Planning for a Successful Calving Season
by Nancy Glazier

I know some farms have started their spring calving already, while others wait for warmer weather. Either way, I hope you have planned for success.

As much as I’m fed up with Zoom meetings, they have been great for attending workshops I normally wouldn’t. I recently heard Dr. Steve Boyles from The Ohio State talk on cow nutrition and the importance of feeding in the third trimester. Two-thirds of fetal growth occurs in the last 60 days. During this time cows and heifers really need high quality forage or appropriate supplementation. This higher plane of nutrition carries on into early lactation as well. To step back even further, I am assuming your cows went into winter with adequate body condition. Winter is NOT the time to get weight on them. We ended with a fairly decent grazing season so hopefully cows are at BCS 5-5.5 and heifers at 6 at calving.

Minerals are important and sometimes forgotten. Steve prefers loose minerals for his herd, making sure available in quantity needed and quality (protected from precipitation/elements).

Calving location is critical for healthy calves. Dr. Emily Dutton, Dutton Veterinary Services covered this topic in January. Barns need to be well ventilated, but not drafty with clean, dry bedding. This has stuck with me, if you kneel and your knees get wet, add bedding. Many farms calve on pasture. Depending on spring conditions this takes care of excellent feed (pasture) for dams and clean calving areas. The Sandhills system comes to mind. Cow-calf pairs are grouped by calf age (depending on herd size). The first division is done at 2 weeks from first calf’s birth. Pregnant cows are moved out of the group to clean pasture. Subsequent moves occur weekly. This is not always practical, so develop a system for your farm.

Dr. Dutton suggested having your calving kit ready to go with needed supplies: obstetrical lube, breeding sleeves, gloves, chains, and head snare. She reviewed the three stages of calving:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Preparation for parturition</td>
<td>2 to 24 hours (2-6 hrs. most common)</td>
</tr>
<tr>
<td>Stage II</td>
<td>Expulsion of fetus</td>
<td>1 hour (shorter for cows)</td>
</tr>
<tr>
<td>Stage III</td>
<td>Passing the placenta</td>
<td>8 to 12 hours</td>
</tr>
</tbody>
</table>

She made the point to know when to call the vet. How do you know? From experience. How do you get experience? From calving. It is best to talk with your veterinarian if you are inexperienced to get advice ahead of time. One issue can be an abnormally positioned fetus. Know what is considered normal. Quite often heifers have issues, but that is not always the case. Also, if stage II extends beyond the expected time, something may be wrong, and intervention is needed.

Calves should be up and about within an hour and nursing within 2 hours. Colostrum in the first and subsequent nursings need to occur within 24 hours for the antibodies to be absorbed. Research with dairy animals has shown these subsequent milkings may provide upwards of 75% of immunoglobins. If the calf is not nursing for some reason, feed 2 quarts of colostrum replacer. Dr. Dutton suggested having a newborn toolkit stocked with towels, colostrum replacer, milk replacer, tube feeder, nipples and bottles, thermometer, and iodine navel dip.

This is a brief overview, if you’d like more information let me know.

Provide a clean, dry environment for calving. Photo: K-State Research and Extension, www.ksre.k-state.edu
To simplify information, brand names of products may be used in this publication. No endorsement is intended, nor is criticism implied of similar products not named.

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Changes occur constantly & human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying pesticides.

By law and purpose, Cooperative Extension is dedicated to serving the people on a non-discriminatory basis.
Planning for a Successful Calving Season
by Nancy Glazier ..............................................1

Employee Engagement is the Key to Successful Farm Meetings. But How?
by Kaitlyn Lutz ....................................................5

Where do We Stand with the 2022 Wheat Crop?
by Mike Stanyard .................................................7

NE Hemp Value Chain Participants Identify Priority Sources of Risk, and Discuss Risk Management Strategies
by John Hanchar & Lindsey Pashow ..........................8

An Urgent Request: Farm Employers Urged to Respond to Labor Management Survey
by Rich Stup ......................................................11

Pricing for Profit: An Introduction to the Cornell Meat Price Calculator
.................................................................11

Understanding and Mitigating Lameness Workshop
.................................................................12

Cattle are Part of the Climate Solution
by Margaret Quaassdorff ....................................13

For your always growing side.
As a Farm Bureau member, you may be eligible for a discount on your farm insurance from the #1 farm insurer.

