Cornell Cooperative Extension Eastern NY Commercial Horticulture Program

Vegetable News E-Alert ~ May 5, 2021

Welcome to another season of CCE ENYCHP Vegetable News!

This has been a long and strange year, but the normalcy of getting into our greenhouses or outside getting field work done just feels good. And with a new growing season comes a new version of our Vegetable News – with another new format. This year we have decided to use a more condensed version with shorter articles of timely information in an E-Alert format with links to longer supporting documents that you can visit anytime. We will also be complementing our E-Alerts with podcasts several times a month or as needed. Podcasts will feature more conversational interviews with other ag educators, faculty members and growers on topics that are relevant to what's going on in the field. As we move forward this season with these formatting changes, we would appreciate any feedback you have. That feedback can be sent to Chuck Bornt at <a href="https://cdblage.com/

We wish you all the best in the upcoming growing season!

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Save the Date for your next Respirator Fit Test -Lower Hudson Valley

Fit tests will take place on:

Wednesday, May 26 and Thursday, May 27 at the Alamo Community Center, 890 Pulaski Highway, Goshen, NY

Call now to reserve your spot!

Scheduling appointments now through May 25th, 2021. To schedule an appointment please call the NYCAMH office at 607-547-7014 Monday-Friday, 8:00 AM-4:30 PM and ask to speak with farm respirator clinic scheduler or choose option #7. You can also email your request to <u>fittest@bassett.org</u>. When calling or emailing to schedule an appointment please have the following information available:

- Total number of people attending from your farm
- Name of each person being scheduled
- · Language spoken by each attendee
- · Make and model of each respirator to be tested

The New York Center for Agricultural Medicine and Health (NYCAMH) and HealthWorks is pleased to provide this respirator fit testing clinic at the Alamo Community Center in Goshen, NY. During the clinics NYCAMH will provide medical evaluations; respirator fit tests; and WPS compliant trainings on how to properly inspect, put on, take off, fit, seal check, use, clean, maintain, and store respirators.

Clinic appointments are one hour long, and groups of 4 workers can be seen at a time. Medical evaluations, fit tests, and trainings are available in both English and Spanish. If you are unable to attend the clinic in your area you may schedule an appointment at another clinic location.

A respirator fit test ensures that a particular make, model, and size of respirator fits the wearer's face and will meet the wearer's needs. A fit test is specific to the make, model, and size of respirator. If a worker wears more than one style of respirator, including filtering facepieces, they must be fit tested for each one. Please keep in mind while determining who will come to the clinic that a clean-shaven face is a necessity for masks to be effective and for fit testing to be possible.

It is important to us that your workers be protected from any respiratory hazards. It is important to us that you be protected from potential OSHA or DEC fines. If you have any questions, please call us.

Asparagus

by Chuck Bornt, CCE ENYCHP

Harvesting and planting of new asparagus plantings is underway or close to it. I thought maybe I would spend a minute of two talking about what needs to be done for establishing new beds this spring and tasks for beds that you are/will be cutting.

New Plantings

If you are planting asparagus this spring, there are a couple things to keep in mind:

• Make sure your pH is 7.2 or higher. Base your fertility inputs on soil testing (see tables below). Applying it broadcast and tilling it into the soil is fine or banding it 3" next to and below the furrow also works. Do not apply any fertilizer in the furrow except phosphorous. Studies have shown that applying 25-30 lbs per acre of a strait phosphorous fertilizer like triple super phosphate (0-46-0 or compost) to the bottom of the furrow and placing the crown directly on top aids in reducing transplant shock.

Furrows

For lighter, well-drained sandy soils, use a furrow or trench that is 8" deep. For heavier silt loams and clay soils, use a 6-8" deep furrow/trench. Trenches/furrows can be spaced 4-5' apart. Some growers

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have also chosen to place drip tape in the bottom of the furrow at this time so they can apply irrigation directly to the crown throughout the season. Crowns should be placed flat with buds up in the bottom of furrow 12" apart and covered with 2–3 inches of soil. As ferns begin to emerged, continue to use cultivation and slowly fill in the furrows a couple inches at a time throughout the summer until the furrow is level with the rest of the field. An additional cultivation may be required as furrow settle over the summer.

