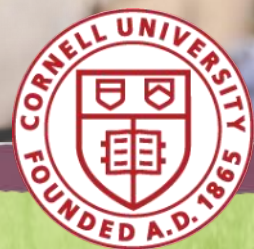


Vegetable News

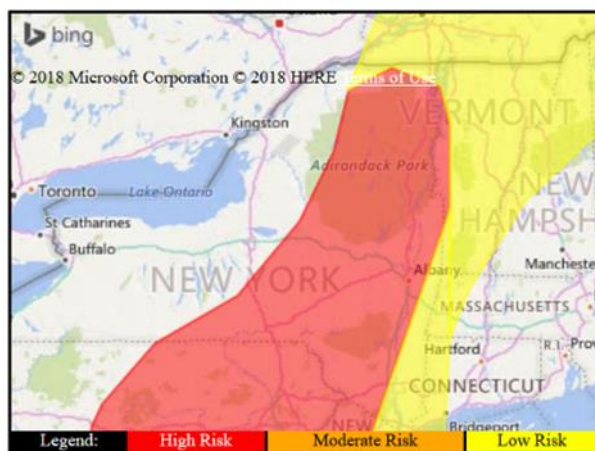


Cucurbit Downy Mildew Update

Charles Bornt, CCE ENYCHP

As you may remember, a couple weeks ago Cucurbit Downy Mildew (CDM) was found in New Jersey and up until this week, most of eastern NY was under “low risk” of spores blowing in. However, as you can see in the image from the CDM Forecasting System, the case for making sure you have fungicide coverage on all your cucurbits (especially cucumbers!) is all the more important!

Risk prediction map for Day 2: Wednesday, July 25



According to the forecast, eastern NY is under a “**HIGH Risk**”! **Regional Weather: Southeast / mid-Atlantic U.S: Rainy through the East Coast states. A stalled front in the East will be joined by a cold front moving in from the central U.S. Strong moisture feed from the south ensures more clouds and rain through mid-week. Some drying may occur from the west on Thursday. Highs in the 80s to low 90s, lows in the 60s and 70s. Overview: Epidemic spread likely in the East. Transport events move near-source and ... north / NW (Tuesday), north / NE (Wednesday), and northeast (Thursday). Conditions are favorable during a very large number of these events.** The last couple of years this program has been pretty accurate when it comes to determining when we saw our first CDM. Usually within a week or so we were able to find CDM within the region. This coupled with the current weather pattern is CDM’s dream come true.

Remember that cucumbers tend to be the crop most affected by this particular strain. Look for yellow spots on the upper leaf sides on new growth and a grey/ purple fuzz on the underside of the leaf where those yellow spots are located (Figure 2) – early morning under dewy conditions is the best time to find the fuzz on the undersides. For symptoms on other cucurbits go to <http://cdm.ipmpipe.org/node/22>

continued on next page

Table of Contents

Cucurbit Downy Mildew Update?.....	1
Angular Leaf Spot.....	2
Haiku.....	3
Symptoms of Nutrient Tomato Deficiency	3
Swede Midge.....	4
Who Did That?.....	5
Gleaning Opportunity.....	6
Upcoming Events.....	7

ENYCHP Video of the Week: Video Pest Report July 25th

[Now Available on our YouTube channel!](#)



So what's this all mean? It means that it is highly likely CDM is or will be moved into our region and your plants have been exposed to CDM spores. ***If you haven't started your DM fungicide program it's time to start!*** I've put together a list of fungicides labeled for CDM in Table 1. The good news, if there is any, is that conventional growers have a new fungicide labeled this year for use that is highly effective on CDM call Orondis. The active ingredient in Orondis is oxathiapiprolin and is the first in a new chemical group (FRAC code 49, previously U15). It is highly effective for diseases caused by oomycetes (downy mildews, late blight and phytophthora blight).

However there are a few things to know. First, there are three formulations of Orondis on the market: Orondis Gold, Orondis Opti and Orondis Ultra. Orondis Gold is labeled for soil applications and if it was used at planting, no foliar applications of Orondis are allowed! If you did not use Orondis Gold, the other two formulations are labeled for foliar applications but again there are some differences. First, Orondis Opti also contains chlorothalonil so if you use this one you will not have to add extra protectant. However, for cucurbits it only has CDM on the label. Orondis Ultra also contains mandipropamid the active ingredient in Revus and has CDM and Phytophthora blight on the label! It would also need to have a protectant such as chlorothalonil or copper mixed in with it. Additionally, for resistance management, no more than **2 consecutive applications of any Orondis fungicide are allowed;** next application must be a fungicide that does not contain a code 49 active ingredient and also a code 40 when Orondis Ultra is used. When at least 3 applications will be made, Orondis fungicides can be no more than 33% of the applications, or a maximum of 4 applications per planting, whichever is fewer.

