Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

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Vegetable New

OMRI and Conventional Options for Flea Beetle Suppression Ethan Grundberg, CCE ENYCHP

Crucifer flea beetles, *Phyllotreta cruciferae Goeze*, emerged abruptly with some warm weather in mid-May and have been causing damage on susceptible brassica crops. Most growers are all-too-familiar with this pest and have a few strategies to limit damage from flea beetles already in their toolbox. However, this generation of flea beetles will continue to be active through around mid-June, so it's worth revisiting a few of the other options available if your preferred method falls short this season.

Prevention: Young transplants and

Typical shotgun type small holes caused by crucifer flea beetle feeding on white mustard cover crop

recently emerged direct seeded crops at the cotyledon stage are the most susceptible to damage. Rotating spring brassicas as far away from fields that had cole crops the previous fall can help reduce the pressure. Keeping field edges clean of mustard weeds can also reduce flea beetle populations that then migrate into production areas. On a smaller scale, insect netting or floating row cover can also be used, but must be secured at soil level before flea beetle emergence to prevent them from getting underneath and having a feast. Mustard cover crops, as shown in the image, can also be flea beetle magnets and should be carefully managed as far away from brassica cash crop fields as possible. Once flea beetles have reached a threshold of an average of 1 beetle per plant or 10% average leaf damage, it's time to consider chemical control options.

Conventional Options: There are a number of pyrethroid (IRAC Group 3A) insecticides labeled for flea beetles that provide quick knock downs of populations. A few of the labeled pyrethroids labeled for use in New York are Baythroid *continued on next page*

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XL (beta-cyfluthrin), Brigade 2EC (bifenthrin), Warrior II with Zeon Technology (lambda-cyhalothrin), and Mustang MAXX (zeta-cypermethrin). Given that this generation of flea beetles will still be active for a few weeks, growers may want to consider pre-mix products of pyrethroids and neo-nicotinoids (IRAC Group 4A) that will provide longer residual control. Two common options are Leverage 2.7 (imidacloprid + cyfluthrir) and Endigo ZC (lambdacyhalothrin + thiamethoxam). One other pre-mix product with longer residual than a straight pyrethroid and with less potential to hurt pollinators than the neo-nic mixes is Voliam Xpress. Voliam Xpress is a mix of lambdacyhoalothrin and the IRAC Group 28 diamide insecticide chlorantraniliprole (same active ingredient in Exirel). The neo-nicotinoid Admire Pro (imidacloprid) is labeled as a foliar spray for flea beetles. Please note, soil applications of Admire Pro on brassicas are only labeled for aphid, leafhopper, thrip, and white fly control, NOT for flea beetles. In a 2015 field trial conducted in Virginia, Brigade

provided the best level of flea beetle suppression when compared to Admire Pro and Exirel.

Organic Options: Like with the conventional options, there are a number of OMRI options labeled for flea beetle suppression. However, in field trials both at UMass and New York State IPM, few provided a statistically significant reduction in flea beetle pressure over untreated controls. Spinosad products, like Entrust, have generally shown the highest efficacy and can be mixed with OMRI-approved spreader-stickers to improve performance. A trial in Maryland from 2011 showed good performance from Azera, a pre-mix of azadirachtin and pyrethrins (IRAC Group 3A), especially when mixed with Surround WP (kaolin clay). Finally, a 2013 trial in New York found that both Grandevo (Chromobacterium subtsugae strain PRAA4 -1T and spent fermentation media) and Venerate (Heatkilled Burkholderia spp. strain A396 cells and spent fermentation media) reduced flea beetle damage on cabbage under low pressure.

Considerations When Planting Sweet Potatoes Chuck Bornt, CCE ENYCHP

1. Fertility: sweet potatoes are not heavy nitrogen feeders and typically only require about 50 pounds of actual nitrogen – additional amounts can lead to more growth cracking and rough root appearances. Varieties such as Beauregard and Covington are less sensitive to the nitrogen levels, but still do not require much more than the recommended 50 lbs. They are however high potassium consumers requiring 120-150 pounds of actual potassium. Potassium helps ensure uniform roots and is essential for flavor and storability. Sweet potatoes require 60 pounds per acre of phosphorous, but these levels should be adjusted to your soil type and frequent soil nutrient testing.



3. **Do not "soak" your plants in water!** This does not help and usually only makes them slimy and encourages bacterial breakdowns. If you need to hold your plants for more than 3 or 4 days, place them standing up in shallow trays filled with sand or potting mix and keep the media moist.

4. Make sure the beds you are planting in are moist and maintain good moisture for at least 7—10 days after planting to ensure the plants start to root well.

