

# Northern Michigan FruitNet 2013

## Northwest Michigan Horticultural Research Center

### Weekly Update

March 12, 2013

#### **BENZIE-MANISTEE HORT SOCIETY BUS TOUR**

The Benzie-Manistee Horticultural Society is sponsoring a bus tour that will take fruit growers on a day trip to some apple and cherry orchards in the Ridge area of Grand Rapids on **March 19, 2013**.

#### Itinerary

- 7:30 am Leave Blaine Christian Church
- 10:30 Arrive at River Ridge Produce: tall spindle 3 x 10ft, raspberries under tunnels, higher density sweet cherries
- 11:30 Joe Rasch Farms: high density sweet cherries
- 12:30 LUNCH
- 1:30 Don Rasch Farms: high density apples, perhaps a pruning demonstration at this farm or the next stop
- 2:30 Chuck Rasch Farms: tall spindle apples
- 3:30 Leave for NW Michigan

The cost for the tour is \$30 per person for the bus and a box lunch. Please make check payable to the *Benzie-Manistee Horticultural Society* and mail to Adam Putney, 4281 Joyfield Road, Arcadia, MI 49613. For those wanting to participate in the tour, payment should be received by **March 15**. Since there will only be one bus for the tour, space is limited to the **first 56** registered. No late registrations will be accepted. Eight young farmers (ages 18-35) are also welcome to participate in the tour at no cost. For more information, call Adam at 231-499-4436 or Mike Evans at 231-383-0101.

Blaine Christian Church  
7018 Putney Road  
(Corner of Putney and Joyfield)



## 2013 4-H TRACTOR SAFETY PROGRAM OFFERED

Teens can improve their chances of employment by completing a tractor safety training. MSU Extension will host a **4-H Tractor Safety Program** for 14 and 15 year old youth on **Thursdays, April 4, 11, 18, 25 from 6-9 pm** at the NW Michigan Horticultural Research Station (6686 S Center Highway, Traverse City). The written and driving test will be held on **Saturday, April 27 from 8:30am – 2:30pm**. Participants must attend all five sessions to become certified. The cost is \$75 per person and some scholarships are available if finances are an issue. Youth must be 14 years of age by June 1, 2013. Space is limited. The **registration deadline is March 26**. Registration forms are available online at [www.msue.msu.edu/leelanau](http://www.msue.msu.edu/leelanau) or click here for the [flyer](#) and here for the [registration form](#). Call the MSU Extension office for more information at 231-256-9888. Please pass this along to anyone who may be interested.

## BROWN MARMORATED STINK BUG IN MICHIGAN 2013 UPDATE

**An invasive pest, the brown marmorated stink bug has now been found in 12 of 68 Lower Peninsula counties. MSU will continue to trap and monitor in 2013.**

Posted on **March 6, 2013, MSUE News**, by **Michael Haas**, Larry Gut, Peter McGhee and Mark Whalon, Michigan State University Extension, Department of Entomology



The first [brown marmorated stink bug](#) (BMSB), *Halyomorpha halys* (Stål), officially identified in Michigan was found in Berrien County in 2010. A student taking an entomology course that required an insect collection had included it with his other insects. Sometime later, as the instructor was evaluating each collection for a grade assignment, he recognized the specimen as BMSB and sent it on for positive identification. The following year, this invasive pest was found for the first time in Eaton, Genesee, Ingham, Lenawee and Monroe counties. Then in 2012, it was first reported in the counties of Allegan, Clinton, Kent, Oakland, Oceana and Wayne. So far, BMSB has been detected in 12 of 68 Michigan's Lower Peninsula counties. No reports have come from the Upper Peninsula.

This summarizes the Michigan discoveries of BMSB to date, but each year additional reports have come from several of the counties already reporting them, this being especially true for Berrien County. Within Berrien County, Stevensville, Mich., and the surrounding area has been the source for numerous homeowner nuisance pest complaints in which BMSB has been identified as the culprit. BMSB aggregates to overwinter and will gather in groups to spend the winter in houses, among other places. This is the same behavior exhibited by Asian ladybird beetles, chinch bugs, boxelder bugs and western conifer seed bugs.

[Michigan State University's tree fruit research group](#) initiated a monitoring survey using light and pyramid traps in 2011. No BMSB were captured during that first year. In 2012, three specimens were collected in our light traps from two locations in Berrien County. Two of the specimens came from a light trap on the outskirts of Stevensville, Mich. No BMSB were recovered from light traps deployed in Kent, Ottawa, Newago and Monroe counties.

