The annual NYS corn and soybean yield contests are sponsored by the New York Corn & Soybean Growers Association. Congratulations to our 2020 NY Corn Champion, Henry Everman from Livingston County with a winning yield of 298.95 bu/a. Our NY Soybean Champion, Pit Farms Inc., from Wayne County, had a winning yield of 91.22 bu/a. They win all expense paid trips to the 2022 Commodity Classic in New Orleans since this year’s Classic went virtual. Listed below are state contest winners and West and Finger Lakes regional winners. The Central, North and East regional corn and soybean winners as well as all contestants, can be found on the NY Corn & Soybean Growers Association webpage at https://nycornsoy.org/wp-content/uploads/2021/02/2020-Winners-All-Yields.pdf. The awards are normally presented at the NY Corn and Soybean Growers Winter Expo in January but had to be canceled this year. My annual yield contest presentation that would have been given that day, can be found right under the yield contest results. There were no national corn yield winners from NY this year but the results of the National Corn Contest and NY entries can be found here, https://www.ncga.com/get-involved/national-corn-yield-contest. I’m looking forward to another great yield contest in 2021!

### 2020 NY Corn & Soybean New York State and Regional Winners

Sponsored by the NY Corn and Soybean Growers Association

<table>
<thead>
<tr>
<th>Rank</th>
<th>Entrant Name</th>
<th>Town</th>
<th>County</th>
<th>Brand</th>
<th>Number</th>
<th>Yield (bu/a)</th>
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<tbody>
<tr>
<td>1</td>
<td>Henry Everman</td>
<td>Dansville</td>
<td>Livingston</td>
<td>FS InVision</td>
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<td>2</td>
<td>Tyler Curtin</td>
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<td>Oakfield</td>
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#### West Regional Winners

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<th>Rank</th>
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<th>Town</th>
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<th>Brand</th>
<th>Number</th>
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<tr>
<td>1</td>
<td>Henry Everman</td>
<td>Dansville</td>
<td>Livingston</td>
<td>FS InVision</td>
<td>FS6202V</td>
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<tr>
<td>2</td>
<td>Bruce Naas</td>
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<tr>
<td>3</td>
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#### Finger Lakes Regional Winners

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<th>Rank</th>
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<th>Number</th>
<th>Yield (bu/a)</th>
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<tr>
<td>1</td>
<td>Eric Lyon</td>
<td>Lyons</td>
<td>Wayne</td>
<td>Pioneer</td>
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<td>Seneca</td>
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### Soybean Contest NY State Winners

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<th>County</th>
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<th>Number</th>
<th>Yield (bu/a)</th>
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<tbody>
<tr>
<td>1</td>
<td>Pit Farms Inc.</td>
<td>Clyde</td>
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<td>Ryan Swede</td>
<td>Pavilion</td>
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<td>Asgrow</td>
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<td>3</td>
<td>Scott Swartz</td>
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<td>Renssalaer</td>
<td>Seedway</td>
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#### West Regional Winners

* No final entries in this maturity group

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<th>Rank</th>
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<th>Brand</th>
<th>Number</th>
<th>Yield (bu/a)</th>
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<tr>
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<td>Todd Roberts</td>
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<td>Pioneer</td>
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#### Finger Lakes Regional Winners

* No final entries in this maturity group

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<th>Town</th>
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<th>Number</th>
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<tr>
<td>1</td>
<td>Ethan Humbert</td>
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<td>2</td>
<td>Pit Farms Inc.</td>
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<td>3</td>
<td>Emory Oese-Siegel</td>
<td>Waterloo</td>
<td>Seneca</td>
<td>Chemgro</td>
<td>3751RXS</td>
<td>68.98</td>
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</tbody>
</table>
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.

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- Soybeans
- Wheat
- Oats
- Rye
- Barley

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TAX PREPARATION  Just as 2020 was a year unlike any other, filing your 2020 taxes will also be different. The financial circumstances brought on by COVID-19 could have a significant effect on the deductions and allowances available to your business. This year, more than ever, you will need a reliable ag tax specialist to help guide you through your unique tax situation.

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farmcrediteast.com/taxprep

Brad is an AEM certified Environmental Planner and CCA certified Crop Consultant.

Brad works with clients in New York, Pennsylvania, and Connecticut implementing environmental strategies that keep them in compliance with their state’s individual regulations. Brad is committed to keeping up with regulatory changes in each state, making him a key resource to his farms. Brad believes in farming, and so do we.