Orondis Ultra or Opti are the first go to products, but if you suspect CDM and you don't have or can't get ahold of an Orondis product, my first choice would probably be Curzate or Tanos (as they have some kickback activity) but are short lived so it needs to be mixed with a protectant such as chlorothalonil and another translaminar fungicide such as Ranman, Zampro etc. Please remember to rotate your fungicides! I have given you the FRAC codes to help determine the different classes they belong too—do not apply products or pre-mix products from the same FRAC code back to back. If possible, switch to a different one. **Please note that Previcur Flex and Presidio are no longer being recommend for CDM!**

Organic options for DM: There are a number of organic materials labeled for Downy mildew, but for the most part many of them have not shown very good efficacy in most

trials. If applied before the disease is started copper remains one of the better choices. Other options include Double Nickel 55 Biofungicide, Regalia Biofungicide, Actinovate AG and OxiDate 2.0.

Angular Leaf Spot in Cucurbits

Charles Bornt and Crystal Stewart, ENYCHP

I've been waiting for this pathogen to show up as it is an annual issue, but I thought that with the hot, dry weather we might not see a whole lot – well that's certainly not the case! Late last week and early this week I've found it on just about every farm I've been on in everything from cukes to summer squash and even butternut and several of my colleagues noted the same. Now with the prediction of the rest of this week's weather and what rain we've already gotten, I think a bit more will be showing up too.

Angular leaf spot (ALS) is caused by a bacterium *Pseudomonas syringae*, which attacks cucumber and zucchini squash primarily but also is a problem for melons, some winter squash, pumpkins and gourds. Summer squash right next to the zucchini appeared unaffected so far. This is something of a regular occurrence the last couple years with ALS showing up very early in zucchini plantings. Initial leaf symptoms appear as small, irregularly shaped, water-soaked lesions. The spots expand until they are limited by larger veins, giving them the angular appearance which the disease is named for. Under humid conditions, the water-soaked spots can be covered by a bacterial ooze, which can dry and give the leaf area near the spot a crusty appearance (Figure 1). This can also happen on the underside of the leaf. As the spots dry, they shrink and tear away from the healthy tissue leaving large, irregular holes and giving the leaf a ragged appearance. Squash and watermelon leaf lesions are more variable in size than cucumber lesions which are usually smaller. The squash and melon lesions can be surrounded by a yellow halo. Lesions can appear on the fruit as well, but will be usually smaller and more scabby looking (Figure 2) more circular and are smaller than on the leaf. If left untreated, the ALS lesions will crack open, allowing secondary fungi and bacteria to invade possibly resulting in a slimy, foul-smelling fruit rot. The *Pseudomonas* bacterium is a seedborne pathogen, but it can also overwinter in infested crop residues. The disease is widespread and is especially damaging when there are extended and frequent summer rains when daily temperatures range between 75 and 82° F.

To manage angular leaf spot:

1. Strive to plant certified, pathogen-free seed. There

are resistant cucumber varieties, but no squash or melons are resistant.

2. Rotate: A cucurbit rotation should avoid replanting in the same field for at least 2 years as the bacteria can survive for that same duration.
3. Do not over fertilize and avoid overhead irrigation as well as handling plants while they are wet. This includes cultivation, harvesting etc. Harvest clean plantings first and any infected plantings last as this will help slow the pathogen down.
4. Plow under or burn crop debris immediately after harvest.
5. Apply a recommended bactericide at first sign of



Angular leaf spot on fruit

disease. Because it is a bacterium, copper containing

Vegetable Specialist's Haikus



Symptoms of Nutrient Deficiency on Tomatoes

Amy Ivy, CCE ENYCHP / Updated by Teresa Rusinek 7/24/2018, CCE ENYCHP

Some nutrient deficiencies are relatively easy to identify by looking at your plants, see the photos below for some examples. But to get the best yield you can, **don't wait until you see symptoms** before you adjust your fertility! Regular foliar testing every couple of weeks during the peak season can help you catch and correct small problems before they can impact yield or fruit quality. Contact any of us on the team for help getting started with foliar sampling and interpreting the results.