5. Planting is probably one of the most labor consuming issues with this crop. Personally, if you are planting on plastic much with a waterwheel, I think the standard spike leaves to large of a hole in plastic and is very slow. They don't really

2. Try to plant them as soon as you receive your plants—do not try to hold on to them for more than a couple of days. If you can't plant them right away, <u>do</u> <u>not put them in a cooler</u>—keep them in a cool, shady area. Coolers can be too cold and result in the plants getting injured. If possible, open the boxes and spread your slips out if you can't get them planted right away.

necessarily need the water from the wheel if your beds are good and moist to begin with. Giving your crew a couple pieces of $3/8 - \frac{1}{2}$ " rebar and letting them poke and plant is quicker and doesn't leave that huge hole in the plastic. To keep your spacing, you can attach a flag or piece of wood to the rebar and gauge it that way or eyeball it.

 Along with #6, the deeper the hole when you plant the better and the rebar allows you to make the holes nice and deep (and straight, not at an angle like the waterwheel)! Make sure your slips are planted as deep as you can get them without burying the growing point. Each node along the stem is potential for more yield!

 Spacing: everyone uses different spacing, but research we conducted several years ago indicated that when using beds mulched with black plastic (30—36" wide), using a single row down the middle of the bed 12— 15" apart or a double staggered row (like for peppers) at 18" apart in the row and 12" between the rows worked best.

The last bit of information that I'll leave you with is while doing some recent reading, it was brought to my knowledge that sweet potatoes actually do not fare well in soils with high levels of organic matter. High levels of organic matter have been linked to root staining and some overall poor root quality such as long spindly roots (probably the result of too much nitrogen being released from the organic matter).

Time to Put Up Sweet Corn Traps Teresa Rusinek, CCE ENYCHP

Trapping moths is a useful tool for monitoring flights of key sweet corn Lepidopteran pests, assessing pest pressure and timing sprays or releasing parasitoids. European Corn Borer (ECB) activity is still very low, even in New Jersey, but they will be emerging



from their overwintering sites in greater numbers over the next few weeks and in the earliest sweet corn you may have to take action earlier than you think. ECB are attracted to the most advanced corn planting when they emerge, often this is corn grown under plastic or row cover. In our region ECB overwinter in corn stalks or in weeds in field borders, they typically emerge late May to early June. Most areas have both strains of ECB: Iowa-E-I and NY-Z-II. If you are interested in placing traps on your

farm (which is ideal), you can order net and bucket traps as well as pheromone moth lures from Great Lakes IPM, http://www.greatlakesipm.com/ or Gemplers http:// www.gemplers.com. For sweet corn, we put out three heliothis net traps, two for each of the ECB strains and one for Corn Earworm which will be flying up from the south in a few more weeks. You may also want to monitor for Western Bean Cutworm and Fall Armyworm. Green bucket traps work well for these moths. If you need help ordering these items feel free to email me tr28@cornell.edu or call 845 691-7117. You can find lots of useful monitoring information for scouting freshmarket sweet corn at the NYS IPM Sweet Corn Pheromone Trap Network webpage <u>http://</u> sweetcorn.nysipm.cornell.edu/. You may be interested in following ECB and CEW moth flights if you grow peppers and tomatoes as these are susceptible crops particularly when local corn is drying down and less attractive to egg laying moths. You can also follow our Eastern NY trap network counts weekly in this newsletter.

Thrips on High Tunnel Cucumbers Amy Ivy, CCE ENYCHP

Cucumbers thrive in high tunnels but so do the pests that love them so. This week I saw extreme feeding injury caused by thrips, not just to the leaves which is typical, but to the fruit as well. Unfortunately we don't have many control options, and with so many generations a season this is a particularly difficult pest to control.



An organic option is spinosad (Entrust) and a conventional option is Baythroid, both approved for tunnel application. Bio-control options exist but must be introduced early and $V \in G$ $N \in W S$ repeatedly to keep the thrips population in check. They are not effective once the pest population is well established. Both western flower thrips and onion thrips can infest and significantly damage cucumbers.

For more information on thrips, mites and other high tunnel pests see *Sustainable Pest*

Management in Greenhouses and High Tunnels, a SARE factsheet based on Judson Reid's research.

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Be on the Lookout for Cucumber Beetles! Crystal Stewart, CCE ENYCHP



Cucumber beetles will soon be active in the region, so make sure to scout and appropriately protect cucurbits. Young transplants and direct seeded cucurbits are a priority to protect because cucumber beetle feeding early on can vector bacterial wilt, a disease which can kill plants during hot, dry weather and/or heavy fruit set. Many conventional growers choose to treat either seed or transplants with a systemic insecticide which will protect them for a few weeks, after which point additional sprays will be needed to control new adults which fly in. Organic growers can either use row cover or a coating of Surround (kaolin clay) to protect transplants, followed by insecticide sprays later in the season. Both organic and conventional growers should time any insecticide applications to avoid harming the bees. This generally means spraying in the late afternoon/evening.

