded via electronic means.

Information Required

If you follow Beef Quality Assurance Guidelines, you may already know the information required. At each treatment, the information required for that treatment includes the following items:

- Animal ID
- Date of treatment
- Reason for treatment/diagnosis
- Drug Administered
- Amount Administered/Treatment regimen/Duration of Treatment
- Route of administration (IV, sub-Q, IM, pour-on, etc)
- Withdrawal time for meat and/or milk with anticipated withhold dates listed
- Person who administered the drug

Again, this information should be documented in writing. Many farms choose to keep a 3-ring binder to keep chronological order of treatment records. See the picture above the title for a sample of how you can document this information. At a minimum, 3 full years of treatments should be on hand.

Standard Operating Procedures

It is also a good practice to maintain written SOP's for giving treatments. Your herd veterinarian can help you write these, and templates can be found on the Farmers Assuring Responsible Management (F.A.R.M.) Program website. (http://www.nationaldairyfarm.com/resource-library) Bottom line, if you have a drug on your farm, you need to make sure there is a written SOP for when you plan to use it. Information on the SOP needs to include when the particular drug should be used or for which disease the drug is used for, how the animal should be treated, the drug used, location of treatment, and duration of treatment.

Group Treatment Records

When treating groups of cows with drugs that may cause a withhold time (e.g. vaccinations or deworming medications), you can simplify the records. The information required is still the same, but rather than repeating out all the information for each animal, one date with the group treatment information can be listed, with all animals in that treatment group identified.

Culling Records

Many farms also keep a separate 3-ring binder for cows that have left the herd – both sold and died. These records can include more information on drug treatments and withhold dates, as well as the sold date and reason for culling. It's a good way to double check that the cow is saleable when her time comes to leave the farm. 🛠

Upcoming Herd Manager Training

In conjunction with PRO-Dairy, the SCNY team will be hosting a 2-day Herd Manager Training on March 15 & 22. The training will include both classroom sessions and barn demonstrations both days of the class. The class is intended for all herd managers to attend. Those that are new to the role will get good basic skills, and those that have been in the role for some time will get current and up-to-date information that they can implement on their dairies. We will delve more deeply into the records and antibiotic stewardship during the training. If interested, please contact Betsy Hicks 607.391.2673 or bjh246@cornell.edu. You can also see more about the training and register online at https://scnydfc.cce.cornell.edu/event.php?id=648.

Dairy Farming: It's a passion, but it's hard

Kimberley Morrill, PhD. Regional Dairy Specialist

This cow, Cinnamon, she got me hooked. She was my gateway drug. She was my 4-H project that turned into my college fund, that became a career. She continues to be my inspiration and dedication (my kids will always be my motivation). Cinnamon was born on January 1st (year is not of importance), and I claimed her as mine. She was the first Red & White born on the farm. Being daddy's little girl, Cinnamon got put in my name and she became my project. Cinnamon spent many hours on a halter being led around the dooryard, and then to every 4-H fair. Cinnamon's first calf was a heifer "Cameo" who, similar to her dam, would be treated like a new puppy. Cinnamon was sired by a "jumper bull", but became something special, and in 1999 she was Grand Champion at the International Spring R&W show. For a teenager this was the most exciting thing in the world. When we got home, Cinnamon was dried off, calved in again (for the last time) and went on a flush program. Cinnamon made lots of embryos and had numerous daughters, but eventually that came to an end. My dad had a 3 strikes rule, and after 3 failed flushes Cinnamon's name appeared on the cull list. It was springtime, so I bought a little leeway and she was able to live out the spring and summer in the dry cow lot - not the most profitable or realistic business decision but I wasn't ready to say goodbye. As fall came to a close and winter was upon us, the barn was full and Cinnamon wasn't paying her way. Her time had come to take one more trailer ride. That Monday night I said goodbye to a cow that gave me lots of memories, opened many doors, built lifelong friendships and provided me with opportunities I never knew existed. Cinnamon may have been seen as "just a cow" but she was mine. We had a history together and she was responsible for the start of my love of the dairy industry.

Every day I get to work with dairy farmers and it is the most rewarding job. I love my farmers, I love seeing them make progress, and I love seeing their dreams come to fruition. Over the last couple of years my job has shifted. We might still be working on projects and ideas for the future, but more and more often I'm someone to talk to, someone to vent to, or someone to commiserate with. It is no secret that dairy farming is a stressful business and times are tough. These farmers have put everything into their businesses and their cows are part of their family. Frustrations range from current milk price to labor to consumer demands and more. Depression, exhaustion, mental illness and suicide have become topics of conversation. Farming is a stressful occupation because many of the factors that affect agricultural production are beyond the control of the producers. Emotional well-being of farmers and their families, is often intertwined with these changes. Many people believe these topics are taboo, and shouldn't be talked about. However, we need to be talking about these issues. We need to normalize these topics and support each other.

Depression, stress, anxiety, financial worries, marital difficulties, alcohol consumption, drug addiction and gambling additions have increased in farmers over the last couple years. In December I had a farmer tell me that he thinks he needs to talk to someone. He was frustrated with the hours he was working, but he wasn't seeing any progress and his returns were getting smaller and smaller. He was starting to take his frustrations home with him and it was impacting his relationship with his wife and children. He didn't think talking to a doctor would help; last time he told his doctor he was stressed out the doctor told him to go on vacation for a week, or maybe it was time to take a sabbatical from work. Unfortunately, most doctors don't understand farming. After a long conversation, and a pot of coffee later, it was decided that he would reach out to his doctor to talk about depression and take his wife out to dinner. I recently spoke to this farmer and he said he and his wife went out to dinner and decided they needed to make more time for each other, as well as time to talk about the farm and time to talk about everything but the farm. He also reached out to his doctor, who referred him to another doctor who understood agriculture and has been able to help him work through his feelings and better communicate what is going on.

Depression is not one size fits all, but at the end of the day it needs to be addressed. Reaching out for help may seem like the hardest step, and it often is, but it's the most important. No one can help you if they don't know you are struggling. Reaching out can be done over a cup of coffee with a good friend, a trusted colleague or spouse. Maybe you feel more comfortable reaching out to a medical professional and for some, remaining anonymous and reaching out to a hotline may be the first step.

The U.S. suicide rate in agriculture (farmers, laborers, ranchers, fishers and lumber harvesters) are nearly 5 times that of the general population. This is even greater than veterans, and unfortunately echoes trends observed globally. In Australia, one farmer commits suicide every 4 days, while in the UK one farmer takes his life every week.

