Weed Mapping Can Minimize Costly Weed Escapes in Future Vegetable Crops

by Julie Kikkert

Keeping a record of weed species and populations is an important component of weed management in both organic and conventional farms. Weed mapping over several years for a particular field can help direct decisions about control measures and which crops to plant in future rotations. For instance, fields with high populations of mustard weeds should not be planted to cabbage or other brassicas until the weed seed bank has been depleted. Otherwise, headaches and costly hand-weeding will be in your future. If you are going to plant a crop into a field with a history of high populations of a given weed, make sure you have a strategy in mind to control that weed species. Most herbicides are selective in which weeds they control. Several of our vegetable crops have a very limited number of herbicides that are labeled, resulting in consistent weed species escape in that crop.

Making and Using a Weed Map

Weed maps are helpful at two times during the season, soon after planting and towards harvest. The 2011 Cornell Vegetable Guidelines (p. 20) has some general guidelines for weed mapping. Since we are towards the end of the season, let’s focus on fall weed maps. Make a rough sketch of the field or use a computer generated map, such as Google Earth. The map should include landmarks, boundaries, roads, row directions, etc. Make a note of any field areas with unique characteristics such as low/wet spots. Next, record the weed species, distribution, and density on the map. The distribution can be recorded as SPOTTY = found in a few places around the field, LOCAL = found in a small portion of the field, or GENERAL = found throughout the field. The density of each species can be recorded as 1 = SCATTERED, few weeds; 2 = SLIGHT, 1 weed per 6 feet of row; 3 = MODERATE, 1 weed per...
Continued from cover

3 feet of row; or 4 = SEVERE, more than 1 weed per 3 feet of row. There are several commercial software programs to enter weed population data from a field into a smart phone. These are often connected to GIS/GPS systems which generate maps for a given field.

Compare maps from year to year to note changes in weed species and populations. Plan management strategies to reduce problem weeds in future years. It is important to have any unknown weeds identified because you may be dealing with a species that is highly invasive or difficult to control.

Hairy galinsoga weeds in cabbage.

Reducing Weed Seed Production in Harvested Fields

Mark VanGessel, Univ. of Delaware Weekly Crop Update, August 19th

Many annual and some perennial weeds are flowering, particularly those that emerged early in the summer. Destroying the plant or seed heads now will prevent most of these plants from producing mature seed. If these plants are mowed off, they are likely to regrow and eventually produce seed, but the quantity of seed produced will be dramatically reduced. Many of these fields will need at least one additional mowing to prevent seed production. Disking or a non-selective herbicide is another option to prevent seed production.

Ragweed going to seed.

Photo: J. Kikkert

Dates...

August 29 - Weeds Your Way, a NOFA-NY Meeting
10:00am - 3:00 pm, Thorpe’s Organic Family Farm, East Aurora. Organic weed management requires a strategic approach that relies on rotations, diversity, and cultural practices. The field day will demonstrate a number of effective strategies for weed management in field and vegetable crops. The field day will demonstrate techniques such as soil preparation, variety selection, row spacing, mulching, and cultivation. Farmers will be encouraged to share their strategies for organic weed management. Box lunch will be provided. Register by visiting the NOFA-NY Shopping page or by calling Katie at (585)271-1979 ext 512.

August 29-31 - Regional Economic Development Workshops
6 – 8 pm; Aug 29 – Batavia, Aug 30 - Brighton, Aug 31 – Geneva, to give the public (and agricultural interests!) an opportunity to provide input in a 5-year Economic Development Plan. To register call 585-399-7075. See www.governor.ny.gov and click on Regional Economic Development Council.

August 30-31 - Bejo Seeds Field Days
BEJO SEEDS will host their annual FIELD DAYS at their Research and Demonstration Farm on the intersection of Pre-Emption Road and Healey Road in Geneva, NY on August 30 and 31, starting at 10 am. The Field Days will feature a wide selection of vegetables for Northeastern Vegetable Growers, from Asparagus to Zucchini and everything in between, in both conventional and organic seed. For more information, driving directions and to reserve a spot for lunch call BEJO SEEDS at 315-789-4155.