Established Beds

Generally, it is not necessary to apply fertilizer for an established asparagus crop until after harvest. For sandy coarse-textured soils, however, 20-25 lbs N/acre in the spring may be beneficial for spear development.

The table below presents fertilizer recommendations for established plantings. This fertilizer should be top-dressed after harvest to encourage the ferns to grow.

	P_2O_5 p	ounds	/acre	K ₂ O pounds/acre			
	Soil P Level	hosph	orus	Soil Potassium Level			Comments
N pounds/acre	low	med	high	low	med	high	
New plantings							
50	110	60	30	150	100	50	Total recommended
0	110	60	30	150	100	50	Broadcast and disk-in.
50	0	0	0	0	0	0	Sidedress at first cultivation.
Cutting beds							
50	75	50	25	80	60	40	Total recommended
50	75	50	25	80	60	40	Apply in the spring before spear emergence. Incorporate lightly

Recommended nutrients based on soil tests.

Weed Control

Here is a link to a lengthier article I've written to aid you in your weed control: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_976.pdf</u>

Chlorpyrifos Phase-Out in New York State

By Michael Helms, Extension Support Specialist, Cornell University

The New York State Department of Environmental Conservation (DEC) recently issues a draft regulation that prohibits pesticides containing chlorpyrifos (ie: Lorsban) from being sold, distributed, possessed, and used in New York State after July 31, 2021. The DEC has already taken steps to implement the phase-out of chlorpyrifos containing pesticides in New York State. Registration for 29 chlorpyrifos products not approved for apple tree trunk application were canceled as of December 31, 2020. These canceled registrations affected products used in agriculture, turf management, and indoor bait stations. However, 15 chlorpyrifos products approved for 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). Here is a link to the list of canceled and currently registered chlorpyrifos products: https://www.dec.ny.gov/chemical/122311.html

It is also recommended that you consult the DEC's product registration database (NYSPAD) (<u>https://www.dec.ny.gov/nyspad/products</u>) to confirm that any chlorpyrifos product you may have on hand is currently registered. *If you can't find it or have a difficult time with the website, please feel*

free to call Chuck Bornt oat 518-859-6213 who can help you figure if the material you have or not is labeled still.

If a pesticide is no longer registered in NYS, sales, use, or distribution within the state is prohibited and the product must be removed from the state or disposed or 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 aCleanSweepNY (<u>http://www.cleansweep-ny.org/</u>) event when they are made available. Keep in mind that open containers of unregistered pesticides are considered to be in use and either need to be disposed of, or clearly marked 'DO NOT USE, SAVE FOR DISPOSAL' and set aside until the product can be properly disposed of. 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 <u>pestcomp@dec.ny.gov</u>

Spring Management of Overwintering Cover Crops: Don't Wait!

By Thomas Björkman, Cornell University (Edited by Chuck Bornt)