Yellow shoulders and uneven ripening are often caused by or exacerbated by low K levels. Growers need to keep providing K as the crop load increases in mid-summer, many do this through periodic fertigation. High soil

levels of Ca and Mg can impede K uptake.



Classic Mg deficiency symptoms, very common on lower leaves of high tunnel tomatoes. Not a concern unless young leaves show these symptoms. Foliar Mg sprays can alleviate deficiencies.



Phosphorus deficiency often shows up as drooping leaflets with an outward curl and a purple tint around the margins and underside of the leaf. Overall plant growth is slowed giving a dwarfed look with poor fruit production. Phosphate can be applied through drip lines (fertigation).



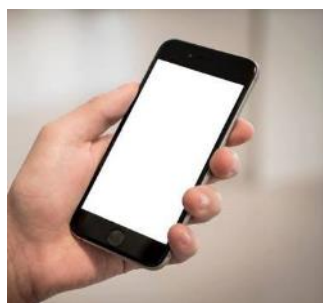
Mn deficiency causes marginal burning like this usually in the leaves about four feet high on the plants. If your irrigation water has a pH over 7.0 acidifying it can help (sulfuric acid for conventional growers,

citric acid for organic growers). But excessively high soil levels of P, Ca, and/or Mg can inhibit Mn uptake as well. Mn deficiency can result in blossom drop at this four-foot level.



Calcium Deficiency often result in blossom end rot. In severe cases you may see die back of growing tips. Calcium deficiency can result after a period of dry soil conditions. Maintain adequate soil moisture and calcium

levels. Excessive N in the form of ammonium as well as K and Mg in the soil impedes Ca uptake. Calcium nitrate can be applied through irrigation system (fertigation). Foliar sprays are not effective.



This season, CCE ENYCHP will be offering text updates straight to your phone. Our texts will get you the information you need in the fastest and most concise way possible! Only the most important crop alerts will be sent ("Late Blight found in N.Columbia County", for example), and you can choose to receive updates on whichever commodities you wish- Vegetables, Berries, Grapes, or Ag. Business.

[CLICK HERE TO SIGN UP FOR OUR CCE ENYCHP TEXT ALERTS!](#)

Seen This? Let us Know!

Amy Ivy, CCE ENYCHP

Swede midge is not widespread through eastern NY yet, thank goodness, but we are very curious to know where it is showing up. It is well established in western NY, the west side of the Adirondacks, Canada and Vermont, so eastern NY is pretty well surrounded by it. Yet we know of only a few infestations. Please let any of us know if you see suspicious damage like in these photos in any of your brassicas: broccoli, cabbage, cauliflower, Brussels sprouts, kale and collards.

For more information on this pest visit: <http://web.entomology.cornell.edu/shelton/swede-midge/index.html> Here are some pictures of the damage it does. There are several generations a year and the tiny larvae burrow into the tissue, causing scarring and distorted growth as seen below:



Broccoli

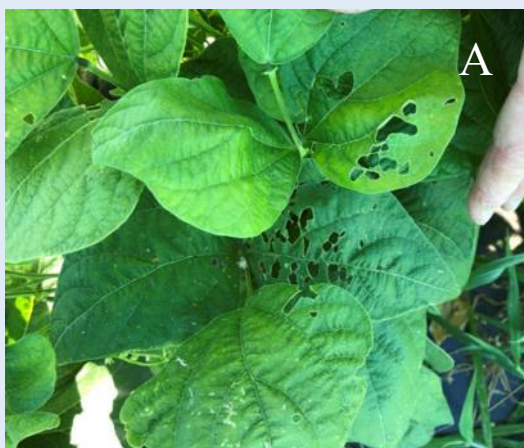


Brussel Sprouts



Kale

Who Did That? Late July Edition



Which damage do you recognize? See answers on page 6.