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350 Warren Hall, Ithaca NY 14853 1-800-547-3276
nyfarmnet.org

New York State farm families are experiencing higher levels of financial and emotional stress due in part to several years of low commodity prices. This is an especially difficult time for dairy farmers because regional conditions in dairy markets have further reduced farm revenues. Farm families can also experience stress as the result of a sudden event—such as crop loss, an accident, a personnel change, or family death. In other instances, it may be a gradual change from a prolonged physical illness, excessive working hours, or relationship difficulties.

Warning Signs of Stress:

• Change in routines: Farmers or members of the farm family may change who attends a market, stop attending regular meetings or religious activities, drop out of other groups, or fail to stop in at the local coffee shop or feed mill.

• Decline in the care of domestic animals: Livestock or pets may not be cared for in the usual way.

• Increase in illness: Farmers or farm family members may experience more upper respiratory illnesses (cold, flu) or other chronic conditions (aches, pains, persistent cough, migraines).

• Increase in farm accidents: The risk of farm accidents increases with fatigue or loss of ability to concentrate. Children may be at risk if there isn't alternative child care.

• Decline in appearance of farmstead: The farm family no longer takes pride in the way farm buildings and grounds appear.

• Signs of stress in children: Farm children may act out, show a decline in academic performance, or be increasingly absent from school. They may also show signs of physical abuse or neglect, or become depressed.

• Decreased interest: Farmers or farm families may be less willing to commit to future activities, sign up for gatherings, or show interest in community events.

Selected New York Resources to Support Stressed Farm Families

NY FarmNet

NY FarmNet provides completely free and confidential on-farm services for farmers and farm families in New York. Specializing in personal wellbeing, stress management, family communication, financial analysis, business planning, transition planning, and estate planning, FarmNet financial and personal consultants guide farm families through periods of transition, opportunity or challenge.

1-800-547-3276, www.nyfarmnet.org

National Suicide Prevention Lifeline

1-800-273-8255 (TALK), www.suicidepreventionlifeline.org

Crisis Text Line

Text "START" to 741-741, www.crisistextline.org

New York State County Mental Health Directory

http://www.clmhd.org/contact_local_mental_hygiene_departments/

Adapted with permission from Associate Extension Professor Leslie Forstadt and Associate Extension Professor Tori Jackson, University of Maine, "The University of Maine Cooperative Extension Bulletin #4805, Recognizing Signs of Farm Family Stress."

SCNY Dairy Manager Discussion Group Tours

Tuesday, March 20th , 2018

2 Group Tours Scheduled in conjunction with the WNY Dairy Manager Discussion Group

****

Farm 1 - starts at 1 pm

Lincoln Dairy
Dougall Rd
Auburn, NY

Farm 2 - starts at 3:30 pm

Twin Birch
1840 Benson Road
Skaneateles, NY

****

There is no cost for the tours

BUT

We do need to have an accurate head count!

To register, contact Stephanie Vitarelli at sav66@cornell.edu, or call 607.391.2662

You **MUST** contact Betsy Hicks prior to the tours for details at bjh246@cornell.edu, or call 607.391.2673

Herd Manager Training

2 Day Course with Classroom and Hands-On Learning

Topics Covered:

* Transition Cow Health and Facilities
* Antibiotic Stewardship & Protocols
* Cull Cow Management
* Body Condition Scoring through Transition
* Cow Health Physical Exams
* Individual Cow Case Studies & Decisions

Dates: March 15th & 22nd, 2018

Time: 9:30 registration, program 10-3

Cost: $75, includes materials and lunch both days

Location: 3/15 - Venture Farms, Fabius

3/22 - AM at Magro's, Cincinnatus
PM at Riverside Dairy

Registration: Call Steph at 607.391.2662, email sav66@cornell.edu or register online at: https://scnydfc.cce.cornell.edu/event.php?id=648

Cow Comfort Conference 2018

Kimberley Morrill, Extension Dairy Specialist with the North Country Regional Ag Team
Betsy Hicks, Area Extension Dairy Specialist with the SCNY Dairy & Field Crops Program

The 2018 Cow Comfort Conference was held February 6th – 7th in Syracuse, NY. The first speaker of the conference was Jessica Ziehm, NY Animal Agriculture Coalition. Her talk "Stand up for what you stand for" discussed the importance of image and how farming requires a social license to operate.

The morning session also included discussion on Lindsay Ferlito and Betsy Hicks' research project evaluating lameness and lying time in tiestall dairies, and Kim Morrill's discussion on emerging issues in the dairy industry. "Cow comfort, through good times and bad" presented by David Darr, President DFA Farm services, started off the afternoon discussion and complimented Jessica's kick-off presentation. Darr stated that "Things will go wrong; more people are watching what we do and there's more risk to all of our business."

"How to Create a Culture of Care on Your Dairy", presented by Molly Scoville, Merck Animal Health, was a great follow up discussion to Darr's presentation. This presentation focused on the drivers for animal care, both on and off-farm. It then dove into creating a culture of care and the Dairy Care 365 program.

While a few people headed out early to try and beat the snow storm, day two saw some new faces and the conversation shifted towards cow comfort in maternity pens and onto robotics. Dr. Katy Proudfoot, The Ohio State University, kicked off day two with a discussion on Cow Comfort in the Maternity Pen. Katy's presentation focused on what is the natural behavior of a species, specifically around calving, and what is her preference, i.e. her comfort zone?

Robots, robots and more robots were the topics of the last few speakers at the conference. Dr. Trevor DeVries, University of Guelph, talked about cow comfort on robotic dairy farms. Trevor's first discussion points was focused on "what are the impediments to successful milking in robotic farms"? The answer was 1. Cows that don't want to go milk (mobility of the cow) and 2. Cows that cannot milk when they want to (barn design and management). While both of these issues were discussed, the focus was on mobility. Trevor's take away message was: "Robotic milking presents many opportunities for dairy producers. However, challenges may exist with robotic milking and need to be addressed. These include: ensuring the cows have adequate time and desire to milk voluntarily, good mobility, comfortable stalls and resting surfaces, and good access to milking unit, lying stalls and feed bunk."

Jason Karszes presented information on Milking System Investment. One of Jason's key points was when making an investment decision we need to compare it to something. If we only look at one option, what's the right answer? Jason provided 5 ideas, for different approaches for investing in milking activities that could decrease issues associated with labor: 1. Remodel current system, 2. Automatic milking system, 3. Oversized parlor, 4. Pay labor more and 5. Become an employer of choice. Following Jason Karszes, Bruce Dehm, Agricultural Economist from Dehm Associates, LLC, discussed "Whole Farm Financial Comparison of Robotic Milking Farms vs. Parlor Milking Farms. Of the farms analyzed in the benchmark, 14 were robotic herds and 43 milked in parlors. His analysis of the herds showed they had identical costs when looked at on a per hundredweight basis, but certain line items of expenses were very different between the two comparisons. Hired labor expense was much lower on robotic herds, as well as purchased forage and livestock supplies. Higher cost on robot herds included feed concentrates, owner draw, utilities and machine hire & rent.

