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Berry News

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Regional Update

Throughout the region, the biggest weather issue is lack of rain. If you have trickle irrigation this is really no problem for fall raspberries and day-neutral strawberry growers as it allows for a nice dry environment during harvest. Dews have been heavy but still haven't caused major issues with fruit quality and the lack of rain have made it much easier to maintain the SWD spray schedule. There was a light frost north of Albany late last week it didn't cause a problem for the majority of berry growers.



In regards to SWD, many growers have reported much higher infestation levels. A few growers have closed plantings, but others have been able to continue picking although they have tightened up the spray schedule to 3-5 days. This does seem to have helped but certainly will impact the profitability of the crop.

Strawberries: Day neutral strawberry production is really looking great! Size of the berries is quite nice and overall yield seems very good. Keep them picked every other day to avoid SWD larvae emergence and you should be able to enjoy them throughout October. Matted row strawberries will continue vegetative growth and development of flower buds as days shorten and temperatures cool. A warm fall means increased flower numbers for daughter plants, but too much growth sets them up for winter injury if below freezing temperatures set in during December. Let's just hope the near perfect weather of the summer continues into the fall. Pre-emergent herbicides should be applied in November.

Brambles: Make plans to prune brambles during the late fall to early winter if you know that spring is just too crazy. Pre-emergent herbicides can also be applied at that time. This summer has been a good year for pruning – not so horribly hot that you hate to send workers out there, but still many growers haven't been as diligent as they need – so spent floricanes should be removed and the row thinned as much as possible now.

Blueberries: Again, pre-emergent herbicides are applied in the late fall and touch up pruning could be done at that time as well. Don't worry about irrigating a blueberry planting now – for the most part the lack of water helps them slide into dormancy. However, if you really haven't received any rain for weeks – as is the case throughout the region, and if your soil is very light and droughty, you might want to water them once or twice just to ensure a moist soil as it freezes. It should rain in October, but just keep the water situation in the back of your mind. Replenishing organic mulch at this time would also help with weed control and soil moisture concerns.

Ribes: As herbicide choices are limited, organic mulch replenishment is a must. Also a good time to remove scraggly, poorly placed branches. Be looking for evidence of boring insects and if you haven't sprayed a pre-bud break Bordeaux mixture – spring of 2015 would be a good time to start.

Hummingbirds May Assist with SWD Control

By Dr. Juliet Carroll, NYS IPM, posted in Cornell SWD blog, online at <http://blogs.cornell.edu/swd1/>

Hummingbirds may enjoy eating SWD! An article in Good Produce, [Berry Growers Sharing Great Ideas](#) by Charlie O'Dell, published May 14, 2014, highlights "Unusual Way to Control SWD" one grower's use of hummingbird feeders to attract these beautiful, pugnacious, and voracious birds. **When feeding their young, hummingbirds will eat up to 2,000 small insects per day!** "Robert Hays of Hays Berry Farms at Dumas, MS, installs **25 hummingbird feeders per acre** in his six acres of blackberries and fills each with a plain, clear, sugar-water solution. He estimates there are more than 500 hummingbirds flying around his fields on picking days, some even landing briefly on pickers' arms or hats. Between his beneficial insects and his hummingbirds, he has not had to spray."

The diet of an average hummingbird consists mostly of flower nectar and insects. Flower nectar provides sugar to support their high metabolic rate... even higher during flight due to their rapid wing flapping rates. The insects hummingbirds eat provide them with protein, amino acids, and necessary vitamins and minerals. The insects must be small enough to swallow whole during flight – watch out, SWD! **Hummingbird prey includes** (but is not limited to) small beetles, flies and **fruit flies**, gnats, mosquitoes, and spiders.

The nectar that hummingbirds drink from flowers is simply a sugar solution. This can be easily replicated for a hummingbird feeder. The most common solution is 1 part table sugar to 4 parts water. The sugar solution should be boiled after mixing to drive off chlorine and kill yeast and bacteria, then cooled. This can then be put in a feeder. Feeders should be red or have red trim, because red is the best color for attracting hummingbirds. The feeder should be regularly cleaned of insects and the sugar solution replaced. The higher the temperatures, the more frequently the nectar will have to be changed.

