

MARCH 2021

THE PRODUCE PAGES

Serving the fruit and
vegetable growers of
Eastern New York

Feature Farm Story

Hicks Orchard: A Community-Driven U-Pick Since 1905

Michael Basedow, CCE ENYCHP

Hicks Orchard is located in Granville, just shy of the Vermont border in eastern Washington County. It is situated roughly midway between the Hudson valley to the south, and the Champlain Valley to the north, tucked into the foothills lying between the Adirondacks and the Taconics. The orchard has been run as a U-pick since 1905, managed over the years by multiple generations of the Hicks family. Dan Wilson purchased the orchard back in the 90's, and decided to continue operating the farm under the Hicks name to celebrate the legacy and reputation of this historic farm. Hicks remains a small family-run orchard, producing fruit on about 55 acres. The crop mix is mostly apples, but there are also some small plantings of tart cherries and blueberries to add some variety, and to kick off the U-pick season in the summer months.

*Hicks Orchard from the air at Springtime.
Photo: Dan Wilson*

Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program



In addition to the main pick-your-own offerings, Dan has expanded into the hard cider arena with Slyboro Ciderhouse. Many of the ciders Dan makes are more wine-like in style. He utilizes many varieties in his blends for their unique flavors, allowing him to produce everything from dry, still ciders through a variety of sparkling ciders, ice ciders, and an apple brandy pommeau.

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The Produce Pages

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Serving the Educational and Research Needs of the Commercial Small Fruit, Vegetable and Tree Fruit Industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Putnam, Rensselaer, Saratoga, Schoharie, Schenectady, Ulster, Warren and Washington Counties.

(Continued from cover)



A sampling of the Slyboro Ciderhouse range of ciders.
Photo: Dan Wilson

Variety Mix

Dan grows a number of apple varieties to keep things interesting for the farm's U-pick customers throughout the bulk of the harvest season. The focus is mostly on fresh retail market friendly varieties, with Honeycrisp currently reigning as the most popular apple. Other popular varieties include Gala and Ruby Macs. He is also growing additional modern varieties like Autumn Crisp and GoldRush, but still maintains some old standard trees of McIntosh, Cortland, Empire, Red and Golden Delicious, which are scattered across the farm.

In addition to common dessert varieties, the farm also now has an interesting mix of apples for the cider press. Dan speaks highly of Golden Russet for its cider attributes, and mentions how Northern Spy remains popular as a dessert apple with his customers, while also serving double duty in his cider blends. He is also evaluating more of the classic cider apples, such as Kingston Black, Hewe's Virginia Crab, and Wickson in an effort to provide a wider palette of flavors to his ciders. Dan warns me that he can confirm cider varieties' susceptibility to fire blight, particularly the late blooming bittersweet varieties that he grows.

Future Plantings

For future plantings, Dan is thinking about how he can best fill in the gaps in his U-pick season. He would like to have some fresh apples beginning around Labor Day, so his most recent plantings include varieties like Dandee Red, Zestar, and Jersey Mac. "The idea is to have something for U-pick just to kick the season off. Have something available in the store, and also to be able to strip the trees to go into our first batches of fresh cider."

He is also planning to increase his acreage of the farm's most popular varieties for the peak of U-pick season, which is usually around the third week of September, and continue to slowly turn over some of the older blocks of standard trees.

For future cider plantings, Dan mentions how he'd like to focus on

growing more of the traditional American russets, like Roxbury Russet and Golden Russet. "Those are really good cider apples, and they originated here in the northeast United States. So, in terms of developing a true regional style of cider, I think focusing on our heritage varieties makes a lot of sense for my operation".

To that effect, this year Dan plans to plant two and a half acres of apples. Most of the trees going in now are being trained to a tall spindle training system. "It's been working well for us, but for anyone looking to try it for the first time, I recommend having everything ready to go from day one. Irrigation lines, trellis materials, you want everything set so when it comes to planting this system you are able to get it off on the right foot".

Marketing Strategies

When it comes to marketing, Dan explains how a lot has changed in a relatively short time frame. "You know I can remember a decade or so ago, the question for advertising was which newspaper to post in, and how many column inches we were going to be buying every weekend. That doesn't work for us anymore". He explains most of his marketing is now done through social media, and most of the marketing budget now goes to purchasing boosted posts for the orchard's Facebook page. He has also invested time in revamping the farm's websites, because that is now the primary point of customer contact. Regular email blasts to customers have also been helpful, since it doesn't cost the orchard much to send out, and the farm also still make judicious use of radio ads.

Outside of these advertising methods, the farm is exploring additional ways to encourage repeat customers. One of which includes a cider buying club, which works "like a Stewart's milk card". Customers receive a stamp on their card every time they buy some cider, and they get a free half gallon for every ten they purchase.

