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that promotes conditions favorable for disease.





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high tunnel or field production.

PAGE 3

There appears to be higher levels of onion smut than usual, which will ultimately, and

unfortunately, take a bite out of direct seeded onion stands. PAGE 7

Volume 12



Four-lined plant bug is a beetle that causes circular discoloration on the foliage of

weeds and veg crops. Prevention through weed control is key.

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Cornell University Cooperative Extension Cornell Vegetable Program

Remember Basic Principles When Using Transplants

Gretchen Seigworth and Darcy Telenko, CCE Cornell Vegetable Program

A challenge in using vegetable transplants each season is maintaining a balance between having optimum sized plants available when ready to plant and being able to get them into the ground in a timely manner once they have reached that optimum size. Now is the time to evaluate tray cell sizes and the plants you have in the field. How well did it work? What issues did you run into? Did you stagger plantings and did the timing correspond to field preparation?

It is important to remember some basic principles when using vegetable transplants:

- 1. Give them adequate space to grow when in the trays
- 2. Try to plant them as soon as they are ready.

Ensuring that plants have enough space to grow their leaves and roots allows for a competition free environment for optimum transplant health. Failing to use large enough seed tray inserts will cause them to be root bound, and their ability to transform into hardy plants in the field will decrease. When trans-



Too tight spacing causes the lower leaves of these tomato transplants to rot and fall. Photo: G. Seigworth continued on page 3



VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 12 counties in Western New York.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

We're interested in your comments. Contact us at: CCE Cornell Vegetable Program 480 North Main Street, Canandaigua, NY 14224 Email: cce-cvp@cornell.edu

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Contents

Contact Us

	Cornell Vegetable Program	12
С	rops	
	Crop Insights	.08
	Onion Smut Emerges as Cause for Onion Stand Loss	07
	Potato/Tomato: Late Blight Risk – Dry Weather Lowers Risk	05
	Sweet Corn Trap Network Report, 6/21/16	05
G	eneral	
	Remember Basic Principles When Using Transplants	01
	Aphids Abound!	.03
	Fresh Market Vegetable Field Day	04
	Off-Target Herbicides Easily Injure Vegetable Crops	06
	Three-Lined Potato Beetle on Tomatillo and Ground Cherry	07
	Wind Damage on Peppers, Potatoes, and Vine Crops	09
	Four-Lined Plant Bug Damage on Peppers, Tomatoes, and Weeds	09

Upcoming Events

v	Veather Charts	. 11
	Vegetable Walk and Cut Flowers	. 10
	High Tunnel Pest and Disease Management: Organic Control Strategies	. 10
	Fresh Market Vegetable Field Day: Disease Detection & Weed Management	. 10
	Soil Health & Cover Crop Workshop	. 10
	Muck Donut Hour - cancelled for June 28	. 10

The next issue of VegEdge will be produced on June 29, 2016.



Muck Donut Hour in Wayne County! From left to right: Ken Datthyn, John Gibbons, Jim Johnson, Mark Johnson, Christy Hoepting, Carol MacNeil, Brian Nault, Mike Johnson, Eric Tuttle and Eric Johnson. CCE Extension and NYSAES Entomologists meet with Wayne County onion growers to debrief from last year's growing season and to gear up for this one with respect to onion thrips management. Photo: Ashley Leach, Cornell

plants are left to grow too long in their greenhouse trays, they may grow too big so that most of their leaves and stems will overlap, causing the plants to compete for water and sunlight. This tight canopy also locks in humidity and blocks out the sun, allowing for the perfect atmosphere for fungal diseases, like *Botrytis*, to rapidly spread. Under the right conditions, issues that develop in the transplants will continue to flourish after transplanting into the field.

Make sure to use the correct sized seeding trays for your crop, and plant transplants when they are ready. If you found difficulty with this year's transplants, it is good to make notes for next year to use large enough seed trays, and try to plant them when they are ready. By doing so, you will have a more pleasant growing season!



This tomato plant is leggy and root bound due to too small seed trays. *Photo: Gretchen Seigworth, CVP*



Allowing transplants to grow in their seed trays for too long creates a tight canopy that promotes conditions favorable for disease. *Photo: Gretchen Seigworth, CVP*



These tomato plants were kept in their seed trays for too long, causing the plants to overgrow and compete for sunlight, leaving them long and leggy plants. *Photo: Gretchen Seigworth, CVP*

Aphids Abound!