To follow up on this idea for controlling SWD, I reviewed information from [The Cornell Lab of Ornithology](#). Their [FAQ's](#) have a wealth of information on hummingbirds – all of which supported the idea that attracting these birds into your late summer berry plantings of fall raspberry, blackberry, elderberry, etc. could prove highly beneficial in controlling SWD.

Attracting hummingbirds to your area

In May, hang your hummingbird feeders. Use fairly small feeders at first, and change sugar water at least every couple of days in hot weather or if feeders are in direct sunlight, and every 2-4 days when it's cooler and feeders



A ruby-throated hummingbird, native to New York, visits a typical feeder.

are shaded. Flowers in your garden, especially those with tubular red corollas, attract hummingbirds.

Q. What's the best recipe for hummingbird nectar?

The sugar content of natural flower nectar varies, and is roughly comparable to sugar water mixtures ranging from a quarter to a third cup of sugar per cup of water. During hot, dry weather, when hummingbirds risk dehydration, it's best to make your mixture no stronger than a quarter cup of sugar per cup of water. But during cold, rainy spells, making the mixture a bit stronger, up to about a third cup of sugar per cup of water, will not hurt your birds and may help them.

Q. Should I use red food coloring in hummingbird food?

There is absolutely no reason to add any red dyes to hummingbird sugar water. After all, natural flower nectar is clear, and hummingbird feeders have colorful parts that attract hummingbird regardless of the color of the sugar water.

Q. How do I keep ants out of my hummingbird feeder?

Many hummingbird feeders—especially the saucer variety—have a center "moat" separate from where the sugar water is placed. These feeders are easy to keep ants out of by filling that moat with water. The ants that do get down into it drown, but usually just don't even try. If you have another kind of feeder, make sure it's hanging by a simple rod rather than string, and coat a center spot all around, about an inch wide, with petroleum jelly. The ants won't cross that.

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Hummingbirds and SWD Control, continued from previous page

Q. Should I stop feeding birds in fall so they can start their migration?

Keeping your feeders up has no influence on whether a bird will start its journey south. A number of factors trigger the urge for birds to migrate, and the most significant one is day length. As days grow shorter in late summer, birds get restless and start to head south, taking advantage of abundant natural food, and feeders where available, to fuel their flight. **Hummingbirds are no different from others and will migrate regardless of whether feeders are kept up.** However, we encourage people to keep feeders up for several weeks after the last hummingbird leaves the area, just in case a straggler shows up in need of additional energy before completing the long journey south.

Hummingbird behavior

Q. How much do birds eat each day?

This varies depending on the caloric value of the food, the bird's activity levels, and the temperature of its environment. **Hummingbirds can consume 100 percent of their body's weight in sugar water or nectar every day, in addition to as many as 2,000 tiny insects!** Before migration, it's not unusual for a hummingbird to double its weight, adding a huge amount of fat to power the long journey.

Q. Why do hummingbirds fight so much?

Hummingbirds are aggressive for a good reason—they can't afford to share flowers during times when not many blossoms are available because they may have to wander a long way after nectar is depleted. This aggression is so deeply ingrained that they just can't figure out that feeders are different. Overall, **you'll feed far more hummingbirds by setting out four tiny one-port feeders than one giant eight-port one.** Spread them out and the birds won't have to see one another, arousing their territoriality. You'll get to watch them through more windows, and they'll be much happier, too. (25 feeders per acre)

Q. Why do I see fewer hummingbirds in midsummer?

Adult male hummingbirds aggressively defend their territory, and if your yard is within the territory of one, he may drive all other male hummingbirds away during the nesting season.

If you have a nesting female nearby, she will visit your feeder only periodically, spending most of her time incubating her eggs. **After the eggs hatch, she usually concentrates her feeding at flowers that supply tiny insects as well as nectar**—insects contain the protein that her nestlings need in order to grow. Once the young have

fledged, she continues feeding them for several days until the fledglings have mastered getting their own food. At this time, she may bring them to your feeders to teach them how to take advantage of this easy food supply, too. This is also when males begin migrating, with adult females soon following. So many of the hummingbirds that suddenly appear are actually migrants from farther north, just passing through.