Let me know how I can help protect your farm or ranch.
GLOBAL GREEN INSURANCE AGENCY
315-946-6022
DAVIDM@GRIAUSA.COM

1941 Farm Bureau, 2017 (National) Market-Oriented Service Product underwritten by Nationwide Mutual Insurance Company and Affiliated Companies. Home Office Columbus, OH 43215. Subject to all underwriting requirements, terms, and conditions. Products and discounts not available to everyone in all states. Nationwide, Nationwide: You’re in good hands® and Nationwide Service are service marks of Nationwide Mutual Insurance Company. The Farm Bureau and the letters FB are registered service marks of American Farm Bureau Federation and local state Farm Bureau

In-Stock, Order Early
Free Delivery in WNY
Call Today!

Tom Frederes
Cell: 716-485-6454
Office: 1-833-FORAGE1
tomfrederes@gmail.com
FULL-SERVICE MACHINESHOP

- Gas Engines * Diesel Engines * Natural Gas Engines * Heavy-Duty Machining

**Engine Assembly & Machining**

- Boring Honing * Decking Line Boring * Magnafluxing *
- Crank Shaft Balancing * Crank Welding & Grinding * Flywheel Resurfacing

2905 Simpson Road, Caledonia, NY 14423  585-538-4395

WWW.CALEDONIADIESEL.COM
Employee Engagement is the Key to Successful Farm Meetings. But How? by Kaitlyn Lutz

As I’m settling into my job here with the NWNY team I am getting the opportunity to sit in on more employee meetings as a translator. I have found it a great way to get a sense of a dairy and a helpful exercise in determining what resonates with employees versus what leaves them frustrated or disconnected.

It’s timely to therefore talk about how to engage employees in these meetings as our industry continues to face new challenges such as overtime regulation. As we focus on labor efficiency and retention with a renewed importance, consider these ideas to get more from your employee meetings.

Listen more

Consider these scenarios:

Moocho Milk Dairy:
Our SCC has been increasing over the past 2 months. I’m frustrated because you have all been trained on our milking procedure and why it’s important. I need you guys to do a better job at cleaning teat ends or else no one will be getting bonuses.

Green Acres Dairy:
As you guys know, our SCC has been increasing over the past 2 months. I know you all work hard to follow our protocols and I’d like to hear your ideas as to why we’re having this problem?

Which one makes you feel more valued? The point here is to engage your employees by listening to them and showing them that you respect their opinion and recognize their efforts. The other benefit of this style is it generates solutions as a team, giving employees more ownership over their work. The outcome? More motivation and accountability.

Specific Positive Feedback

While much feedback is given individually outside of a meeting setting, it can be valuable to give specific positive feedback during group meetings. A common mistake is for meetings to focus on the negative and end with a vague positive comment to the group. Stop running into gates with the skid steer! Don’t push cows! Feed colos-

trum faster! But thanks for working hard, great job guys!

This often comes off as insincere and causes employees to shut down. Consider thinking of a few specific, timely points to encourage your employees with positive feedback in the next meeting.

Timeliness

This one ties in with feeling valued. We all know time is valuable and we should treat our meetings as such. Often meetings run very long and become unproductive when employees feel like their only opportunity to communicate with their manager is in the meeting. Create opportunities for employees to communicate with their manager outside of meetings. Weekly or monthly meetings work well to keep the communication going and keep on-task.

Agenda

A piece of advice from Dr. Rich Stup, director of Ag Workforce Development, is for managers to keep a standing agenda. If you have the same basic agenda at each meeting this takes the stress off the manager to prepare a new agenda each time and helps employees know what to expect.

Follow up

A common frustration of employees is a lack of follow-up after meetings. Make sure to write a list of action items after meetings. Don’t be afraid to delegate when appropriate. Often employees are happy to help fix problems if they have the tools to do so.