Crystal Stewart, CCE Eastern NY Commercial Horticulture Program, from Vegetable News, Vol. 4, Iss. 8, 6/15/16

[Aphids have started to show up in a wide assortment of crops: lettuce, peppers, and greens, especially Asian greens. ed. R. Hadad, CVP]

There seems to be really high aphid pressure this year on a variety of crops. Growers are experiencing control failures using their usual controls, leading to lots of questions about what can be done differently to improve control. Strategies vary a bit when considering greenhouse/high tunnel or field production, so let's discuss the two separately.

High Tunnel Aphids

The last few years the populations of potato aphid seem to be increasing on high tunnel tomatoes. They don't seem to be decreasing yield in most cases, but they can vector viruses and leave honeydew on fruit and leaves which fosters fungal growth. These aphids are not beign controlled well by beneficials in our experience, and Mycotrol, a go-to especially for organic growers, has not been working either (and it has been pulled from the OMRI listing). Dan Gilrein, the entomologist on Long Island, suggests trying M-Pede with an oil as a good contact control. The most common rate is 2% v/v M-Pede, which is 5 tablespoons per gallon of water. Note that hard water can neutralize this insecticidal soap, and a pH of above 8 can help reduce phytotoxicity. Dan also notes that washing aphids off in the high tunnel can be very helpful, since the legged

ones are not particularly mobile. Washing the plants can also help remove honeydew. Of course you want to do this in the morning, before the sun is high but when the plants will dry as quickly as possible.

Field Aphids

So far the most common aphid we are seeing in the field is one which may have migrated from the greenhouses.

Green Peach Aphid

I would personally like to rename this the Green Gets on Everything Aphid, but I don't have any control of these things, so we will keep calling it Green Peach Aphid. Crops which we tend to find damage from these critters on often include peppers and cucurbits. Peppers probably show damage the worst, but feeding is also serious on cucurbits because aphids can spread virus through the field.



Green Peach Aphids. Photo: OMAFRA

Recommended conventional aphid products from Dr. Brian Nault include Assail, Beleaf, Fulfil, and Endigo (pumpkins, not peppers-check the label to make sure the crops you want to spray are listed, and note the PHI). Organically, M-Pede is still going to be an option, taking care to ensure the best coverage possible. Because aphids are mobile and reproduce rapidly, scouting and reapplying as needed is an important strategy in gaining control in any system.

Fresh Market Vegetable Field Day

Darcy Telenko, CCE Cornell Vegetable Program

The Cornell Vegetable Program is hosting the 2nd Fresh Market Vegetable Field Day on July 6, 2016 in Batavia, NY. Vegetable Specialists, Darcy Telenko, Judson Reid, and Robert Hadad will be leading demonstration site tours and answering questions on cultural and mechanical pest management options for fresh market vegetable growers. Information will be provided for both conventional and organic growers at all levels of expertise. Equipment options and considerations will be discussed. Industry representatives will have the opportunity to meet with growers to comment on their products. DEC and CCA credits will be available for portions of the day.

FRESH MARKET VEGETABLE FIELD DAY Early Disease Detection and Weed Management Options Wednesday, July 6, 2016 | 9:00 AM – 3:30 PM Cornell Vegetable Program's Fresh Market Demonstration Site Partridge's on the Farm Market 4924 Ellicott St Rd (Rt 63), Batavia, NY 14020

Vegetable weed and disease pests need to be detected early in order to effectively implement management options. The CVP specialists will discuss the major tomato and cucumber diseases in New York, what symptoms we are looking for in the field, and management tools available. Demonstration plots will showcase varieties with host resistance and organic management tools that are available.

Effective weed management starts with understanding basic weed biology and identification. Growers can experience hands-on weed ID and see the unique peculiarities in utilizing conventional vs. zone-tillage in pumpkin and winter squash, and how the stale-seed bed technique can be an effective tool.

Megan Burley, CCE Erie County, will also be on-site to demonstrate the process of properly adding pesticides to a sprayer tank and appropriate mixing required based on pesticide formulation. She will also review calibrating your pesticide equipment and calculations determining rates and mix sizes. Adjuvants and other mixes for optimum pesticide activity and application. And Dennis Kirby, Orleans County Soil & Water Conservation District, will join Darcy in discussing how cover crops have be-

come an important tool for improving soil health. This session will view a number of cover crop options and talk about the benefits of use cover crops and how to incorporate them into a vegetable rotation. Growers will be encouraged to discuss their experiences with cover crops and get acquainted with a new Western New York Soil Health Alliance as a Farmer-to-Farm Network for opening up the discussion on succeeding in western NY climate.