Answers:

- A. Asiatic Garden Beetle. This is a relatively new pest that in most cases doesn't cause serious injury. It's mysterious since it only feeds at night and hides in the soil by day, so you'll see the damage but not the culprit. I found lots of these small, reddish brown, jellybean shaped beetles while handweeding some peppers which disturbed the soil and brought them to the surface. Here's a picture of the adult:
- B. Slugs and Snails. Both of these crustaceans feed at night and avoid the sun. Their damage is distinctive but these culprits can be hard to find. They like dark moist areas, such as under mulch and decomposing leaves.
- C. Japanese beetles cause very characteristic feeding damage, turning leaves to lace. They are usually easy to find at the scene of the crime since they don't mind daylight.
- D. Stinkbugs, both green and brown, cause these characteristic 'stings' to tomato fruits, which often don't become noticeable until after the damage was done.



SQUASH HUNGER

Fresh Food For All

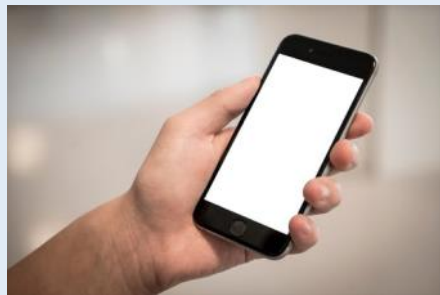
FARMERS: LET US HELP YOU HARVEST

Since 2004, Capital Roots' Squash Hunger program has worked with local farms and producers throughout the Region to harvest surplus crops for distribution to area food pantries, soup kitchens and shelters. With help from a corps of dedicated volunteers, in 2017 we redistributed **74,057 pounds** of produce with more than 50,000 of those pounds coming from local farmers and producers!

When you host a gleaning with us, Capital Roots' staff and trained volunteers come to your farm prepared to harvest surplus crops from your fields. We have the knowledge and resources to get the job done with little effort on your part besides directing us to the fields/rows to be gleaned. If you have surplus crops already harvested, we will gladly come and collect those crops – just a phone call or email to our Squash Hunger Coordinator to set a date/time is necessary.

All produce donations received are weighed, documented, and delivered to community feeding programs around the Capital Region. Your farm is protected from liability under the **Good Samaritan Act** and Capital Roots can provide a receipt for claiming the new **Farm to Food Bank tax credit**. Gleanings can be scheduled any day of the week, including weekends! If we can't harvest it all in one day, we are always willing to come back as many times as needed.

Please contact Capital Roots about working with us to help Squash Hunger in the Capital Region! If you're interested in setting up a gleaning, donating already harvested produce, or you just have questions about how this would work on your farm, please call **Cheryl Whilby** at **518-274-8685 ext. 115** or email squashhunger@capitalroots.org. We look forward to working with you!



CLICK HERETO SIGN UP FOR OUR CCE ENYCHP TEXT ALERTS and stay in the know about pest outbreaks in our region!

<https://mailchi.mp/7a7cc033546c/k24yc2ayt1>



Upcoming Events

July/ August 2018

20 Minute Ag Manager Webinars:

All webinars run from 12:00 until 12:30.

To register, go to <https://tinyurl.com/y9fgbmx>. Registering once gives you access to the series.

August: Insurance

August 7—Crop Insurance 101

August 14—Crop Insurance for Diverse Farms

August 21—Flood Insurance and other Disaster Programs



[Previous 20 Minute Ag. Manager sessions are now available on our ENYCHP YouTube—Learn the highlights in just 5 minutes!](#)

July 31st, 2018— Reduced Tillage in Organic Systems Field Day 9am—3pm
Cornell Willsboro Research Farm, free and open to the public, for questions call Amy Ivy at 518-570-5991 or adi2@cornell.edu, DEC Credits have been applied for.



Vegetable Specialists

Chuck Bornt
Cell: 518-859-6213
Email: cdb13@cornell.edu

Amy Ivy
Cell: 518-570-5991
Email: adi2@cornell.edu

Teresa Rusinek
Phone: 845-340-3990
x315
Email: tr28@cornell.edu

Crystal Stewart
Cell: 518-775-0018
Email: cls263@cornell.edu

Maire Ullrich
Phone: 845-344-1234
Email: mru2@cornell.edu

Ethan Grundberg
Phone: 617-455-1893
Email: eg572@cornell.edu

Business Specialist

Liz Higgins
Cell: 518-949-3722
Email: emh56@cornell.edu

ENYCHP Office

518-746-2553
415 Lower Main Street
Hudson Falls, NY 12839
aef225@cornell.edu

Office Hours: Monday,
Wednesday & Friday
8:30am—4:00pm