Timelines for follow-up are also key. If employees know when to expect the crowd gate to be fixed, for example, they are less frustrated, even if it takes time for the part to come in.

Final Thoughts

If you are having trouble with meetings becoming gripe sessions, consider inviting a meeting facilitator (i.e., consultant, extension agent). As employee engagement increases, you’ll see this pattern change. So, pick something to try at your next meeting!

Lastly, if you have trouble with communicating because of language, meetings with a translator can help both parties be fully heard. Feel free to reach out to Kaitlyn at any time for assistance with your next meeting!
• We support our local NY corn farmers by providing competitive bids for your old and new crop corn, including on-farm pricing. Payment within 2 days.

• Give us a call to discuss our high protein (32%+), low fat Dairy Distillers Grain.

• Bulk commodity and grain transportation services available through our subsidiary, Shelby Transportation. Give us a call for a transportation quote.

Call now for more information:
Corn: (866) 610-6705
Distillers Grain: (315) 247-1286
Shelby Transportation: (585) 798-6696
It seems like spring is so far away but before you know it the wheat will be waking up and green-up will be here. At the Soybean and Small Grains Congress in February, I gave a Small Grains Summary of 2021-22. Let’s take a look at where the 2021 winter wheat ended up and how the 2022 wheat crop went in and looked going into winter slumber. What issues could we be facing?

In 2021, New York’s winter wheat crop looked phenomenal. Record yields were predicted. The first early wheat began to come off over the fourth of July weekend. Wheat yields were big, test weights and falling numbers were very high and moistures were above 20%. Things went sharply downhill from there. The rainstorms kept coming and most of our wheat suffered from pre-harvest sprout. Despite a NY record average wheat yield of 77 bushels per acre, most of our wheat was feed grade.

Another year is behind us and it is time to look forward to the 2022 wheat crop. USDA National Ag Statistical Service (NASS) NY Field Office estimates wheat planting on a weekly basis. About 34% of the wheat acreage went in September, 51% in October and 6% in November. So, 91% of the wheat crop got planted and 85% was emerged on USDA’s last report on November 28. So, how did it look? We know that there was plenty of rain in late September and October. USDA NASS NY estimates put the final crop at 51% in good to excellent condition, 42% in poor to fair condition and 7% in very poor condition. This lines up close to what I saw and heard from growers. In comparison, 74% of the last year’s crop was in good to excellent condition.

The Winter Wheat Seedings and Grain State Report estimates were done during the first two weeks of December. It estimates the planted area for harvest in 2022 at 130 thousand acres. This is down 16% from 2021 and 13% down from 2020.

There has been plenty of snow to keep the new wheat crop protected under a blanket this winter. This should limit some winterkill. Growers should keep a close eye on some of the marginal fields, check on tiller counts this spring and see if it is worth keeping them. Despite high nitrogen prices, we want to make sure the good to excellent fields get the nitrogen they need to maximize yields. It looks like wheat prices will be favorable again this year.

I feel that weed control will be an issue in many fields this spring. I know of a few farms that got some spraying done late this fall, but not many. A lot of fields have lower tiller counts and holes due to saturated soils. It was easy to see where the low spots were. Even some areas and fields that were replanted did not take well. A delay in canopy closure and open areas will allow more light to reach the soil and benefit weed growth and emergence. There may be more than normal winter annuals like chickweed, purple dead nettle and mustards not to mention fall germinated marestail and roughstalk bluegrass waiting for us this spring. Herbicides like Osprey Xtra® for bluegrass and cheat and Huskie® for marestail may be a good idea to add to your normal weed control program.

I always like to plug the National Wheat Yield Contest. We had a few growers enter last year but no one could make the grade requirements at harvest. You can view all the rules and register here, [https://wheatfoundation.org/projects-programs/national-wheat-yield-contest/](https://wheatfoundation.org/projects-programs/national-wheat-yield-contest/). The contest is set up similar to the National Corn Yield Contest and everything is online. Entry is $100 by April 15 or $125 by May 16. I know we can be competitive in this contest. Below are the 2021 national winners for the winter wheat dryland section.