Hummingbird migration

Q. Do hummingbirds migrate in flocks?

Hummingbirds migrate individually. When a late October straggler in the East is a Ruby-throated Hummingbird, it's usually an immature bird from further north whose mother got a late start with that nest. Ruby-throated Hummingbirds are strongly migratory, but their bodies need a high level of fat to fly long distances. As people bring in their feeders in fall and frosts kill nectar-bearing flowers, those hummingbirds remaining have to go long distances between feeders, so yours may remain for a week or two before its body is replenished enough to continue. Hummingbirds are surprisingly hardy as long as they can get enough food each day, and they need extra calories during cold spells. When it's cold, it's not a bad idea to up the concentration of sugar to 1/3 cup per cup of water to give it more calories, which they burn while shivering.

Tragically, some of these stragglers do end up dying, but your feeder really isn't keeping your hummingbird from migrating. Rather, your feeder is giving it its best chance to restore its body to continue on.

Q. There's a hummingbird at my feeder in the dead of winter. Will he be okay?

Hummingbirds are remarkably tolerant of cold weather, so it's likely your bird will be fine if it can continue to find food. You can get an idea of where hummingbirds have been found in winter by looking at maps from [eBird](#), like this one of [Rufous Hummingbird](#) (also click on map below).



Site and Soil Requirements for Small Fruit Crops

By Dr. Marvin Pritts, Cornell Univ. Dept. of Horticulture

(Editors Note: This is basic information that I think is really important for new growers to consider. For more information visit www.fruit.cornell.edu.)

Site selection is a major consideration for berry production. Since berry crops are very perishable and often sold directly to consumers, location can have a major impact on marketing possibilities. The selection of a site and marketing strategy must be considered together. The Northeast Regional Agricultural Engineering Service publishes a series of production guides for strawberries (NRAES-88), blueberries (NRAES-55) and brambles (NRAES-35) that contain detailed information on marketing and site location.

Location

Berry crops require a chilling period for breaking of dormancy, but the requirement differs depending on the species and cultivar: strawberries (200-300 hrs), blueberries (650-850), blackberries (700), raspberries (800-1700), currants and gooseberries (800-1500), and cranberries (2000). In the Northeast, all berry crops receive a sufficient number of chilling hours when grown outdoors.

The climate in the Northeast imposes constraints on the production of most berry crops because of winter low temperatures. Although strawberries can be grown throughout the state if winter mulches are applied, highbush blueberries and fall raspberries are only successful south of a line extending from Muskegon, MI to the southern end of Lake Champlain to Portland, ME. The season is not sufficiently long north of this line to consistently ripen fall raspberries, and temperatures below -20F (common in northern New York) will kill blueberry shoot and flower buds. With the proper selection of varieties, summer raspberries can be grown in all but the coldest locations (e.g. Adirondacks) as some hardy varieties tolerate temperatures as low as -25F. Blackberries are usually successful only in the warmest sites (e.g. lakeshores, Long Island) because they are injured at temperatures less than -5 F.

Fluctuating early spring temperatures cause more damage to berry crops than mid-winter low temperatures. Strawberries are particularly susceptible to spring frosts. For these reasons, sites with good air drainage or sites located near large bodies of water are best for berries.

Steep slopes (>5%) should be avoided because they are erodable, and difficult to cultivate and irrigate uniformly. Moderate slopes (3-5%) allow air to drain which reduces the risk of frost injury. South-facing slopes tend to increase the risk of frost injury in spring because plants

generally bloom earlier, and west-facing slopes are at the greatest risk for winter injury because they are exposed to persistent desiccating winds in winter.

All berry crops have shallow root systems, so it is essential to select a site with available water for irrigation. Most strawberry growers use trickle irrigation for routine watering and overhead irrigation for frost protection. Detailed information on irrigating berry crops can be found in the NRAES production guides.

Site history

Do not grow strawberries for 5 or more consecutive years on the same site without some type of crop rotation. The longer that strawberries are grown on a site, the greater the risk of black root rot disease. Plan to reserve at least 30% of the available land (preferably 50 - 70%) for rotation in future years because 3 years (minimum) should elapse between plantings on the same site. The same rule applies for blueberries and raspberries. Land not in berries should be planted to soil-improving cover crops or to cash crops in which weeds can be managed easily.

Pay careful attention to herbicide use the year prior to planting berries. Herbicide carryover can impede the establishment of berry plants and can make berries more susceptible to root diseases.