Growers will be encouraged to actively participate, ask questions throughout the day.

\$20, if registered by June 30, lunch included. \$30 at-the-door but lunch cannot be guaranteed unless preregistered. Visit <u>http://</u> <u>cvp.cce.cornell.edu/event.php?id=564</u> to pay online or call Eva McKendry at 716-652-5400.

A key component of this event is the support provided by industry organizations. Contributing organizations will be recognized as an integral part of this dynamic event. Booth/equipment and table display sponsorships are available. Contact Darcy Telenko at 716-697-4965 or <u>dep10@cornell.edu</u>.



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WNY Sweet Corn Trap Network Report, 6/21/16

Marion Zuefle, NYS IPM Program; <u>http://sweetcorn.nysipm.cornell.edu</u>

Sixteen sites reporting this week. European corn borer (ECB) numbers remain low for the season. ECB-E was caught at three sites and ECB-Z at only one site. Two sites caught corn earworm (CEW) both high enough to require a 6 day spray schedule (see table at bottom of post). Fall armyworm (FAW) was caught at only one site this week. The first report of Western bean cutworm (WBC) occurred this week in Batavia.

ECB damage and larvae were seen this week in whorl stage corn. When scouting focus on the emerging tassel. Separate the leaves and look down into the tassel for any signs of feeding, frass or larvae. The threshold for ECB and FAW is 15% infested plants at tassel emergence.

Larvae feeding in the whorl are protected from insecticide applications and mortality will not be as high as at tassel emergence, when larvae feeding in the emerging tassel are exposed to the spray. Larvae will leave the tassel as it opens up and no longer provides a moist, protected feeding environment, and move down the plant looking for protected places to feed. Insecticide applications need to be timed to kill larvae before they bore into a new feeding location where again they will be protected from sprays. In fields with very uneven development, two applications may be necessary, one when approximately 25-50% of the tassels have emerged, and again after 75-100% of the tassels have emerged, if the field is still over threshold.

WNY Pheromone Trap Catches: June 21, 2016

· · · · ·						
	ECB	ECB				D.D.
Location	-E	-Z	CEW	FAW	WBC	to Date
Baldwinsville (Onondaga)	NA	NA	NA	NA	NA	651
Batavia (Genesee)	0	0	2	0	1	447
Belfast	NA	NA	NA	NA	NA	581
Bellona (Yates)	NA	NA	NA	NA	NA	718
Eden (Erie)	0	0	2	6	0	634
Farmington (Ontario)	0	0	0	0	0	597
Hamlin (Monroe)	0	0	0	0	0	584
LeRoy (Genesee)	2	0	0	0	0	570
Pavilion	NA	NA	NA	NA	NA	459
Penn Yan (Yates)	0	0	0	0	0	676
Ransomville (Niagara)	1	0	0	0	0	668
Seneca Castle (Ontario)	1	0	0	0	0	633
Spencerport (Monroe)	0	0	0	0	0	685
Waterport (Orleans)	NA	NA	NA	NA	NA	607
Williamson (Wayne)	0	0	0	0	0	556
ECB - European Corn Borer WBC - Western Bean Cutworm						

CEW - Corn Earworm FAW - Fall Armyworm NA - not available

DD - Degree Day (modified base 50F) accumulation

Average corn earworm catch							
Per Day	Per Five Days	Per Week	Days Between Sprays				
<0.2	<1.0	<1.4	No Spray (for CEW)				
0.2-0.5	1.0-2.5	1.4-3.5	6 days				
0.5-1.0	2.5-5.0	3.5-7.0	5 days				
1-13	5-65	7-91	4 days				
over 13	over 65	over 91	3 days				

Add one day to the recommended spray interval if daily maximum temperatures are less than 80°F for the previous 2-3 days.

Late Blight Risk – Dry Weather Lowers Risk

Carol MacNeil, CCE Cornell Vegetable Program

Very few SVs have accumulated at most weather stations this past, generally dry week. There are a exceptions. The weather in Gainesville has resulted in <u>late blight (LB) blight unit (BU)</u> and/or <u>fungicide (loss) unit (FU)</u> accumulations justifying a third fungicide spray this week; Wellsville has accumulated units to justify a second spray this week. Ceres may reach 18 <u>severity values (SV)</u> by the end of this week.

There are still volunteer potatoes out there. Destroy all culls and volunteers so they don't serve as a source of LB for your crop!