<table>
<thead>
<tr>
<th>Place</th>
<th>Name</th>
<th>City</th>
<th>State</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bin Buster</td>
<td>William Willard</td>
<td>Frederick</td>
<td>MD</td>
<td>141.41</td>
</tr>
<tr>
<td>1st</td>
<td>Jeffery Krohn</td>
<td>Owendale</td>
<td>MI</td>
<td>140.55</td>
</tr>
<tr>
<td>2nd</td>
<td>Brian Kreider</td>
<td>Lebanon</td>
<td>PA</td>
<td>140.43</td>
</tr>
<tr>
<td>3rd</td>
<td>Douglas Goyings</td>
<td>Pauling</td>
<td>OH</td>
<td>138.27</td>
</tr>
<tr>
<td>4th</td>
<td>Michael Ebelhar</td>
<td>Loretto</td>
<td>KY</td>
<td>126.07</td>
</tr>
<tr>
<td>5th</td>
<td>Tyler Ediger</td>
<td>Meade</td>
<td>KS</td>
<td>125.66</td>
</tr>
</tbody>
</table>
NE Hemp Value Chain Participants Identify Priority Sources of Risk, and Discuss Risk Management Strategies by John Hanchar and Lindsey Pashow, Cornell University/College of Agriculture & Life Sciences and CCE

Summary

- Risks and uncertainties faced by hemp value chain firms make entry, production, marketing, and related decisions difficult.
- Understanding risks and their management increase the likelihood of making the best decisions.
- Value chain participants identified marketing, legal, and financial risks as the top three of five risks that challenge firms, and identified strategies for mitigating these risks—prominent strategies for summary purposes follow
  - improve information and knowledge gathering and dissemination functions (note here, the relationship between information, knowledge and market efficiency from economics, the important role of information)
  - identify best management practices for establishing and executing effective contracts among hemp value chain firms
  - identify workable cooperative efforts for obtaining inputs (goods and services) for growing, harvesting, marketing, etc.

Background

Agricultural producers and their families in the Northeast express interest in alternative crops for the purpose of enhancing the economic viability of their businesses. Helped by state and federal actions producers now consider hemp enterprises as alternatives. Regarding entry and size of the enterprise decisions, risks and uncertainties negatively affect the viability of hemp enterprises. Understanding risks and their management increase the likelihood of making the best decisions regarding hemp enterprises. A Northeast Extension Risk Management Education (NERME) funded project is underway to improve understanding of five agricultural risks—production, marketing, human resources, legal, financial.

Priority Risks, Underlying Reasons, Possible Responses/Remedies

By way of a web based survey, small group listening sessions and other activities, about 60 project participants from points throughout the hemp value chain applied what they learned about managing hemp value chain risks to: identify three risks of top priority; understand underlying reasons; and suggest possible management strategies. Participants identified 3 risks of greatest priority—marketing, legal, and financial. In addition, participants provided thoughts regarding underlying reasons, and possible remedies (Table 1 on the following page). Suggested remedies reflect the following risk management strategies: avoid, retain, reduce, self-insure, shift, and acknowledge the interactions among all five sources of risk.

Next Steps

Guided by information from Table 1 and other resources, project members will work with small industry groups to evaluate possible remedies, and develop plans for implementing responses.

Questions, comments, suggestions regarding this work? Please contact John Hanchar, Cornell University/College of Agriculture and Life Sciences, jjh6@cornell.edu or (585) 233-9249.

This material is based upon work supported by USDA/NIFA under Award Number 2018-70027-28588.
# NE Hemp Value Chain Participants Identify Priority Sources of Risk, and Discuss Risk Management Strategies

Table 1. Description, underlying reasons, and possible remedies by priority risk, NE hemp value chain participants, NERME funded project, 2021.