Avoid planting raspberries, especially black raspberries, where solanaceous crops were previously planted within the last 3 years. These can harbor verticillium wilt disease. All sites should be tested for nematodes prior to planting raspberries or strawberries. Some type of fumigation or cover cropping may be required if levels of root lesion or dagger nematodes are high.

Soil properties

Berry crops cannot tolerate standing water during the growing season or the diseases associated with wet soil conditions. Internal soil drainage, therefore, is a critical component of a good site. If a site is too wet for berry production, then subsoil drainage can be installed to dissipate excess water. Berries often can be grown successfully on wetter sites if they are planted on raised beds.

Strawberries, raspberries, gooseberries, currants and elderberries can tolerate a wide range of soil types, provided that nutrients are available. However, blueberries and cranberries have more exacting soil requirements. These crops grow poorly if the clay and/or silt content is greater than 20%. Planting, cultivating and harvesting is particularly difficult for strawberries if the soil is stony.

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Site and Soil Requirements, continued from previous page

For most berry crops, the ideal soil is a well-drained, sandy loam with a pH of 6.2 - 6.8 and a moderate to high organic matter content (>3%). In general, sites that produce good alfalfa crops tend to be good for strawberries and raspberries. For blueberries, the ideal pH is between 4.2 and 4.8 and the ideal soil is a loamy sand with high organic matter (>4%). Blueberries can be grown on muck soils as well. Fertile sites are best for most berries, although blueberries and cranberries thrive in poorer soils with a low cation exchange capacity (<18). Too much calcium (>20% saturation of the CEC) is detrimental to blueberry plant growth. Blueberries have a low requirement for phosphorus, and can obtain adequate amounts when soil levels are low – especially when conditions are favorable for growth of endomycorrhizal fungi. The presence of wild blueberries in the area is an indication that the soil will support cultivated blueberries.

Site Preparation

Weeds. A major step in site preparation is the elimination of perennial weeds. This is particularly important because few herbicides are labeled for use in berries, and their activity on perennial weeds is limited. Weeds cause a greater economic loss in berry crops than diseases and insects combined. In addition, weeds also encourage the establishment of other pest populations. Eliminating weeds the year before planting is much easier than controlling them later. Too many growers plant directly into a site in which perennial weeds were not eliminated the previous summer, and then spend the next several years trying to find the right combination of herbicides to undo the damage. Starting site preparation 2 or 3 years in advance will be rewarded in future years.

Rotation, coupled with the use of a broad-spectrum post-emergent herbicide the summer before planting, is an effective approach. Repeated cultivation or covering a site with black plastic for several months are also effective. Ideally, begin site preparation 2 or 3 years before the crop is planted to eliminate perennial weeds, especially if organic methods are to be used.

Fumigation at high rates will suppress weeds, although its use worldwide will likely be restricted because of environmental concerns, availability and expense. In some situations, nematodes, soil diseases, soil insects or intense weed pressure may justify fumigation. The soil should be friable, warm (>50F) and without decomposing plant material for fumigation to work properly. The best time to fumigate is late summer or early fall of the year prior to planting.

Nutrient amendments. Test the soil for pH, potassium, phosphorus, magnesium, calcium and boron. Sample soil in a V-shape pattern within the field, collecting from at

least 10 locations. The sample should represent the profile of the top 10 - 12 inches. Plow the site, add the recommended amount of nutrients, then disc. Because soil testing procedures are not standardized across the region, follow the recommendations from the laboratory where the samples were analyzed. Do not use the test results from one laboratory and the sufficiency ranges from another.

Our recommended strategy is to apply sufficient potassium, phosphorus, magnesium and calcium prior to planting to sustain the planting for its productive life, and supplement with other nutrients as required. It is difficult to make these nutrients available to plants when they are applied after planting.

It takes one year for lime to raise, and for sulfur to lower the soil pH, so it is necessary to apply these one year in advance of planting. Sulfur is effective at lowering soil pH, but time is required for bacteria to oxidize the sulfur into a usable form. Sulfur comes as a wettable powder or prills, with the former reacting faster to lower the soil pH. Aluminum sulfate is sometimes recommended for acidification because it provides an already oxidized form of sulfur, but it is expensive and six times as much is required to do the same job as sulfur. Also, aluminum toxicity can occur with large amounts of aluminum sulfate, so we do not recommend it.