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Agricultural Consulting Services
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Utility Scale Solar - What you should know: Part 2
by Timothy X. Terry, Farm Strategic Planning Specialist - Pro-Dairy

Negotiating
Some of us are good at animal husbandry, others are good at crop production, and still others excel at ag engineering. It’s a rarity, however, that any have successfully negotiated a commercial agreement as intricate as a solar lease. This is why you need to secure professional legal help. Start with your own attorney. If they’re not comfortable with it ask them who they least like to go up against in court. Look for someone experienced with real estate contracts, land acquisition, or better yet, oil and gas leases.

Even though your attorney may do all the talking there are some things you need to know or at least consider:

1. Understand your bargaining position - They have to have the land, and until you sign an agreement you have all the leverage. Unfortunately, you have little or none after signing so get it up front. It’s best to think about this in the long term – not just the immediate benefit.

The lease will often be presented with a sense of urgency, perhaps even as a crisis. This is nothing more than a marketing technique. Landmen / leasing agents want to make the sale. The first offer is not their best offer. (Negotiation 101 – Never begin a negotiation from a point you can’t immediately abandon.) Ask yourself, “Is this the only offer I will get?” “If one developer is interested will there be others?” “Can I walk away?” “Which terms are flexible, which are not?” Offers may range from X to 10X and is likely due to the number of middle men the lease may have to go through. Proximity to existing infrastructure – high voltage power lines, substations, facilities to be built – may also be a factor. Cost to construct a substation is considerable, so if you’re located less than two miles from one your site may garner a premium.

You may be thinking, “Why don’t I just develop this myself?” According to the Pennsylvania Dept. of Environmental Protection a solar array requires an average investment of $1.13M per megawatt for utility scale solar. Think about that for a minute.

There is a deadline and offers do get retracted, so be deliberate but don’t dawdle.

2. Determine what you want and/or what you want to prevent. Do this before seeing your attorney as it will help them help you. Think: What will this look like when it’s operational and over the next 40 years? What’s important to me? Thought through the finances? What will and won’t you allow? Do you want to protect natural structures – pond, lakes, creeks, etc.? Are there places you don’t want solar panels and/or ROW’s? Do you want to grow or do something under or between the rows of panels? Every property is unique. Describe specifically what you want to go into the option.

Many leases don’t specifically state 40 - 50 years, instead they are written for 10 or 20 years plus a series of 5 year options.

Option period payments tend to be small because it’s a period of highest risk for the developer. Can you get more money? Try bargaining for more money or less time to develop – real money is when it’s operational.

Critical in any long term leasing agreement is to build in an escalator – dollars have to keep pace with inflation. What initially looked like the gravy train could, over time, only buy you a cup of coffee. Use the government inflation statistics as the escalator. This is typical of commercial rental agreements so you shouldn’t get any push back from the developer.

3. Don’t assume you can do things that are not written in the lease agreement. Include in the initial negotiation or via addendum. The guy who sits down on the back deck and tells you all the nice money you’re going to make and what a wonderful person you are and how this is going to be a great thing – once you sign the lease you’ll never see him again. Instead, you’ll be dealing with someone who has the company’s best interest in mind and, quite possibly, an attitude, too. It doesn’t matter if it wasn’t written down. It is a bitter pill to swallow, but realize that while you still own the land you won’t be able to use the land. The chain link fence and barbed wire sends the message that no one, not even the landowner, is welcome in there. Grazing cattle, growing crops, setbacks, even placement of panels and control units need to be delineated up front. You will need to specify continued access to the back 40, pastures, water sources, or the secret fishing hole.

4. Understand the duration of the lease. Basic math here: Option + Construction + Operations + Renewals = (Continued on page 6)
Duration of the Lease. The option period may be as long as 4-5 years with very little money coming in. There is usually little or no breakdown of the various categories in the lease except maybe renewals. Options periods range from 30 – 60 months, and it may be in your best interest to push for lower – the sooner they start paying you the real money the better. A Memorandum of Lease document will be recorded on your deed in courthouse.

5. The option agreement is their option not your option. They can pull out at any time so don’t spend the lease money before you have it. However, don’t think you’re going to get out of it if you change your mind. Depending on how it’s written, by signing the option agreement you are also signing the lease agreement – this is where your attorney earns his/her keep. You may not have your land developed after you sign a lease. You can’t get out of it or amend it after you sign. They may option all of your land, but only use a portion of it. You may be able to push this with the solar company, i.e. – they have to use a minimum percentage or release the remaining acreage.