The 2018 Cow Comfort Conference covered lots of great topics ranging from challenges facing the dairy industry to investing in the future. In today's industry, producers have to think about Cow Comfort from several different angles. Dairy farmers, first and foremost, have to constantly strive to keep up with improving cow comfort for their animals, whether it be by paying attention to new research on animal behavior around calving, adapting stalls to growing cow size, or building new facilities to ensure they meet standards. Producers also have to look at Cow Comfort through the lens of the non-farm audience. Are the things we do as an industry able to be backed up by sound science? Do people know how much farmers care about their land, animals and way of life? And thirdly, producers have to make changes for their business that make sense in terms of profitability, even if it means making a drastic change like moving towards using robotic milkers. These changes need to be explored on individual operations, and having benchmarks put out by service providers help to shed light on numbers behind making a switch.

Thank you to the presenters, sponsors, organizing committee and attendees for making the 2018 Cow Comfort Conference a success! We look forward to building our 2019 program.

2018 Cow Comfort Sponsors: Acumen, Farmer Boy, Finger Lakes Dairy Services, Novus International, ASAP Interiors, DFA, Farm Credit East, Holts Nelson, Merck, Rapp Nutrition and North Brook Farms.

Does High Quality Alfalfa Pay in Mixtures?

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Many alfalfa varieties currently on the market have claims of higher forage quality such as: fine stemmed, lower lignin, higher neutral detergent fiber digestibility (NDFD), higher relative forage quality (RFQ), high multifoliolate leaf expression, superior digestibility, higher feed intake, improved milk production, and superior forage quality. Higher quality alfalfa and grass varieties have the potential to significantly increase milk production and increase the proportion of homegrown feeds in rations. Increased fiber digestibility is the most important quality improvement.

Improvements in alfalfa forage quality

Changes in plant architecture (fine stems, multifoliolate trait, etc.) can lead to modest improvements in alfalfa forage quality. HarvXtra-type alfalfa varieties have reduced lignin content due to a genetic modification in lignin production. There are at least two varieties conventionally bred for reduced lignin. Reduced-lignin content by itself is of little benefit, unless it impacts NDFD. Reduced lignin could lead to increased lodging, although increased lodging has not been observed in low-lignin alfalfa varieties. Increased NDFD without large reductions in lignin also is a reasonable option, if possible.

Comparing alfalfa varieties in alfalfa-grass mixtures

While alfalfa can significantly impact grass CP content in mixtures, grass has little impact on any alfalfa quality traits in these mixtures. This means we can compare alfalfa varieties in mixtures and expect similar results as if they were in pure stands. Alfalfa-grass trials harvested in NY in 2017 included HarvXtra, Hi-Gest 360, LegenDairy XHD, WL 356HQ, WL 355RR, and Pioneer 55H94. Each individual trial contained 2-3 alfalfa varieties, with from 3-7 grasses, including meadow fescue, tall fescue, orchardgrass, festulolium, timothy, and reed canarygrass. All 2017 NDFD data here for alfalfa and grasses was based on weighted means over a 3 or 4-cut season (so higher yielding spring-cut forage counts more in the NDFD averages).

How does grass affect any delay in harvest?

One of the advantages for HarvXtra is the potential to delay harvest and end up with higher yields of similar quality, compared to conventional varieties under standard harvest regimes. University trials indicate that HarvXtra harvest can be delayed somewhere between 5 to 10 days and still have similar NDFD (48-hour) as a conventional variety harvested under a standard regime. Delayed harvest for HarvXtra could result in one less harvest per season, with similar or higher yields combined with less stress on the stand. But those estimates are for pure alfalfa stands, almost 90 percent of the alfalfa acreage in New York is sown with a perennial grass.

Grass in a mixture will dilute the high NDFD effect of improved alfalfa varieties. Based on NY 2017 data, pure HarvXtra harvested 5.5 days later provides similar NDFD as conventional

Fig. 1. Influence of grass on overall forage quality. Number of days that HarvXtra harvest can be delayed and maintain total forage NDFD similar to a conventional check variety on a normal harvest schedule. Based on 5.3% increase in NDFD for HarvXtra in NY in 2017, and an estimated loss in NDFD of 0.5% units/day for alfalfa and 1.0% units/day for grass.

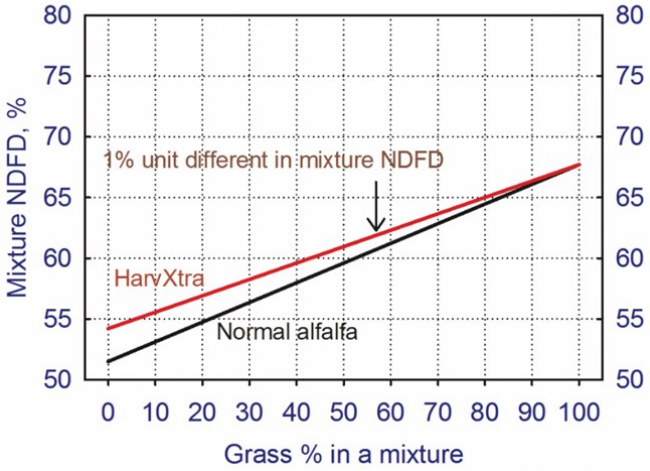

Fig. 2. Effect of alfalfa variety on NDFD of an alfalfa-grass mixture. Based on average of 5.3% higher NDFD for HarvXtra over other alfalfa varieties in NY 2017 trials.

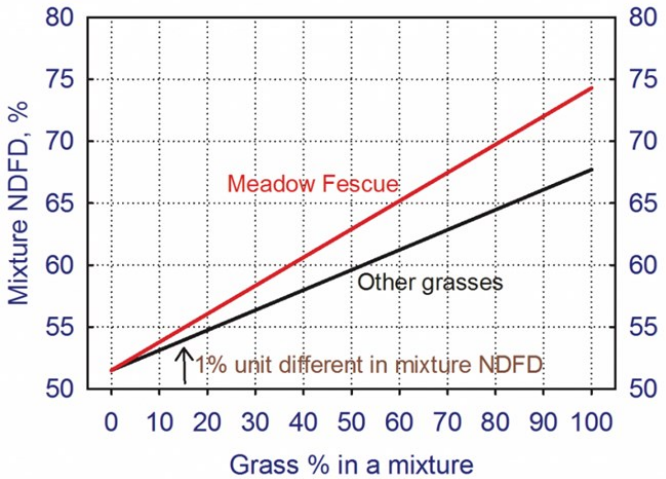

Fig. 3. Effect of grass species on NDFD of an alfalfa-grass mixture. Based on average of 9.7% higher NDFD for meadow fescue over other grass species in NY 2017 trials.

varieties on a normal cutting schedule, but that interval shrinks as more grass is found in mixtures (Fig. 1). If a mixed stand is 30% grass, the HarvXtra advantage will be reduced to 4 days, and to less than 3 days at 50% grass.

