The Hudson Valley Research Station in Highland, in cooperation with the Hudson Valley Regional Fruit Program initiated the statewide effort to monitor for the Brown Marmorated Stink Bug (BMSB). They secured funding for two different traps that educators are assessing while monitoring for the insect. The HV Regional Fruit program has set up a web site for this pest and has a map posted with known monitoring sites across the state and confirmed presence of the pest: [http://hudsonvf.cce.cornell.edu/bmsb1.html](http://hudsonvf.cce.cornell.edu/bmsb1.html). The contact for the project is:

Peter Jentsch, BMSB Project  
Cornell Hudson Valley Lab  
P.O. Box 727  
Highland, NY 12528

The Capital District Vegetable and Small Fruit Program is cooperating with the lower Hudson Valley, as are extension specialists in Long Island and western NY. The Capital District is host for 3 ultraviolet light traps located at Samascott Orchards (Columbia Co.), Hand Melon Farm (Washington Co.), and Indian Ladder Orchards (Albany Co.). These traps are monitored weekly for presence of adult BMSB’s. In addition, the region is host for 6 Tedders traps, which use an aggregation pheromone to attract BMSB nymphs and adults to the trap. These traps are located at the 3 farms mentioned above, but also at Schoharie Valley Farms (Schoharie Co.), Zook’s Farm (Montgomery Co.), Wertman’s Farm (Rensselaer Co.), Storey’s Farm (Greene Co.), and Devoe’s Rainbow Orchard (Saratoga Co.).

All of the BMSB traps are monitored weekly and results are reported to the Hudson Valley website whose link is listed above. At this writing, there are no reports of BMSB’s being found in any of the traps in the Capital District region and most importantly, there is no record yet of BMSB causing economic damage in NYS. If BMSB’s are found in local traps, all readers will be alerted. Additionally, we will begin a more aggressive scouting routine for those locations where the insect is found. If you have any questions about the BMSB or how to scout for it, please give us a call. **We plan to do more articles on this insect in order to prepare growers, but at this time, we have not found this pest in the Capital District.**

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*“Serving the research and educational needs of vegetable and small fruit growers in Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, & Washington Counties”*
Garlic is a little behind due to the cool wet weather, but diseases don’t seem to have slowed down at all. We have been seeing spotty cases of both fusarium basal rot and soft rots, plus secondary issues. Nematode activity seems to have slowed down, with only a small number of nematodes recovered from suspicious samples, but they are still present.

Given the diversity of issues present this year, it is important to check culled garlic for symptoms and determine which problems you are encountering. Knowing what issues are present will help you determine storage treatments for your home-grown garlic seed or whether you want to switch suppliers of purchased seed or at least treat your seed. Here are a few signs to look for when pulling your culls:

**Fusarium basal rot:** Look for plants that are small or are dying down early. Dig them out, and look for damage at the basal plate (where the roots attach). The roots may be gone, and the basal plate may be damaged or even missing. There may be some pinkish or reddish edges to any lesions that are present, but this is not a guaranteed symptom. These symptoms are very similar to bloat nematode damage, so if you are in doubt you may still want to send it samples for testing.

If you have fusarium, cull infected plants heavily. Fusarium is difficult to control on seed, so prevention in the next generation is a primary focus.

**Bacterial soft rots:** Often in garlic soft rots are a secondary infection, but are more likely to occur when soils are continually wet. Soft rots have to be present to be a problem, so again starting with clean seed is very important. If you are having yearly problems with soft rots, consider putting your garlic on better drained soils or on raised beds to deal with moisture issues.

**Penicillium decay:** Look for weak plants, similar to fusarium, and dig them out. This is where similarity with fusarium ends. In advanced stages cloves or bulbs may be covered with a blue-green “mold.” Roots may be stunted due to damage to the basal plate, but they will probably still be present. Though often a secondary disease, when conditions are favorable penicillium can attack garlic that is uncompromised by disease or damage. We have seed some cases of penicillium alone this year, but we have still seen more cases of penicillium paired with other issues. Penicillium is another disease that survives on garlic seed rather than in the soil, so good sanitation and treatment of seed garlic is more important than rotation in controlling this disease.