Certain nutrients, like phosphorus, are very insoluble in water and move very slowly through the soil. It may take years for phosphorus applied to the soil surface to reach the root zone of the plant and be taken up. For this reason it is imperative to apply a sufficient amount prior to planting and mix it into the root zone.

Animal manures and legumes offer a good source of slow-release nitrogen when incorporated prior to planting. Animal manures also contain significant amounts of potassium, phosphorus and calcium, but little magnesium and are a potential source of weed seeds. Manure applied to fields should be well-composted and worked into the soil prior to planting to minimize any risk of fruit contamination from pathogenic bacteria and to reduce weed seed germination. Supplemental magnesium may be required if manures are used to provide nutrients.

Irrigation. Transplants will require immediate watering to settle soil around roots and prevent desiccation. Any preemergent herbicide applied after transplanting will likely need to be watered in by rain or irrigation to be effective. For these reasons, the irrigation system should be operational prior to planting. Also, in early spring, the irrigation system may be a necessary tool for frost protection.

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Site and Soil Requirements, continued from previous page

Preplant cover crops. Seeding a cover crop on the site the year before planting is an excellent way to improve soil structure, suppress weeds, and if the proper cover crop is grown, suppress nematode populations. Benefits of a cover crop are greatest when the soil is sandy and/or the soil organic matter content is low. Most cover crops grow under the same soil conditions as strawberries. Except for additional nitrogen (40 lb/A prior to seeding) and perhaps phosphorus, other amendments are not likely to be required.

Minimum seeding rates are used when the objective is to supply an acceptable stand for harvesting the grain or

straw. But when a vigorous, dense stand is desired for weed suppression and organic matter, higher seeding rates are recommended.

Preplant cover crops are usually plowed under in the late fall or early spring prior to planting. Those with low nitrogen contents (grains and grasses) should be plowed under early in the fall to allow adequate time for decomposition, unless the soil and site are prone to erosion. Legumes contain more nitrogen and decompose quickly, so they can be turned under within a month of planting. The NRAES production guides contain detailed descriptions of cover crops suitable for berry producers.

From Recipe to Market: A Seminar for Future Food Entrepreneurs

Saturday, October 18

Madison Barracks
85 Worth Road, Sackets Harbor, NY
Jefferson County
8:00am to 4:00pm

To register for this location contact Steve Ledoux at 315-788-8450 or email swl73@cornell.edu.

Sunday, October 19

Whallonsburgh Grange,
1610 State Route 22, Whallonsburgh, NY
Essex County
8:30am to 4:30pm

To register for this location contact Laurie Davis at 518-962-4810 x404 or email lsd22@cornell.edu.

Is your recipe ready to go to market? If your goal is to launch a specialty food business, then this program is for you. Bob Weybright, an Extension Agricultural Development Specialist with the Eastern New York Commercial Horticulture program, will present this one-day seminar providing future food entrepreneurs with instruction in food business basics and knowledge of the critical issues to consider before starting a food processing business.

Topics include:

- Food Business Basics
- Marketing: Developing a Strategy, Objectives, Research, and Communication Plan
- The NYS Food Venture Center
- Market Trends and Product Development
- Regulatory Agencies and Requirements
- Food Safety, Processing, Packaging and Labeling



Bob Weybright has a strong agricultural economic development and marketing background. After receiving his undergraduate degree from Michigan State University and his graduate degree from California State University in New Business / Small Business Management, Bob has been actively involved in a number of development projects. He has experience in all phases of agriculture, including production, processing, marketing and sales. He is engaging in methods that help producers develop innovative new products and increase their marketing opportunities, especially in the local foods area.

Cost is \$75 and includes lunch and all educational materials. Deadline for registration is October 15.

Presented in collaboration with Cornell Cooperative Extension Associations of Jefferson and Essex Counties, The Eastern New York Commercial Horticulture Program, the New York State Food Venture Center, and the Whallonsburgh Grange.

Cornell Small Fruit Open House, Ithaca, NY

Friday, October 3rd from 1 pm – 4:30 pm

Part one of the program will be held at Cornell Orchard and Part Two at the East Ithaca Farm with a refreshment break will be provided between program sessions. This event is free and open to the public but pre-registration is required to ensure adequate transportation, handouts, and refreshments. Please RSVP by 9/30/14 by contacting Cathy Heidenreich, mcm4@cornell.edu, 315-787-2367.