Given the numerous reports of stinkbugs from the Stevensville, Mich., area, it's likely the region will be the first to experience populations that impact the local agriculture. It's not possible to predict when this will occur, but it's a good idea for growers in southwest Michigan to be on the alert for this pest and knowledgeable about management options. An overview of BMSB biology and management can be found on pages 66-67 in the [Michigan State University Extension](#) bulletin, [2013 Michigan Fruit Management Guide](#) (E-154).

Ideally, growers and consultants should be able to identify the BMSB. It will require using magnification to see important characters. Read the MSU Tree Fruit [Brown Marmorated Stink Bug fact sheet](#) to become familiar with what to look for.

There are some native stinkbugs that could be confused with BMSB. Use this [BMSB key](#) to assist in differentiating them from BMSB. Specimens should be kept in a plastic bag in a freezer or placed in a container with isopropyl alcohol to preserve them until they can be passed along to an expert for positive identification.

A routine of regularly checking for these pests in orchards is very important. Edge monitoring should be sufficient since the insect moves from overwintering locations and native or ornamental plant feeding locations to invade an orchard. Monitor both for the insect and for signs of fruit injury. Infestations can occur at any time from about June through September. Researchers are currently trying to understand what factors influence the movement of this pest. Repeated infestations of the same orchard occurring within the same field season are not unusual with this insect.

Once discovered, an infestation should be watched closely and careful thought put into insecticide treatment options. Consideration should be given to other pest and beneficial insects which may be present at the same time. Materials with the shortest preharvest interval should be saved for potential late season use.

Because BMSB has already been a serious agricultural pest in several other states, primarily in the mid-Atlantic region, university and [USDA](#) personnel have generated a substantial amount of chemical efficacy data. Entomologists at MSU have been adding to this knowledge base by conducting their own insecticide bioassays. BMSB chemical management information for tree fruit producers is available in the [2013 Tree Fruit Management Guide](#) and can be readily found on the websites for other states and the [USDA research laboratory](#) in Kearneysville, W.Va.

We will continue to trap and monitor for BMSB in 2013 in many areas of the state. Our attention will be focused on the Stevensville, Mich., area to determine when movement occurs from overwintering locations into the surrounding habitats. Updates regarding this pest will be reported throughout the season through [MSU Extension Fruit & Nuts News](#) and MSU's [Brown Marmorated Stink Bug](#) website. If you find BMSB in your orchard you should let your [local Extension educator](#) know and email [Mike Haas](#) with "BMSB report" in the subject area.

*Photo credit: David R. Lance, USDA APHIS PPQ, Bugwood.org*

*Dr. Gut's work is funded in part by [MSU's AgBioResearch](#).*

This article was published by [Michigan State University Extension](#). For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

## CONSUMER PREFERENCES FOR HIGH-TUNNEL RASPBERRY VARIETIES

**Here are the results from MSU's research to determine which cultivars consumers prefer.**

Posted on **March 4, 2013, MSUE News**, by **Diane Brown**, Michigan State University Extension

How do we perceive flavors? Flavor is complex in that it is more than what our taste buds tell us – that a food is sweet, salty, sour, bitter or savory. Scientists are discovering that we have even more taste receptors than previously thought. Foods taste differently to different people; we have different preferences for foods. What we call flavor is a complex interpretation by our brains of how food tastes and smells, coupled with our reaction to its temperature and texture. Flavor is difficult to quantify, but people may have definite opinions about what they like or dislike.

[Michigan State University Extension](#) has grown fall raspberry cultivars in containers under high tunnels for two seasons at the [Southwest Michigan Research and Extension Center \(SWMREC\)](#) in order to compare productivity and quality. Part of the assessment is to find out which cultivars consumers prefer. On various days in late summer and fall, we offered samples of raspberries all picked on the same day to individuals and asked them to rate them for sweetness (data not shown), flavor and whether or not they liked the berry. People were asked to sample more than one berry of each cultivar and rate the flavor on a scale of 1 to 5 with 1= very poor to 5= excellent. The intent was to determine whether there were clear favorites among the different varieties.

We also asked tasters to make comments about the cultivars to help explain their ratings. Favorable comments included sweet, great flavor, strong raspberry flavor and good firmness. Negative comments included bitter, bland, mushy, flat, sour, off-flavor and seedy. Some comments on the appearance of the berries included color was too dark, poor color, uneven color, berry was pretty, berry shape was squat, fruit was glossy, bright red, etc. Berry appearance clearly was also a factor. The lone yellow fruited raspberry ('Anne') in the trial was rated as less sweet than several other cultivars even though a measure of its sugar levels (brix) actually indicated that it was sweeter.