6. Know how to modify your lease. Step 1 – find an attorney (see #1) Legal contracts require legal help. Answer the long term questions upfront. Get what you want in writing before signing the lease as changes are not possible afterward. Shorten the option period and/or increase the option money. You may unknowingly be agreeing to a Warranty of Title thereby indemnifying the solar company. As landowner you are guaranteeing that you have perfect, blemish free ownership of the property, but that is not usually the case as there may be other leases, originated generations ago, that are still in effect today, such as utility ROW’s, conservation easements, FSA/NRCS administered programs, subsurface rights (oil, gas), etc. There may be some long hidden environmental hazards that come to light during installation. If you indemnify the solar company you are essentially giving them a blank check. Curtail this as much as possible. Lease offers usually have some flexibility.

7. Be clear on when, where, and how you will be paid. After you’ve done your due diligence and have settled on an offer be clear that you are not giving them anything for free. Even water used for cleaning and maintaining the panels. Get paid for any access they will be restricting. Getting paid for ALL acres used including access and ROW’s not just the solar field itself. Be sure that they will maintain any ROW’s – keeping brush and noxious weeds trimmed. You’ll want the payment terms to be clear and concise. There are many different arrangements on the options. Sometimes payment is upfront, sometimes there is a modest upfront plus annual payments. You need to specify defined dates, i.e. - “Need to have a check for this amount on this date or solar company is in default.” Define what happens if payment(s) are missed – are you free and clear from the lease, how will back payments be recouped?

8. Things that are written count, things that are spoken don’t. Once you sign the option you will never see the landman that originated the lease option again. You will likely be dealing with an entirely different person and/or entity, or even their attorneys. Avoid falling for “that doesn’t need to be in there”, or “Everybody knows that’s ok” statements. Get all the promises in writing. If it’s important to you it has to be in the agreement. Even down to minute details – such as herbicide use especially on an organic operation. These leases are so new there is no track record and procedures have not been standardized. Define who, when, and how the site will be maintained. What happens if a water line or drain tile is cut during construction – who pays? How will it be repaired? There may be shared farm lanes, but who will maintain them? Get it in writing!

9. Things your neighbors may not like. Fences limit hunting. Arrays may detract from their views. Local zoning may exercise some limitations. You may have already leased out part of that land for another ag enterprise, this should be recorded on the lease. What will happen to these things following construction? For instance, will the array interfere with maple sap harvesting? Will part of the sugar bush be removed to accommodate the array? Will there be light intrusions from security lights? How will the grounds around the facility be maintained vis-à-vis weeds, grass, litter caught in the security fence, etc? What visual screening will be provided around the site? The last thing you need is to be regarded as a slum lord and/or someone who sold out the charm of the community for a few bucks.

10. Not all info on the internet is good info. Some is very good, some is conspiratorial, most is somewhere in between.

Parting Thoughts
Site plans may/ may not be required. These are usually not a condition of the option but may be required for the lease.
Decommissioning and land recovery – bargain for the maximum amount of clean-up and removal, and remedies if they don’t. This is often addressed by a performance bond secured at, or prior to, signing of the agreement.
Determine the remedies and disposition of the lease if the solar company is liquidated. You don’t want or need the responsibility of remediating the site. Sure, much of the galvanized steel structure may look pretty appealing, but the panels may be considered hazardous waste requiring special disposal and a hefty tipping fee. Plus it needs to be properly disconnected from the grid.
This may affect Land Trust easements and/or any “clean and green” status. Often if 50% or more of the power generated is used internally it is not a problem, however, this is not likely for an industrial sized project. Any roll back taxes should fall to developer.
As stated earlier, securing legal services is a must not an option. Figure on 10 – 12 billable hours, or more, depending on how complex the lease may be.
In a recent presentation, Dr. Nigel Cook of the Dairyland Initiative at the University of Wisconsin-Madison, spoke about the future challenges of dairy cattle welfare. He said that one of the trends is that tiestall housed herds will be placed under increasing scrutiny to ensure the highest standards of comfort. This points to there being more pressure for farmers to improve cow comfort via stall cushioning, and natural movement and behaviors.

Data shows that 39% of US dairy farms are tiestall housed, and that those tiestall farms tend to be older farms with older facilities. Surveys show that many of these farms have invested little to improve cow comfort, citing high dollar investment per stall as a major barrier. A separate survey completed in 2018 by dairy specialists with Cornell Cooperative Extension, looked at incidence of lameness on 22 of New York’s tiestall farms. They found that on average, incidences of severe lameness were below the 5% of herd cutoff permitted by the National FARM (Farmers Assuring Responsible Management) program. This is good news, but the survey also found that severe hock injuries averaged 7.4% with a range of 0 to 22.5% of cows in a herd. Much of the reasoning behind this higher incidence of hock injury was tiestall design.