Advantage of HarvXtra or Meadow fescue in mixtures

For this discussion, we are assuming that a one-percentage unit increase in NDFD likely results in significantly increased milk production. Our 2017 results on average showed a 5.3% increase in NDFD for HarvXtra over other alfalfa varieties. Replacing a conventional alfalfa variety with HarvXtra should result in a significant increase in mixture NDFD (one percentage unit) for a stand that is up to almost 60% grass (Fig. 2). Replacing a lower quality grass with meadow fescue, however, results in a significant increase in mixture NDFD down to as low as 15 percent grass in a mixture (Fig. 3). This is because grass NDFD is much higher than alfalfa NDFD. Our results in 2017 show that replacing a lower quality grass with meadow fescue increased grass NDFD an average of 9.7%. In a stand of 30% grass, the exact same increase in mixed forage NDFD is obtained by the addition of either HarvXtra or meadow fescue. As low as 5% of any grass in a mixture with alfalfa will significantly increase mixture NDFD (one percentage unit).

Economics of high quality alfalfa and grass

If we assume that HarvXtra seed costs about $6/lb more than other high quality alfalfa varieties, and is seeded at 14 lbs/acre, then over the average life of a stand (4 years) HarvXtra would cost about $20 more per acre due to seed costs. Meadow fescue does not cost significantly more than other grasses for seed, so there is no added seed costs for switching to meadow fescue.

An increase of one percentage unit NDFD (neutral detergent fiber digestibility) has been shown by feeding trials to increase milk production about 0.5 pound per cow per day. For high producing cows, the increase may be as high as 1 pound of milk per cow per day for every one percentage unit increase in NDFD. Based in NY 2017 trial results, the addition of HarvXtra and meadow fescue increased NDFD an average of 3.5 percentage units. Assuming a milk price of $17/cwt, a 1000 cow herd could increase annual milk income by $100,000 by planting HarvXtra/meadow fescue mixtures (Fig. 4). The added seed costs for using HarvXtra are not significant. Also, changing varieties or species planted is relatively farm-size neutral, with equal benefits per cow with small or large herds.

Summary

Planting HarvXtra alfalfa plus meadow fescue may increase milk income an average of $100/cow/year. Other varieties recently released with potentially higher NDFD have not been adequately evaluated. Any alfalfa or grass variety with significantly higher NDFD than conventional varieties is going to be worth the price of admission (higher seed costs). **Switching from a lower quality grass to meadow fescue can impact forage quality of mixtures just as much as a switch from an average alfalfa to HarvXtra.** The greatest challenge for alfalfa-grass mixtures is getting and keeping a reasonable amount of grass in the mixture (20-30% grass).For alfalfa-grass producers, there is the added issue of having to pay for the roundup-ready trait in HarvXtra, without a practical way of utilizing that trait in mixtures. Roundup-Ready has been bundled with reduced-lignin, with no intention of ever separating these two GMO traits. The recent interest in production of "GMO-free milk" (produced with a very small amount of GMO-type feeds in a cow's ration) could impact the success of GMO reduced-lignin alfalfa varieties, if the general public embraces this product.

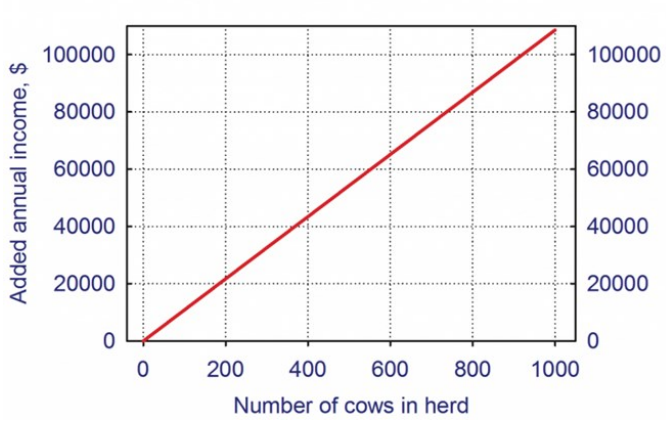

Fig. 4. Annual increase in milk income by using HarvXtra alfalfa and meadow fescue mixtures instead of normal alfalfa and other grasses. Based on 3.5% unit increase in NDFD in NY in 2017, and assuming 1% unit increase in NDFD = 0.5 lb milk/cow/day. Assumes a milk price of $17/cwt.

Alfalfa-grass research was made possible by funding from the Northern New York Agricultural Development Program and the New York Farm Viability Institute.

Corn Rootworm Management Strategies for 2018

Elson Shields, Entomology Department, Cornell University

The excessive wet soil conditions during the 2017 corn rootworm (CRW) hatching period during late May – early June caused a major reduction in corn rootworm adult populations during the 2017 growing season. Adult surveys in most fields during early August showed a scarcity of adult beetles during the egg-laying period. As a result, most fields in NY will have a reduced risk for CRW damage during the 2018 growing season. In these lower risk fields, CRW management costs can be reduced by growing non-Bt-CRW corn and using either a reduced rate of soil insecticide or the 1250 rate of seed treatment. First year corn is never at risk from CRW and therefore Bt-CRW corn, a soil insecticide or the 1250 rate of seed treatment is an unnecessary expense. This includes any application of Capture in the pop up fertilizer. Well drained fields which did not experience the typical periods of water logged soils during late May – early June 2017 will be at higher risk from CRW injury in 2018 and should be managed accordingly. These higher risk fields may benefit from planting Bt-CRW corn varieties. In "normal" years, the risk of economic damage from CRW is 0% – 1st year corn, 25%-35% – 2nd year corn, 50%-70% – 3rd year corn and 80%-100% for 4th year and longer continuous corn.

Status of Bt-CRW resistance in the US:
CRW Bt resistance continues to build across the corn growing regions of the US with multiple localized resistant populations identified for each of the Bt-CRW traits. Cross resistance has been identified within the Cry3 family (Cry3Bb1-*Yieldgard Rootworm*, eCry7.5Ab-*Duracade*, mCry3A-*Agrisure RW*) and if one of the Cry7 traits are failing in your field, the planting of another toxin within the Cry3 family may lead to disappointing CRW management results. Resistance has also been reported in several states to Cry 34Ab1/Cry35Ab1. There has been no reported cross resistance between the Cry3 family of toxins and Cry34Ab1/Cry35Ab1 toxin combination.

