

Cornell University  
 Cornell Cooperative Extension  
 Eastern New York Commercial Horticulture

# Vegetable News

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## Cercospora Leaf Spot on Beets and Swiss Chard

Teresa Rusinek—ENYCHP

*Cercospora leaf spot is showing up in the field and frequent rains are not helping matters. However, there are steps growers can take to prevent and/or manage this disease to reduce losses. Below is an Article by Bess Dicklow, Rob Wick, and Ruth Hazzard, UMass Plant, Soil, and Insect Science Dept. The Chemical Control Section has been edited by Teresa Rusinek.*

Cercospora leaf spot, caused by the fungus *Cercospora beticola*, occurs wherever table beets, swiss chard, sugar beet, and spinach are grown and is one of the most important diseases affecting the Chenopodium group. It can result in significant losses, particularly in late summer when conditions are favorable (high temperatures, high humidity, long leaf wetness periods at night). Leafy greens become unmarketable, and beet roots fail to grow to full size when disease is severe.

### Identification

Symptoms occur as numerous, initially small circular leaf spots. Spots have a pale brown to off-white center with a red margin. Lesions expand in size, coalesce, turn gray as the fungus sporulates, and can result in extensive loss of foliage. Leaves at the center of the plant are often less severely affected. The pathogen produces sclerotia or stromata which can be seen with a hand lens as small, black dots in the center of lesions. Lesions may also occur on petioles, flower bracts, seed pods, and seeds. Leaf symptoms are similar to those caused by Beet Phoma (*Phoma betae*), except that the phoma will have more obvious tiny fruiting bodies in the lesions and can also affect the roots.

### Source and survival

*C. beticola* survives between crop cycles in residues from infected crops (as sclerotia), in weed hosts, and on seed. It can survive in the soil for up to two years. High levels of disease can result from just a few infected plants since each lesion produces numerous conidia. Several cycles of infection and conidium production may occur with favorable environmental conditions. Spores can

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penetrate the leaf directly through open stomates. The pathogen is favored by high relative humidity and temperatures between 75-85° F and is spread by rain splash, wind, irrigation water, insects, workers, and equipment. Leaf wetness during the night, even with dry conditions during the day, encourages disease. Successive plantings made close together can allow disease to move from one planting into the next.

### Cultural management

- Bury infected crop residues and destroy volunteer plants and weed hosts.
- Start with certified, disease-free seed, or treat seed with hot water or fungicides.
- Rotate to non-host crops (outside of the Chenopodium family) for 2-3 years.
- If disease is present, do a once-over cut rather than cutting chard or spinach for regrowth.
- Avoid planting succession crops close together.
- Avoid overhead irrigation if it will result in prolonged leaf wetness periods (e.g., through the night); irrigate mid-day when leaves will dry fully or use drip irrigation.

### Chemical controls- edited by Teresa Rusinek

For optimum results use protectant fungicides as a preventive treatment, prior to infection and symptom development. Pathogen populations resistant to sterol demethylation-inhibiting (DMI's, FRAC Group 3) fungicides have been reported, so although these products are

labeled, fungicides with other modes of action should be used. These include azoxystrobin (Quadris) (Group 11); basic copper sulfate and other copper products (Group M1); pyraclostrobin (Cabrio) (Group 11); trifloxystrobin (Gem 500 SC) (Group 11). Do not alternate Group 11 strobilurin fungicides with each other (Cabrio, Quadris and Gem 500 SC). Products that simply kill spores on contact will not prevent the continuing production of spores nor protect leaves from new infections.

For Organic production, Dr. Sarah Pethybridge of Cornell University has been studying the control of *Cercospora* leaf spot on table beet and found good efficacy from Double Nickel (*Bacillus amyloliquefaciens* D747) with 4 applications at 10 day intervals in an inoculated trial (so high disease pressure. Better control was observed when Double Nickel was tank mixed with Cueva (copper octanoate). Both products should be used as preventatives in commercial production. Both Cueva and Double Nickel are OMRI approved.



Photo by local grower

## First-Laid Colorado Potato Beetle Eggs Hatching

Ethan Grundberg—ENYCHP



The earliest brood of Colorado Potato Beetle larvae began hatching on May 31<sup>st</sup> in the Goshen area of Orange County. Potato growers in the Hudson Valley should carefully scout fields now and make the first application of insecticide if an average of 4 small larvae per plant is found. As already discussed in previous newsletters, organic growers now have the option of using Trident (*B.t. tenebrionis*) on first instar larvae. Conventional growers may consider trying Rimon (*novaluron*, IRAC Group 15, SLN required for use) to target first and second instar CPB larvae rotated with labeled formulations of imidacloprid (group 4A) and spinosad (group 5).