In an effort to increase traffic outside of the main pick-your-own season, the farm is also looking into providing unique experiences for customers. Recently, the farm has been offering limited outdoor dining by allowing customers to rent personal campfire pits on



Most new plantings are being trained to a tall spindle system. New plantings have been focused on early season apple, more pick-your-own favorites, and new cider varieties.
Photo: Dan Wilson

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weekends. Customers get to hang out around the fire, and are also provided some food and beverages. Dan says it has been very popular so far. This past Valentine's Day weekend the farm also offered a candle-lit evening walk through the orchard. "We had a bunch of people sign up for that, too, so we're trying to be creative to keep people engaged throughout the year".

This year Hicks also got into trialing an online ordering service, planning for the potential worse case scenarios with COVID-19. Dan found online ordering presented some challenges, as missed deliveries has been an issue. "A failed attempt at a delivery cuts into the profit margin of the next four or five orders that go out the door, so we're still trying to figure that out. But it's a good thing to have available, and we're just about to launch our online shopping cart for the hard ciders too".

Community Building

The Hicks orchard staff recently attended a workshop to fine-tune their mission statement for the orchard. Dan explains how their mission is focused on growing food to build community. "Our role in the community is very central to what we do here on the farm, and I think a lot of places like ours that have U-pick operations felt that very strongly this year." Dan explains, "We play a key role in letting people know where their food comes from, by providing them an experience and a connection to a farm. I think that is a strong part of the viability of a small farm like ours."

Plans for the Next Few Years

Over the next few years, the farm plans to continue working to further develop its ties to the community. "I think we kind of see ourselves as being a little bit of a cultural center for the community, so for the next few years, we plan to further build on the types of programs we can have here on the farm."

Dan plans to continue improving the aesthetics of the orchard to make it more of a magnet for people to come and visit throughout



The campfire rental at Hicks has been popular throughout the winter season.
Photo: Dan Wilson

the year. He mentions having had a corn maze in the past, and how he would like to continue offering experiences like these for the community.

He would also like to partner with other local vendors and artisans, to allow their retail area to become a hub to highlight locally made products. "I think that has a real potential for us to both distinguish ourselves, but to also really celebrate all the great stuff that's made and grown right here in this area."

A recoding of the interview between Mike Basedow and Dan Wilson is available here: <https://soundcloud.com/easternnewyorkvegnews/hicks-orchard-a-community-driven-u-pick-since-1905/s-5jybua1Pxuz>

Managing Allium Leafminer: Top 10 Research Takeaways

Teresa Rusinek and Ethan Grundberg, CCE Eastern NY Commercial Horticulture Program

With support from the New York State Department of Agriculture and Markets, a USDA NIFA Crop Protection and Pest Management Grant, and a Northeast SARE Partnership Grant, CCE ENYCHP vegetable specialists Ethan Grundberg and Teresa Rusinek have been working with Cornell entomologist Dr. Brian Nault since 2016 to study how best to manage the invasive Allium leafminer (ALM). The major findings from the research in the past four years have been:

- 1) Leeks are most susceptible to damage from ALM followed by scallions.
- 2) The potential for damage is higher in the fall than in the spring across all allium crops.
- 3) Several conventional insecticides already labeled for use on bulb crops in New York are effective at reducing damage from ALM,



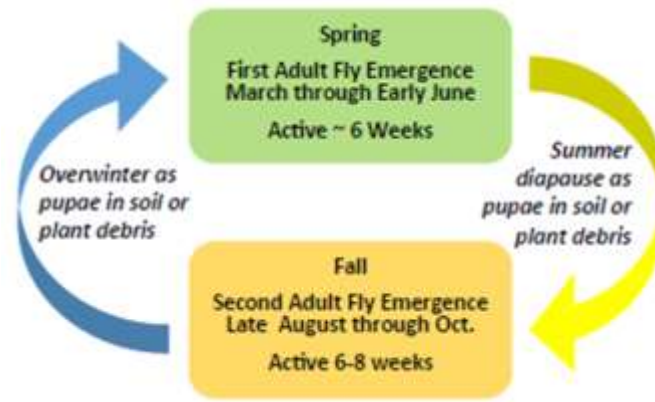
Left: Rusinek evaluating leeks for pest damage. Right: Curvy leeks due to restriction of row cover in plots without support hoops. Photos: E. Grundberg

including Exirel (cyantraniliprole, IRAC Group 28, 2(ee) label required and available on the <https://www.dec.ny.gov/nyspad/products?3> website) at 13.5 fl oz/acre, Radiant (spinetoram, IRAC Group 5) at 8 fl oz/acre, and Warrior II with Zeon Technology (lambda-Cyhalothrin, IRAC Group 3A) at 1.6 fl oz/acre.