There are no new LB confirmations in the Eastern US or Canada.

For the current <u>early blight (EB)</u> risk on potatoes see Crop Insights - Potatoes in this issue of VegEdge. For potatoes emerging in mid-May both high risk (non-rotated, EB history, etc.) and lower risk (rotated, no EB history) fields have reached the threshold for applying a fungicide spray. Tomato growers may refer to the TomCast EB forecast at: <u>http://newa.cornell.edu/</u> <u>index.php?page=tomato-diseases-tomcast</u>

Late Blight Severity Values* 6/21/16

Location*	Total	Forecast 6/21-6/23	Location	Total	Forecast 6/21-6/23
Appleton N	1	0	Lodi	6	0
Baldwinsville	4	0	Lyndonville	0	0
Bergen	0	0	Medina	1	0
Buffalo	10	0	Niagara Falls	4	0
Ceres	13	0	Penn Yan	4	0
Elba	4	0	Rochester	10	0
Fairville	3	0	Sodus	5	0
Farmington	3	0	Versailles	3	1
Gainesville	38	0	Wellsville	28	0
Geneva	2	0	Williamson	5	0
Kendall	0	0	Wolcott	4	0

* Severity value accumulations start 5/12/2016

Off-Target Herbicides Easily Injure Vegetable Crops

Julie Kikkert, CCE Cornell Vegetable Program

Post-emergence herbicide applications are common this time of year on conventional farms as crops are becoming established in the field. Vegetable growers need to be aware of application conditions on their own farm as well as neighboring farms to avoid crop damage. Below are some of the common problems.

Spray Drift

Drift of herbicides off-target can cause serious injury to vegetable crops (Fig. 1). Make sure the herbicides you select are labeled on all of the vegetable crops that might be near the area to be sprayed. Gramoxone applied with hooded sprayers can also drift and injure crops (Fig. 2). Another big concern is application of herbicides to field crops that are adjacent to vegetable fields. Many of the herbicides can stunt or kill vegetable crops. Even herbicide-resistant GMO corn and soybeans are often sprayed with tank mixes of herbicides to combat the ever growing resistance problems. New GMO field crop varieties have been developed that have the genes for resistance to multiple herbicides. Herbicides that contain dicamba (Banvel, Clarity, DiFlexx, Distinct, NorthStar, Status, Yukon), 2,4-D (Butyrac 200, Crossbow), and mesotrione (Callisto, Halex GT, Instigate, Lexar EZ, Lumax EZ, Realm Q), are particularly troublesome. I've seen damage to both peas and cole crops from mesotrione. Leaves of the susceptible plants turned white or had white blotches on them. In one case, young seedlings were completely killed from spray drift that moved across a 20 ft wide hedge row and then 30 ft or more into the adjoining vegetable field.

Vegetable growers should inform their neighbors who grow field crops of the risk from these herbicides. Buffers of 50 to 100 ft are recommended. Avoid spraying when conditions are favorable for atmospheric inversion or wind drift. Spray when wind is moving away from sensitive crops, use larger droplets, lower boom heights, and lower pressures. For more info on reducing pesticide drift, see <u>http://web.entomology.cornell.edu/</u> landers/pestapp/index.htm



Figure 1. Sprayer ready to apply herbicides to field corn. Drift can injure nearby vegetable crops. Photo: Julie Kikkert, Cornell Vegetable Program



Figure 2. Gramoxone injury in zucchini due to drift outside hooded sprayer. Photos: Darcy Telenko, Cornell Vegetable Program

Improper Spray Tank Cleaning

Dicamba and 2,4-D are plant growth regulators which cause leaf cupping, twisting, and death. They are effective in miniscule concentrations. In one case, an entire field of cabbage was lost after a sprayer had been used with dicamba in field crops and then used directly to apply cabbage herbicides. There were no marketable heads in the field. It's always best not to use the same spray equipment on sensitive crops. However, where this is necessary, proper clean out of the spray tank is a must. Read the product labels for details on sprayer clean out.

Misapplication of Labeled Herbicides

Much research and product testing is done before an herbicide ever gets labeled. The proper rate of product, adjuvants, application method, soil type, environmental conditions, and crop and weed growth stage are among the items that must be attended to in order to avoid crop injury. Make sure to read and follow all product labels.