## Slugs Certainly Benefiting from this Foul Weather Pattern!

Charles Bornt & Laura McDermott- ENYCHP

This week's damp weather will continue to favor damage from slugs and snails in many different crops both on bare ground and plastic mulched beds. There are several different species of slugs that can attack our plants including the marsh slug, banded slug, gray garden slug and the spotted garden slug. Look for damage in the areas that might tend to be more damp in a regular season. Because they are most active at night and during cool, wet weather, you might not actually see them but you will see their damage and silvery lime trails (especially on the plastic mulch and plant parts). Sometimes the "slime trail" is the diagnostic tool used to identify what happened to the crop. You can also find them underneath black plastic mulch, near the plant holes. Areas that have lots of organic matter or mulches such as strawberries that were heavily mulched for the winter and then pulled into the rows are prime areas for slug problems.

**Cultural management:** There are no scouting thresholds as numbers seem to go from 1 to 1 million almost overnight. There are also no known resistant cultivars. Overhead irrigation creates the conditions that these mollusks love, so using overhead sprinklers only when absolutely necessary is a good protocol. Try to irrigate in the morning so that foliage will have a chance to dry before night falls. If you're using plastic, this is more reason to use the drip irrigation system. Tillage is another cultural management tool that we can use, but is not always possible or 100% effective.

**Chemical control:** There are two products that are labeled for use on slugs and the same ones are also appropriate for snails. **Deadline Bullets** are a metaldehyde bait which is both a slug attractant and a poison. There are a lot of vegetables and small fruit on this label, but double check to make sure that the crop you want to use this material is listed. The rate is 20 - 40 pounds per acre and can be either broadcast or banded between the rows. However, if edible portions of the crop are visible, it can only be banded between the rows (see label for specific instructions). Evening applications are preferred as that is when the slugs are beginning to feed. This product should not be applied to dry soil, rather apply after irrigation or a rain event (mostly likely conditions for slug and snails to be active). Irrigation should not be applied for 48 hours after banding. You can also apply the bait in a band around the perimeter of the field. Do not exceed 4.5 lbs of AI/A (129 lbs of product/A) per growing season. Caution should be exercised if your U-Pick opera-

tion gets a lot of children and/or animals.

An organic product is iron phosphate, **Sluggo AG**. Spread bait around perimeter of field and then between the furrows near the base of plants. If the area is heavily watered, use the highest labeled rate. Reapply as the bait is consumed or at least every 2 weeks. Like the metaldehyde product, the soil must be wet for best activity. This product has been quite effective for organic berry growers. Slugs and snails lay eggs in early fall, so using chemical control products in mid-September might help curb next year's population. Sluggo has also been reported to be effective on sow bugs.

If you're interested in how these products work, our field crop colleagues at the University of Delaware completed several years of efficacy trials using these products in soybeans and field corn and can be found at the following links:

<https://cdn.extension.udel.edu/wp-content/uploads/2013/12/29043617/2016-Season-Insect-Management-Reports-final.pdf> (page 4)

<https://s3.amazonaws.com/udextension/ag/files/2013/12/Chemical-Management-of-Slugs-in-No-Till-Corn-and-Soybean-Systems-final.pdf>

For more on slugs/snails check out the fact sheets here:

<http://www.fruit.cornell.edu/Berries/genipm.html>.

[http://www.ahdb.org.uk/slugcontrol/HDC%20Factsheet%](http://www.ahdb.org.uk/slugcontrol/HDC%20Factsheet%20)



Slug damage on field corn seedlings. Source: Bill Cissel, University of Delaware (Weekly Crop Update, Volume 25, Issue 10 – June 2, 2017)



Slug feeding in a strawberry. Source: Mississippi Fruit and Nut Blog, April 17, 2012.