August 31 – Potato Varieties, Insect & Disease Management, Water Management Meeting, Sponsored by Bayer CropScience, Dow AgroSciences and Stanton Ag Service. Williams’ Farm, 5077 Russell Rd, Marion, 5:30 – 8:30 pm. 1.5 DEC plus CCA credits. Please pre-register! Contact Carol MacNeil at 585-313-8796 or crm6@cornell.edu. Includes: 35 fresh market varieties/ lines; new insecticides for Colorado potato beetle; Tom Zitter and Bill Fry, Cornell, on diseases; Late Blight Decision Support System, email/text Alerts of your crop’s risk; muck water management. More at: http://blogs.cce.cornell.edu/cvp/.

September 21 – NYS Dry Bean Field Meeting, Bergen and Stafford, 4:45 – 8:30 pm. “1.3 DEC plus CCA credits. Varieties, diseases, W. bean cutworm, zone tillage, cover crops. Sponsor opportunities are available. Contact Carol MacNeil at 585-313-8796 or crm6@cornell.edu. Details later.

September 28 - Practical Tools for Small Vegetable Farms
10 am - 12:30 pm, Honeyhill Farm, 6241 Price Rd, Livonia 14487. Small vegetable farms need to have simple, affordable, and flexible equipment. The field day will demonstrate a multi-functional tractor-mounted tool that has been designed to save labor for family-operated farms. The tool would be commercially available at a cost that would be affordable to most small-scale vegetable farmers in the Northeastern United States. The field day will feature the tool being used for potato harvesting and garlic planting. Please register for this event by visiting the NOFA-NY Shopping page or by calling Katie at (585)271-1979 ext 512.
Slugs in Cabbage? Trial Sites Needed

C. Hoepting, CVP: Slugs are a sporadic pest of cabbage that is favored by cool and wet conditions; populations increase during late August through October. They tend to occur where there is heavy residue on the soil surface, especially in fields following corn, in weedy areas and along hedge rows. Although slug feeding can skeletonize cabbage leaves (Fig. 1), slugs are most problematic when they squeeze between the leaves of cabbage heads (Fig. 2), causing loads of cabbage to be rejected. In a Cornell study in 2011, Deadline MP applied to naturally slug-infested cabbage at 20 lbs per acre 3 days prior to harvest reduced the incidence of cabbage heads contaminated with slugs from 80% in the untreated to 29% in treated (64% control). Note that care must be taken to avoid contamination of the edible portions of the cabbage with the Deadline MP, which may be tricky. Deadline MP is a molluscicide and only has activity against slugs and snails. At 20 lb per acre Deadline MP costs approximately $50 per acre. In our 2011 studies, we got some leads on other materials that might be more economical for managing slugs in cabbage, such as Lannate LV, which may be used in cabbage to control worms. We would like to follow up with more research this year. If any growers have any fields with known or expected slug problems and would be willing to host a small-plot research trial, please contact Christy Hoepting at 585-721-6953 or cah59@cornell.edu.

Fig. 1 Slug damage (skeletonized leaves) in cabbage.

Fig. 2 Slug squeezed between leaves of a cabbage head where it serves as contaminant.

Potato Vine Killing

Compiled by C. MacNeil, CVP, from Sandy Menasha, CCE, LI Fruit & Veg Update 8/19, and the Cornell Vegetable Guidelines, http://www.nysaes.cals.cornell.edu/recommends/24frameset.html:

Vine killing is a useful management tool for desiccating vines and weeds, allowing time for skin set to reduce bruise and skinning at harvest, control tuber size and hollow heart incidence, and stop late blight development. Rapid vine kill (high chemical rate, dry soil, hot weather) can result in vascular discoloration of tubers. If an appropriate rate of nitrogen was used for the variety and soil then vine kill should not be particularly difficult. Check the label for rates.

Reglone (diquat) can be used on seed, storage and fresh-market potatoes. A nonionic surfactant should be added according to the label. If vines are dense, a second application can be made 5 days after the first. A 30-minute rain free period is needed post application. Reglone provides fair control of grasses and ragweed.

Rely (glyfosinate-ammonium) Not for use on LI. One application can be made (not on seed) but if vines are vigorous repeat with a different vine-killer. Ensure good coverage and low drift. Use a non-ionic foaming agent in soft water. See label for plant back restrictions, including cover crops.