<table>
<thead>
<tr>
<th>Description statement</th>
<th>Marketing</th>
<th>Legal</th>
<th>Financial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfavorable risk and uncertainty associated with prices received (range of prices is large) and quantity marketed (ability to get product out there)</td>
<td>Unfavorable risk and uncertainty regarding laws, regulations, standards, contract execution, and effects</td>
<td>Unfavorable risk uncertainty associated with financial performance, and with the availability and costs of financial goods &amp; services [emphasis, meeting capital needs]</td>
<td></td>
</tr>
<tr>
<td>Underlying reasons, factors, explanations</td>
<td>-Lack of control, market influence</td>
<td>-Laws and regulations can restrict, restrain value chain growth and efforts to improve efficiencies</td>
<td>-Financial risks are a function of marketing and legal risks, see columns 2 and 3</td>
</tr>
<tr>
<td></td>
<td>-Difficult to get product out there: legal standards for product not met, desired quality standards not met</td>
<td>-Difficult license renewal process</td>
<td>-Hemp value chain firms face a unique risk and uncertainty environment when compared to other farm production, processor, retailer value chains, these affect availability and costs of financial goods and services [emphasis, meeting capital needs]</td>
</tr>
<tr>
<td></td>
<td>-Absent or ineffective contracts</td>
<td>-Difficulty achieving clarity regarding laws, regulations, standards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Difficult to determine price points, reliable prices received and quantities marketed expectations for decision making [the value and availability of information]</td>
<td>-Less than ideal ability to adequately understand the situation and outlook regarding the legal, regulatory environment (information delivery)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Availability, costs relative to margins of goods and services (inputs) undesirable</td>
<td>-Absent or ineffective contracts</td>
<td></td>
</tr>
<tr>
<td>Possible remedies, solutions, responses</td>
<td>-Vertically integrate</td>
<td>-Better understand the characteristics of well written contracts to ensure compliance</td>
<td>-Please see columns 2 and 3 for responses to marketing and legal risks, expect these to contribute to a more favorable financial risk management environment</td>
</tr>
<tr>
<td></td>
<td>- Better understand the characteristics of well written contracts to ensure compliance</td>
<td>-Evaluate information availability and delivery via a more effective information network (CCE as an information broker between source and user, see Smart et al. and Ullrich)</td>
<td>-Identify optimal production practices [emphasis, genetics] for maximizing viability</td>
</tr>
<tr>
<td></td>
<td>-Increase capacity to determine price points (expected prices received and costs of production information)</td>
<td>-Understand and accept that a changing legal, regulatory environment is the nature of the industry right now, think critically regarding entrance, exit, size of enterprises</td>
<td>-A more effective information network</td>
</tr>
<tr>
<td></td>
<td>-Identify, develop testing capacity to ensure product quality</td>
<td></td>
<td>-Adopt an effective, efficient, persistent approach to secure inputs [emphasis, meeting capital needs]</td>
</tr>
<tr>
<td></td>
<td>-Identify, develop optimal hemp varieties [those that don’t go “hot”]</td>
<td></td>
<td>-Establish a cooperatives approach</td>
</tr>
<tr>
<td></td>
<td>-Establish a cooperatives approach for securing inputs and for marketing purposes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
March 14, 2022 - Noon (CST)
“The details add up to high production”
Mark Hardesty, Maria Stein Veterinary Clinic

March 22, 2022 - 11:00am - Noon (ET)
Calfhood Disease: Neonatal Care to Maximize Health
Penn State Extension
https://tinyurl.com/Calf-Care

April 11, 2022 - Noon (CST)
“Focus on feed costs - the big 10”
Mike Hutjens, University of Illinois
An Urgent Request from Dr. Richard Stup, Cornell Agricultural Workforce Development:
Farm Employers Urged to Respond to Labor Management Survey

Many New York farm employers will receive a survey in the coming weeks in an envelope from our contractor, Michigan State University. This mailing is part of Cornell research about how changing labor markets and regulations are affecting the viability of farming in New York. The industry needs relevant and timely information from farms like yours to speak with authority about what is happening and find solutions for the future. We can’t do this without you!