- 4) Of the OMRI-certified insecticides studied, only Entrust (spinosad, IRAC Group 5) at 6 fl oz/acre has shown any efficacy at reducing damage from ALM.
- 5) Two carefully timed applications either 2 and 4 weeks or 3 and 4 weeks after the beginning of the adult ALM flight of Entrust at 6 fl oz per acre mixed with M-Pede (potassium salts of fatty acids) at 1.5% v/v concentration provided the largest reduction in ALM damage of any 2-spray sequence during the 6- to 7-week long flight.
- 6) Adding the adjuvant Nu-Film P to Entrust significantly DECREASED the efficacy of the insecticide at managing ALM when compared to combining M-Pede with Entrust.
- 7) Planting alliums on metalized reflective plastic mulch consistently reduced ALM damage from 22% to 36% compared to alliums planted on either black or white plastic.
- 8) Combining the use of metalized reflective plastic mulch with two carefully timed applications of Entrust mixed with M-Pede can further reduce ALM damage providing an effective strategy for organic ALM management.
- 9) Row covers and exclusion netting both have the potential to provide excellent ALM control. It is critical that covers or netting are installed prior to ALM emergence and remain on the crop through the flight. Secure edges to prevent any gaps where ALM adults can gain access to the crop. Exclusion will not work if infested alliums, including wild onion grass, grew in the same plot the previous season. Higher levels of certain allium diseases such as Botrytis have been observed when row cover is used. Use of support hoops will minimize growth restriction on the crop and facilitate air movement.
- 10) Early detection is key for effective control. Currently, the most reliable method for detecting ALM emergence is to visually inspect allium plants for ALM adult flies and oviposition marks beginning in late March and again in early September.



Row cover or insect netting provides a physical barrier between the crop and insect pests like ALM. Photo: E. Grundberg



An adult allium leafminer fly with distinctive yellow head alongside the diagnostic line of circular pale green oviposition scars near the tip of a scallion leaf. Photo: E. Grundberg

	Spring Emergence*	GDD**	Fall Emergence*	GDD**
2017	April 20	368	Sept. 19	4216
2018	April 27	190	Sept. 11	4271
2019	April 15	196	Sept. 9	4077
2020	April 8	223	Sept. 8	4137

*Emergence dates based on observations in Mid-Hudson Valley, New York
 ** GDD source: Mid-Hudson NEWA weather stations, Base 40, accumulated from Jan.1

If you'd like more details on how to manage ALM on your farm, please reach out to Ethan at eg572@cornell.edu or Teresa at tr28@cornell.edu. Additional information on ALM exclusion using row covers or insect netting can be found in our annual SARE grant research report available online at <https://projects.sare.org/project-reports/one19-336/>

Optimizing Sprayer Air Settings

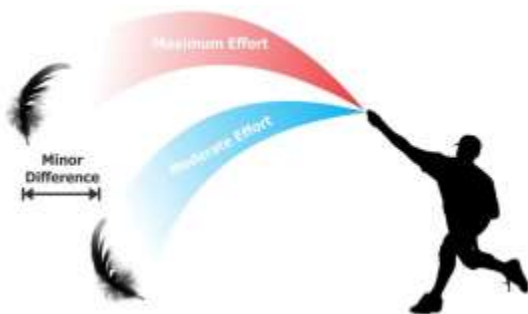
Jason Deveau, OMAFRA

Jason (@spray_guy) is the OMAFRA Application Technology Specialist. BSc (Biology and Psychology), MSc (Plant science), PhD (Plant cell electrophysiology). Jason is interested in improving the efficiency, efficacy & safety of agricultural pesticide use. Co-administrator of Sprayers101, author of the Airblast101 Handbook.

This article is reprinted with permission from <https://sprayers101.com/adjust-airblast-1/> This article discusses how to optimize the match between the sprayer air and the target canopy. For a more fulsome description of the process, consult chapters 3, 9, 10, and 11 of Airblast101, the new version of which was recently released and is available for purchase here: <https://sprayers101.com/airblast101/>

Why is air so important?

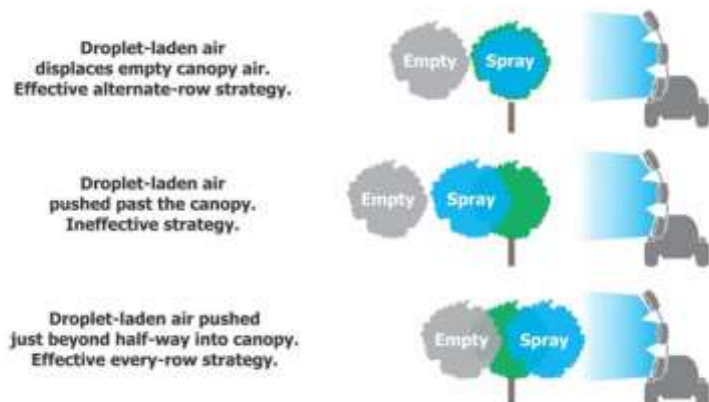
Air handling is the most important and least understood mechanical system on a sprayer. Most air-assisted sprayers for three-dimensional perennial crops produce droplets that are Medium or smaller according to the ASABE S572.3 droplet size classification standard. These small droplets have very little mass relative to their surface area, so they don't have much kinetic energy. Without air to impart speed and direction, most droplets would never go where we want them to. In addition, air opens and moves a canopy, exposing otherwise hidden surfaces to the droplets it's carrying.