Firestorm and Parazone (paraquat; Gramoxone no longer available) has a DANGER/POISON label and a 24 hr Re-entry Interval (REI). Use Personal Protective Equipment (PPE) listed on the label. Use low drift nozzles with larger drops. Only for fresh market crop that will be consumed immediately, and for weed control. Apply when potatoes are yellowing and not under stress. Split the application in dense foliage to avoid too rapid a kill. Use clean spray water and a surfactant, and plan for a 30 min rain free period.

Vida (pyraflufen-ethyl) is labeled for all potato varieties during the early part of vine kill, and it also controls broadleaf weeds. A second application in 7+ days can be made. Buffer the spray water if over pH 7.5, and use a non-ionic surfactant or crop oil concentrate.
Protect Onions Against Downy Mildew

C. Hoepting, CVP: Although there have been no reports of Downy mildew (DM) this year, the cooler temperatures (less than 72 °F) and leaf wetness caused by heavy dews of late August and September favor the development of this potentially destructive leaf disease of onion. Spores are produced at night and are easily blown long distances in moist air. They can germinate on onion tissue in 1.5 to 7 hours when temperatures are 50 to 54 °F. High daytime temperatures (> 74˚F) and short or interrupted periods of humidity at night can prevent sporulation.

For onions still standing and receiving fungicide sprays, mancozeb (Penncozeb, Dithane, Manzate) should be included as a protectant in all tank mixes at this time. If Quadris/Quadris Top/Quadris Opti is being used in the tank mix for control of Purple Blotch, it should also provide some protection against DM. Once DM is detected, add Ridomil Gold to the tankmix with mancozeb. Note that Ridomil Gold SL is labeled for damping off in onions as an in-furrow application; it is not labeled for DM as a foliar application. Ridomil Gold Bravo SC (add 0.5 to 2 pts of Bravo for added Botrytis leaf blight protection) and Ridomil Gold MZ (contains 1.6 lbs a.i. mancozeb; add additional mancozeb to equal 2.25 lbs a.i. per acre) are labeled for foliar application to control DM. Other fungicides labeled for DM in onions include Reason, Revus, Presidio (new), Aliette, Acrobat, Forum, Phostrol/Prophyt.

Early detection of DM is very tricky. Middle-aged leaves first turn pale, and then yellowish, and elongated patches may have grayish-violet fuzzy growth on otherwise green leaf tissue (Fig. 1). Sporulation is most easily observed when dew is present. In older infections, the initial infection site becomes necrotic and is quickly invaded by Purple Blotch (Fig. 2) and secondary pathogens with black spores. Infected leaves will dieback very quickly and are often covered with black spores (Fig. 3).

Know that once a plant is infected with DM that it will lose the affected leaves to dieback. The fungicide program is to prevent further spread from the infected plants to healthy ones, so that the whole field does not go down. Expect original DM hot spots to worsen, despite fungicide sprays. To assess whether DM is being contained, look for lack of new infections, and lack of spores on old lesions.

Late Blight Web Map Shows Infections; Free ID & Isolate Analysis

Abby Seaman, Chris Smart and Bill Fry, Cornell

A new USDA grant is funding the development of a web site that will track late blight (LB) finds across the US, and free identification and isolate analysis for LB samples submitted to the Bill Fry lab in Ithaca. The site, http://usablght.org/, has a map that allows quick and easy visualization of where LB has been found in the US. You can sign up for email/text alerts for LB finds within a geographic area you define. There is also a sample submission system that allows users to track their samples. Fill out an info sheet online before sending your sample and download a copy of the sheet to attach to your sample. To find links to LB resources for the rest of this season visit http://blogs.cornell.edu/lateblight/. The USABLght web site is still under development.
Late Blight Risk

C. MacNeil, CVP: Late blight has been confirmed on potato and tomato from a home garden in Oneida Co, in central NY, the first confirmation in upstate NY! Tomato growers should now be following the recommendations that potato growers use, based on Blitecast and the LB Decision Support System, which have called for a 5 day fungicide spray interval the past two weeks. Scout your crops carefully!!

The weather has continued to be very favorable for the development of late blight (LB) in the 12 county CVP area this past week. LB severity values (SV) are high in many locations (6+ indicates the need for a 5 day spray interval). Blight units from the new online LB Decision Support System (DSS) have also been high (30+ for a susceptible variety indicates the need to spray). Of 9 “farms” I’m tracking across the area I received Alerts that 7 of them reached 30 blight units on Reba by the 5th - 6th day after “spraying,” and the others were predicted to reach 30 in the next 3 days based on the “farm’s” weather forecast. Learn how you can get email or text Alerts for your farm, based on your varieties, your spray schedule, at the Aug 31st Potato Meeting (see Dates).

