Cornell University Cooperative Extension

Eastern NY Commercial Horticulture Program

Vol. 2, Issue 10
July 31, 2014

Berry News

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Regional Update


Photo by Ed Show. Source: ucanr.edu

Spotted Wing Drosophila (SWD) adults have been caught in traps in very low numbers in Albany, Columbia, Dutchess, Rensselaer, Ulster and Westchester counties beginning the week of July 20th and in several counties in western Massachusetts during that same time period. Low numbers have been found in many New England states and much of NY beginning around July 4th. Numbers of trapped adults have been reported to be climbing in Rhode Island and Pennsylvania. **All berry growers in Eastern NY that have ripening fruit should begin appropriate pesticide applications as soon as local weather conditions permit.** Please do not infer that just because your county is not listed above that you can continue to wait. Clinton and Essex counties may have another week or two before a pest management program should begin, but growers in all other counties should commence with a berry protection program. All growers, regardless of their spray program, should attempt to pick the planting as clean as possible. Dropped fruit should be removed and destroyed by burying or removal from the farm. Berries should be stored immediately after picking in refrigeration set at 32.5 degrees F. Brambles, late blueberries and day-neutral strawberries remain at highest risk, in that order. Please call Laura or Jim if you have any questions about how to control SWD in your planting.

Showers throughout the eastern part of the state have brought localized heavy rains of as much as 3" in the past week, but in a few areas growers have had to continue irrigation. The rain events make SWD control challenging, but stay as close to a 5-7 day interval as possible. Standing water in some areas has also prevented strawberry and raspberry plantings from thriving. At this point Phytophthora hasn't been isolated, but if waterlogged conditions persist it's only a matter of time.

Blueberry harvest continues and in most locations the yield looks quite good. Continue to monitor those varieties with significant winter injury – but nitrogen applications should have been discontinued several weeks ago so that plants can slow growth and harden off this fall.

Strawberry renovation for the most part looks good. Growers have to adapt the normal protocol to their own circumstances, but don't forget that the most important part is narrowing the row and getting some type of advantage over weeds and disease pests. If you are attempting something drastically different from recommendations, call first.

Day neutral strawberries are beginning to produce nicely. The advent of cooler weather should really kick them into production. The new varieties 'Portola' and 'Monterey' are nice additions to the standard bearers 'Albion' and 'Seascape'.

Despite the challenges of berry production, we continue to receive calls from prospective growers. It's hard to discourage these folks, and hopefully the reality won't totally dissuade them as we continually hear from local market managers and other retailers that fruit in general and berries in particular are hard to find and very much sought after.

Berry 'To Do' List

All crops

- Implement SWD control – Visit http://www.fruit.cornell.edu/spottedwing/ for postings of first detections throughout the state and information on control.
- Know how to evaluate fruit for SWD infection.
- Take foliar samples for nutrient analysis of all berries in early August.

Blueberries

- Prune out winter injured dead wood to prevent canker.
- Scout for mummyberry now. The fruit is easier to distinguish as it really is looking "mummy-ish", but it will be tricky to tell from those fruit that are shriveling on winter damaged wood. Look for fruit turning pink and having slight ridges appear. Also, if you cut them open they will be full of white mycelium which will help you differentiate from other shriveling berries. Sort mummified fruit out and remove from planting. Take note to implement prevention program next year.

Raspberries

- Scout for mites – especially in high tunnel plantings.
- Scout for canes infested by raspberry cane borer. These will have wilting tips and two dark rings of punctures on the canes where eggs have been laid. Cut off and destroy the wilted tips below the rings as soon as this damage is noticed.

Strawberries

- Renovate strawberries to maintain vigor of plantings.
- Take note of weed issues in the field.
- Fertilize Day neutral strawberries increasingly until 5-7# actual N/acre/day is being delivered. This should correspond to maximum harvest.
- Scout for strawberry root and black vine weevil adults now.

Welcome Anna!

Hello! As the most recent addition to the Eastern New York Commercial Horticulture Program, I am thrilled to become a part of this team and of Cornell Cooperative Extension.

As regional fruit specialist I will be serving primarily the apple and grape growers of the northeast region of the state. I will be working out of the Clinton County CCE office in Plattsburgh, conveniently located near many of the farms I will frequent and the cold-hardy grape planting at the Willsboro farm.