The rootworm Bt-toxin pyramids consist of two different Bt -RW toxins in the same plant. Some seed companies have included two different toxins from the Cry3 family where cross resistance has been reported where other seed companies utilize the pyramid mix of a toxin from the Cry3 family and Cry34Ab1/Cry35Ab1 where no cross resistance has been reported. If control failures have been reported in your fields/region to any one of the Cry3 family of toxins, planting a pyramid composed of two different Cry3 toxins is not recommended. Instead, it is a better CRW resistance choice to plant a pyramid consisting of a Cry3 toxin with the Cry34Ab1/ Cry35Ab1 toxin.

A very handy resource to identify the Bt traits in your corn varieties is the annually updated Bt trait table. **The 2018 Handy Bt Trait Table for US Corn Production** is made available by Dr. Chris Difonzo, MSU, Dr. Pat Porter, Texas A&M and Dr. Kelley Tilmon, OSU can be found at the following URL: https://lubbock.tamu.edu/files/2018/01/BtTraitTableJan2018.pdf

As Bt –CRW traits are failing to resistance by corn rootworm, the promise of the next effective trait is ever appealing. The development of the RNA*i* technology against CRW has been touted as the next effective plant incorporated toxin with a very slim chance of resistance development by CRW. However, it only took about 20 million individuals from a single Illinois continuous corn field and a few generations to generate an RNA*i* resistant laboratory population. In addition, field results with RNA*i* containing corn varieties suffer a noticeable amount of root feeding damage before the slow-killing toxin kills the insect larvae. As a result, the new RNA*i* technology will not be the "silver bullet" everybody has hoped for. Stewardship of the Bt technology has become increasingly important in areas where Bt resistance has not been reported because the next technology needs effective Bt toxins to help it out.

Bt Trait Stewardship Suggestions:
A few simple management adjustments can go a long way in preserving the efficacy of the Bt-CRW traits in NY.

- Long-term corn fields need to be rotated to a non-corn crop on a regular basis. Continuous corn matched with a long-term use of same Bt-CRW trait promotes the development of a resistant population.
- Rotate toxins between the Cry3 family and Cry34Ab1/ Cry35Ab1 toxins. There is no recorded cross resistance between these two groups of toxins.
- Use the Bt-CRW technology only in fields of 3rd and longer continuous corn fields. Rotate the toxin groups and rotate the long-term corn to at least 1 year away from corn to break the CRW cycle.
- Plant some fields to non-Bt-CRW varieties and use either a granular soil insecticide or the 1250 rate of seed treatment. Liquid insecticides in the popup fertilizer are not effective and not recommended. 🛠

Cover Crop Induced Insect Problems

Elson Shields, Entomology Department, Cornell University

The increased adoption of cover crops as a soil conservation and soil health building strategy is not without increased risk from insect pest problems. Increased insect pest risk can be managed with a combination of timely killing of the cover crop, pest scouting, and additional timely application of insecticide.

The best-case scenario for the management of the cover crop to reduce insect risk is to kill the cover crop far enough in advance that the cover crop is completely dead prior to the planting of the crop. Foliar feeding insects often can survive on the dying cover crop, and if the new crop emerges before the cover crop is completely dead, the foliage feeding insects simply move from the dying cover crop onto the newly emerged and tender crop plants. This is termed a green bridge.

The worst-case scenario for insect risk is to plant into a green cover crop which has been rolled prior to planting and then sprayed with an herbicide to kill it after the crop has been planted. This provides an excellent green bridge for the insects, like black cutworm larvae and armyworm larvae, to move directly onto the newly emerging crop.

Cover Crop Bridging Insects:

Black cutworm: Black cutworm is a long-ranged migrant which overwinters in the southern US. Moths typically arrive in NY during mid-April to early-May on the early weather systems. Moths are attracted to grassy areas, grassy cover crops, grass waterways, and fields with grassy weed problems. Eggs are laid on these plants and larvae begin feeding on these plants. In the situations where producers kill the cover crops or grassy weed areas with herbicide or tillage, the black cutworm larvae continue to feed on the dying plants for 1-2 weeks. When corn seedlings start emerging, the existing larvae then move from the dying plants onto the growing corn.

Since black cutworm larvae do not start their cutting behavior until mid-size (L4), the early larval development on the grassy weeds is a critical association with the economic association of black cutworm to seedling corn. In the situations where eggs are laid on emerging corn, corn development to V6, a stage where black cutworm has difficulty cutting ,occurs before the black cutworm develops to the larval stage where they begin cutting (L4).

Since black cutworm larval development on existing plants in the field prior to the planting and emergence of the corn is a critical component in the development of economic infestations, the management of the green plants prior to corn planting is important. Elimination of the green bridge between the cover crop and/or grassy weed cover at least 2 weeks before the emergence of corn seedling dramatically reduces the risk of a black cutworm infestation in NY corn fields. If the separation between the killing of the cover crop/grassy weeds and the emergence of the corn crop cannot be at least 14 days, the corn seedlings need to be scouted for the presence of foliar feeding, early cutting and the presence of larvae. To the trained eye, pre-cutting foliar feeding is very obvious and easily detected.

Armyworm: Armyworm is a long-ranged migrant similar to black cutworm, but often arrives 15-30 days later in NY. It overwinters in the southern US, and the moths emerging in April in the south use weather systems to move long distances. When the moths arrive, they are attracted to grass hay fields or grassy cover crops. If the eggs are laid in the hay field, larvae will feed on the grass and only move when the field has been stripped, thus the name armyworm. Neighboring corn fields are then attacked by the larger marching larvae. When eggs are laid in a grassy cover crop, the larvae will feed on the cover crop until it is stripped before moving. If corn is emerging in the cover crop, they will simply move onto the young corn plants. Armyworm larvae are totally foliage feeders and do not cut plants like black cutworm. With timely scouting, this insect is easily controlled with an application of foliar insecticide. Usually, the infestation is missed until the field is stripped and the larger larvae are moving into a neighboring field.

Seed corn maggot: Seed corn maggot (SCM) adults (flies) are attracted to decomposing organic material. This organic matter can range from animal manures to decomposing plant material/ killed cover crop. Fresh decomposing organic matter is more attractive to the flies for egg deposition than composted organic matter; although, SCM will also lay eggs in composted organic matter. Adult flies are present for egg laying from early May until late September. The highest risk fields for SCM problems would be a green manure crop covered with a thick layer of animal manure prior to planting the crop. High manure application rates without thorough incorporation before planting of large seed crops is a high SCM risk field. Damage from SCM is plant stand reduction, and without insecticide protection, plant stands can be reduced 30%-80%. The primary reason for insecticide treatment (Poncho, Cruiser, etc) on large seed crops (corn, soybeans) is protection against SCM-related plant stand loss. Under extremely heavy SCM pressure, the insecticide seed treatment can be overwhelmed, resulting in corn/soybean stand losses.