**Secondary organisms:** We have been seeing bulb mites and another “mystery bug” (more on this soon) on already decaying garlic samples. These organisms are attracted to decaying materials, but can and do feed on living tissue as well, if populations are high enough. Generally keeping decaying vegetable material (from garlic or other sources) away from your garlic has been enough to keep mites from causing significant problems on garlic. -CLS

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The Upper Union Street Farmers Market, in Schenectady, needs more farmers! The farm market—held every Saturday morning—already has a strong following and is looking to expand. According to a recent traffic count, 10,600 cars pass its location every day. The Upper Union Street Farmers Market and its vendors also benefit from the publicity generated by New York Farm Bureau’s Local Farms, Local Food program and the listing on the website http://www.nyfb.org/marketplace/subpage.cfm?ID=69; in exchange, the Upper Union Street Farmers Market offers a 10% members-only discount to card-carrying Farm Bureau members. If you are interested in participating or learning more about this opportunity, please reply to me at aknight@nyfb.org. When replying, please let us know what farm products you would have available to sell.

Alan R. Knight
Membership Marketing Manager
800-342-4143, ext. 5631

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Garlic with soft rots, plus possible fusarium and low-level nematode infection. Bulb mites were found feeding under the wrapper leaves.
Thrips causing damage in onion, garlic

This week’s dry, hot, sunny weather and the cutting of rye straw and first cutting hay have sped up the arrival of onion thrips in local onion and garlic crops. We counted over 10 thrips per plant this week and if this hot dry weather persists, the numbers could increase quickly. Damage appears as whitening or silverying on the leaves and the trips themselves can usually be found down in the “whorl” of the plant and are usually light tan to brown in color and move quickly. We have 3 relatively new materials that have worked well in trials. The first is Radiant, a closely related material to Spintor, which has activity against adults and larvae. The other two products have received Section 18’s and have also been effective in trials. Movento has a 7 day residual and is most effective on thrip larvae. Argi-Mek also has a Section 18 this year and also works well against adults and larvae with a 7 day residual.

The following management information was sent to me by Dr. Brian Nault, Cornell Entomologist, in a report titled “Battling Onion Thrips in Onion Fields Using Insecticides” written by Dr. Brian A. Nault and Dr. Tony M. Shelton, Department of Entomology, Cornell University - NYSAES. He recommends that with any of these 3 new materials a penetrating surfactant should be used in order to move the insecticide into the leaves. I would still recommend high water volumes and moderate pressure to provide for medium sized spray droplets (to avoid drift). Also, because the efficacy of these new materials, environmental conditions and other factors, the thresholds or number of thrips per leaf is slightly different for each material and can be found in Table 1.

Dr. Nault also recommends not mixing these materials together to delay the onset of thrips resistance. The recommendation is to use each of these products as 2 sequential applications before switching to a different product. Applications of the same product timed 7 to 10 days apart are necessary to see a reduction in the thrips population. Dr. Nault’s recommend spray program can be found in Table 1:

*Note: If after using Movento and Agri-Mek there are at least 4 weeks remaining before onions are pulled, consider inserting two applications of Lannate between the Agri-Mek and Radiant sprays. Conversely, if after using Movento there are only 2 to 3 weeks remaining before onions are pulled, eliminate the Agri-Mek sprays and go to Radiant. -CDB

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Table 1: Action thresholds and timing for new products.

<table>
<thead>
<tr>
<th>Application number</th>
<th>Product</th>
<th>Action threshold/ Timing of spray to consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Movento</td>
<td>1 thrips larvae per leaf</td>
</tr>
<tr>
<td>2</td>
<td>Movento</td>
<td>7 to 10 days after 1st Movento</td>
</tr>
<tr>
<td>3</td>
<td>Agri-Mek</td>
<td>1 thrips larvae per leaf</td>
</tr>
<tr>
<td>4</td>
<td>Agri-Mek</td>
<td>7 to 10 days after 1st Agri-Mek</td>
</tr>
<tr>
<td>5</td>
<td>Radiant</td>
<td>3 thrips larvae per leaf</td>
</tr>
<tr>
<td>6</td>
<td>Radiant</td>
<td>3 thrips larvae per leaf</td>
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</table>

Established Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Action Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lannate LV, Agri-Mek and Movento</td>
<td>1 thrips per leaf</td>
</tr>
<tr>
<td>Warrior®</td>
<td>&lt; 0.5 thrips per leaf</td>
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</tbody>
</table>

Farmers wanted for local food book

Julie Cushine-Rigg a writer in Albany, NY is currently working on a book about the importance of regional food and supporting local agriculture. A Guide to Local Food in NY’s Upper Hudson Valley (tentative title) will be a resource/directory for consumers to buy food from family farms, farmers markets and the like, and will include profiles of chefs and farmers who promote local foods. If you would like your farm listed and/or profiled, you may contact Julie at jcushinerigg@aol.com by July 1, 2011. The book will be out in local book stores in late fall 2011. A percentage of the book’s profits will be put into a fund for agricultural land conservation or other needed fund to support local farmers.
Four lined plant bug damage and lots of mature insects and nymphs was found on thistle this week on an Albany county farm. This pest is a fairly common one of many different crops and, apparently weeds and is usually not thought to be much more than an aesthetic problem. Still, with high populations they can feed enough to stunt plants and on crops like basil or other herbs, their feeding can render the crop unmarketable.