Three-Lined Potato Beetle on Tomatillo and Ground Cherry

Judson Reid, CCE Cornell Vegetable Program

Two common nightshades of the genus Physalis are increasing in production locally; tomatillo and ground cherry. Tomatillos are an important ingredient in Mexican cuisine whereas Ground Cherry is a Pennsylvania Dutch specialty used in pies. The crops perform best on plastic mulch with drip irrigation. Tomatillos benefit from staking, whereas Ground Cherry has a more sprawling habit. They both suffer from fewer pests and diseases than other solanaecous crops. However, there is one consistent insect pest common to both: the Three-Lined Potato Beetle. This pest has been very active in the region over the last week.

The beetles in our area, feeding on solanaceous weeds and laying eggs on Physalis crops when available. The larvae and adults will defoliate plants in high numbers. There are two generations per growing season.



3-Lined Potato Beetle eggs (circled) and feeding damage on tomatillo. *Photo: Judson Reid, CVP*

Floating rows covers to exclude adults from transplants and control of night shade weeds are important management steps. These are important as there aren't many directly labeled chemical controls. In New York a pesticide must list both the crop and pest for legal application. The good news is that as tomatillos have grown in popularity, they are now commonly listed on labels. Many materials labeled for controlling worm pests such as Colorado Potato Beetle or Hornworm on tomato are also labeled for tomatillos. However, as the Three-Lined Potato Beetle is generally not injurious to other crops; they are rarely, if ever, listed on pesticide labels. Thus, the cultural controls listed above are essential so we can all enjoy tacos and pie this summer.

Onion Smut Emerges as Cause for Onion Stand Loss

Christy Hoepting, CCE Cornell Vegetable Program

Stand has been fantastic this year. Unfortunately, there appears to be higher levels of onion smut than usual, which will ultimately take a bite out of direct seeded onion stands. Onion smut becomes more noticeable at this time of year as infected seedlings become stunted and show outer leaf dieback compared to their healthy counterparts. Upon close inspection, a smut-infected plant has blackish longitudinal blisters along its outermost leaves (Fig. 1). Affected leaves may bend or twist abnormally and usually are shed prematurely. Blisters rupture to expose black, powdery



Figure 1. Longitudinal black pustules of onion smut fungus in an infected onion seedling. *Photo: C. Hoepting, CVP*

Figure 2. Onion-smut infected bulb will not reach maturity or be unmarketable. Smut-infested plants can be considered a stand loss. *Photo: C. Hoepting, CVP*

spore masses. Elongated, raised black blisters can also be found in the outer scales of the developing bulb (Fig. 2), which will either not make it to maturity or be unmarketable.

The higher than normal incidence of onion smut this year in direct seeded fields (transplants are immune to smut) is likely a function of the long cool spring. The infection window for onion seedlings to become infected with onion smut is from seed germination until the flag leaf is fully mature (first true leaf stage), and as this process is drawn out, there is increased opportunity for smut infections to occur. After several decades, all that is available for controlling onion smut is Pro Gro (thriam + carboxiin) and/or thiram treated seed in combination with mancozeb applied as an in-furrow drench. There is a new seed treatment for onion smut (a.i penflufen) that has been in the IR-4 program for several years that hopefully will see the light of day before too many more years go by...



If anyone is still laying plastic, it might be worth considering running two lines of drip for single row plantings and three lines of drip for two rows planting per bed. This may be an added expense but if the summer turns out to fulfill the prediction of hot and dry, having the extra lines of drip may increase yields in the face of the heat stress. The dry winds are wicking off the soil moisture and increasing transpiration from the plants.

Soils are drying quickly where only single lines are used between two rows of plants. Run a second or even a third line for two row plantings. Set it up with drip line, plant row, drip, plant, drip. This will provide soil moisture on either side of the plants in the rows.

BRASSICAS

Seeing some worm damage on young cabbage and Brussels sprouts. Treat one or two times until the plants get bigger then scout to view effectiveness.

DRY BEANS

Dry bean planting has begun and some have emerged. There's concern about the dryness of the soil. Some growers are planting deeper, while others are waiting for moisture. All growers are concerned about the lack of rain for herbicide activation. It takes about 0.25" of rain to stimulate weed germination and herbicide activity. The NYS Dry Bean Variety Trial was planted last week by Jim Ballerstein, NYS Agricultural Experiment Station, in Geneva. Western bean cutworm moth traps will be set up this week across the dry bean production area.

GREENS

Aphids have swarmed into several plantings big time. Keep an eye out on these pests on other crops (see article, pg 3). Heat stress has been the big story this week. Bolting and wind injury have damaged many of the greens grown. Flea beetles still persistent on brassicas.