One of the frightening things about using a rye cover crop is when it rains all spring (like this past week and a half), and the rye is over your cap by the time you can get to it. Rye that tall is really challenging to manage, and even when you get the ground worked, it takes a long time for the ground to be good for vegetables. Fortunately, there is no need to cut it close on killing that winter cover crop. Most overwintering cover crops give you the most value if you kill them guite early. Late April/early May is the best time to kill many cover crops. They can be killed with an herbicide that works at lower temperatures, and smaller plants can often be killed with shallow disking. For getting nitrogen value out of grains like rye, the best time to kill them is when they have recently greened up and have just started to grow perhaps six to eight inches tall. When rye is larger than that, the nitrogen concentration drops, leading to N tie-up when your crop needs it. An early kill can give you 30 to 50 lb N credit (yes, from those little plants!), while killing at boot can be a significant debit. Killing at boot also makes the rye slower to break down, gives less time for it to break down before you need to plant, and the crowns make it more difficult to prepare a seedbed. (Editor's note: In some reduced tillage systems, you may want more residue in order to promote the weed control and soil moisture saving benefits you get from having the mulch. However, keep in mind that this also ties up more nutrients and keeps early soils cooler. Having your planter properly set up as well with residue managers is a critical piece for reduced tillage systems to be successful.) The risk of missing the chance to kill it also goes up. Annual ryegrass, on the other hand, only becomes sufficiently sensitive to glyphosate when it's warm enough for it to really grow. Once that happens, don't delay because the young growth is the source of nitrogen. Fall-sown crucifers usually die in the fall (radish, mustard) or early spring (turnip). The latter is better for recovering N. In either case, there is little regrowth in the spring. The reason to control them early in the spring is to avoid volunteers from stray survivors. If you see yellow (or pink radish) flowers in the field, it should be a signal to act. The boot stage is a commonly recommended age for killing that is usually much too late. It is relevant in two situations: if the rye (usually a rye-vetch mix) is to be killed by mowing or rolling, the stems are susceptible at this point. The vetch is also at its maximum nitrogen content. I consider that a special case where the late kill is appropriate.

This Investment Pays Off

By Amy Ivy, CCE ENYCHP

(Vegetable News, Volume 6, Issue 3, May 3, 2018; Edited by Chuck Bornt, CCE ENYCHP)

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Editor's note: As I know many high tunnel and greenhouse tomatoes have been planted, I thought it would be a good time to revisit this article from Amy Ivy, retired Extension Educator that many of you might remember. I also wanted to remind you that as soon as you start to see flowers, it's time to get your bumble bees ordered. In my experience, they make a big difference in the size and quantity of fruit that are set and harvested. Koppert and most recently Gowarn Company, are good sources for bumble bees. Why bumble bees? They are very aggressive pollinizers – and if you have ever watched one work on a flower you will know what I'm talking about! Second, they work at cooler and cloudier conditions compared to honey bees and you can keep the hives right in the greenhouse/tunnel so they do not stray as much to the native plants that might also be flowering this time of year. Please be sure to keep plenty of water available for them in the greenhouse and provide shade over the hive on those sunny days to keep them happy!

May is an insane time around any NY vegetable farm and it's a challenge to prioritize the mountain of tasks each day. But a little time spent pruning and training your high tunnel tomato plants now can really pay off later. Not only will they yield better, your labor will be more efficient during harvest since workers won't be plowing through a dense tangle of leafy stems to get to the tomatoes. Here's a quick review:

- Remove lower leaves up to the first fruit cluster. Bend the leaf up, then down and it should snap off cleanly, making quick work of this simple but important task. Why? It increases airflow around the plant to discourage disease and makes the plant easier to work around.
- Strong Y–whether you are training determinate or double leader indeterminate(see below) start both with the Strong Y. See the photo to locate the weaker suckers to remove and the codominate sucker to keep just below the first flower cluster. Allow only the main leader and co-dominate leader to develop, removing all the other suckers and leaves up to this 'Y' junction on the plant. Why? The lower suckers are less productive. Removing them sends the plant's food energy to the remaining stems, shoots and fruit.
- Determinate tomatoes-train them to the 'stake and weave' aka 'Florida weave' system. Set a post between every 2-3 plants and start the horizontal twining early so the plants can grow up through



the support. Why? This level of support will keep the aisles open for efficient worker movement and will keep the fruit up off the ground for easy harvest.

- Indeterminate tomatoes—For large slicing tomatoes some growers prefer single leaders, some prefer double. When in doubt, the double leader system works well in most situations.
- In our cherry tomato trial we found the double leader system was the best option in terms of labor efficiency and yield, compared to a single or multi leader system.