My colleagues and I have already produced a preliminary report based on the participation of farms in related research last year, see “Effects of NY Overtime Laws on Agricultural Production Costs and Competitiveness.” The results from this study were used by policy makers, the press, and farm groups in the recent wage board hearings. We need your help to provide this type of work on a larger scale about farm labor management.

This work is important because:

1. New York’s agricultural industry needs this important data about how changing markets and regulations affect the industry and the people who work in it. This data can affect state policies and regulations directly, as evidenced by the current wage board process.
2. Cornell researchers and educators need this data to help improve human resource management and workforce development in New York. A well-trained workforce is key to a viable future for farming in our state.
3. New York’s labor challenges are not going away any time soon. We need data and insights to respond more proactively to challenges this year, and the next, and the next.

If you receive this survey in the mail from Michigan State, it is urgent that you respond. Fill out the paper survey with your farm information and return it in the provided envelope. If you need help, our Cornell team is ready to support you to complete the survey. Contact Rachel McCarthy (rpl4@cornell.edu or (607) 255-7871) to schedule assistance.

On behalf of the research team, thank you in advance for your participation in this study.

Rich Stup

Richard E. Stup, Ph.D.
Cornell Agricultural Workforce Development
College of Agriculture and Life Sciences and
The Charles H. Dyson School of Applied Economics and Management
Cornell University

Pricing for Profit: An Introduction to the Cornell Meat Price Calculator

Wednesday, March 16, 2022 | 6:30pm - 8:30pm
CCE Ontario - 480 N Main Street, Canandaigua, NY

Matt LeRoux, Extension Associate at Cornell University will introduce the new Cornell Meat Price & Yield Calculator, more comprehensive than the previous one. He has 20 years' experience serving farms through Cornell Cooperative Extension, non-profits, and consulting, working with produce and livestock farmers and food businesses. He developed the Marketing Channel Assessment Tool for produce growers and the Cornell Meat Price & Yield Calculator on MeatSuite.com.

Cost: $10 per person or $15 per farm/family

Pre-Registration is required by March 13, 2022 and payment can be made online or at the door. To register online visit our website https://nwnyteam.cce.cornell.edu

Questions? Contact Nancy Glazier at 585-315-7746 or email nig3@cornell.edu
Understanding and Mitigating Lameness Virtual Workshop

Virtual workshop via Zoom 10:00 am - 12:30 pm | March 22, 2022

Cornell Cooperative Extension and PRO-DAIRY are offering a virtual Understanding and Mitigating Lameness workshop for anyone who works with dairy cattle. The workshop will cover how to identify lameness, what factors cause lameness, and practical strategies to avoid and mitigate lameness on your dairy.

TOPICS

10:00 am - 10:15 am
**Economic impact of lameness**: A brief overview of the impact lameness has on farm profitability due to milk loss, delayed conception, and costs related to extra handling, treatment, and early culling.

10:15 am - 11:00 am
**Risk factors and best management practices**: Improving lameness in your dairy herd needs a multi-faceted approach. Presenters will discuss herd management and facility factors that are known risk factors for lameness and strategies to reduce lameness on your farm.

11:00 am - 11:15 am
**Foot baths**: A brief discussion on the best practices for implementing and managing footbaths.

11:15 am - 12:30 PM
**Effective lameness detection**: Early detection of lameness combined with a routine foot-trimming program is critical.

For More Information and To Register Visit: [https://cals.cornell.edu/understanding-and-mitigating-lameness](https://cals.cornell.edu/understanding-and-mitigating-lameness)

---

**LET US TAKE THE WORRY OUT OF TAX SEASON.**

Our specialists understand ag taxes so you don't have to.

Tax laws change every year. Especially ag taxes. That's why more producers rely on the tax specialists at Farm Credit East to do theirs. We know the ever-changing tax laws and requirements that are unique to agriculture. And we do our best to capture every deduction you're entitled.