ONIONS

The summer solstice triggers the bulbing stimulus in onions as the crop begins a new chapter in its life. Hopefully, the crop will get some natural rainfall this week. Onion thrips have continued to build in this heat. At this time, all transplanted fields have had at least their first application of Movento. After the second application of Movento, thrips population usually drops below threshold for 1-4 weeks. With a potentially bad thrips year on the horizon, it is important to take advantage of "the Momentum of Movento" (see June 8 article in Veg-Edge), because with only a handful of effective products with limited usage, you could burn through the spray program before the thrips spray season is over.

The dry and windy weather continues not to be conducive to leaf diseases including Botrytis leaf blight and so far there have been no early signs of Stemphylium leaf blight. It continues to be one of the most disease-free spring/early summers since I can't even remember when. No fungicides are recommended.

Donut Hour is cancelled for Tuesday, June 28 but will resume the following week on July 5. Mark your calendars – Elba Muck Onion Twilight Meeting will be August 4.

POTATOES

Many later planted potato fields are emerging. There is much hilling occurring in earlier fields. <u>Colorado potato beetle (CPB)</u> adults, eggs, and small to a few large larvae are common in some fields. A number of emerged fields planted with Maine seed, especially Reba, Superior and Norland, were scouted for symptoms of <u>bacterial blackleg Dickeya (BBD)</u> last week. One field had wilting small plants, which are currently being analyzed at Cornell for the old bacterial blackleg and the new BBD. Prime time for BBD symptom expression is at flowering, however. Contact Carol MacNeil at crm6@cornell.edu or 585-313-8796 cell/text if severe wilting of plants or stems is noticeable.

Regarding early blight (EB) risk for potatoes that emerged in mid-May, both high risk (non-rotated, EB history, early varieties, etc.), and lower risk (rotated, no EB history, mid-season to late varieties), fields have reached the potato Physiological Day (P-Day) threshold for applying a fungicide spray. For potatoes that emerged June 1 only the higher risk fields have reached the P-Day threshold. For later potato crop emergence dates see the P-Day EB forecast at: http://newa.cornell.edu/index.php?page=potato-early-blight.

FRESH MARKET POTATOES: Flea beetles have been troublesome on younger plants and emerging shoots. Colorado potato beetles starting to build up in some fresh market plantings. Keep an eye out in potatoes and other susceptible crops including eggplant and tomato. Keep irrigation going to reduce stress.

PROCESSING CROPS

Our region has been very dry for the past several weeks and coupled with high temperatures over the past weekend, there has been a lot of stress on processing crops. Growers are irrigating fields where possible. Some of the later planted fields have not emerged evenly. In some other fields where there was emergence, but the crop was at a young critical stage, the plants have put on little growth and appear burnt up. I recall a number of years ago, a table beet field planted just before a very hot dry spell in which the seeds germinated, but were killed by high temperatures and never emerged. If you suspect such a case, give Julie Kikkert a call and we can come out and take a sample of the seeds in the ground and check them under the microscope. Some areas did receive a bit of rain Monday night and a more general rain is forecast for Thursday. I ran across a short article on pre-emergence herbicides in a dry year from the late Dr. Robin Bellinder that seemed applicable: The preemergence herbicides need water available to move them into the soil solution (literally the soil is really a solution not a solid as we view it normally). If soils are moist at application then the herbicides are 'liquified' and are 'activated' i.e. moved down into the germination zone--1 + inches. If soils are very dry then the herbicides sit on the surface and are not 'liquified/activated'. Generally the labels read that if you don't get rain or irrigation within a 5-7 day period one should lightly incorporate in the hopes of getting them into solution in the moisture under the surface. Late rains will effectively activate the herbicides but weeds that have been able to begin germination processes will be less well controlled. This is where preemergence herbicide 'failures' are frequently reported.

continued - CROP Insights

SQUASH

Powdery mildew has appeared this week in areas where there is lush growth, cool evening temperatures, and moisture from drip irrigation. Proactive management fungicide applications will help limit the spread and severity of these diseases in a field. Recommended targeted fungicides include: Torino (U6), Vivando (U8), Quintec (13), DMI fungicides (3) -Procure, Rally, Tebuzol, Folicur, and Inpsire Super (at highest label rate because reduced pathogen sensitivity to this chemistry), and Regalia (Group P) and Serenade MAX (Group 44) which are approved for organic production. Remember to rotate resistance groups and apply with protectant fungicides like chlorothalonil, copper, mancozeb, sulfur, copper, oils (mineral and botanical), potassium bicarbonate, and biologicals.