## Basil and Brassica Downy Mildew in Greenhouses

Ethan Grundberg—ENYCHP

Greenhouse growers continue to battle the full suite of fungal and oomycete pathogens that thrive in cool, damp conditions. In addition to several additional cases of brassica downy mildew (*Hyaloperonospora brassicae*), the first case of basil downy mildew (*Peronospora belbahrii*) was spotted in Dutchess County this week. Since both downy mildews can produce airborne spores, it is critical to segregate infested seedlings from healthy host seedlings. With temperatures still dipping into the 40s at night, it can be a real challenge to generate adequate ventilation to help reduce relative humidity in greenhouses. However, downy mildew spores typically need at least 6 hours of leaf wetness to infect plant tissue, so watering houses only in the morning and providing the best environment possible to encourage dry down during the day can help minimize its spread. Research has also shown that downy mildew pathogens require a period of darkness to sporulate; growers with greenhouse lighting may be able to reduce

sporulation by keeping the lights on at night. Studies conducted on Long Island in 2013 found that Revus (mandipropamid; FRAC 40) and Ranman (cyazofamid; FRAC code 21) were most effective at controlling basil downy mildew. The same study tested the efficacy of several OMRI-approved fungicides as well (Regalia, Actinovate, and Trilogy), but found them to be mostly ineffective. Some studies have found Procidic (3.5% citric acid) to be somewhat more effective for organic growers and was deemed NOP compliant by the Washington State Department of Agriculture. Double Nickel 55 (*Bacillus amyloliquefaciens*), MilStop (potassium bicarbonate), Trilogy (neem oil), and OxiDate (hydrogen dioxide) are also labeled for use on basil for suppression of basil downy mildew. Since OxiDate and MilStop have little to no residual activity, they should only be used in conjunction with another fungicide.

that downy mildew pathogens require a period of darkness to sporulate; growers with greenhouse lighting may be able to reduce



L: Basil Downy Mildew on transplants. R: Brassica Downy mildew in greenhouse.

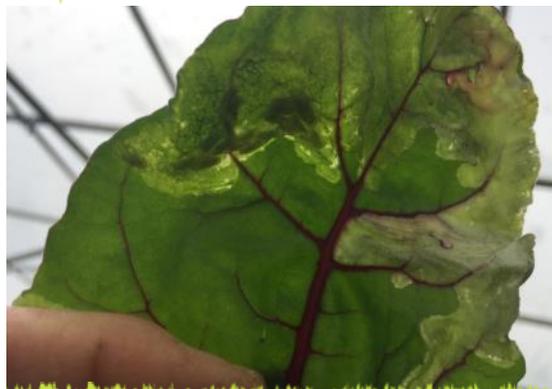
Photo: S. Ziegler

## Spinach Leaf Miner on Beets and Chard

Amy Ivy- ENYCHP

This week I saw a particularly heavy infestation of leaf miner in high tunnel beets and Swiss chard (see photo). The beet roots here are harvestable, but the greens are obviously not and the grower isn't able to sell these beets bunched due to their unsightly foliage. The chard is a lost crop at this point.

The Latin name is *Pegomya hyoscyami* and although the literature says it has multiple generations and can also feed on



Spinach leaf miner larvae are visible in their tunnels on the left side of this beet leaf. On the right side of the leaf is older damage that turns tan then brown

tomatoes and cucumbers, Extension vegetable specialists around New York and New England have not seen it cause any significant problems after the spring infestation in spinach, beets and chard. Because the larvae are inside the leaf and protected from contact sprays, control options are limited. As Ethan reported a couple of weeks ago, systemic insecticides (like Agri-Mek), or at least those with

*continued on next page*

translaminar activity (such as Trigard WSP and Entrust), are most effective. If affected leaves are manually removed, make sure that they are destroyed through shredding, burning, or deep burial to ensure that larvae do not survive and emerge during the next flight (usually in early July).

Some suggestions to prevent an infestation next year include rotating the location of these goosefoot family members to a new location and cover the



Extensive damage to beet and Swiss chard foliage in late spring high tunnel crop.

planting with rowcover immediately after seeding/ planting. Remember that this pest overwinters as pupae in the soil, so rotation away from that site will be key before putting rowcover over the new planting.

There was limited information on this pest on the web, but this link has some helpful tips:

<http://extension.psu.edu/plants/gardening/news/2014/control-spinach-leafminer-at-the-time-of-planting>

## Post Emergent Sweet Corn Herbicides: What a difference the weather makes!

Charles Bornt—ENYCHP

This year's spring is a stark contrast to that of last year! I remember writing this article last year with the thought in mind that our sweet corn post emergent herbicides were going to be needed because we didn't have enough moisture to get our pre-emergent herbicides activated. And this year I'm worried that we've had so much rain that some of our pre-emergent materials have gotten pushed too deep to really work well.