In 2008, a Canadian research group led by Neil Anderson put together guidelines for new tiestall designs and updates, that have contributed to the promotion of improved welfare, and which can be found here: http://www.omafra.gov.on.ca/english/livestock/dairy/facts/tiestalldim.htm. Stall design is a balance between optimizing lying time and reducing injury, while maintaining stall cleanliness and cow hygiene. According to guidelines, tiestalls should be greater than 2x cow hip width, and the wider stalls are associated with increased lying time, reduced neck injuries, and less lameness. Additional support for this claim is found in a recently published article by Boyer et al. in 2020 (https://doi.org/10.3168/jds.2019-17667), where cows housed in either single (54 inches wide) or double (111 inches wide) stalls. Cows in the larger stalls spread out more, and rested in a more natural position compared to cows in typical stalls. They also noticed during lying-down movements, cows in larger stalls contacted the stall hardware 43.1% of the time vs. cows single stalls who contacted more than 75% of the time. Though total lying time was not statistically different, the authors concluded that increasing stall width beyond the current recommendation is likely to benefit the cows by improving their ability to rest. Removing a loop between stalls may not be feasible for a barn filled to current capacity, but it is worth it to think about what the true capacity of our tiestall barns are, as cows have been bred to be bigger over time, and how welfare standards are being raised to accommodate cow comfort.

The comfort of the stall bed in tiestalls is affected by the material components of the stall base and bedding, as well as the amount of space provided. Tiestall beds should be greater than 1.2x cow rump height, and longer stalls are associated with increased lying time and reduced knee injuries. Cows in long stalls spend more time lying (14.1 vs 13.3 hours/day) and have longer lying bouts than cows in short stalls (74.1 vs 52.9 minutes/bout). In addition, higher lying times are comparable to those reported in deep-bedded loose housing setups, indicating that cows with more bedding, especially in longer stalls, are more comfortable (McPherson et al., 2020; https://doi.org/10.3168/jds.2019-17668). This data provides a solution to farms who may be limited in their ability to purchase new tiestall mattresses or other installed stall cushioning, as this study shows you can achieve similar cow comfort benefits by adding more bedding.

In addition, from his presentation Dr. Cook believes that if tiestalls are going to remain viable in within our industry, two to six hours per day of untethered exercise will likely be required. This may be accomplished via a loafing yard, pasture, roofed exercise lot, etc. Dr. Cook ended his segment on the current and future challenges of dairy cattle welfare with a slogan that I liked: “Get into the continuous improvement business, not the excuse business.” In my opinion, this will help farmers stay ahead of the game as the dairy industry faces a changing future. All in all, research shows that there are economical practices and changes that farmers who own tiestall dairies can implement to improve welfare and profitability. The question is, where will you start on your dairy?
Joe is Dairy One’s Agronomy Services Manager. He manages a team of 11 Agronomy Services Technicians who service farms across New York and Vermont.

Joe knows that high quality data is key to making informed cropping decisions. He trains every technician to deliver thorough, professional service. Joe is always looking for ways he and his team can better service the farms and consultants they scout, sample, and map for. Joe believes in farming, and so do we.

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Frost Seeding Time is Here! by Nancy Glazier

Though there is snow on the ground, the sunshine today (2/12) makes me think spring is right around the corner. March is usually a great time to add some legumes by frost seeding into your pastures, hayfields, or winter small grains. It is a way to improve grasses without losing a production year. It is also an excellent way to add legumes back if you used a broadleaf weed control last growing season. Added legumes will boost production and fill in thin patches or bare spots; they will provide needed nitrogen to the grasses already growing and provide protein for the livestock. Little or no tillage is involved which reduces the potential for soil erosion.

Hopefully, you did your homework last fall by checking the forage quantity, types, and groundcover. If not, take a walk after the snow melts to see if you need some light dragging or disking to open up the vegetation a bit. For frost seeding to be successful seed-to-soil contact is critical. What works with this technique is the freeze-thaw process in late winter/early spring. This action tends to work better on heavier soils as they are more likely to crack or form the ‘honeycombs’. As the days get above freezing and nights below freezing, this action works the seeds down into the soil in preparation for germination. Spreading seed on frozen ground reduces the potential to rut up the pasture or field. This can be done best early morning or possibly late in the day.

Legumes work best for frost seeding due to the shape of their seeds and will germinate under cool conditions. Success will vary farm to farm, but clovers will establish better, specifically red clovers. They are more tolerant of low pH and low fertility but are shorter-lived in pastures. A way to overcome that would be to routinely frost seed half your pastures every year, alternating fields. It can be an inexpensive improvement.

Suggested rates are below. The price of seed is relatively low, so don’t skimp. Make sure you use inoculated seed or purchase the correct inoculum.