Refer to the last Veg Edge Weekly for info on LB ID and fungicide rankings, etc. Contact Carol MacNeil at 585-313-8796 or crm6@cornell.edu or John Gibbons at 716-474-5238 or jpg10@cornell.edu if you think you may have LB. We can facilitate getting the isolate identified rapidly so the most effective fungicide can be applied. Put 5 – 10 fresh, green, turgid, whole leaflets/stems with lesions in a dry plastic bag, seal, store at room temperature, and get to us ASAP/within 24 hours. DON’T carry the foliage or bag around in a vehicle for hours!

WNy Sweet Corn Trap Network Report, 8/23/11

Abby Seaman, NYS IPM Program

European corn borer trap catches are zero or in the single digits at most locations this week, with the exception of one site in Yates county where ECB-Z numbers remain high. Corn earworm numbers are variable, but they are being caught at most locations this week. Several locations have counts justifying a 4 day spray schedule. Fall armyworm and western bean cutworm are both being caught in low numbers at less than half the trapping locations this week.

Where CEW are being caught in high enough numbers to drive the spray schedule, the other worm pests should also be controlled. At locations with low CEW numbers, scout tassel emergence and silk stage fields for ECB and WBC egg masses and larvae. If WBC are present, use a threshold of 1% infested plants. If they are not being found, use the usual thresholds of 15% infested plants at tassel emergence and 5% in silk stage fields.
CROPS  Tidbits & Insights

BEETS/CARROTS
Wet weather/morning dews increases the risk of leaf diseases. See the June 22 issue of Veg Edge Weekly for a discussion and photos of these diseases. These crops are growing better now after the rain. Yes, some seed that has been sitting dormant since planting is finally emerging. Too late for the processors, but maybe small scale fresh market growers can use them for a late fall/winter crop. Beet tops were stressed during the hot weather, but growth should improve now.

DRY BEANS
Fields with early set pods in early fields are beginning to yellow but there are plenty of green later set pods there as well. In later fields there are green pods beginning to fill as well as pin pods. Growers will have a difficult decision on when to harvest. If fields have large bushes and disease has moved in (white mold (WM), bacterial blight), especially if the disease is common and pod involvement has occurred (mold on pods or water soaked to dark spots on pods), there could be an advantage to defoliating as soon as 85% of the pods are physiologically mature to improve air movement and drying. Beans are physiologically mature when a random sample of pods, from around the field and from both lower and higher parts of plants, are collected, the seeds removed, and the seed coats scratched with a finger nail. If they’re green underneath they’re immature. If they’re white they’re mature. Fields of large-bushed soybeans are reported to have significant WM.

Mexican bean beetles (MBB) and Japanese beetles and feeding were seen at a few locations. MBB feeding is likely coming to an end as the large, yellow larvae fall to the ground to pupate, but if sufficient medium to large MBB larvae are present to cause 5 – 15% defoliation then an insecticide spray is warranted. 10–20% defoliation of flowering, pod-filling beans can result in a 5% yield loss. Leafhoppers were fairly common in many fields but the crop is generally far enough along that all but very high populations should not affect the crop. Catches of Western bean cutworm (WBC) in the 12 dry bean fields across the production area are coming to an end, with very few moths caught in the past week. If fields have filled pods there’s a chance one might see the entrance hole of a WBC larvae as they feed inside on the beans. But trap catches were so low in all but Attica that this is unlikely. The CCE Field Crops Specialist Mike Stanyard reports that nearly 90% of soybean fields are at the treatment threshold for soybean aphids that recently migrated in from the Midwest. They have spread viruses to snap and dry beans in past years but dry beans are far enough along now that there should be no adverse impact.

GREENS
Flea beetles are proving to be a scurge this season. The populations are high in some areas and are aggressively attacking young brassicas and mustards. Repeated sprays or complete coverage with row covers seem to be the best options for new plantings at this point.