We haven't gotten anything new labeled this year and, if you've used some of the labeled post emergent materials in the past, you have your own thoughts about the materials. When choosing your post emergent herbicide keep these couple things in mind:

- Know what weeds you are going after and at what height they can be still susceptible to the herbicide
- Know the stage of your sweet corn in order to know if you can broadcast the materials or need to use drop tubes to keep the herbicides out of the whorl in order to reduce the chance of injury to the crop (Accent and Accent Q are good examples of this)
- Make sure you pay attention to the days to harvest which should go hand in hand with the stage of growth of your sweet corn
- In order for these herbicides to perform their best and have the best crop safety, you need to know which adjuvants and other additives such as a nitrogen are required. Nitrogen sources could be either a UAN (urea ammonium nitrate or more commonly called 32% liquid nitrogen) or a sprayable grade AMS (ammonium sulfate)

- Please make sure you read the labels especially if you are going to be tank mixing more than one herbicide!

I **highly recommend** that you read the labels and make sure that the chemicals and, almost as important, the additives are compatible. This is not only for crop safety, but efficacy of the materials used too! For example, Accent Q requires a Non Ionic Surfactant (NIS) or Crop Oil Concentrate (COC). If you want to use it with Impact/ Armezon, you would have to choose the COC instead of the Methylated seed oil (MSO) or non-ionic (NIS) in order to be sure the combination would be safe and effective. See Table 2 to help determine which additives are recommended for the different herbicides, but this is no substitute for reading the product labels!

**Notes about Atrazine:** Many of the products mentioned will benefit from the addition of 0.25—0.5 pounds of active ingredient of atrazine. As atrazine has been one of the key materials used in our pre-emergent programs, it has been recommended that vegetable growers not use more than 1.5 lbs of active ingredient of atrazine per acre per season. This is so that other vegetables can be planted the following season without worrying about atrazine carryover and injury issues on those crops. Lumax/Lexar has become a popular pre-mix pre-emergent herbicide (atrazine, Dual and Callisto) for sweet corn growers at a rate of 2.5 quarts per acre. At this rate there is 0.78 lbs. of actual atrazine (active ingredient) in that Lumax which means you can still use some atrazine in your post-emergent applications. The same goes for it you used Acuron (atrazine, Dual, Callisto and bicyclopy-

rone) at 2.5 – 3.0 quarts to the acre, then it has 0.63 – 0.75 lbs of actual atrazine when used at those rates. So again, you have some flexibility with adding some additional atrazine with a post emergent application.

Determining your rate of atrazine: For example, if you

have in your shed AAtrex 4L (4 pounds atrazine per gallon) and you want to add 0.25 pounds as part of your post emergent mix, you would add 1/2 pint of AAtrex 4L. Also, the label states that atrazine should not be used on corn taller than 12” in height.

**Table 1: Post emergent sweet corn herbicides** (please note this is not a complete table of all products labeled for post emergent sweet corn but those that have been showed to be most effective.)