Powdery mildew colonies beginning to form on lower leaves and stems of zucchini. Photos: Gretchen Seigworth and Darcy Telenko, CVP



on Peppers, Potatoes, and Vine Crops

From June 8 through June 10 the CVP region experienced extended periods of high winds. Within a week a number of vegetable crops such as peppers, potatoes and cucumbers exhibited similar symptoms of growing point distortion, cupping and marginal necrosis. Crops with these symptoms will most likely grow out of this with negligible impact on yields.



Four-Lined Plant Bug Damage on Peppers, Tomatoes, and Weeds







Four-lined plant bug damage to lambsquarter (left), to pigweed (middle) and to pepper (right). Four-lined plant bug damage moves from weeds to vegetable crops. *Photos: Judson Reid, CVP*

Four-lined plant bug is a sucking beetle that causes circular discoloration on the foliage, that could easily be mistaken for a disease. The bug is secretive and fast moving, often not found with the damage. This native pest overwinters as eggs laid by adults in brambles or other woody sites. Feed-ing damage usually begins in mid -June and can continue through July. The damage can be severe but is often highly localized. Although a number of insecticides list 'plant bugs', they specify 'Lygus' which is a different species, making this a prohibited use in NYS. Since this pest does not lay eggs in vegetable crops and has one generation per season, prevention through weed control is the primary management tactic.



Photo: Steve Mayer, Extension Educator, Purdue University, 2001

UPCOMING EVENTS view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu

Muck Donut Hour - cancelled for June 28

Every Tuesday through August 9, <u>cancelled on June 28</u> | 8:30 AM - 9:30 AM Elba Muck, corner of Transit and Spoilbank, Elba, NY

Meet with Cornell Vegetable Program Specialist Christy Hoepting every Tuesday morning to ask questions and share your observations. Grower experience is combined with research and scouting information for a whole lot of talk about growing ONIONS!

Soil Health & Cover Crop Workshop

June 30, 2016 | 9:00 AM - Noon Elba Firemen's Recreation Hall, 7143 Oak Orchard Rd, Elba, NY 14058



Topics include **Soil health basics and why to start cover cropping**, *Jeff Rasawehr, crop farmer and owner of Centerseeds, Celina, Ohio*, **A Local Farmer Panel** with cover crop advice for the beginner, **The Cornell Climate Smart Farming Program**, *Darcy Telenko, Cornell Vegetable Program*, and an introduction to the **Western New York Soil Health Alliance**. *Sponsored by: Western New York Soil Health Alliance, a Farmer-to-Farmer Network*.

To pre-register for this FREE event, contact Orleans County SWCD at <u>Dennis.Kirby@ny.nacdnet.net</u> or 585-589-5959, or Genesee County SWCD at <u>Molly.Stetz@ny.nacdnet.net</u> or 585-343-2362

Fresh Market Vegetable Field Day: Early Disease Detection & Weed Management Options



July 6, 2016 | 9:00 AM - 3:30 PM

CVP Fresh Market Demo Site at Partridge's on the Farm Market, 4924 Ellicott St Rd (Rt 63), Batavia, NY 14020

View demonstration plots to exemplify early disease detection and weed management options for fresh market vegetable production. In addition to the demonstration plots, sessions will be offered throughout the day on weed and disease identification and biology, soil health and resistance management by CVP team members and county agriculture Educators. Regional equipment dealers and industry representatives will be invited to display equipment and new technology. CCA and DEC credits will be available.

- Tomato varieties and organic spray programs for disease management
 - Cucumber varieties and organic spray programs for downy mildew
 - Specialty crop vegetable varieties for viewing
 - Pesticide tank mixing 101
 - Weed identification and biology
 - Stale seedbed techniques for weed management in pumpkin, winter squash, and root crops
 - Improving soil health through the use of cover crops
 - Herbicide options in sweet corn

\$20 per person before June 30th includes lunch and information packet / \$30 per person at the door (lunch cannot be guaranteed unless you have pre-registered). Please contact us for special food accommodations. Pay online at https://cvp.cce.cornell.edu/ event preregistration.php?event=564 or contact Eva McKendry at 716-652-5400.