Check out these helpful factsheets for more photos and details: Training and Pruning Tomatoes: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_346.pdf</u> Tomatoes for High Tunnels: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_345.pdf</u> Cherry Tomatoes in High Tunnels: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_677.pdf</u> Optimal Spacing for High Tunnel Tomatoes: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_360.pdf</u>



Dry Bulb Mites Cause More Damage to Garlic than Previously Known

By Crystal Stewart Courtens, CCE ENYCHP

The eriophyid mite or more commonly known dry bulb mite (*Aceria tulipiae*), has been documented in garlic crops in the United States since 1938 (Keifer 1938) and is considered the main pest in garlic in all production areas around the world, causing average losses of 23% (Larrain 1986). Dry bulb mites can cause significant damage to garlic crops in storage and in the subsequent growing season. In storage, each generation takes just 8-10 days to develop at room temperature (Courtin et al, 2000). Damage in storage presents as browned, shriveled cloves and increased secondary disease incidence. Heavily infested garlic that is replanted may die from secondary diseases over the winter or may emerge with stunted, twisted, and yellowed foliage resembling viral infection (Image 1). We have been sending garlic to our virologist for years and getting back negative results; it seems that many of the symptoms we were seeing were likely caused by dry bulb mite (*A. tulipae*).

Dr. Frank Hay is currently conducting research on whether in-furrow treatments might be used to control eriophyid/dry bulb mites during the growing season and results should be available at the end of the year. At the same time, I'm working with Chris Callahan and Christy Hoepting to collect more information about which drying and storage conditions can reduce the mites population growth. I've also applied for SARE funding to examine whether releasing predatory mites into storage might control existing populations, and am hopeful that we'll have another tool available to combat these mites. It seems likely that keeping mite populations at or near zero on garlic in storage will be the most effective year-round control for this pest, with furrow treatments being used as a secondary option.

I've written about how small these mites are in a previous article about dry bulb mites in storage, but it's worth reminding folks that these mites are small enough that you won't be able to see them even with a magnifying glass. They are visible at 40X and higher magnification, and are particularly difficult to detect on actively growing garlic, where they congregate in axils near the growing point. As we catalog the damage caused by these pests, that will be an easier way to determine if you have them or not. Stay tuned as this research continues to drill down into identification and management strategies over the next year.

Sources:

Keifer HH. 1938. Eriophyid studies. Bulletin of the California Department of Agriculture. 27:181–206.

Larrain SP. 1986. Incidence of attack by the bulb mite Eriophyes tulipae Keifer (Acar., Eriophyidae) on the yield and quality of garlic (Allium sativum L.). Agricultura Tecnica (Chile). 46(2):147–150.

Courtin, O; Fauvel, G; Leclant: Temperature and relative humidity effects on egg and nymphal development of Aceria tulipae (K.) (Acari : Eriophyidae) on garlic leaves (Allium sativum L.). G. Ann. appl. Biol. (2000), **137**: pp 207 -211.

> First leaves of garlic are twisted and sicolored due to mite feeding. Garlic generally grows through this level of damage. Photo: C. Stewart Courtens



How to Take a Photo for Crop Diagnostics

By Elizabeth Buck, Cornell Vegetable Program

Capturing diagnostically useful images is not as simple as snapping a picture of cute children or animals.

With the current push to work remotely, using pictures to quickly address production questions has a lot of appeal and utility. I love the idea of using grower-captured photos to hasten the trouble-shooting process, especially since it isn't always possible to make prompt farm visits. But in practice it can be quite tough to work out a problem using photos because of poor image quality. Smart phones make remote diagnosis of insect pests, diseases, and weeds in the field easier than ever if you know how to do it!

How can we make the most of our phones' cameras to capture important characteristics needed to make a positive diagnosis? Click this link to learn how to optimize your camera's settings, avoid blurry images, and identify which features we need to look at in order to identify a pest for you by text or email: <u>https://rvpadmin.cce.cornell.edu/pdf/resource/pdf67_pdf.pdf</u>

Start the Season Off on the Right Foot with Food Safety Training for Farm Workers

By Elisabeth Hodgdon, CCE ENYCHP

The beginning of the growing season is one of the most hectic times of the year. It's a race between weather events to get fields prepared and crops in the ground. New employees are settling into their positions. Before things get too busy, it's important to provide food safety training to workers so that good habits are formed early in the season. For farms covered by the federal Food Safety Modernization Act's (FSMA) Produce Safety Rule, there are specific requirements for worker training.