Imagine throwing a feather. Now imagine throwing it as hard as you can. It may travel a little farther, but not much relative to the extra effort. Even then, an errant

gust of wind might change its direction entirely. Similarly, we cannot rely on hydraulic pressure to propel small droplets. This is the primary reason for the "air" in air-assist spraying.

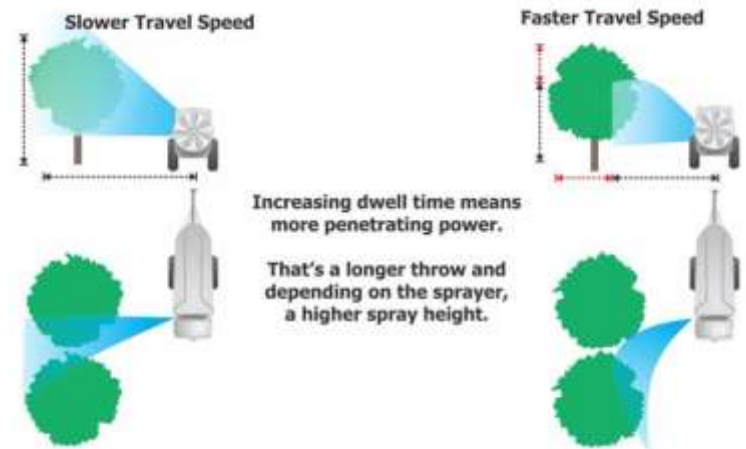
Air-assist spraying attempts to replace the empty air within a canopy with droplet-laden air (and then get it to stay there). If we don't have enough air energy, we won't displace enough empty air and the throw will fall short. Likewise, if we have too much air energy, the



throw will extend beyond the target, wasting spray and likely compromising coverage. Ultimately, we want the air to expend all its energy, spreading, stalling and depositing droplets inside the target canopy.

Travel speed

Travel speed can have a significant impact on work rate. However, the effect of travel speed on air behavior (and ultimately coverage) should be the sprayer operator's primary concern. There will always be a trade-off between travel speed, coverage and work rate. Travel speed is the first and easiest adjustment to throw, spray height and canopy penetration. Just as travel speed modifies the liquid rate per row, it also modifies air energy per row.



Environmental and canopy conditions

Whenever calibrating or adjusting a sprayer, it is critical to do so in the crop, in environmental conditions you would typically spray in. You would not expect a sprayer to achieve the same results in high winds in a dormant vineyard as it would in calm conditions in a mature citrus orchard.

I recommend using a handheld weather meter because local weather reports often don't match the conditions in the planting. For temperature and relative humidity, take readings in the shade. For wind conditions, face into the prevailing wind and hold the meter as high as you can. Wind speed increases with height and we want to evaluate the most challenging part of the target – the top third of the canopy.

Evaluating vertical air angles – Ribbon test part 1

The air angle (or direction relative to the target) is the first concern. Research has shown that low profile radial airblast sprayers without effective straightening vanes or deflectors make the air go up on one side and down on the other. In extreme situations, this might compromise the spray job (e.g. miss the lower portion of the target on one side of the sprayer) or it might simply waste spray and stir up debris. Here's how you can see if this is happening on your sprayer:

1. Park the sprayer in an alley between the rows.

- Affix 25 cm (10 in.) lengths of tape along the air outlets. Tie them to nozzle bodies or use duct tape to position them so that they stand out in the sprayer-generated air.
- Bring the fan(s) up to the desired speed but do not spray. Stand back behind the sprayer and use the ribbons to extrapolate the air angle relative to the target canopy. Look for asymmetries and wasted air (i.e. angled above the canopy or into the ground.)



The ribbons on the LPR sprayer in this photo are twice as long as they should be, but fortunately it was a calm day. Note the angles of the lower ribbons compared to the “ideal” broken white lines. The asymmetry corresponds to the misaligned bottom right deflector. Observe the ribbons while adjusting deflector positions. Any ribbons above the upper broken white lines indicate wasted air energy (and likely spray). Large upper deflectors, positioned horizontally, would reclaim wasted air and focus it into the crop.

By observing the ribbons, you can extrapolate where deflectors or fan heads should be aimed. Air should be adjusted to slightly over- and under-shoot the target canopy. For ducted outlets, such as low profile Turbomist sprayers, the air outlet is not a uniform width – it’s widest about half-way down. Using ribbons to extrapolate air direction, aim the widest part of the outlet at the densest part of the canopy. This automatically repositions the booms as well, facilitating the next calibration step where we turn off nozzles that will significantly over- or under-shoot the target. This is discussed in another article.