The four-lined plant bug nymphs are a bright red to orange color with black dots on the abdomen. Later instars have black wing pads running ½ way down the abdomen with a yellow strip on each wing pad; they do not have actual wings however. Adults are usually a greenish-yellow color with four black strips running longitudinally down the wings. The head, antenna, and body are all black in color while the legs are yellow-green with black marks. Both nymphs and adults have piercing-sucking mouthparts.

During the fall, eggs are laid in groups of six in vertical slits measuring 2 to 3 in. along the plant's stem. The eggs will over winter and hatch in May or late June just after the plant's foliage emerge.

Nymphs will remain near their hatching site and feed on the upper side of leaves removing the plant's chlorophyll. After advancing through five molts in a period of about six weeks, the four-lined plant bug will have matured to an adult form. Adults will feed, moving from plant to plant, for approximately one month before mating; adults will not overwinter, and there is only one generation per year.

There is a wide range of hosts for this pest including: cucurbits, potatoes, alfalfa, flowers, herbs, and many more fruits and vegetables. Feeding by the four-lined plant bug is usually not detrimental to plants. Smaller plants are more susceptible while 50% of a larger plant's foliage needs to be damaged in order to affect root growth. With piercing-sucking mouthparts, the four-lined plant bug removes the plant's chlorophyll leaving a window of upper and lower epidermis. A toxin present in their saliva is also secreted during feeding that digests the components responsible for holding the plant cells together. This feeding produces white, dark, or translucent spots 1/16 to 1/8 in. in diameter on the plant's leaves, which can merge together (if there is substantial damage) forming large blotches. Entire leaves can turn brown, curl up and eventually fall off. If feeding occurs on new growth, wilting may result.

The spot damage inflicted by four-lined plant bugs looks very similar to a fungal disease and is occasionally mis-identified.

Begin to check plants in mid-spring around May and June for damage caused by the four-lined plant bug. Continue monitoring for damage. This insect is not particularly hard to kill, and insecticidal soaps and horticultural oils have even been shown to be effective if used early. –LGM

**Transplants continue to be damaged by the weather**

We are continuing to receive calls from growers who have plants wilting, browning, stunting, etc., and so far pretty much every single instance has been related to the environment. We have seen wind-whip in both transplants and plants started from seed (especially cucurbits). This will appear as tattering, wilting or even plant death, depending on if the stem has been kinked by being whipped back and forth. We have also seed burning of both leaf margins and interveinal areas due to intense sun and water stress. Keep plants well-watered after planting, and make sure that transplants are fully hardened off, especially if you are planting during this intensely hot, windy weather.

Even though problems so far have been environmental, keep an eye out for insects and diseases. Flea beetles are still very active, and cucumber beetles have been found feeding throughout the area as well. More of cucumber beetles next week! -CLS
Despite the gloomy start to the season, it looks like the strawberry crop will be right on target time-wise and should be a bumper crop in terms of quality and yield. Southern locations with early berries will be picking this week and northern locations may be only a few days behind. Despite being inundated with rain earlier, don’t forget to keep irrigating those berries during fruit development.

I’ve seen some tarnished plant bug in fields (check last week’s Weekly Update for info on that) and also quite a bit of spittle bug. There is some powdery mildew in local fields, but happily it does not seem to be a huge problem in those fields that I have scouted. I have talked about slugs in the past, but this season we may see extreme pressure. The following paragraphs appeared in the recent small fruit report from the University of Maine Strawberry IPM Newsletter, No. 3, June 3, 2011— an excellent review of these pests:

**Spittlebugs:** We have been finding spittlebug masses in some strawberry beds this week. The frothy spittle masses are found on the leaf stems (petioles), just below the leaflets, usually showing up around bloom. Although spittlebugs don’t pose a significant threat to the plants, the frothy spittle masses create an annoyance for pickers. Spittlebugs overwinter as eggs and the nymphs emerge in late May. Start scouting for spittlebugs when the plants are at about 10% bloom. Randomly inspect five one-square foot areas per field every week. On hot, dry days the spittle masses may be at the base of the plants, so spread the leaves and inspect the crowns, leaf bases, leaf stems, and flower stems looking for the frothy spittle masses. The small, yellow-orange nymphs will be under the spittle. If the average number of spittle masses is more than two per square foot, a treatment may be warranted. Spittlebugs tend to be a greater problem in weedy fields. Pesticides currently registered for spittlebug control include Provado, Thionex, Danitol, and Brigade.