I recently received my Master's degree from the University of Maryland where I was involved in a number of horticultural projects and taught various plant science classes with my advisor Chris Walsh, Professor of Horticulture and a graduate of Cornell. I am excited to use my eclectic background to sustain and improve the apple and grape production in the area through the development of local programs and a strong collaboration with Cornell scientists.

In my first week, I have already been welcomed by many of you in the Plattsburgh area and in Ithaca. I am absolutely thrilled to be in the beautiful North Country, and part of such a wonderful community of farmers and educators. I look forward to meeting many more of you at upcoming programs and events. Please don't hesitate to contact me!

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Cultural Practices for Gray Mold Control in Brambles

By Mike Ellis & Mizuho Nita, Ohio State

Editors note: *The current trend, bouts of rain and cooler nights, may set us up for some serious Gray Mold pressure. The list of considerations below mean to remind growers of the cultural practices of importance. For chemical control options refer to the Cornell 2014 Pest Management Guidelines for Berry Crops or give Laura or Jim a call.*

Cultural practices are the major means of control for several important bramble diseases, including gray mold. The following practices should be carefully considered and implemented whenever possible in the disease management program.

Photo courtesy of Cornell Berry Diagnostic Tool
http://www.fruit.cornell.edu/berrytool/index.htm

- Avoid Excessive Fertilization: Base fertility on soil and foliar analysis. Avoid use of excessive fertilizer, especially nitrogen.
- Control Weeds In and Around the Planting: Weeds in the planting prevent air circulation and result in fruit and foliage staying wet for longer periods. Controlling wild brambles (which are weeds) near the planting is also important because they can serve as a reservoir for several important diseases and insect pests.
- Practice Sanitation (Removal of Overwintering Inoculum): Pruning out all old fruited canes and any diseased new canes (primocanes) immediately after harvest and removing them from the planting breaks the disease cycle and greatly reduces the inoculum.
- Manage the plant population and canopy to increase air circulation and exposure to sunlight: Ideally, rows for red raspberries should not be over 2 feet wide and contain about 3 or 4 canes per square foot. Specialized trellis designs for Rubus spp. can further improve air circulation and increase exposure to sunlight, as well as increase harvest efficiency. Trickle irrigation, (vs. overhead sprinkler irrigation), greatly reduces wetting of foliage. Removing young fruiting shoots (before 4 inches long) from the lower 20 inches of canes will remove fruit that might become soiled.
- Adjust Production Practices to Prevent Plant Injury and Infection: Many plant pathogens take advantage of wounds in order to penetrate and infect the plant. Using sharp pruning tools will help minimize damage to canes during pruning operations. Prune only when necessary (avoid cosmetic pruning of primocanes) and avoid pruning during periods when plants are wet or immediately before wet weather is forecast. Provide proper cane support through trellising or otherwise tying the canes to in avoiding abrasions from sharp spines and wind whipping of plants during windy conditions. Proper spacing between rows and the use of the proper size equipment will also prevent plant damage.
- Proper harvesting and storage methods are critical components of the disease management program. It is of little value to produce high-quality fruit in the field if it is bruised or crushed during harvest or permitted to rot during storage.

Raspberry and blackberry fruit are very perishable. Even under the "Best conditions" these tender fruits are extremely susceptible to physical damage and postharvest rots. The following practices need to be considered well in advance of initiating the harvest. The proper implementation of these practices will aid greatly in providing your customers with the best quality fruit possible.

a) Handle all fruit carefully throughout all phases of harvest, transport and sale. Bruised or crushed (leaky) fruit are much more susceptible to fungal infection and rot than firm, intact fruit.

b) Harvest all fruits as soon as they are ripe. During periods of warm weather, harvest may require picking intervals as short as 36 to 48 hours. Pick early in the day before the heat of the afternoon. Overripe fruit in the planting will attract a number of insect pests and provide a source for inoculum buildup of fruit rotting fungi.

c) It is highly desirable to combine harvesting and packing into one operation. This prevents unnecessary handling and additional physical injuries.

d) Train pickers to remove damaged or diseased berries from the field. Some growers have programs where they pay the picker as much, or more, for damaged berries picked into separate containers, than for healthy berries. This is a good sanitation practice that reduces inoculum levels of fruit rotting-fungi in the field. Providing hand-washing facilities in the field so pickers can periodically clean their hands, should be helpful in reducing the movement of fungus spores that are encountered by touching rotten (diseased) berries.

e) Pick into shallow containers. Ideally, fruit should be no more than 3 to 4 berries deep; this greatly reduces bruising and crushing the fruit, which results in juice leakage that encourages the development of fungal fruit rots.