Using a piece of scrap wood with a ribbon on the end to demonstrate how deflectors would channel air on an Economist

airblast sprayer. Once convinced, this grower fabricated and installed deflectors and has been very pleased with their performance.



When repositioning the air outlets on a Turbomist with no towers, aim the widest part of the outlet towards the densest part of the canopy, then turn off unneeded nozzles. Lubricate the nuts and bolts that hold the outlet bands tight.



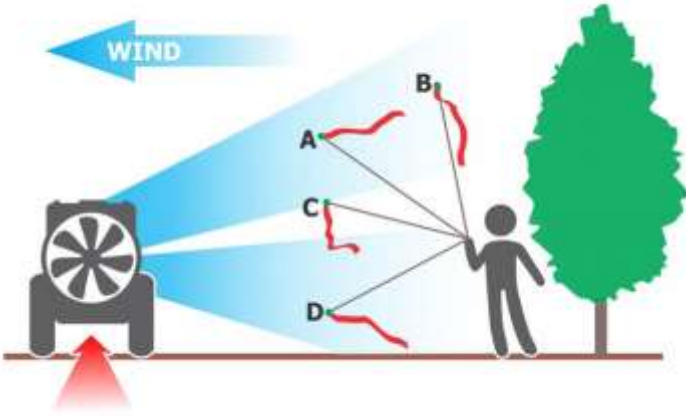
A close up of an airblast gear box. There are usually two options – high or low.

Evaluating air energy – Ribbon test part 2

Air behaviour can change radically between stationary operation and driving. We learned in part one of this article that slower travel speeds increase the throw and the spray height. The simplest way to monitor where air is going is for a partner to watch the leaves in the target canopy. Leaves that are ruffling indicate that air is reaching them.

A more informative method, and one that works during dormancy, requires a length of flagging tape tied to the end of a long stick. The partner (wearing eye and ear protection) can move the ribbon around in the air wash, extending it into areas of interest. The ribbon’s behaviour will indicate gaps, the air angle and relative air energy. The ribbon can be interpreted using the following figure.

(Continued on page 8)

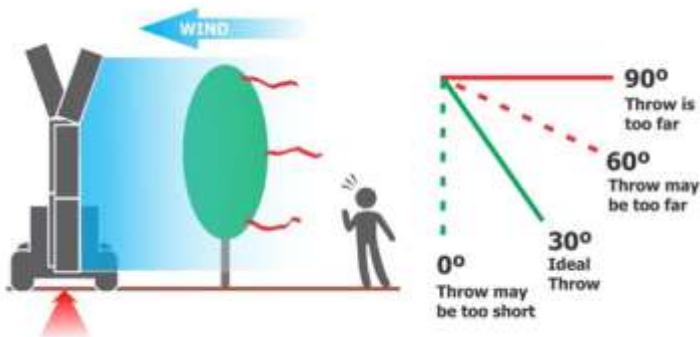


Work with the sprayer oriented to blow into any crosswind. Extend the ribbon into the sprayer air while the sprayer is stationary, or preferably, while driving. The ribbon's behavior will show what you couldn't otherwise see. Here are a few possible outcomes: A. The angle and air energy are appropriate while the sprayer is stationary. B. The air energy is not sufficient to reach the tree top when the sprayer is driving. C. Obstructions or deflector misalignment can create gaps. D. Air is angled too low for the target canopy.

Evaluating canopy penetration – Ribbon test part 3

This final diagnostic accounts for the influence of any intervening canopy (or canopies for multiple-row strategies). It confirms that the air energy has the potential to carry droplets the full extent of the swath. Evaluating one side will give you a lot of insight but if you have the time it's better to do both sides. Since most sprayers have at least some imbalance in air handling, the results may surprise you.

1. Choose a canopy that is upwind and on the lift side of the sprayer (if applicable).
2. Move the sprayer a distance into the row to allow it to reach target speed and to avoid wind effects on the periphery.
3. Attach 25 cm (10 in.) lengths of flagging tape on the far side of the target canopy. Do this at the top, middle and bottom of the canopy. In tall canopies this might require a ladder, telescoping pole, or sections of galvanized pipe to raise the ribbons.
4. With deflectors/spray outlets adjusted and the desired fan gear (or fan speed) selected, start the air without spraying and



bring the sprayer up to the target travel speed. A partner wearing eye and ear protection will stand in the next alley and observe the ribbons as the sprayer passes (preferably recording a video for the operator).

Three ribbons are positioned on the far side of the upwind target canopy. In this case, an every-row traffic pattern is depicted. The observer watches or records the ribbons as the sprayer drives past with the air on (not the spray). For an every-row traffic pattern, the air energy is too high if the ribbon strains at 90°. It is ideal for the ribbon to briefly flutter (0°-60°). If the ribbon does not move (0°), the air energy may still be sufficient as long as it penetrates to the center of the canopy. This is often the case with particularly dense/wide trees like nuts and citrus.