Product (active ingredient)	Pre-harvest interval	Weeds controlled	Rate	Comments
<a href="#"><u>Impact or Armezon</u></a> (topramezone)	45 days	barn-yard grass, fall panicum, foxtails, crabgrass lambsquarter, ragweed and Velvetleaf	0.75 fluid ounces	Best control will also occur if broadleaf weeds are less than 4” tall and grass weeds are less than 3” tall. It is also recommended that 0.25—0.5 lbs active ingredient of atrazine be added to improve weed control and residual. Weeds need to be actively growing. Coverage is essential and if you are using this on taller corn, I recommend drop nozzles be used in order to get the spray material down through the canopy and onto the weeds. If you used Lumax, Lexar or Acuron pre-emergent, or any other combination containing Callisto, you will need to add either atrazine or one of the other labeled materials found on the Impact/ Armezon labels for resistance management. Addition of atrazine products will enhance control and provide residual control as well. <b>Adjuvants:</b> Methylated seed oil (MSO) or petroleum-based or vegetable seed-based oil concentrate (COC, HSOC) at 0.5 to 1.0 gallon per 100 gallons of water [0.5% to 1.0% volume/volume (v/v)]. <b>Nitrogen Fertilizer:</b> nitrogen-based fertilizers include urea ammonium nitrate(UAN; 28% or 34%) at 1.25 to 2.5 gallons per 100 gallons of water (1.25% to 2.5% v/v) or a spray grade ammonium sulfate (AMS) at a minimum rate of 8.5 to 17 pounds per 100 gallons of water.
<a href="#"><u>Armezon Pro</u></a> (topramezone + dimethenamid-p)	<b>50 days</b>	Broadleaves and several annual grasses (barnyard grass, crabgrass, Giant Foxtail, Wild Proso Millet)	For sweet corn and popcorn label recommends 20 fluid ounces per acre	Best control will occur if broadleaf weeds are less than 4” tall and grass weeds are less than 3” tall and actively growing. <b>Applications can be made from corn emergence to 12-inches tall.</b> <b>Adjuvants:</b> Armezon PRO Alone: Methylated seed oil (MSO) or petroleum-based or vegetable seed-based oil concentrate (COC, HSOC) at 0.5 to 1.0 gallon per 100 gallons of water. Tank Mixtures: Use nonionic surfactant (NIS) at 0.25 to 0.5 gallon per 100 gallons of water [0.25% to 0.5% volume/volume (v/v)]. Oil-type adjuvants (COC, HSOC, and MSO) may be used in tank mixtures with Armezon PRO, however, combinations with these adjuvants can cause elevated necrosis within a few days after treatment and occasionally crop height reduction. Oil-type adjuvants are not recommended when tank mixing with atrazine. <b>Nitrogen Fertilizer:</b> nitrogen-based fertilizers include urea ammonium nitrate(UAN; 28% or 34%) at 1.25 to 2.5 gallons per 100 gallons of water (1.25% to 2.5% v/v) or a spray grade ammonium sulfate (AMS) at a minimum rate of 8.5 to 17 pounds per 100 gallons of water.
<a href="#"><u>Accent Q</u></a> (nicosulfuron plus a safener)		Mostly annual grasses	0.9 ounces per acre	Accent Q will provide post emergent control of most annual grasses (limited crabgrass control) and if applied alone has very little broadleaf control (Redroot pigweed). If additional broadleaf control is also needed, consider tank mixing with another herbicide listed in the label. Applications may be applied broadcast or with drop nozzles (post-directed) on sweet corn up to 12 inches tall or up to and including 5 leaf-collars (V5) . For sweet corn 12-18 inches tall, apply only with drop nozzles. Do not apply to sweet corn taller than 18 inches or those which exhibit 6 or more leaf-collars (V6), and make only one application of ACCENT® Q per year. DO NOT APPLY ACCENT® Q to corn previously treated with “Counter” 15G or to corn treated with “Counter” 20CR in-furrow or over the row at cultivation. <i>continued on next page</i>

<p><b>Accent Q</b>  (continued)</p>				<p>Applications of ACCENT® Q to corn previously treated with “Counter” 20 CR, "Lorsban", or “Thimet” may cause unacceptable crop injury, especially on soils of less than 4% organic matter. <b>Adjuvants:</b> Crop oil concentrate (COC) or Non-Ionic Surfactant (NIS) plus a sprayable grade ammonium nitrogen such as UAN or AMS. See label for specific rates and uses.</p>
<p>Supplemental labeling for <b>Accent Q tank mixed with Impact and atrazine</b> – If using this combination, the user must have in their possession a copy of this supplemental label! Accent Q may be applied with 0.5 – 0.75 fluid ounces per acre of Impact plus 0.375 – 1.5 pounds per acre active ingredient atrazine (12 – 48 fluid ounces of a 4L formulated atrazine product). However, if you have used any atrazine containing pre-emergent products, the general rule of thumb for rotating vegetables the following year after using atrazine is no more than 1.5 pounds total active ingredient per acre or you greatly increase the potential for atrazine injury to susceptible crops.</p>				
<p><b>Permit</b>  (halosulfuron)</p>		<p>Broadleaves (pigweed, velvetleaf, ragweed) and Yellow nutsedge</p>	<p>0.67 ounces per acre</p>	<p>Apply PERMIT over the top or with drop nozzles from the spike through layby stage of the corn. Treat young actively growing broadleaf weeds 1 to 3 inches in height. <b>Adjuvants:</b> Nonionic Surfactant (NIS) is required in the spray solution. Use NIS at 0.25 to 0.5% v/v concentration (1 to 2 quarts per 100 gallons of spray solution). Do not use COC or MSO as the potential for injury is too great. <b>Nitrogen fertilizers:</b> May be added but are not necessary for postemergent applications. Apply a high quality, granular spray grade ammonium sulfate at a rate of 2 to 4lb/A or a liquid nitrogen fertilizer solution (e.g. UAN 28%) at a rate of 2 to 4 quarts/A. Use of soil or foliar applied systemic organophosphate insecticides on PERMIT treated crops may increase the potential for crop injury and/or the severity of the crop injury.</p>
<p><b>Stinger</b>  (clopyralid)</p>	<p>30 days</p>	<p>Broadleaves (ragweed, wild buckwheat, Common cocklebur, Jerusalem artichoke, Canada thistle)</p>	<p>0.33 – 0.66 pints per acre</p>	<p>Apply Stinger any time after sweet corn emergence through 18-inch tall sweet corn uniformly with ground equipment as a broadcast or directed spray in 10 to 20 gallons total spray volume per acre. Do not exceed 2/3 or 0.67 fluid ounces per year. Do not apply to sweet corn that is greater than 18” tall. Control of common cocklebur, common ragweed, giant ragweed, sunflower, other annual weeds and Jerusalem artichoke, apply 1/4 to 1/2 pint of Stinger per acre from weed emergence up to the 5-leaf stage of growth. <b>I would recommend using Stinger alone and not in tank mixtures at this time.</b></p>