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To reduce risk from SCM, cover crops should be killed and allowed to turn brown before planting the season's crop. In addition, applications of manure should be subsurface rather than surface applied.

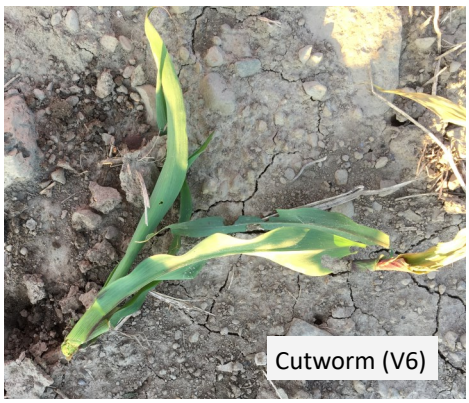
Wireworms: Adult wireworms (click beetles) are attracted to small grains, grass fields, run-out alfalfa fields which are mostly grass, and grass-based cover crops. Adult beetles search out these hosts during the growing season (June-August) and lay eggs. The larvae (wireworms) hatch and feed on a wide array of roots for multiple years. In cropping sequences where grassy/small grain/cover crops are present in the field during the June-August period, wireworms feeding on new seedlings and root crops can become an economic problem. While corn is technically a grass, wireworms do not find corn fields attractive for egg laying. However, small grains are very attractive. Generally, spring planted grains are more attractive than fall planted grains which mature in early summer. In conventional production systems, the insecticide seed treatment generally is effective at reducing the impact of wireworm feeding. However, in the organic production system, there are no effective rescue treatments for wireworm infestations/ feeding damage. If grassy cover crops are the only grass in the cropping sequence, timely crop termination before June will reduce the attractiveness to wireworms for egg laying.

White grubs: In NYS, there are two different groups of white grubs which can be problematic. The first group is the native white grubs which have multi-year life cycles and the second group is the invasive annual white grubs (Japanese Beetle, European Chafer). Adults from both groups are attracted to grassy habitats to lay their eggs during mid-June to mid-July. Eggs hatch during August, and the larvae begin to feed on grass roots. In the case of the invasive annual white grubs, the larvae grow quickly and achieve more than 50% of development before winter. In the spring, the larvae resume development and are quite large when the grassy field is rotated to corn or soybeans and the new plants are quite small. Plant death is caused by these large larvae feeding on plant roots faster than the plant can generate roots. Larvae become adults in June and the cycle repeats. In the case of the native multiyear white grubs, the life cycle is similar but larval development requires 2-4 years depending on the species. Subsequent crops following the grassy/cover crop/ small grain field are then impacted differently. With annual white grubs, the damage to the subsequent crop is confined to the following year only. In the case of native white grubs, subsequent crops could be impacted up to 4 years with declining damage levels each year.

The following two different cropping scenarios seem to place subsequent crops at higher risk. The most common case is the alfalfa field which has become mostly grass or a grass hay field which is then rotated into a large seed crop like corn or soybeans. The second scenario is the field which has been planted to a grass-based cover crop and not killed during the June-July egg laying period. In most cases, the insecticide seed coating on all corn and some soybean seeds reduce the impact of white grubs on subsequent crops. High white grub populations can overwhelm the insecticide, however.

Slugs: Increasing the organic soil cover with either the use of cover crops or last year's crop waste increases the slug problem. In cool wet springs, which slow plant emergence and growth, damage from slug feeding can be severe. There is a little anecdotal evidence to suggest the presence of green cover reduces the slug damage because of the surplus of green tissue. In these cases, slugs miss the newly emerging plants and feed on the green cover crop.

Slug feeding on corn


Cutworm (V6)

Are You Robbing Your Pastures to Feed Your Livestock?

Noted Grazing and Grass-fed Consultants to Speak

March 29th begins with lunch at 12:00 pm.

Location: Dryden Fire Hall: 26 North St, Dryden, 13053

Cost: $5 per person, includes lunch.

Dairy Grazing Apprenticeship Masters and Apprentices will have their lunch covered by the New York Organic Dairy Program.

Contact Fay Benson at afb3@cornell.edu for more information.

Corn Silage and Grain Yield Monitor Data Cleaning

Tulsi Kharel, Sheryl Swink, Connor Youngerman, Angel Maresma, Karl Czymmek, and Quirine Ketterings
Cornell University Nutrient Management Spear Program

Calibration of yield monitors during the harvest season is essential for obtaining accurate yield data but even if calibrated properly, the data obtained from the yield monitors still need to be "cleaned". Yield monitor values recorded are estimated based on:

1. Distance (inches or feet) travelled by the harvester during data logging time period.
2. Width (inches or feet) harvested during each logging time period.
3. Silage or grain flow (mass) measured by the equipment's flow sensor per logging time period (lbs/second).
4. Moisture content (MC in %) of the harvested mass as measured by a moisture sensor per time period.
5. Logging interval of the yield monitoring system (seconds).

Errors that impact the accuracy of the yield data occur in multiple ways. The distance the combine/chopper travels during a time period and the width give the area required for yield calculation. If a combine is not equipped with a harvest swath width sensor, the default will be the chopper/combine width and that can cause errors when fewer rows are harvested than the equipment width. Another source of error is the delay time of grain or silage moving from the chopper/combine head to the flow rate sensor. Flow rate sensors, moisture sensors, and Global Positioning System (GPS) units are located in different places on harvest equipment and since it takes some time for harvested silage or grain to travel to the sensors, adjustments need to be made (this is called delay time correction). Each harvest pass will be affected by this delay correction, independent of whether a new pass starts from one end of the field or from somewhere within the field (in situations where the harvester is paused during harvest). The delay time itself is related to the speed of the combine/chopper as well, which may introduce another source of error.

Combines and forage choppers are calibrated for a certain velocity range. If the velocities that are recorded fall outside the calibrated range, flow rate and yield values associated with those points are no longer trustworthy and should be removed from the data. Similarly, abrupt changes in velocity affect the flow rate, resulting in erroneous yield calculations for logged data points. Other easily trackable errors are logged data points with zero grain or silage moisture; this may occur as the chopper or combine enters the field or pauses mid-field while the silage or grain flow has not yet reached the moisture sensor.

Last but not least, if the operator does not raise the combine/chopper head after completion of a pass, the pass number will not be updated in the logged dataset. Cleaning of data that are obtained this way will take additional effort, so *lifting of the combine/chopper head while turning in the field is recommended*.