Tying ribbons on the up-wind side in an apple orchard just past green-tip. The red vest has lots of pockets to hold supplies and sprayer operators can see it clearly for safety. The Hawaiian shirt is because it was a Friday.

Repeat this process for EACH significantly different crop sprayed with the sprayer. As with air direction settings, multiple set-ups might be needed to reflect each block, or you might choose to group of similarly-sized blocks and calibrate air to the worst case scenario. Record the set-up for each sprayer/block combination and keep a copy in the tractor cab(s).

Interpreting the ribbon tests

Interpreting the ribbons is not always straightforward. When they don't behave as anticipated they may be indicating one or more of the following problems:

1. The air angle is incorrect.
2. The air energy is too low.
3. The air energy is too high.

There might be a single cause or several contributing factors. As you diagnose and attempt to correct these problems be aware that addressing one may create others. If the problem cannot be corrected, the sprayer configuration (or design) may be inappropriate for the canopy or the environmental conditions.

Ribbons that don't point from the sprayer to the canopy may indicate a misalignment of spray outlets or deflectors. The bottom of the air should align with the bottom of the target. More critically, the top of the air should slightly overshoot the top of the target. We want to avoid spray drift, but we must account for wind speed increasing with height and vertical booms that rock on uneven

alleys. If the spray does not slightly overshoot the top of the target, it may miss it entirely.

Adjusting horizontal alignment, when possible, can significantly impact sprayer performance. It can be tricky to optimize the angle because it represents the sum of several complicated interactions. Air outlets on wrap-around sprayers may be positioned too close to the target canopy to permit a ribbon test. However, you can still use the ribbon-on-a-stick technique to visualize how the air is behaving. Consider the following when positioning air outlets on either side of a canopy:

Unresponsive ribbons are often observed during a ribbon test. Depending on where the ribbon is located, this may or may not indicate a problem. Ideally, the top ribbon should always move in response to sprayer air. In larger canopies, this location represents the greatest distance sprayer air must travel and the highest wind speed it will encounter. The middle and bottom ribbons may or may not move in response to sprayer air. This is common in larger, denser canopies. To confirm this, an observer would have to stand at the trunk and watch the leaves rather than the ribbons.

Shingling and canopy distortion

When possible, do not position laminar air outlets in direct opposition. The convergence creates a high pressure zone that reduces spray penetration. Laminar flows will deflect unpredictably around this pressurized area and carry droplets back out of the canopy. Unless the canopy is narrow and sparse, turbulent air handling systems do not typically create this problem. In both cases,

canopy penetration is improved when fans are staggered and/or are angled slightly forward or backward.

When too much air is vectored directly at the canopy face, it may close and compress that canopy rather than penetrate it. This is more likely when air is high energy, has a narrow air wash or is more laminar in nature. When leaves shingle, the overlap blocks spray and creates resistance to sprayer air. Air will then take the path of least resistance and either deflect around the canopy or channel through any openings. Shingling can be corrected by angling air outlets slightly forward or backward. A little goes a long way as small changes can have big effects.

Dr. Bernard Panneton (formally with the Horticultural R&D Centre, Agriculture and Agri-Food Canada) performed a series of experiments exploring the relationship between potato canopies and wind and his observations extend to all broad leaf crops. Bernard showed that as wind speed increased, the percent of leaf surface area exposed to spray also increased, but only to a point. If the wind got too fast, the percent of leaf surface exposed to spray dropped significantly: ~20% less!

His interpretation was that low to moderate air speeds just ruffled the leaves, exposing their broad surfaces to spray more consistently. When air speed became excessive, leaves and twigs aligned with the wind, exposing only their thin edge to spray. The take home lesson is that spray will be more likely to impinge on all target surfaces when air speed and volume are calibrated correctly.

Bernard summed this article up succinctly: **“More air is not better!”**

Chlorpyrifos Phase-out in New York State

Michael Helms, Pesticide Management Education Program, Cornell University

The New York State Department of Environmental Conservation (DEC) recently issued a draft regulation that prohibits pesticides containing chlorpyrifos from being sold, distributed, possessed, and used in New York State after July 31, 2021. The proposed regulation was published in the [State Register](#) on January 27, 2021 and is available for public review and comment through April 5, 2021. A public hearing on the draft regulation is scheduled for March 30, 2021 at 6 PM via webinar. Details on submitting comments and how to register for the public hearing are available through the [DEC's website](#).

The DEC has already taken steps to implement the phase-out of chlorpyrifos-containing pesticides in New York State. Registrations for 29 chlorpyrifos products not approved for apple tree trunk application were canceled as of December 31, 2020. These cancelled registrations affected products used in agriculture, turf management, and indoor bait stations. However, 15 chlorpyrifos products approved for application to apple tree trunks remain registered until July 31, 2021. Since these products are still registered, they can be used according to label directions, including on any label-listed site (crop). The DEC has posted lists of canceled and currently registered chlorpyrifos products on their [website](#) for reference. It is also recommended that you consult the [DEC's product registration database \(NYSPAD\)](#) to confirm that any chlorpyrifos product you may have on hand is currently registered.