**Table 2: Comparison of adjuvants and other additives used in post-emergent sweet corn herbicides. This is not a substitute for reading the herbicide labels.**

Herbicide	Crop Oil Concentrate (COC)	Non Ionic Surfactant (NIS)	Methylated seed oil (MSO)	Nitrogen (UAN or AMS)
Impact/Armezon	X		X	X
Armezon Pro (used alone)	X		X	X
Armezon Pro (in tank mixes)		X		X
Accent Q	X	X		X
Permit		X		X
Stinger	<b>None required</b>			

Date	County	Corn Ear-worm	European Corn Borer-Z (Iowa)	European Corn Borer-E (New York)	Fall Armyworm	Western Bean Cut-worm	Stage of Corn Growth	Year to Date Growing Degree Days in County (base 50)
6-5	Orange	0	2	0	0	0	v4	490.5
6-5	Saratoga	na	0	0	na	0	v2	359.5
6-5	Albany	na	0	0	na	0	v4	465
6-5	Schoharie	na	0	0	na	na	v3	465
6-5	Fulton	na	0	0	na	na	v2	337
6-5	S. Washington	na	0	3	na	na	v6	361.5
6-5	N. Clinton	0	0	0	0	0	v1	288.5

## Leaf Mold Getting an Early Start in 2017

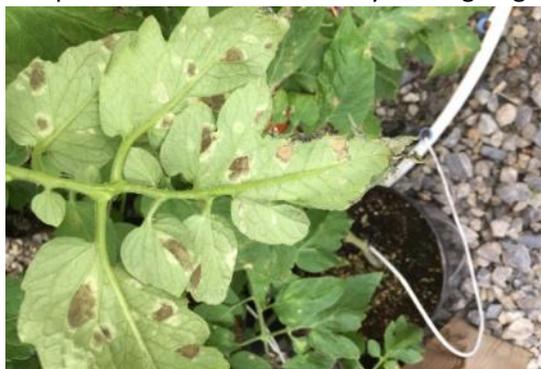
Crystal Stewart, ENYCHP

Leaf Mold (*Passalora fulva*) was found in greenhouse tomatoes last week, and the weather looks favorable for additional disease development in the near future. This disease has been around for many years (and has also been called Fulvia and Cladosporium), but has become increasingly problematic for growers moving from field-grown tomatoes to high tunnel tomatoes. This is one of the few diseases which tends to do better in tunnels. The high-humidity, warm conditions of the tunnel are indeed perfect for disease development.

If you already have leaf mold in high tunnel tomatoes, the best controls are to increase air circulation and reduce relative humidity by removing as much excess foliage as possible (including infested foliage) and opening the tunnel. Fungicides including copper have not been effective at controlling this disease in part because the sporulation occurs on the undersides of the leaves and good coverage is difficult to achieve. Research, under the direction of Dr. Chris Smart, is ongoing to look at alternative materials and methods for control.