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Gray Mold Control in Brambles, continued from previous page

f) Refrigerate fruit immediately after harvest. Fruit should be cooled as close to 32°F as possible within a few hours after harvest. This temperature should be maintained throughout storage and, if possible, throughout shipment and sale. If you do not have refrigeration, fruit should be placed in the coolest place possible. Never allow the fruit to sit in the sun.

g) Avoid condensation of water on fruit after it is removed from cold storage. This is best accomplished by enclosing it in a waterproof over-wrap before it leaves the refrigerated area. The over-wrap should be kept in place until the fruit temperature has risen past the dew point.

h) Sell the fruit immediately ("Move it or lose it"). Many berries produced in the Midwest are sold to pick-your-own customers or directly at farm markets, and are not refrigerated prior to sale. Customers should be educated to handle, refrigerate, and consume or process the fruit immediately in order to assure the highest quality possible. We must remember that even under the best conditions, raspberry and blackberry fruits are very perishable.

Source: North Carolina State, Team Rubus blog July 2013 http://teamrubus.blogspot.com/2013_07_01_archive.html. See the original article at www.fruit.cornell.edu/nybn/newslettpdfs/2013/nybn1205a.pdf

BRAMBLE DISEASE CONTROL STRATEGIES

Key: ++ = most important controls;
+ = helpful controls; □ = no effect.

Disease Control Considerations	Fruit rot
Good air/water drainage	++
500+ ft from wild brambles	
Rotation	-
Cultivar tolerance or resistance	-
Avoid adjacent plantings	-
Eliminate wild brambles	-
Disease-free stock	-
Aphid control (vectors)	-
Rogue infected plants	-
Speed drying (weeds, pruning)	++
Prune 3 days before rain	
Dispose of diseased pruned canes	-
Maintain plant vigor	-
Fungicide sprays	+/-
Harvest before overripe	++
Fruit storage conditions	++

Open House for Spotted Wing Drosophila Netting Exclusion and Fixed Spray System Farm Trials

Wednesday, August 13, 3:00-5:00pm at The Berry Patch of Stonewall Hill Farm, 15370 NY Route 22, Stephentown, NY 12168

The Spotted Wing Drosophila (SWD) Exclusion Netting Project will be the highlight of this meeting. Two weights of netting are being trialed. A vestibule was added to improve ease of movement. The entire patch has been covered. A 2nd year trial of a fixed sprayer system in a high tunnel will also be on view.

Spotted Wing Drosophila research continues in our ongoing effort to better understand and control this new pest. This meeting will focus on a SARE Farmer grant funded project looking at different grades of exclusion netting and its efficacy on eliminating SWD from blueberries. We will also look at a high tunnel raspberry planting that has a NYFVI funded grant project examining the efficacy and labor saving attributes of a fixed spray system in the tunnel.

Owner Dale Ila Riggs has been a leader in the campaign to secure research funding for SWD. The Berry Patch at Stonewall Hill Farm produces all kinds of berries and vegetables for local retail markets.

Please register by calling Marcie at 518-272-4210 or email mmp74@cornell.edu – there is no fee, but it will help us provide the appropriate number of handouts etc. If you get a machine, leave the number attending, your name and a phone number. This event will happen rain or shine.

If you have questions, please contact Laura McDermott: 518-791-5038.

Research supported by funding from Northeast Sustainable Agriculture Research and Education, the New York Farm Viability Institute and the NY Legislature.

Late Season Strawberry Care – Including Foliar Disease Management

By Kathy Demchack, Pennsylvania State University

This is the time of year when your strawberry plants are initiating flower buds for next year's crop. So, anything you can do take care of your plants now will help to increase next year's yields. Failure to take care of them now could set the stage for poor yields next year. So, what do we need to do?

- Make sure the plants have adequate water (1-2" per week).
- Make sure the plants have sufficient nitrogen (20 to 30 pounds applied during the mid-August to mid- September time frame, or slightly more on sandy soils). If you've experienced a lot of rain since renovation, you may want to apply the nitrogen a bit earlier than usual, especially if plants are light green and are not growing as fast as usual. Nitrogen you applied at renovation may have been washed through the soil, especially if it was in a nitrate form.
- Keep an eye out for foliar diseases and apply an effective fungicide for any fungal diseases. Injured leaves = less photosynthesis = less food for flower buds and healthy root growth, and a lot of inoculum overwintering can damage your plants, including fruit, next year. The trick is correctly identifying which leaf disease(s) you have, and knowing whether any the symptoms you are seeing are caused by fungus or a bacteria. Fungicides only work on diseases caused by fungi. Here's a description of leaf diseases in order from most common to least common.