If a pesticide is no longer registered in New York State, sales, use, or distribution within the state is prohibited and the product must be removed from the state or disposed of properly. If you have unregistered chlorpyrifos product on hand, you can contact pesticide distributors and manufacturers to see if they have disposal options available. Disposal of unregistered product might also be possible at a [CleanSweepNY](#) event when they are made available. Keep in mind that open containers of unregistered pesticides are considered to be in use and need to be disposed of immediately.

Specific details on the chlorpyrifos phase-out are available at the DEC's [website](#). Questions on the chlorpyrifos cancellation process can be directed to the DEC's Pesticide Product Registration Section at 518-402-8768 or ppr@dec.ny.gov. Information on the chlorpyrifos prohibition regulation can be directed to the DEC's Pesticide Enforcement and Compliance Assurance Section at 518-402-8727 or pestcomp@dec.ny.gov.

We're Not Done Yet—Solar Farms, Climate Change Management Tools, and More

Laura McDermott, CCE Eastern NY Commercial Horticulture Program

By the time you read this newsletter our regional team and many other agriculture educators will be just completing an ambitious slate of virtual workshops focused on a multitude of topics. Most of us have experienced more concentrated screen time than ever before. It's our hope that you were able to pick up information that will help you this year and for production cycles to come.

But did you attend any workshops on the most important agriculture topic of all time?

Climate change adaptation and/or mitigation, along with related and resulting green energy and sustainability information are more than just talking points. Our professions, our communities, our lives are being impacted by the changing climate. Unpredictable, historic and insidious – enormous changes and small, creeping data points – they are all adding up.

I'm right there with you – it's so much more fun to learn about new varieties, new methods, and new tools that we can use right now – but I encourage you to continue the intellectual heavy lifting this spring.

The Climate Smart Farming team offered a variety of workshops that were recorded and posted here: <http://climatesmartfarming.org/videos/>. Learn about *the Implications of Large Solar Installations and Leasing on Farmland*; *Using a Growing Degree Day Calculator for Cropping Decisions*; *Using the Water Deficit Calculator to manage irrigation in vegetable crops* and more.

For more in-depth engagement:

- ✓ Enroll in a 5 week course: [Network Climate Action: Scaling Up Your Impact](#).

- ✓ Know who to contact – The [NY State Climate Action Council](#) has chosen four from to Cornell to help draft a plan toward a zero-carbon economy. They include Lara Skinner, of the ILR School; Mary Beth McEwen, executive director, CCE of Oneida County; Julie Suarez, associate dean for CALS; and Peter Woodbury, Soil and Crops Sciences faculty in CALS.
- ✓ Introduce yourself – The new CALS Dean, [Dr. Benjamin Houlton](#), is internationally recognized for his research on ecosystem processes and for creating collaborations that drive sustainable agriculture and energy production. Click on his name – the research is exciting because it focuses on what we know best – soil.

Looking forward to hearing about what you learn!



Photo: Thomas Zagler

Farmer's Voice Survey: Cleaning & Food Safety

You asked, we listened, and now we have a few follow-up questions... Partners at the University of Vermont, Cornell University, USDA, and National Farmers Union Foundation are working together to develop a new training program to help small and medium-scale farmers take their businesses to the next level of safe and efficient vegetable handling systems. Do you have a few minutes to complete a short survey to help us? The voice of farmers is invaluable to the process.

Link to Survey: <https://forms.gle/zXYeYdXYo9P2ZAqt7>

For more information, contact Robert Hadad, Cornell Vegetable Specialist, Cornell Cooperative Extension.
Email: rgh26@cornell.edu Tel: 585-739-4065

Get “Into the Weeds” with this New Podcast!

Bryan Brown, PhD, Integrated Weed Management Specialist, New York State IPM, Cornell University

With long hours in the tractor, some farmers are starting to listen to podcasts to stay entertained. Extension educators are picking up on this trend, creating educational material meant to be played in the tractor. Farmers are so busy during the growing season that we think it makes sense to provide educational resources for this “down time” in the tractor.

Our first few podcast episodes focus on our trials to regain control of NY’s nasty new problem pigweed, tall waterhemp (*Amaranthus tuberculatus*). Project co-leaders Venancio Fernandez, Mike Hunter, Jeff Miller, Mike Stanyard as well as many others have been crucial to the success of this project.



More recent episodes are in an interview style, with guest experts Thomas Björkman, Jean-Paul Courtens, Lynn Sosnoskie, and Cerruti Hooks. These episodes delve into cover cropping, physical weed control, weed biology, and the interaction of weed management with insect pest management.