In 2011, there were no statistically significant differences in the flavor of our eight cultivars. More cultivars were added in 2012 and evaluations were done early and late in the season. Early in the season in 2012, 'Jaclyn' was rated higher in flavor than 'Anne.' Toward the end of the 2012 season when the late season cultivars were included, 'Nantahala' was rated highest for flavor and 'Crimson Giant' was rated lowest. Results to date indicate that some of the most flavorful cultivars are 'Caroline,' 'Jaclyn,' Polka and 'Nantahala'.

**Consumer flavor ratings of raspberry cultivars in 2011 and 2012.**  
**Ratings are on a scale of 1 (very poor) to 5 (excellent).**

<b>Cultivar</b>	<b>2011</b>	<b>08/15/12 – 09/13/12</b>	<b>09/22/12 – 10/24/12</b>
Jaclyn	3.7 a	3.5 a	3.3 ab
Caroline	3.6 a	3.3 ab	3.5 ab
Polka	3.5 a	3.1 ab	3.5 ab
Joan J	3.4 a	2.8 ab	3.2 ab
Josephine	3.0 a	3.2 ab	3.3 ab
Himbo Top	2.9 a	3.0 ab	3.0 abc
Autumn Britten	2.9 a	3.0 ab	2.5 abc
Anne	2.8 a	2.7 b	3.2 ab
Nantahala	NA	NA	3.8 a
Joan Irene	NA	NA	2.6 abc

Nova	NA	NA	2.5 abc
Erika	NA	NA	2.2 bc
Crimson Giant	NA	NA	1.5 c

Numbers followed by a common letter are not different

Tukey LSD test(  $p=0.05$ )

NA = not available

#### Raspberries from the SWMREC high-tunnel container berry production project, 2012



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#### SPOTTED WING DROSOPHILA IN RASPBERRIES SURVEY

Dear Raspberry Growers,

We are asking for information about raspberry growers' experiences with spotted wing drosophila (SWD) to help support requests to the US Environmental Protection Agency for expanded insecticide labeling to control SWD. This information will also be valuable to provide background information for grants supporting research to guide management recommendations. All information collected will be summarized; individual growers will not be identified, and information will remain confidential. Please complete the survey only once. Thank you for your assistance in collecting this information. Once it is completed, the results of the survey will be shared with all interested respondents.

Go to the SWD survey by clicking on this link: <https://www.surveymonkey.com/s/GTF36QL>

Diane Brown

Commercial Horticulture Educator  
Berrien County MSUE  
269-944-0157

## GRANTS AVAILABLE FOR ENERGY-EFFICIENCY SYSTEMS AND IMPROVEMENT

**Rural small businesses and farms in Michigan can apply for grants ranging from \$1,500 to \$500,000.**

Posted on **March 1, 2013, MSUE News**, by **Andy Hayes**, Michigan State University Extension and Northern Lakes Economic Alliance

The [U.S. Department of Agriculture](#) recently released a funding source for agriculture producers and rural small businesses that encourages them to adapt their facilities to conserve and produce renewable energy through the [Rural Energy for America Program \(REAP\)](#). This is an ongoing effort to help small rural communities become more energy-conscious and contribute to renewable energy sources.

The grants and low-interest loans are available to these businesses for the purchase and installations of renewable energy systems and for making energy efficiency improvements. The competitive grants can be up to 25 percent of total eligible project costs. Grants range from \$1,500 for energy efficiency improvements up to \$500,000 for renewable energy systems. Grant funds are also available to conduct feasibility studies and energy audits in rural communities.

The types of projects that are eligible include retro-fitting lighting or insulation, purchasing or replacing equipment with more efficient units, producing energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources.

Through these grant funds, farms throughout Michigan are encouraged to install systems that would create renewable energy, such as wind turbines, windmills, anaerobic digesters and solar panels. Small businesses would be able to install new, energy-efficient lighting throughout their facilities, cutting down energy bills and usage.

These REAP grants are available to rural communities throughout Michigan. For more information on the types of funds, qualifications, and other guidelines, download the fact sheet located on the USDA's website, [www.rurdev.usda.gov](http://www.rurdev.usda.gov). The [Northern Lakes Economic Alliance](#), a partner of [Michigan State University Extension](#), can assist in identifying those rural communities located in northern Michigan, as well help with the application process. You can contact the NLEA at [www.northernlakes.net](http://www.northernlakes.net) or by calling (231) 582-6482.