This tax season, save both time and stress by working with Farm Credit East.

farmcrediteast.com | Batavia 800.529.1350
Net zero has been a topic that has been heating up in the dairy industry and in society overall. Both Dr. Frank Mitloehner and Dr. Sara Place made excellent presentations during our February 2022 two-day virtual conference “Net Zero for NY Dairy”, hosted by Cornell Cooperative Extension, PRO-DAIRY and Cornell CALS. Resources for NY dairy producers as well as speaker presentations are available for viewing: https://cornell.box.com/v/NetZeroNYDairy.

Dr. Mitloehner (Professor and Air Quality Extension Specialist, UC-Davis) presented on “Livestock and Climate” and gave the audience great insight into “rethinking methane”. To recap some of the key points of his presentation, methane (CH₄) is a greenhouse gas (GHG) emitted from various sources including fossil extraction, wetlands, manure lagoons, and ruminant animals. Traditionally when measuring methane’s impact on the climate, it is done so by comparing it to carbon dioxide (CO₂), the most abundant GHG in the atmosphere. The way that the two have been compared, using CO₂ equivalents does not reflect the way that they contribute to climate warming.

Current standards set by a metric called GWP₁₀₀ (global warming potential 100) in 1990, say that 1 molecule of CH₄ is equal to 28 molecules of CO₂ over 100 years. However, GWP₁₀₀ simply measures methane’s CO₂ equivalents and overlooks how methane behaves. Methane, as it turns out, lives in the atmosphere for approximately 12 years versus carbon dioxide’s 1000 years. This is why methane is considered to have much less warming power after it is emitted versus CO₂.

GWP* (GWP star) is a new metric out of the University of Oxford that assesses how an emission of a short-lived GHG affects temperature. It accounts for methane’s short lifespan, including its atmospheric removal. Moving forward, this should be the metric to replace GWP₁₀₀ which overestimates methane’s warming impact of constant herds by a factor of 4, and overlooks its ability to induce cooling when CH₄ emissions are reduced. As highlighted in the white paper, Pathway to Climate Neutrality for U.S. Beef and Dairy Cattle Production, by Drs. Place and Mitloehner, “the U.S. cattle industries should set emissions reductions goals and targets on a basis of achieving net zero warming defined as 0 CO₂ warming equivalent emissions, rather than net zero as defined by 0 CO₂ equivalent emissions.”

Methane from cattle is considered part of the biogenic carbon cycle. The carbon from CO₂ captured by plants during photosynthesis as carbohydrates, can be consumed as feed by the cow, and released as methane via eructation (burping) during rumination or in the manure. After 12 years in the atmosphere, that methane is again oxidized and broken down again to CO₂ that is pulled by the plants, which the cow eats. This is a very different travel path than carbon coming from fossil fuels which are not part of this cycle. Dr. Mitloehner suggests that if we were to keep our herd size constant, the amount of methane produced and destroyed balance each other out, meaning no additional warming. This is because methane is considered a flow gas (emitted and destroyed) versus carbon dioxide, which is considered a stock gas continuously accumulating in the atmosphere. Furthermore, if we reduce methane from cattle with feed additives, digesters, with soil health practices in our cropping systems it is possible to generate short-term cooling. Methane reduction of 25% has been accomplished in California via manure management changes. Though every mitigation strategy may not be feasible to every farm, the industry as a whole is looked to by the Paris Agreement to be partners in limiting global warming to less than 2 degrees Celsius (UNFCCC, 2021). Details, definitions, and more information can be found on the White Paper: Pathway to Climate Neutrality for U.S. Beef and Dairy Cattle Production as well as on the CLEAR Center website: https://clear.ucdavis.edu/news/climate-neutrality.

From Dr. Place’s presentation she reiterates that climate neutrality for dairy cattle production nationwide is likely possible and technically feasible. Both scientists agree it will require new innovations and making sure that the sustainability of our farms, including economic viability, is a focus. Both beef and dairy cattle produce a critical source of nutrition for people. In addition, in striving for net zero warming, their contribution to sustainability as ruminants that optimize land use, upcycle human by-products, and produce natural fertilizer, as well as generate infrastructure that supports communities is not to be taken lightly.