For full details see <http://blogs.cornell.edu/fruit/2014/08/21/cornell-small-fruit-open-house/>. Topics:

- Low Tunnel Day Neutral Strawberries: Production, Plastic Types and Exclusion Netting - *Dr. Marvin Pritts and Cathy Heidenreich*
- Cranberry Production - *Dr. Justine Vanden Heuvel*
- Bird Management - *Heidi Heinrichs and Dr. Paul Curtis*
- Spotted wing Drosophila - *Dr. Juliet Carroll*
- Strawberry Soil Health: The Effect of Soil Amendments - *Maria Gannett*
- Trellising Systems for High Tunnel Blackberries - *Marvin Pritts*
- Disease concerns - *Dr. Kerik Cox*
- Small Fruit Variety information - *Dr. Courtney Weber*
- Updates on Eastern NY Applied research - *Laura McDermott*

Calendar of Events

October 3, 2014. *Cornell Small Fruit Open House*, Ithaca, NY. See above for details.

October 18-19, 2014 – *From Recipe to Market: A Seminar for Future Food Entrepreneurs*, Sackets Harbor, NY on Oct. 18 and Whallonsburgh, NY Oct. 19. See page 7 for details.

November 17-19, 2014 – *Southeast Strawberry EXPO*, Pinehurst, North Carolina. **For more information:** www.ncstrawberry.com.

December 9-11, 2014. *Great Lakes Fruit, Vegetable, and Farm Market EXPO and Michigan Greenhouse Growers Expo*. More information: <http://www.glexpo.com/>.

January 9-14, 2014 – *Rural Entrepreneurship Challenge*, San Diego, CA. See page 7 for details.

January 20-22, 2015. *Empire State Producers EXPO*. **More information:** <http://nysvga.org/expo/information/>.

January 27-29, 2015. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey, PA. More information: <http://www.mafvc.org/>.

February 3-6, 2015. *NASGA Conference and Symposium*, Ventura, CA. **More info:** www.nasga.org.

February 12, 2015. *Hudson Valley Fruit School – Berry and Grape session*. Information to follow.

February 24-27, 2015. *North American Raspberry and Blackberry Conference*, Fayetteville, AK. **More information:** www.raspberrylackberry.com/.

June 18-25, 2015 – *11th International Rubus & Ribes Symposium* in Asheville, NC, June 21-24, with preconference tour to farms and research sites June 18-21. More information: <http://www.newbeginningsmanagement.com/ishs/>

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 9/15 - 9/14	2014 Season Total 3/1 - 9/21	2013 Season Total 3/1 - 9/21	2014 Weekly Rainfall 9/15 - 9/21 (inches)	2014 Season Rainfall 3/1 - 9/21 (inches)	2013 Total Rainfall 3/1 - 9/21 (inches)
Albany	59.9	2560.6	2575.0	0.25	21.27	30.59
Castleton	50.3	2410.1	2543.8	0.20	23.01	26.93
Clifton Park	48.6	2311.0	2419.7	0.31	23.30	31.39
Clintondale	71.4	2613.0	2749.8	0.15	24.29	30.33
Glens Falls	34.5	2263.7	2207.5	0.21	22.67	24.55
Guilderland	53.5	2337.5	2449.0	N/A	N/A	N/A
Highland	70.3	2599.6	2716.6	0.16	24.31	29.16
Hudson	66.9	2594.3	2695.7	0.06	24.33	22.72
Marlboro	66.5	2498.6	2634.9	0.17	25.41	29.39
Montgomery	57.9	2525.9	2597.5	0.18	20.29	28.66
Monticello	37.8	1971.4	2063.0	N/A	N/A	N/A
Peru	41.1	2170.8	2269.7	0.19	19.31	23.85
Shoreham, VT	44.0	2288.9	2419.2	0.08	19.77	26.74
Wilsboro	36.6	2108.7	2222.6	N/A	N/A	N/A

Cornell Cooperative Extension and the staff assume no liability for the effectiveness of results of any chemicals for pesticide use. No endorsement of any products is made or implied. Every effort has been made to provide correct, complete, and current pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly and human errors are still possible. These recommendations are not substitutes for pesticide labeling. Please read the label before applying any pesticide. Where trade names are used, no discrimination is intended and no endorsement is implied by Cornell Cooperative Extension.

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