Leaf scorch: Spots on leaves start our circular and dark red to purple. Eventually the center may turn brown, spots may coalesce, and entire leaves and become affected and die, given the whole plant a scorched appearance. Some common fungicides are effective against this disease, which can be easily confused which angular leaf spot, on which fungicides will have no effect.

Angular leaf spot: At first, light green "windowpanes" between the veins show up on the leaf when it is held up to the light. From the top, these areas may have a blackened appearance at first. Later on, as affected areas enlarge and coalesce, the leaves may develop a reddish tinge, with leaf tissue eventually dying and turning brown. This disease (along with gray mold) was responsible for a lot of caps on the fruit turning brown or black this past spring. Fungicides don't affect this disease, but copper can help (see cautions below). Since leaf scorch and angular leaf spot are easily confused, here are some photos to help tell the difference. These photos are of the same two leaves, held differently so sunlight either shines down on them, or through them. The primary disease affecting the leaf on the left is leaf scorch, and the leaf on the right is angular leaf spot. In Figure 1, sunlight is shining down on the two leaves, the leaves appear very similar. In Figure 2, where leaves are held up so that sunlight shines through the leaf, you can see that light does not shine through the leaves with leaf scorch on the left, but the "windowpane" effect of angular leaf spot can be clearly seen in the leaf on the right. Note that in these two leaves, there is some of each disease present on each leaf, but the disease causing most of the spots is different.

Powdery mildew: Usually the first symptom noticed is leaf curling, where leaves fold inward along their length. There may be a purple tinge to the leaves. White powdery

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Figure 1 – Sunlight shining down on two different leaves makes the leaves appear to be infected from the same disease. Leaf on the left has leaf scorch, leaf on the right has angular leaf spot.

Figure 2 - The same 2 leaves held up to the sunlight. The leaf on the left has leaf scorch and the lesion looks about the same, but the leaf on the right that has angular leaf spot exhibits the "windowpane" effect.

Late Season Strawberry Care, continued from previous page

growth on the upper leaf surface may or may not be seen, but if you look at the leaves under magnification, as with a 16x hand lens, you may be able to see the growth of fungal mycelia on either leaf surface. On the leaf undersides, be careful not to confuse strawberry leaf hairs (they're straighter and thicker) with the mycelia.

Phomopsis leaf blight: As lesions grow, they form a V-shape, with the wide portion of the "V" at the leaf's edge.

Common leaf spot: I'm seeing less of this all the time - most of today's common strawberry varieties have resistance. Spots are small (1/8 to 1/4 inch across), and develop white to gray centers, which may fall out.

Once you've figured out which disease(s) you have, how do you treat them? First, any cultural controls that improve air circulation will help greatly. Keep rows narrowed, and keep plantings weeded. As a general rule of thumb, Nova and Pristine work well on any of the above diseases except for angular leaf spot – just be sure to tank-mix or alternate chemistries, such as with Captan, as both are susceptible to resistance development. Captan or Captevate work quite well on leaf scorch, common leaf spot, and phomopsis leaf blight, but not powdery mildew or angular leaf spot. Copper helps with angular leaf spot, but phytotoxicity is a concern, so follow precautions on the package and discontinue use if phytotoxicity appears.

Source: Pennsylvania Fruit Times Vol. 28, No. 7

Managing Japanese Beetles in Blueberries

By Rufus Isaacs, Michigan State University

Japanese beetles have only one generation per year, but these beetles emerge over a long period from late June through August and they live for over 30 days. They feed on the foliage and fruit of blueberry plants, causing damage to the plant and increasing the risk of fungal diseases. Their emergence during mid-summer can also result in their presence during harvest, creating a risk of contamination. They are also highly mobile insects and can fly into fields from surrounding areas. This article provides information on insecticide options based on tests over the past few years conducted at the Trevor Nichols Research Complex and at growers' farms.

Making your farm less attractive to beetles - Many farms have sodded row middles and perimeters around fields, with irrigation being broadcast during the summer months. This is done for good farm management reasons, but it also creates ideal conditions for Japanese beetles to lay eggs, since they prefer to lay eggs in mown grass and in moist soil. While it may not make sense to do this in all farm situations, removing the grass or using a non-grass cover crop in row middles, or restricting irrigation to the crop row through a drip system are all approaches to reduce the suitability of sites for reproduction of this pest.