The use of raw data without proper cleaning can lead to substantial over- and under-prediction of actual yield depending on the field and harvest conditions, especially for corn silage yield data. Figure 1 shows this in more detail for a number of fields. Look at a 20 ton/acre corn silage yield (cleaned yield) for the fields in this figure, and you will see that the raw data corresponding to this cleaned yield can range from 15 to 37 tons/acre! The raw data for many of the fields in this figure overpredicted yield, while for a number of other fields it actually underpredicted. Thus, data cleaning is absolutely necessary.

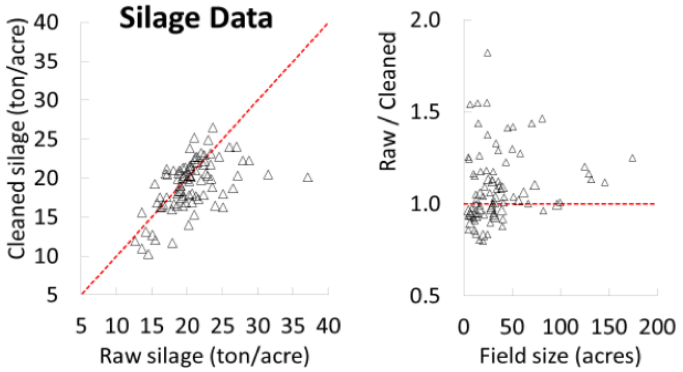


Figure 1: Not cleaning yield monitor data can result in large over or under predictions of actual corn silage yield.

In the past months, the Cornell Nutrient Management Spear Program, in collaboration with colleagues at the University of Missouri, the United States Department of Agriculture-Agricultural Research Service (USDA-ARS) Cropping Systems and Water Quality Unit, Columbia MO, and the Iowa Soybean Association, evaluated cleaning protocols to develop a standardized and semi-automated procedure that allows for cleaning of datasets for whole farm yield data recording.

The protocol developed for whole-farm data cleaning calls for unfiltered or "raw" harvest data files that are downloaded from the yield monitor with corresponding field boundary files. These files are read into the Ag Leader Technology Spatial Management System (SMS) software to preview the yield map and reassign any harvest data that might show up in the wrong field. Next, the individual field harvest data are exported as Ag Leader Advanced file

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format. The yield map files are then imported into Yield Editor (https://www.ars.usda.gov/research/software/download/?softwareid=370) for cleaning. Yield Editor is a freely available software developed by the USDA-ARS. The software allows for use of different 'filters' to remove the errors mentioned above. The final step in the cleaning protocol is deletion of data points with a moisture content <1 % for corn grain and <46 % for corn silage, which can be done in Yield Editor or in MS Excel or other sortable spreadsheet program. This final step is particularly important for obtaining accurate corn silage yield data.

A step-by-step protocol for cleaning individual field datasets and batch processing of harvest data from growers with large numbers of corn silage or grain fields is described in a manual that is available for downloading from the Yield Database page (http://nmsp.cals.cornell.edu/NYOnFarmResearchPartnership/YieldDatabase.html) on the Cornell Nutrient Management Spear Program website.

Farmers with an interest in sharing corn silage and/or grain yield data with the Nutrient Management Spear Program for updating of the Cornell University yield potential database are invited to get in touch with us. The protocols for data sharing are available at the same weblink listed above. If interested in training sessions on the cleaning protocol this winter, contact Quirine M. Ketterings at qmk2@cornell.edu oe 255-3061 or visit the Cornell Nutrient Management Spear Program website at: http://nmsp.cals.cornell.edu/. 🛠

Acknowledgments

We thank the farmers and farm consultants that supplied data for this project, and our NMSP team members and colleagues in Missouri and Iowa for working with us on the protocol.

Cont'd from page 6—Dairy Farming

Why are the rates so much higher for farmers? Suggested causes include: social isolation, potential for financial losses, barriers to and willingness to seek mental health services, and access to lethal means.

What can you do?

- **Start the discussion.** Have a family meeting, a partners meeting, or a team meeting. How is everybody doing, what are your concerns, do you have ideas you want to share? If it's easier, have people put things in writing. There are lots of ways to have positive communication so find one that works for you. Work with a moderator to help the flow of the conversation and to prevent one person from taking over or shutting others down. The moderator could be a trusted business consultant, an extension educator or a member of the clergy.

- Be a friend, a neighbor, a caring person. If you know someone who is struggling, let them know you are there for them. We all need some encouragement, someone to vent to and some who cares about us. Be that person.

- Reach out for help. FarmNet, 1-800-547-FARM (3276), Cornell Cooperative Extension, and local clergy are all options to reach out to if you want to have a one-on-one conversation.

- National Suicide Prevention Lifeline, 1-800-273-TALK (8255) or Live Online Chat. If you or someone you know is suicidal or in emotional distress, contact the National Suicide Prevention Lifeline. Trained crisis workers are available to talk 24 hours a day, 7 days a week.

When asked why they are still farming? Most farmers will tell you, it's their heritage, a love of the land, a passion for working with animals, the feeling of feeding the world. What every it may be, farmers are one of the most honest, dedicated and caring groups of people in this world. 🛠

Spring Safety Meeting with DDSC

When: March 9

Time: 9:00 a.m. Registration

9:30-3pm Program

Location:
NYS GRANGE
100 Grange Place,
Cortland

Cost: $10 at the door, includes lunch

This meeting is targeted at both experienced and new farm workers who are spreading manure and operating trucks and agricultural equipment in fields and on highways.

To register, contact Stephanie Vitarelli at sav66@cornell.edu, or call 607.391.2662.

This workshop meets requirements for CAFO training.

Why Should You Grow Multiple Types of Forage Grasses for Grazing Animals?

By Kathy Voth, Editor, On Pasture

Thanks to Jesse Morrison of Mississippi State** (http://www.pss.msstate.edu/associate.asp?id=152) **and the Soil Science Society of America** (https://soilsmatter.wordpress.com/) **for this article!

Although it might seem like grazing animals will eat any grass in the field, they are actually picky eaters. They prefer a "buffet" of grass choices. And while it's good for the grazing animals, growing a variety of forage plants in the field also benefits the plants, the soil, and the environment.

Most of their grazing time, grazing animals are making decisions about what to eat with every bite. Luckily for the animals, they don't normally have only one option for their meal in a pasture setting. Growing multiple plant species in the same space at the same time, *polyculture*, is the norm in pasture grazing scenarios.

Usually, perennial grasses serve as the primary component in pastures for grazing. Most polyculture systems add in annual species because of their flexibility and low cost of establishment compared to their perennial counterparts. Using legumes (clovers, alfalfa, and peas) can increase protein and nutrients in the available forage. Including legumes also supplies the plants in the pasture with naturally produced nitrogen fertilizer.