At this point the best way to manage this disease in future years is to select an assortment of resistant varieties (see lists on the right). Neither the resistant nor the susceptible variety lists are comprehensive. We are actively cataloguing susceptible varieties and collecting samples of leaf mold infestations for the research, so if you see leaf mold, please contact one of us to take a sample and add the variety to the list.

Article adapted from a fact sheet prepared by Amy Ivy. Read the whole story at [https://rvpadmin.cce.cornell.edu/uploads/doc\\_347.pdf](https://rvpadmin.cce.cornell.edu/uploads/doc_347.pdf)



Underside of leaf mold infested leaves on greenhouse 'Big Beef' tomato. Image: Ethan Grundberg

### Indeterminate tomato varieties resistant to Fulvia:

- Bellini
- Beorange
- Big Dena
- Caramba
- Clermon
- Climstar
- Frederic
- Geronimo
- Margold

### Determinate tomato varieties resistant to Fulvia:

- Primo Red
- Rally

### Popular Varieties susceptible to Leaf Mold (partial list)

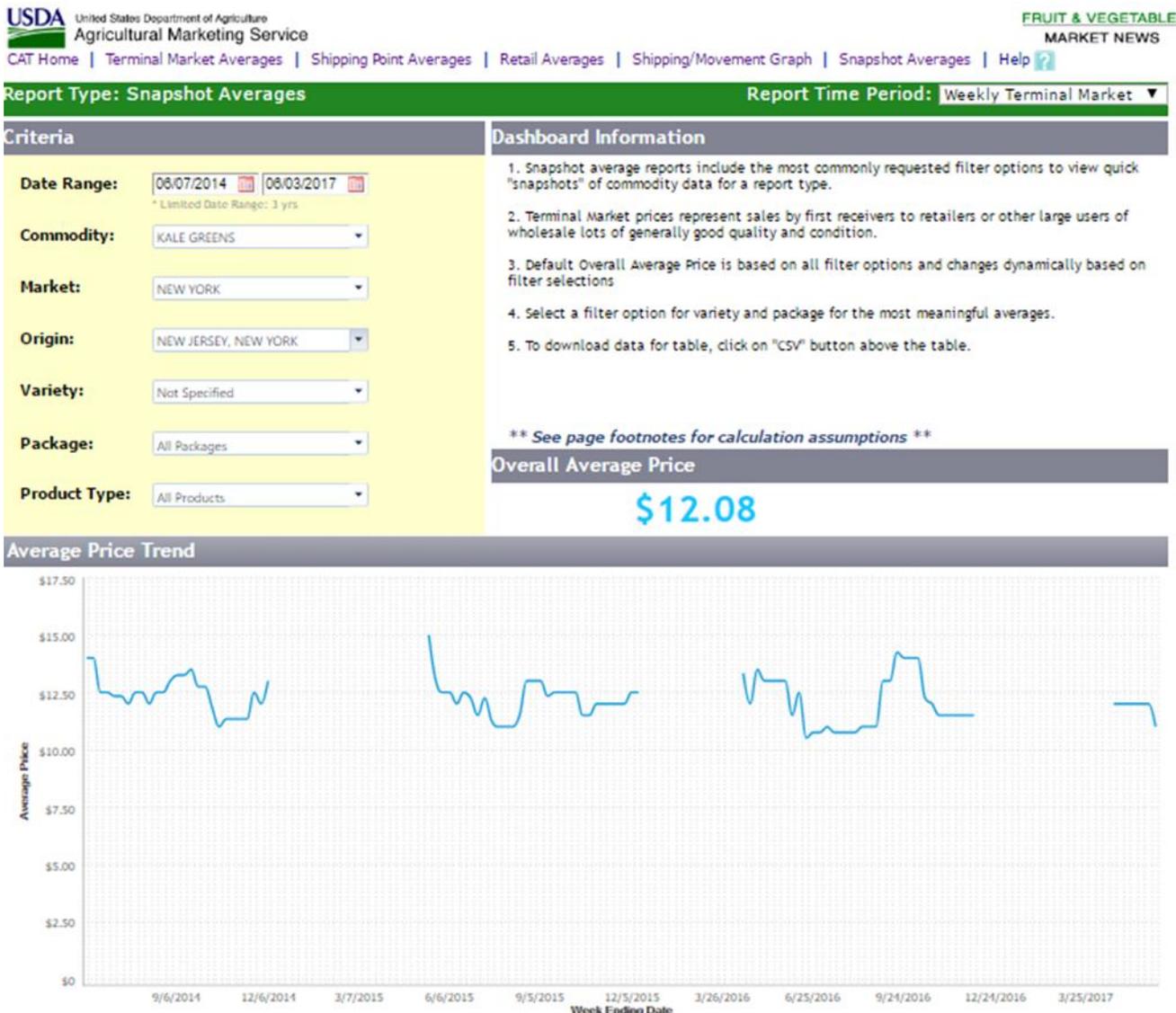
- Arbason
- Big Beef
- Brandywine
- Estiva
- Red Bounty
- Pruden's Purple
- Striped German