Certain weeds are another magnet for Japanese beetles. Beetles are much more abundant in crop fields where there is poor control of wild raspberry, blackberry, Virginia creeper, wild grape, or sassafrass. These weeds are highly attractive and beetles will aggregate on these attractive plants and then lay eggs in the soil nearby. Plan now for a fall application of herbicide to control these plants and reduce the attractiveness of your fields.

A few thoughts about trapping - Traps are sold widely for Japanese beetle monitoring and control. However, these insects are very easy to see so they can be monitored by looking directly on the crop – you will know when they are present from the feeding damage and by seeing the beetles. Traps are highly attractive and draw beetles to them over large distances, so putting a trap near your crop fields will draw beetles from the surrounding landscape. Many of the attracted female beetles do not get trapped and end up landing on foliage nearby and feeding/mating then laying eggs in the soil near the trap, so this creates a hot-spot for next season. Mass trapping of beetles is also not economically feasible in commercial fruit plantings, and there is little evidence that this strategy will work to reduce beetle populations and crop injury. **The take-home message is that traps should be avoided because they will not help reduce Japanese beetle damage in fruit crops.**

Broad-spectrum insecticide options - The carbamates Sevin and Lannate provide immediate control of beetles

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Photo courtesy of Cornell Berry Diagnostic Tool
http://www.fruit.cornell.edu/berrytool/index.htm

Managing Japanese Beetles in Blueberries, continued from previous page

present during the application. They are also stomach poisons, so if beetles eat treated foliage they will also receive a higher dose. This can be a good property for control of Japanese beetles since they eat so much that a strong dose of insecticide is taken up. Lannate has a short residual activity of a few days, whereas Sevin provides a week or more of protection. Sevin has a 3 or 7 day PHI depending on the crop, and Lannate ranges from 3- 14 days. The organophosphate Imidan (buffer Imidan to pH 6.0 in the spray tank) both provide excellent lethal activity on adult beetles, although it can take a few days for their effects on Japanese beetles to be seen as the beetles take up the insecticide. Imidan provides 10-14 days of activity, with a 3 day PHI.

The many pyrethroids registered such as Danitol, Asana, and Mustang Max, give instant knockdown and mortality of adult beetles, with 7-10 days of activity. However, note that in high summer heat these insecticides provide shorter periods of activity than in cool weather. Beetles that do not receive a lethal dose of pyrethroid may also be repelled from treated fields, providing an additional mode for reducing infestation of crops at harvest. PHI's for pyrethroid insecticides vary from 1 to 14 days, so check the label before use.

Reduced-risk insecticides - The labeling of the neonicotinoids such as Provado, Actara, and Assail provides selective options for Japanese beetle management. These insecticides provide 2-5 days of lethal activity from the surface residues before being absorbed into the foliage. Thereafter, beetles must eat treated foliage to get a dose of the insecticide. Once inside the foliage, these locally-systemic insecticides are rainfast and provide repellency and knockdown activity, but with much less direct mortality from the residues. These neonicotinoids will also provide some control aphids and leafhoppers. The rate of these insecticides allowed in different crops will have a large impact on their effectiveness, and growers should consider the higher end of the rate range to achieve some lasting control of Japanese beetles.

Short PHI and organic options - For growers looking for beetle control immediately before harvest or in organically grown fruit crops, some selective insecticides with 0 day PHI's can provide a tool to repel beetles and help achieve beetle-free fruit during harvest. Compounds containing neem (Azadirect, Neemix etc.) have a 0 day PHI and pyrethrum (Pyganic) has a 12 hour PHI. These compounds are labeled for organic use, and have a short but effective impact on adult Japanese beetles, with some mortality, some knockdown off the crop, and some repellent activity. Typically there is only 1-2 days of activity against beetles because the residues do not remain active for long. The non-organic form of Pyganic, called Evergreen, also has a 12 hour PHI, and is much more effective against Japanese beetle than Pyganic due to the addition of a chemical that inhibits the beetle's ability to break down the insecticide.