Another tactic for forage systems is to add in brassica plants. Root crops like turnips, kale and radishes grow well into the colder months. This extends the grazing season with high quality, nutritious forages. Turnips and radishes also break up the soil with their strong and hardy roots. This helps reduce soil compaction, and helps the overall soil environment.

Creating combinations of different species and life cycles is good for the plants themselves and the animals they feed. It's also good for the ecosystem that they live in. Research has shown that as we increase the diversity of plant species (called *biodiversity*) in a pasture, we generally see the diversity of other species increase, too. This increase in biodiversity includes everything from soil organisms and insects to songbirds and small mammals like rabbits and chipmunks.

Along with increasing biodiversity, another ecosystem service that polycultures provide is nutrient management. Just like different children eat different amounts of food – even in the same household – plants use different amounts of nutrients from the soil. The possible combination of nutrient uptake qualities in a polyculture allow for increased nutrient management throughout the entire year. This means fewer soil nutrients being transferred from the pasture to surrounding creeks, ponds, lakes and even the groundwater.

One of the most valuable characteristics of polyculture systems is also difficult to measure. Polyculture systems offer producers a kind of "insurance policy." By combining different species – and even different varieties – in polyculture, a producer's pasture is better protected from a variety of inclement conditions. One specie might do well in flood conditions; another does well in drought. Some varieties are bred for insect, fungal and/or viral infestations. Having a variety of plants in your forage fields can give growers some peace of mind.

Polycultures can help producers feed their animals more diverse and nutritious diets. The variety of plants in polyculture lowers the risk of any one type failing to feed producers' animals. The biodiversity of the entire grazing system is increased with polyculture, which is good for the environment. What more could you ask for? 🛠

Alfalfa provides the soil with nitrogen, and the animals with protein. Photo by Jesse Morrison.

Mixing grasses in a forage field helps with soil biodiversity. Photo by Jesse Morrison

John May Farm Safety Fund

John May Farm Safety Fund Eligibility Requirements Expanded to Help More Farms!

What is new?
We have expanded our eligibility criteria to now include New York State dairy farms with up to 699 mature dairy cattle, as well as increasing the annual gross cash income to $349,999 for all farms!

About the program:
As the first program of its kind in New York State, this cost sharing program allows farmers to make lifesaving safety upgrades. "We're excited to integrate this program into the portfolio of health and safety services we offer to the agricultural community," says NYCAMH's Director, Julie Sorensen. "The John May Safety Fund (JMFSF) fills a gap in services to small farms, where slim profit margins often make it difficult to do more than what is needed to keep the farm running every day."

What kind of projects?
Any project that directly improves safety on the farm will be reviewed. Some examples include but are not limited to:
- The purchase and installation of equipment to improve animal handling safety
- Repairing or replacing broken or outdated machinery that poses a safety risk
- Repairing or replacing faulty electrical systems
- Making necessary changes to operations to become OSHA compliant
- Adding or replacing worn out safety signage

Who can apply?
The program is geared toward smaller farms of all commodities. Awardees must meet the following eligibility requirements:
- Resident of New York State
- Active farmer (part-time or full-time)
- Annual gross cash farm income is $10,000 - $349,999 OR dairy farm has fewer than 700 mature dairy cattle.

Where to apply and how it works:
Applications to the program may be submitted at any time and may be obtained online at http://www.nycamh.org/programs/john-may-farm-safety-fund/, by calling NYCAMH at (800) 343-7527 (ask for the John May Farm Safety Fund) or emailing info@nycamh.org. The number of awards and the award amount will be determined by NYCAMH on a first-come, first-served basis.

Headlocks installed using JMFSF funds

Spotlight on Safety

The photo above is from Jason Detzel's beef farm. With funds from the JMFSF, he installed headlocks in an existing pen to enhance his animal handling system. At left, Jason and John VanDerwerken, NYCAMH Agricultural Safety Educator, shake hands at the completion of a follow-up safety survey, after the headlock system was installed.

Bassett Healthcare Network
New York Center for Agricultural Medicine and Health

Enhancing Agricultural & Rural Health by Preventing & Treating Occupational Injury & Illness

(800) 343-7527 info@nycamh.org

Would you bet the farm on red?

Natural disaster can strike at any time!

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

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

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

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

May 1: Nursery (field, container)

July 31: Forage Seeding (fall)

September 30: Barley (winter), Forage Production, Wheat (winter)

November 15: Apiculture, Pasture Ranchland Forage (PRF)

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

Monthly: Dairy, Swine (Livestock Gross Margin)

Learn how you can apply crop insurance to your risk management strategy and about crop insurance products available to New York farmers!

Visit: ag-analytics.org/cropinsurance

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CALENDAR OF EVENTS

Feb 21	**Organic Weed Management Topics** McClean Fire Hall, 2 Stevens Road, McLean	11am-2pm
Feb 23	**Hemp Workshop** @ NYS Farm Show Bistro Room-Art & Home Center Speakers: Joy Beckerman, Hemp Ace Intl; Jennifer Gilbert-Jenkins, SUNY Morrisville; Reuben Stone, Valley Bio Ltd.; Chris Logue, NYS Ag & Mrkts; and Professor Larry B. Smart, Cornell University	10am-12pm
Feb 27	**Farmer Appreciation Luncheon** Dryden Fire Hall, Dryden, NY	11am-2pm
Mar 6	**NOFA Organic Dairy and Field Crop Conference** Holiday Inn Syracuse/Liverpool Register online at: https://www.nofany.org/events-news/events/odfc-conference	
Mar 9	**Spring Safety Meeting** This workshop qualifes for CAFO training requirement NYS GRANGE: 100 Grange Place, Cortland *See page 16 for details*	9am-3pm
Mar 15 & 22	**Herd Manager Training**: *See page 6 for more details* Registration on line at: https://scnydfc.cce.cornell.edu/events.php?date=1 2018	9:30am-3pm
Mar 20	**SCNY Dairy Manager Discussion Group Tour to CNY** *See page 6 for details*	10am-3pm
Mar 20	**Farm Tour at Smith's Tre G Farm** 8183 US Route 20 Manlius, NY Tour will show how the farm designed paddocks to make grazing and robots compatible	10am-1pm
Mar 27	**Soil Health & Pest Management Workshop** ***DEC/CCA*** *credits available* Horseheads American Legion: 71 Old Ithaca Road, Horseheads	9:30am-3:30pm
Mar 29	**Are Your Robbing Your Pastures to Feed Your Livestock?** *See page 14 for details* Dryden Fire Hall	12-2:30pm