**Slugs** may be a problem in some fields this season. Moist conditions encourage the presence of these mollusks. Slugs usually feed at night, leaving large holes and tunnels in ripening fruit. Baits such as Deadline and Sluggo offer some control of slugs, but should be used prior to fruit ripening. Pay close attention to label instructions and precautions. **Baits should also be applied to the fields in mid-September if slugs have been a problem, to reduce egg laying.**

**Powdery mildew:** Conditions have apparently been just wet and warm enough to encourage its development in susceptible varieties. Leaf cupping, purple leaf and flower stem lesions are being seen on many plants. Mildew infections weaken plants and can reduce yield the following year. Some varieties are more susceptible than others, for example Annapolis and Sable are quite susceptible, while Jewel, Mira and Mesabe are thought to be resistant. Captan, Tossin-M, Pristine, Cabrio, Quintec, Procure and Rally are presently registered to control powdery mildew.

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Diagnose pest and disease problems using color pictures: [http://vegetablemdonline.ppath.cornell.edu/](http://vegetablemdonline.ppath.cornell.edu/)

Cornell Guidelines for fruit and vegetables: [http://www.nysaes.cornell.edu/recommends/](http://www.nysaes.cornell.edu/recommends/)


USDA Fruit and Vegetable Market News: [www.marketnews.usda.gov/portal/fv](http://www.marketnews.usda.gov/portal/fv)

### Weekly and Seasonal Weather Information

<table>
<thead>
<tr>
<th>Site</th>
<th>Growing Degree Information Base 50°F</th>
<th>Rainfall Accumulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany</td>
<td>130.0</td>
<td>540.8</td>
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<tr>
<td>Bennington, VT</td>
<td>102.4</td>
<td>462.2</td>
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<tr>
<td>Clifton Park</td>
<td>120.0</td>
<td>482.0</td>
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<tr>
<td>Glens Falls</td>
<td>108.7</td>
<td>438.2</td>
</tr>
<tr>
<td>Guilderland</td>
<td>121.0</td>
<td>509.0</td>
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<tr>
<td>Granville</td>
<td>103.0</td>
<td>429.1</td>
</tr>
<tr>
<td>Hudson</td>
<td>121.0</td>
<td>493.0</td>
</tr>
<tr>
<td>Valatie</td>
<td>121.0</td>
<td>511.0</td>
</tr>
</tbody>
</table>

NA^1—The Granville weather station was established this year (2011) so there will be no 2010 data reported because we have no records.

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### Resources to Help Educators and Students Explore Farms and Food

Farms & Food: A Teaching the Hudson Valley Resource Guide is now available as a free download at [http://www.teachingthehudsonvalley.org/Site/Resources/resources.html](http://www.teachingthehudsonvalley.org/Site/Resources/resources.html). Farms & Food features more than 150 places and organizations, media, and other resources for exploring food-related subjects - from culture, civics, and history to economics, math, and science.

We love farms and food because it is a compelling starting point for exploring so many issues. Food is a high-interest topic that generates strong opinions – from the kindergartner who hates peas to the newly minted teenage vegetarian. Students are immersed in food messages and issues every day, from school menus to eating disorders and local jobs. Talking through and understanding these issues in context provides students with opportunities to practice critical thinking and become active, informed consumers, decision makers and community members.

Farms & Food highlights include:

- **Planning** – THV teacher tips for before, during, and after your visit.
- **Farms** – listed by county and willing to share their operations and expertise, as well as their passion for food and agriculture, to help young people understand where their meals come from.
- **Land Trusts** – that are actively preserving open space including farmland.
- **Annual Events** – harvest celebrations, festivals, fairs and demonstrations in all four seasons.
- **Historic Sites and Museums** – places that have identified agriculture as a topic of interest or developed related exhibits or programs.
- **Garden Learning** – find a community garden that might welcome a visit or start your own.

We would be honored to have you share this link on your web site or Facebook page, with your e-mail list, or any other way you can think of. If you have other ideas for promoting the guide or suggestions for the next edition, please let us know.

*Debi Duke, Teaching the Hudson Valley, (845) 229-9116 | ext. 2035*

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