ONIONS
Onion harvest began this week for early direct seeded onions. Generally, yield is down due to the wet and late spring. Main season direct seeded onions and onions grown from transplants that were planted on time are bulbing up very nicely. Onion thrips (OT) pressure continues to be high in fields that have onions still standing; once plants stop putting on new leaves and lodge, the thrips tend to leave them. Radiant has been working very well and should be used without Bravo/Choronil and with a penetrating surfactant for best results. In fields that have already had two consecutive sprays of Radiant, and still need another week of protection, AND have high OT pressure Radiant has been working very well and should be used

POTATOES
Please pre-register for the Aug. 31st Potato Meeting! (See Dates.) While a few growers have begun to vine kill, and some with potatoes on sandy ground have begun to dig the earliest main crop potatoes, tubers in many fields have a lot of sizing to do. Enlarged lenticels are present, and potential Pythium leak, pink rot and bacterial soft rot infection are a threat, to those areas which continue to get more than their fair share of rain.

Sprout inhibitors applied in the field can reduce sprouting in storage as well as reduce volunteer potatoes the next season. This is helpful in onions, other crops, and in reducing the risk of over-wintering late blight. Maleic hydrazide (Drexel Sprout Stop, Royal MH-30, etc; check the label for differing rates!) should be evenly applied to actively growing plants when the smallest tubers to be harvested are 1 ½” in diameter (Norchip – 2”). Avoid application to stressed plants. A 24 hour rain-free period is needed. Vines should remain green several weeks to ensure the material gets down to the tubers. Wait 2 weeks to vine-kill. Do not use on seed.

PROCESSING CROPS
Harvest Update: Only about 5% of the sweet corn has been harvested to date because of delayed planting. Sweet corn yields started low, but should improve with recent rain. Beet harvest is about 10% complete with good yields. Decay has been observed on some beet roots. Snap bean harvest is about 40% complete. Yields were low during the hot, dry weather of July and early August, but are starting to improve now. Allen’s Italian beans finished up this week with average to above average yields, a vast improvement over the less than 50% average when the season started. Whole beans also started at 60% of average but have been steadily improving. There have been no significant disease problems to date, however some fields have had severe weed escape problems. Lack of herbicide activation may have been a problem during July. See individual crops for pest updates.

More tidbits on next page...
Farm Food Safety Strikes Again

Officials at the Oregon Public Health Division determined that deer feces was the source of the *E. coli* in strawberries that caused 15 people to get sick in July. One person has died.

Testing positively identified a match between the deer feces and *E. coli* found from tests of the sickened people. Strawberries from the affected fields were produced last month by Jaquith Strawberry Farm, which is located in Newberg. At this time, the Oregon Department of Agriculture believes it has identified those operators and locations that possibly sold Jaquith strawberries.

Jaquith finished its strawberry season in late July, and its strawberries are no longer on the market. Jaquith sold its strawberries to buyers who then resold them at roadside stands, farm stands and farmers’ markets. Jaquith has recalled its products and is cooperating fully with the investigation.

Health officials continue to urge people who purchased strawberries grown on this farm to throw them out. Strawberries that have been frozen or made into uncooked jam are of particular concern. Cooking kills *E. coli O157:H7* bacteria.

“If you have any strawberries from this producer – frozen, in uncooked jam or any uncooked form – throw them out. People who have eaten the strawberries but remain continued on page 8.
Continued from page 7

well need take no action,” said Hedberg. The incubation period for E. coli O157:H7 is typically two to seven days.

None of the following have been implicated in this outbreak: Berries other than strawberries; Strawberries sold since Aug. 1; Strawberries sold in supermarkets; Strawberries picked at Jaquith Strawberry Farm’s U-pick field; Strawberries grown in southwest Washington state.

People sickened include residents of Washington, Clatsop, and Multnomah counties in Oregon. Of the confirmed cases, seven have been hospitalized, and one elderly woman in Washington County died from kidney failure associated with E. coli infection.

R. Hadad, CVP: The farm stands did not have any traceback but through the testing and testimony from the people who became ill, officials were able to track back where the strawberries were sold. We have conducted many GAPs trainings across NY. Many times farmers have stated that nothing they grow has made anyone sick. Without good GAPs practices and reliable traceback, we wouldn’t want this type of situation to happen in NY. What the story doesn’t say is what is the impact to the farmers market and the reputation of the roadside stand that sold those strawberries? Have sales been hurt for all the rest of the farmers selling product in that area?