(Continued on page 14)
Cattle Are Part of the Climate Solution

(Continued from page 13)

https://clear.ucdavis.edu/explainers/biogenic-carbon-cycle-and-cattle

Biogenic Carbon Cycle

Photosynthesis
Carbon dioxide (CO₂) is captured by plants as part of photosynthesis

Hydroxyl Oxidation
Methane (CH₄) is converted into carbon dioxide (CO₂) after 12 years through hydroxyl oxidation

Cow manure and belches release carbon (C) as methane (CH₄)

Carbon (C) is stored as carbohydrates in plants and consumed by ruminants

https://clear.ucdavis.edu/explainers/biogenic-carbon-cycle-and-cattle

PRESENTATIONS:

Dr. Craig Louder
Targeted Approach for Trace Mineral Supplementation for the Transition Cow

Dr. Sarah Stocks
Nutrition and Management for Maximizing Health and Productivity Through Transition

Lactipro FLX®
Lactipro NXT®

axiota.com/dairy | Preparing Cattle to Thrive During Transition and Stress
March 2022

2022 NYS Certified Pesticide Applicator License Pre-Exam Training - March 8 & 15, 2022 from 8:30am - 12:30pm at CCE Orleans. This pre-exam is only for those with pesticide application experience. Register by March 1 to ensure the manuals are available for the training. Cost: $50 plus the cost of manual(s). Exam to be held March 22, 2022, cost for the exam $100. To learn more or to register visit: https://tinyurl.com/Pre-Exam22

Northeast Dairy Management Conference - March 9-10, 2022 | Syracuse/Liverpool, NY. Presented by Cornell CALS PRO-DAIRY and Northeast Dairy Producers Association (NEDPA), the Northeast Dairy Management Conference is designed for all progressive dairy farmers and industry professionals in the Northeast, to interact and relate to the latest thinking and issues in the dairy industry. For more information and to register visit: https://tinyurl.com/NEDMC

Pricing for Profit - An Introduction to the Cornell Meat Price Calculator - March 16, 2022 from 6:30pm - 8:30pm at CCE Ontario. Matt LeRoux, Extension Associate at Cornell University will introduce the new Cornell Meat Price & Yield Calculator, more comprehensive than the previous one. Cost: $10 per person or $15 per farm/family. See page 11 for details or visit: https://nwnyteam.cce.cornell.edu/events.php

Understanding and Mitigating Lameness - March 22, 2022 from 10:00am - 12:30pm via Zoom. This virtual workshop is for anyone who works with dairy cattle. This program will cover how to identify lameness, what factors cause lameness, and practical strategies to avoid and mitigate lameness on your dairy. See page 12 for details.

Dairy Manager Discussion Group - Lean and its Application to Dairy - March 31, 2022 from Noon - 1:30pm via Zoom. Join Mary Kate MacKenzie, SCNY Dairy Team and Rich Stup, Cornell Ag Workforce Development to go over the basics of LEAN principles. To learn more or to register visit: https://tinyurl.com/LEAN-Dairy

April 2022

Herd Health and Nutrition Conference - April 4-5, 2022 at the Doubletree by Hilton, East Syracuse, NY. Presented by PRO-DAIRY and Northeast Agribusiness and Feed Alliance, the Herd Health and Nutrition Conference is a two-day event for agriservice personnel, feed industry representatives, veterinarians, and dairy producers, featuring educational topics related to current herd health and nutrition management techniques. To learn more or to register visit: https://tinyurl.com/2022-Herd-Health

Introduction to Pasture Management - April 13, 2022 from 6:30pm - 8:00pm at CCE Niagara Training Center, 4487 Lake Ave, Lockport, NY. Cost: $10 per person. For details contact Nancy Glazier at 585-315-7746 or nig3@cornell.edu

Forage and Pasture Management Workshop for Livestock Farmers - April 23, 2022 from 10:00am - 3:30pm at Pioneer Central School, County Line Rd, Yorkshire, NY. Cost: $40 per person. For details and to register visit our website: https://nwnyteam.cce.cornell.edu/events.php

Helping you put knowledge to work
Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.