A final option for protection against Japanese beetle is SURROUND WP, a white clay material applied to create a white coating on the surface of foliage and fruit to provide protection against insects. When applied to provide a good coating (typically requiring 2 or more applications), SURROUND has performed very well against Japanese beetle in trials conducted in blueberry and grape. If considering this approach to Japanese beetle control, be aware that the white coating on the fruit may require some removal after harvest to make the fruit marketable. This may be challenging for some types of fruit. For example, in blueberries the white residue was removed well from the surface during processing but deposits in the calyx cup were not removed even after running berries through a typical wet processing line with food grade detergents.

Soil-applied insecticides – Japanese beetles typically lay their eggs in moist grassy areas and many fruit farms have a large amount of this highly suitable habitat. An additional approach to reducing the impact of Japanese beetles in a farm is to reduce the overall population by targeting the grub stage of this pest to reduce the abundance of beetles in the following year. If the location of high grub densities near fruit fields is known, these areas could be treated with a soil insecticide to get maximum return on this treatment. Our experience in Michigan blueberry fields has been that application of Admire (16 oz/acre) to grassy field perimeters in late June/early July reduced the abundance of beetles on bushes for the first few weeks of their flight period in the next growing season. After that, beetles flying into the area from outside swamped out this effect, so there is only a short -lived benefit from targeting the grubs in fields surrounded by infested grassy areas. However, as part of an overall IPM program to minimize the impact of Japanese beetle, this approach can help reduce the number of beetles growers must control. Platinum is another soil-applied insecticide that can be used for this grub control strategy.

Source: MSU Blueberry Newsletter, Volume 5, Issue 7.

Counterfeit Money at Farmer's Markets

Counterfeit Money sightings are on the upswing. An increase in counterfeit dollars at Farmers Markets is on the rise. Be in the lookout. $10's and $20's are most common. Invest in some of the pens that highlight based on special money paper and see this article: https://docs.google.com/file/d/0BzEMJRQuHZM1aE5hcGUwMTNBZlE1dGdMWmhhSXp2bzE3cGdR/edit?pli=1

The Eastern NY Commercial Horticulture Team is proud to announce that their updated website is up and running. For on-line class registrations, announcements, older versions of the newsletters, etc. Please visit http://enych.cce.cornell.edu/. We hope you bookmark it on your computer and begin using it as your 'go to' website for production and marketing information. Email or call any of the educators with questions or comments on the website – we want to make it work for YOU!

2014 Weather Table—This chart is compiled using the data collected by Northeast Weather Association (NEWA) weather stations. For more information about NEWA and a list of sites, please visit http://newa.cornell.edu/. This site has information not only on weather, but insect and disease forecasting tools that are free to use.

2014 Weekly and Seasonal Weather Information

	Growing Degree Information Base 50^{O} F			Rainfall Accumulations		
Site	**2014 Weekly Total** 7/21- 7/27	**2014 Season Total** 3/1 - 7/27	**2013 Season Total** 3/1 - 7/27	**2014 Weekly Rainfall** 7/21- 7/27 (inches)	**2014 Season Rainfall** 3/1 - 7/27 (inches)	**2013 Total Rainfall** 3/1 - 7/27 (inches)
Albany	**165.6**	**1578.2**	**1591.0**	**1.43**	**7.39**	**23.70**
Castleton	**159.7**	**1493.6**	**1606.8**	**0.94**	**8.61**	**22.20**
Clifton Park	**155.4**	**1429.6**	**1516.1**	**0.95**	**9.26**	**24.53**
Clintondale	**161.5**	**1597.7**	**1729.7**	**0.35**	**10.18**	**15.24**
Glens Falls	**144.1**	**1418.6**	**1377.5**	**0.77**	**10.94**	**19.70**
Guilderland	**155.0**	**1436.5**	**1519.0**	**N/A**	**N/A**	**N/A**
Highland	**155.9**	**1585.1**	**1710.4**	**0.51**	**11.61**	**18.28**
Hudson	**166.9**	**1600.9**	**1676.6**	**1.07**	**9.83**	**17.95**
Marlboro	**157.9**	**1523.3**	**1651.5**	**0.38**	**12.78**	**19.60**
Montgomery	**155.6**	**1552.4**	**1618.5**	**0.27**	**14.46**	**17.95**
Monticello	**129.6**	**1710.4**	**1303.5**	**N/A**	**N/A**	**N/A**
Peru	**144.5**	**1349.6**	**1381.7**	**1.74**	**10.13**	**17.73**
Shoreham, VT	**151.1**	**1408.2**	**1473.4**	**1.19**	**9.22**	**19.15**
Wilsboro	**138.5**	**1296.3**	**1357.2**	**N/A**	**N/A**	**20.01**