Lbs/Ac
Red Clover - 6 to 10
Ladino Clover - 2 to 4
Birdsfoot Trefoil - 5 to 8

Equipment for frost seeding can be as small or as big as needed. The size of the pasture or field will dictate what is needed, unless you have time and the desire to walk a large field with a small cyclone spreader. A broadcaster can be mounted on the back of an ATV or small tractor.

If a soil test report shows phosphorous or potassium is needed wait until late summer. Fertilization will help seedlings get established and ready for winter.

Sometimes overgrazing or continuously grazing will leave bare or thin spots or kill the existing legumes. Frost seedings can be done to improve the stand, but this will only be a short-term fix. Rotational grazing is the best way to improve a stand for the long term. Frost seeding will return legumes to the pastures; dividing the pasture into at least four paddocks will provide forages time to rest and regrow through the growing season. Grazing needs to be carefully managed early season to prevent damage to the tender seedlings yet allow light to reach them.

Who can predict what this spring will be like? Dry spring conditions will discourage seed germination. Unfortunately, there is no way to control this. With the seed in place, there is a chance that it will germinate and grow when sufficient moisture is there.

This is what soil ‘honeycomb’ looks like, ready for frost seeding. Photo: N. Glazier /CCE NWNY Team
Interest in Plant Sap analysis as a crop diagnostic tool for optimizing plant nutrition relative to physiological maturity has increased. Through the adoption and use of precision agriculture technologies, farmers can match, and strategically apply fertilizer in site-specific field conditions. Recent increases in fertilizer prices per ton make it more important for accurate nutrient management. The information provided through Plant Sap analysis creates the opportunity to enhance the efficiency of production and fertilizer usage, ensuring precise and timely nutrient management throughout the growing season.

Soil sampling and tissue analysis have been considered the most efficient way to analyze the nutritional needs of our crops for years. Results, however, take a long time, the information can be confusing, overwhelming, and often has little correlation with the results of field and production yields.

After doing some homework, I decided to call NEWAGE LABORATORIES out of South Haven, Michigan to get a better understanding of what a Plant Sap Analysis can do. According to NEWAGE LABORATORIES, all soil sampling and tissue analysis issues can potentially be addressed by Plant Sap Analysis. It will help keep growers on top of their crop nutritional status throughout the growing season and get them the crop production they want. Plant Sap Analysis features a broad spectrum data set that evaluates the nutrient interactions that benefit or hinder their crop yield. Most importantly, Plant Sap Analyses can provide data weeks before they show up in the field or tissue analysis, giving a grower time to prevent problems before it damages crop yield. This ensures that by balancing nutrient applications, growers can maximize their return on investment, providing optimal crop production with information only Plant Sap Analysis can provide. In light of this information, the NWNY Team will be looking for funding to conduct some preliminary work on the use of Plant Sap Analysis for balancing plant nutrition throughout a growing season.

To learn more please visit or call: NEWAGE LABORATORIES https://newagelaboratories.com/plant-sap-analysis/
2021 VIRTUAL FORAGE CONGRESS
March 11, 2021 - 10:00am to 12:15pm

AGENDA - Held virtually on Zoom

10:00 - 10:30am - The Economic Costs of Loading & Mixing, Jason Karszes, PRO-DAIRY, Cornell University

10:35 - 11:05am - Improving Harvest Management, Joe Lawrence, PRO-DAIRY, Cornell University & Tom Kilcer, Advanced Ag Solutions (recording)

11:10 - 11:40am - Nutritive Value and Yield of Reduced-Lignin Alfalfa Cultivars in Monoculture & Binary Mixtures with Perennial Grass, Dr. Jerry Cherney, Cornell University

11:45 - 12:15pm - Cover Crop Adoption on Dairy Farms, Dr. Virginia Moore, Cornell University

Registration closes March 9, 2021

More information is available at: https://nwnyteam.cce.cornell.edu/events.php

COVID-19 Information Websites:

Need information? View the following Cornell CALS and CCE Resource Pages that are updated regularly.

General Questions & Links: https://eden.cce.cornell.edu/

Food Production, Processing & Safety Questions: https://instituteforfoodsafety.cornell.edu/coronavirus-covid-19/

Employment & Agricultural Workforce Questions: http://agworkforce.cals.cornell.edu/

Cornell Small Farms Resiliency Resources: https://smallfarms.cornell.edu/resources/farm-resilience/

Financial & Mental Health Resources for Farmers: https://www.nyfarmnet.org/

Cornell Farmworker Program www.farmworkers.cornell.edu | www.trabajadores.cornell.edu (en espanol)