High Tunnel Pest and Disease Management: Organic Control Strategies

August 2, 2016 | 4:30 PM - 7:30 PM

Fellenz Family Farm, 1919 Lester Rd, Phelps, NY 14532

How can you manage your tunnel to limit losses due to pests and disease? This field day will start with identification of common high tunnel pests and diseases and effective organic control strategies, including spraying. Andy Fellenz, with support from NE-SARE, has developed and will demonstrate a boom-style high tunnel sprayer, as well as discuss the proper use of backpack and other relatively low pressure, low flow single-tip sprayers. Variety selection, rotation, cultural practices and spraying all have a place in the overall farm strategy. Fellenz Family Farm received its certification for growing organic vegetables and fruits in Phelps, NY in 2005, and has been growing in high tunnels for more than 10 years.

Cost: FREE! Email Angela Parr at <u>aep63@cornell.edu</u> to register or call 585-394-3977 x426. This event is sponsored by NE-SARE through a Farmer Grant. The Cornell Vegetable Program is cooperating with Fellenz Family Farm to bring you this event.

Vegetable Walk and Cut Flowers

August 15, 2016 | 5:30 PM Werner's Farm, 8427 West Henrietta Rd, Rush, NY 14543

A discussion and field walk for cut flower growers. Topics will be production considerations, and disease and insect management. The vegetable field walk will be conducted by Cornell Vegetable Program Specialists Judson Reid and Robert Hadad and will cover identification and management of insects, diseases, and weeds. FREE! Contact Robert Hadad for more information at 585-739-4065.



Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 6/14 – 6/20/16

	Rainfall (inch)		Temp (°F)		
Location	Week Month		Мах	Min	
		June			
Albion	0.00	0.51	90	42	
Appleton, North	0.03	0.97	88	40	
Baldwinsville	0.00	1.89	90	44	
Buffalo*	0.52	1.02	86	48	
Butler	0.00	1.51	90	44	
Ceres	0.08	2.03	85	43	
Elba	0.15	0.75	83	39	
Farmington	0.22	0.65	89	41	
Gainesville	0.03	0.85	85	38	
Geneva	0.06	0.43	88	46	
Lodi	0.01	0.40	90	43	
Niagara Falls*	0.01	0.60	89	48	
Penn Yan*	0.02	0.41	90	49	
Rochester*	0.00	0.75	91	45	
Romulus	0.04	0.35	88	46	
Silver Creek	NA	NA	86	47	
Sodus	0.00	2.50	89	41	
Versailles	0.57	1.08	87	43	
Williamson	0.05	2.85	89	41	

Accumulated Growing Degree Days (AGDD) Base 50°F: April 1 – June 20, 2016

Location	2016	2015	2014
Albion	626	732	619
Appleton, North	512	561	479
Baldwinsville	629	755	706
Buffalo	666	755	630
Butler	630	774	687
Ceres	484	662	577
Elba	436	565	495
Farmington	573	717	650
Gainesville	441	593	501
Geneva	608	727	666
Lodi	675	831	743
Niagara Falls	705	681	590
Penn Yan	644	792	706
Rochester	657	806	712
Romulus	594	745	670
Silver Creek	579	671	584
Sodus	526	640	615
Versailles	585	708	610
Williamson	536	653	593

* Airport stations

** Data from other station/airport sites is at: <u>http://newa.cornell.edu/</u> Weather Data, Daily Summary and Degree Days.





Cornell University Cooperative Extension Cornell Vegetable Program

480 North Main Street Canandaigua, NY 14424





VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program in Western New York. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas and research results from Cornell and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.

VEGETABLE SPECIALISTS

Robert Hadad | 585-739-4065 cell | rgh26@cornell.edu food safety & quality, organic, business & marketing, and fresh market vegetables

Christy Hoepting | 585-721-6953 cell | 585-798-4265 x38 office | cah59@cornell.edu onions, cabbage and pesticide management

Julie Kikkert | 585-313-8160 cell | 585-394-3977 x404 office | jrk2@cornell.edu processing crops (sweet corn, snap beans, lima beans, peas, beets, and carrots)

Carol MacNeil | 585-313-8796 cell | 585-394-3977 x406 office | crm6@cornell.edu potatoes, dry beans, and soil health

Judson Reid | 585-313-8912 cell | 315-536-5123 office | jer11@cornell.edu greenhouse production, small farming operations, and fresh market vegetables

Darcy Telenko | 716-697-4965 cell | 716-652-5400 x178 office | dep10@cornell.edu soil health, weed management, plant pathology

For more information about our program, email cce-cvp@cornell.edu or visit us at CVP.CCE.CORNELL.EDU

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Cornell University Cooperative Extension Cornell Vegetable Program

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