If scouting for cucumber beetles, check the flowers of older cucurbits first, as this is a very favored location. However, all stages of cucurbit will be fed on.

-Worker Protection Standard-



WPS training video – link for streaming: Here is a video that is EPA approved for training staff. It is not super exciting, but it will do the job! <u>https://</u> <u>vimeo.com/215241678</u>. Please be sure to show this video in its entirety. Also remember to have workers sign document to prove that they had been trained and date it – include your signature (or the signature of the certified pesticide applicator that is conducting the training) and your applicator #.

Join TASTE NY and Cornell Cooperative Extension of Broome County in a spring webinar series focused on growing your farm or food-based business by focusing on management of time, product and labor. These three components of business operations are often the most difficult to manage as businesses look to scale up into additional market channels, such as wholesale or larger market opportunities. Over the course of three brownbag webinars, speakers will discuss the most important aspects of management of time, product and labor, how to identify and implement potential solutions and best practices, as well as offer tips and resources. We hope you will join us!

Wednesday May 30th @ noon -- Staff Retention in a Struggling Economy: This workshop will address research on rewards and incentives in the workplace. Learn about tools to attract and retain farm & food business staff and reduce staff turn-over.

Join Elizabeth Higgins, Ag Business Management Specialist with the Eastern NY Commercial Hort Program, for a brown bag webinar on "Staffing Retention in a Struggling Economy" on *Wednesday May 30th at noon*! Grab your lunch, sit at your computer and watch as she discusses research on rewards and incentives in the workplace. Learn about tools to attract and retain farm staff and reduce staff turn-over.

Just sign up here so we know who will be joining us!



Cabbage aphids got your buds??

Flea beetles nibbling on your last nerve??



Join the Brassica Pest Collaborative!!!

What is it?

A group of Northeast Extension educators, researchers and growers dedicated to finding and sharing new ways to combat old pests. A coordinated new approach to outreach and education focused on managing perennial insect pests. An Extensive research program focusing on ecological, multi-faceted, cost-effective control strategies.

Our goals

Increase farm revenue by reducing crop damage and increasing marketable yield as growers adopt effective, ecological pest management practices. Increase understanding of pest biology and confidence in implementing best management practices and getting control of brassica insect pests

What does it include?

- Website: A clearinghouse of information on pest biology, scouting, management, record keeping
- Short videos and online workshops: Short, pest-specific videos and presentations to dig deeper on the most troublesome pests and learn new, effective management tactics
- **Email forum:** Regional, timely discussions among Extension educators, researchers and interested brassica growers including pest alerts, observations, questions, and research updates
- **Facebook Group:** Open to commercial growers and educators in the Northeast to share and discuss relevant pest alerts, observations, research findings, useful resources
- **Field days:** Come out to see our extensive research program on brassica pest management. Field days will be hosted in NY, CT, MA, and NH to showcase and see demonstration plots
- **Grower Collaborators:** Work with the research team to implement a new pest control strategy on your farm and share your results like an on-farm trial—contribute to a regional effort to understand the cost efficiency of various practices

How to get involved?

- Send us your questions! We will use them to prioritize topics for making videos and other resources, just follow this link: <u>http://bit.ly/growerneeds</u>
- Sign up for the email forum: <u>http://bit.ly/bpcforum</u>
- Use the resources on our website here: <u>http://bit.ly/brassicapestcollaborative</u>
- Become a grower collaborator: email <u>brassicapest@umext.umass.edu</u>
 Please include farm name, brassica acreage, and crop-pest-control strategy of interest



University of New Hampshire Cooperative Extension

Cornell Cooperative Extension Suffolk County

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VOLUME 6, ISSUE 5

20 Minute Ag Manager

All webinars run from 12:00-12:30pm

For more information: Contact Liz Higgins at emh56@cornell.edu

To register, go to <u>https://tinyurl.com/y9gfqbmx</u>. *Registering once gives you access to the series*.

May: Basic Farm Finances

•May 29—Understanding Assets and Liabilities vs Income and Expenses

June: Zoning and Land Use

- •June 5—NYS Ag Assessment 101
- •June 12—Local Zoning 101
- •June 19-NYS Ag Districts 101
- •June 26—Using On-line Data and Maps to Assess a Property Remotely

July: Managerial Accounting

- •July 3—Budgeting 101
- •July 10—Assessing a Capitol Investment
- •July 17—Relevant Information and Sensitivity Analysis
- •July 24—Pricing for Profit
- •July 31—Know When to Hold'em, Know When to Fold'em (assessing performance)

August: Insurance

- •August 7—Crop Insurance 101
- •August 14—Crop Insurance for Diverse Farms
- August 21—Flood Insurance and Other Disaster Programs



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