# Resources for Price Data-USDA AMS Custom Average Tool (CAT)

Liz Higgins, ENYCHP

Looking for price data for a specific commodity, in a specific package, sourced from NY but you don't have hours to wade through all the USDA market price data? Do you want to easily see how the wholesale or retail price of a crop has varied over the past 3 years to get a sense of seasonality patterns? Do you want a tool that can look at terminal markets, shipping point data and retail prices? There is one tool that can do it all. The **USDA AMA Custom Average Tool (CAT)**. To find the **CAT** go to <http://cat.marketnews.usda.gov/cat/>. The Snapshot Averages feature, demonstrated below, is especially easy to use. For example, I was curious to see what the average NY terminal market price over the past three years has been for kale from New York or New Jersey (not including Lacinato kale). I chose the Snapshot Averages" feature which defaults to weekly terminal markets. Using this tool, I can easily adjust for location, crop, package etc... to see what

impact there is on historic prices. You can see in the screenshot below that the average price for a bunched crate of kale (20-25 lbs) is \$12.08. One observation is that kale prices this year seem lower than the same time in 2014-2016. Is our love affair with kale over? I included kale from both NY and NJ in my search below, but what if I wanted to see what the difference in price (if any) there was in NY terminal markets for kale from NY vs kale from NJ? Another nice feature of this tool is that all the data that made my graph below is easily downloadable into an excel file that breaks down the individual components that make up the graphed averages. Using that data, you can calculate the difference in price between NY and NJ kale. Finally, if you want to know shipping point or retail average prices, instead of weekly terminal market prices, you can adjust the "Report Time Period" (on the green bar).



**Winter protection for garlic makes a difference!**  
Amy Ivy, ENYCHP

This grower flame weeds so he cannot use straw as a winter mulch in his garlic. In this photo the garlic to right of the yellow line had rowcover laid over the rows for the



winter, but the garlic to the left of the line had no cover at all. Everything else was the same: same variety, timing, etc. Note the stunted growth of the uncovered section. Providing some kind of winter cover can make a difference in garlic yield!

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**Welcome Cameron Fuhr: CCE Summer Intern**



Cameron is a rising senior at Cornell University. He is majoring in Biological Sciences, with a focus on ecology and evolution. He's also a Communications major. This summer, he is working with Peter Jentsch, Teresa Rusinek, and Laura McDermott at the Hudson Valley Research Laboratory on several projects that use a complex of entomopathogenic nematodes to control damage to vegetable and fruit crops. He is interested in agriculture, as he is a member of Alpha Zeta agriculture fraternity at Cornell. He will also be using his communications and media background to document the nematode project through video.

**Farm Vehicle Guidelines**  
Maire Ulrich- ENYCHP

As Eastern New York become less rural and the law enforcement personnel are less in-tune with agricultural practices and the law exemptions specific to ag, it's good to get a copy of New York Farm Bureau's *Farmer's Guide to Truck & Farm Implement Laws & Regulations*, 4<sup>th</sup> Ed.

New York Farm Bureau's publication *Farmer's Guide to Truck & Farm Implement Laws & Regulations*, 4<sup>th</sup> Ed., commonly known as the "Truck Book," is a resource tool prepared to assist farmers in understanding the myriad state and federal transportation laws and guidelines that affect their farm business. This fourth edition guide includes updated regulations on cell phones, texting, SMV symbols, convex mirrors, lights and reflectors, and many more things important to our members.

This books is available to members (\$30) and non-members (\$60) of NY Farm Bureau. All prices include tax, shipping and handling. To get your copy contact: New York Farm Bureau, Legal Affairs Department, P.O. Box 5330, Albany, New York 12205 or call: 1-800-342-4143.