We are also working on getting approval for DEC credits to be offered to listeners, which, is becoming more important in our increasingly virtual world.

The first season includes eight episodes and we hope to record many more next year. The podcast’s full name is “Into the Weeds (New York State IPM)” and is available on most platforms, including [Spotify](#) or [Google Podcasts](#). Or just go to the NYSIPM “Weed IPM”

Markets that need Farmers for the 2021 season...

Town of Montgomery Market (Orange County)

Tuesdays 11-5

Specifically looking for animal products (dairy, eggs & meat).

Contact: Randi Picarello thebcgm@gmail.com

New York Botanical Gardens (NYBG) Farmers' Market in the Bronx

Wednesdays from 10am-4pm; mid-May through October 31st for both

Looking for fruits & veggies. Preference for a farm that can bring both, can also bring culturally-relevant specialty crops, and can support a CSA for on-site employees.

Fees: \$50 per vendor, not per tent, for each market.

Contact information: Pascale Le Draoulec, Director of Markets, at: pascale@morningglorymarkets.com 914.806.3360

NY & Market on Market @ Ridge Hill in Yonkers, NY

Fridays from 12pm-6pm; mid-May through October 31st for both

Looking for vegetables and fruit farms/orchards. Looking for one larger-scale vegetable farm that can do guaranteed, weekly wholesale volume for an on-site customer, one smaller vegetable farm and one fruit farm/orchard.

Fees: \$50 per vendor, not per tent, for each market.

Contact information: Pascale Le Draoulec, Director of Markets, at: pascale@morningglorymarkets.com 914.806.3360



Photo: Natasha Field

Upcoming Events

Managing Soil Nitrogen in Winter High Tunnels Webinar

March 5, 12-1:30pm

To meet the year-round demand for locally produced food, vegetable farmers have embraced protected agriculture to extend their growing season, improve yields, and enhance crop quality. However, a statewide survey found that after several growing seasons, farmers struggle to maintain productivity in tunnels due to challenges in long term soil health and fertility management. Cornell Cooperative Extension is exploring practices that high tunnel growers can adopt to better manage soil fertility and improve soil health: 1) Winter cover crops in high tunnel tomato rotations; and 2) Optimizing nitrogen fertility for winter spinach production.

Grab your lunch and join us for a virtual conversation to hear project updates and research results.

Please visit this link to register: <https://cornell.zoom.us/meeting/register/tJlqce2sqTouGtGBriflStiypE1wZUaysJ3>

Any questions can be directed to Caitlin Tucker at cv275@cornell.edu.

Modern Stone Fruit Training Systems Webinar

March 16, 11am-1pm

While yields of stone fruits planted to traditional orchard systems have been lagging behind our modern apple plantings in the northeast, research is actively being conducted to utilize improved rootstocks and modern, narrow training systems to increase productivity and reduce labor costs in peach and cherry systems.

In this webinar, we will be joined by Dr. Jim Schupp, Dr. Greg Lang, and Dr. Terence Robinson, as they review modern strategies for growing peaches and cherries in the northeast.

Register here: https://enych.cce.cornell.edu/event_preregistration_new.php?id=1527

Northeast Winter Fruit Seminar Series

Managing Apple Maggot Fly

Wednesday, March 3, 2021 - 11:45-1:30PM (1 DEC Credit)

Speakers: Dr. Suzanne Blatt (Ag Canada Kentville Research Station)

<https://ag.umass.edu/fruit/events/managing-apple-maggot-fly>

Managing Early-season Apple Insect Pests

Wednesday, March 10, 2021 - 11:45-1:30PM (1.25 DEC Credits)

Speakers: Dr. Jaime Piñero, (University of Massachusetts) and Glen Koehler (University of Maine Extension)

<https://ag.umass.edu/fruit/events/managing-early-season-apple-insect-pests>

Honeycrisp Bitter Pit and Soft Scald Management, & Ag-Radar: Weather Tools for Orchard Decisions

Wednesday, March 17, 2021 - 11:45-1:30PM (1.25 DEC Credits)

Speakers: Dr. Renae Moran, (University of Maine) and Glen Koehler (University of Maine Extension)

<https://ag.umass.edu/fruit/events/honeycrisp-bitter-pit-soft-scald-management-ag-radar-weather-tools-for-orchard-decisions>

Tree Row Volume: What it is, why it matters, and how to use it.

Tuesday, March 23, 2021 - 11:45-1:30PM (1.25 DEC Credits)

Speakers: Dr. Terence Bradshaw (University of Vermont)

<https://ag.umass.edu/fruit/events/tree-row-volume-what-it-is-why-it-matters-how-to-use-it-0>

NEWA 2.0: Project upgrades for 2021

Tuesday, March 30, 2021 - 11:45-1:30PM (1.25 DEC Credits)

Speaker: Dan Olmstead (NYS IPM Program)

<https://ag.umass.edu/fruit/events/newa-20-project-upgrades-for-2021>



Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program

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