Who needs to be trained?

- At least one supervisor from the farm must complete the Produce Safety Alliance Grower Training Course.
- All workers and their supervisors who work with and handle covered produce (produce commonly consumed raw) and/or food contact surfaces must be trained prior to working with produce. These include paid employees, volunteers, and family members who work in production fields, harvest crops, and wash and pack produce.
- Returning workers need to be trained again each year.

Are records required to document worker training?

Yes. The Produce Safety Rule indicates that records must be kept of worker training. The record
must include the trainees' names, date of training, and topics covered. As with other records
required by FSMA, the record should also include the farm name and address, and should be
signed off and dated by a supervisor.

Which training topics are required by FSMA?

FSMA states that training must include:

- Principles of food hygiene and food safety;
- 2) Personal health and hygiene practices, and how they can impact produce safety; and
- 3) Any other required practices by FSMA that are relevant to the worker's job.

Click this link to learn more about what topics need to be incorporated into your produce food safety training and other considerations that need to be taken into account such as visitor policies and resources that can help you provide this training: <u>https://rvpadmin.cce.cornell.edu/uploads/doc_977.pdf</u>

Starter Solution Fertilizers at Transplanting

By Teresa Rusinek, CCE ENYCHP

One way to give transplants a boost through sub optimal temperatures is by using a starter fertilizer solution. Starter solutions are dilute mixtures of water and liquid or water soluble fertilizer to stimulate growth of young transplants such as tomato, eggplant, pepper, melons, cucumbers and cabbage. Soluble fertilizer easily dissolves in water and the nutrients are readily available for plant uptake. (Regular field grade fertilizers will not completely dissolve.) Starter solutions minimize transplant shock when plants are moved from a protected environment to an open field and help the recovery of disturbed root systems. Dry fertilizers at planting need to be placed carefully to avoid close contact with plant roots that can result in serious injury, while starter solutions can be added directly to plant roots.

Response to starter solutions is most likely when soils are cool and wet, and tests indicate low phosphorous and potassium. Soil test reports may indicate that phosphorous is plentiful in the soil, but it is not available to plants when the soil temperature falls below 60^oF. Because soil temperatures are often below this threshold in early spring, the addition of a starter solution at transplanting can give plants a boost by making phosphorus readily available.

Many different analyses of water-soluble fertilizers are available (e.g. 10-52-17, 14-28-14, 23-21-17, 20-20-20, 6-24-6, and 10 -34-0). They are generally used at a concentration of about three pounds per 50 gallons of water and about one- third this strength on squash, melon and cucumber plants. For vegetable production, it is generally recommend that starters contain 2 to 3 times as much phosphorus as nitrogen or potassium. Application of high nitrogen starters could result in excessive vegetative growth. Always carefully read the fertilizer label for recommended rates. Values here are only given as general guidance whereas the label is based on product testing.

Starter solutions can be applied several ways. Some growers soak the root system with starter solution either by dipping trays or watering in overhead before transplants are set in the field. Dipping trays is not an ideal method in my opinion because of the potential for moving and spreading pathogens from plant to plant and tray to tray. If starter solution gets on leaves be sure to rinse the leaves with water to avoid burn. Another method of application is at the time of transplanting by using starter solution in the water wheel transplanter tank. The primary concern is that roots have immediate access to a readily-available source of phosphorus. However you do it, the goal is to soak the entire root system uniformly with starter solution (about ½ pint per plant).

Note: Do not apply starter solutions when soils are excessively dry since such conditions could result in root damage. Irrigating the field before planting will help avoid root burn.

Sources: 2021 Cornell Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production

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