The Cornell GAPs Training team will be holding several more training workshops in various locations in western NY and the Finger Lakes over the winter and early spring of 2012. As the dates and locations become finalized, watch for announcements posted in Veg Edge.

Winter Tunnel IPM

J. Reid, CVP:

Step 1-Scout & manage summer crops

With the increased demand for local produce, many growers have found they can market crops throughout the year. High tunnels are often used to produce a greens crop in the winter for this market window. Growing in winter is not without its pest challenges though. Thus, the Cornell Vegetable Program is beginning its second year of NE SARE sponsored project in Winter Tunnel IPM. Last week in Veg Edge Weekly we discussed that now is the time to implement pest management practices for these crops. The first step in this management process is to scout summer tunnel crops.

Few growers leave their tunnels empty over the warm season, as the financial returns of fruiting vegetables such as tomatoes, peppers and cucumbers is too good to pass up. However each of these crops increases our pest threat to the tunnel winter greens. For examples, tomatoes are very attractive to thrips, spider mites and white flies (Fig. 1). Aphids will attack most vegetables, but tunnel peppers and cukes are particularly attractive. So to prevent these summer crops from ruining our winter crops, we must scout them, and then implement controls.

Scouting requires a weekly scheduled examination of the crop. Most of the pests we are battling dwell on the underside of the leaf. In our own variety trials, scouting is a weekly task for the workers, listed on their checklist of chores. A 10x hand lens is a good tool for these workers to help them find small pests such as mites and thrips sooner, before any damage is available.

**Bad Idea: Selling Produce You Did Not Grow as Though You Did**

Jim Ochterski, CCE Ontario Co.

A few Oregon farmers have learned the hard way that misrepresenting the source of their fruit can come back to haunt them.

During the recent investigation of E. coli tainted strawberries on the West Coast, officials discovered farms that claimed their produce was grown on their farm, even when it wasn’t. This made the tracing of the source of the food-borne illness much more difficult. These farms might have unknowingly sold the tainted berries.

**Lessons:**

- If you did not grow it, don’t say you did.
- Keep clear records of where and from whom you procured produce to re-sell.
- Find out if the seller has farm-level food safety plans and practices in place.

Some Oregon farmers resold tainted berries as their own.
Once we have found pests on our summer crop, we need to implement controls ASAP. Fortunately in August and September temperatures and day-length yet allow us to implement a biocontrol program. Aphids, thrips, mites and whiteflies all have predators and parasitoids that can be purchased and released, providing very good control with no concerns about preharvest intervals, re-entry intervals or phytotoxicity. For example, in one local tunnel our program released a predatory wasp to control aphids in eggplants, with near 100% eradication (see chart on previous page).

Success with a biocontrol program in aphids is an important victory as this pest will last all winter and can ruin a greens crop. However, these victories don’t come as easy once the greens crop is growing. Why? We’ll cover this next week as we look at the next steps in Winter High Tunnel IPM: Biological controls and approved sprays in cool weather tunnel/greenhouse crops.

### Weather Charts

**J. Gibbons, CVP:**

#### Weekly Weather Summary: 8/16 - 8/22

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#### Accumulated Growing Degree Days (AGDD)

**Base 50°F: Jan. 1 — August 22, 2011**

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<td>Williamson</td>
<td>2016</td>
<td>2190</td>
<td>1681</td>
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</tbody>
</table>

* Airport stations
** Data from other station/airport sites is at: [http://newa.cornell.edu/](http://newa.cornell.edu/)
Weather Data, Daily Summary and Degree Days.
Veg Edge Weekly is a seasonal weekly publication of the Cornell Vegetable Program providing information about crop development, pest activity and management, pesticide updates, local weather conditions, meetings and resources.

Veg Edge is published 28 times annually, monthly from October-May and weekly from May-September. If you have any questions about this publication, contact Julie Kikkert at 585-394-3977 x404 or jrk@cornell.edu. Visit the Cornell Vegetable Program website at http://cvp.cce.cornell.edu/ for information on our research, upcoming events and enrolling in our program.

Cornell Cooperative Extension provides equal program and employment opportunities.

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<th>Email Address</th>
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</table>

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are possible. Some materials may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide usage in New York State should be directed to the appropriate Cornell Cooperative Extension specialist or your regional DEC office.

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