This article was published by [Michigan State University Extension](#). For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

## FARMERS SHOULD PLAN EARLY FOR 2013 TAX CHANGES

**Farms and other business have new tax rules to consider that will impact 2013 business plans.**

Posted on **March 6, 2013, MSUE News**, by **Dennis Stein**, Michigan State University Extension

The fiscal cliff created an opportunity for a number of changes in the tax rules and regulations related to when a farm must complete and file their annual income tax returns. For 2012 farm income tax returns, farms have been given an extension from the normal March 1, 2013, to file their tax returns without penalty until April 15, 2013 if they have not made estimates. Farms that elect to delay completing and filing their tax returns after March 1, 2013 will need to include a Form 2110F as part of their returns. The Form 2110F is a waiver that was part of the enactment of the American Taxpayer Relief Act (ATRA). To qualify, at least two-thirds of the taxpayer's gross income must be from farming



in either 2011 or 2012. Much of the guidance from the IRS is still in process do to the late enactment of ATRA after the end of 2012.

With farms in the Saginaw Valley having a large portion of the 2012 crop sales being in 2013, farms should see strong incomes again this year. Farms needed to do a much better job at planning the past few years to manage income levels and avoid a major spike that would trigger a substantial increase in farm income taxes. Looking at 2013, some of the changes that may impact farms putting together a farm business plan are:

- The 179 expense election for 2013 was set at \$500,000. This allowance provides an option for accelerated depreciation on new or used machinery or equipment purchases for the year of the purchase. There is a dollar-for-dollar phase out if your farm purchased more than \$2 million of depreciable capital assets during 2013.
- In addition, a farm has the option to take a 50 percent "Bonus Depreciation" of adjusted basis after 179 expensing. This option only applies to new property placed in service during 2013 that has a depreciable recovery period of 20 years or less. This option is scheduled to expire at the end of 2013.
- Long-term capital gains and qualified dividend income now has a new 20 percent tax rate for individuals in the higher tax brackets. Capital gains are still taxed at a 0 percent rate for individuals in the 10 or 15 percent tax brackets.
- Those in the middle brackets (above the 15 percent tax bracket but below the 39.6 percent bracket) will pay 15 percent capital gains taxes. While those that have incomes above \$400,000 for individual or \$450,000 for married filing jointly.
- Beginning in tax year 2013 (generally for tax returns filed in 2014), a new tax rate of 39.6 percent has been added for individuals whose income exceeds \$400,000 (\$450,000 for married taxpayers filing a joint return). The other marginal rates — 10, 15, 25, 28, 33 and 35 percent — remain the same as in prior years. The guidance contains the taxable income thresholds for each of the marginal rates.
- The annual gift tax exclusion is increased to \$14,000 that can be given to any person without any reporting requirements.
- A Return to Itemized Deduction Limits for higher-income farmers brings this limit on itemized deductions back into effect for higher-income farmers for 2013 and subsequent years. The limitation affects farmers with adjusted gross income (AGI) over a threshold amount (\$250,000 for farmers filing single or \$300,000 for farmers filing jointly). Generally, farmers affected by this rule will have their itemized deductions reduced by 3 percent of the amount by which AGI exceeds the threshold amount. The reduction is subject to a "cap" that is part of the formula which is triggered if the farmer's income is high enough.
- Two new Medicare taxes are now in place for individual incomes over \$200,000 or \$250,000 married filing jointly now have a 3.8 per cent Medicare tax applied to passive income like dividends, interest and capital gains. In addition a new .9 percent Medicare tax is in place
- Alternative Minimum Tax (ATM) was set at \$78,850 for 2012 and with inflation index will be \$80,750 for 2013. This represents the income level below which ATM tax should not apply. Having this number in advance should aid farms in planning if they hope to avoid this tax.
- The standard deduction rises to \$6,100 (\$12,200 for married couples filing jointly), up from \$5,950 (\$11,900 for married couples filing jointly) for tax year 2012.
- The American Taxpayer Relief Act of 2012 added a limitation for itemized deductions claimed on 2013 returns of individuals with incomes of \$250,000 or more (\$300,000 for married couples filing jointly).
- The personal exemption rises to \$3,900, up from the 2012 exemption of \$3,800. However beginning in 2013, the exemption is subject to a phase-out that begins with adjusted gross incomes of \$150,000 (\$300,000 for married couples filing jointly). It phases out completely at \$211,250 (\$422,500 for married couples filing jointly.)
- The Alternative Minimum Tax exemption amount for tax year 2013 is \$51,900 (\$80,800, for married couples filing jointly), set by the American Taxpayer Relief Act of 2012, which

- indexes future amounts for inflation. The 2012 exemption amount was \$50,600 (\$78,750 for married couples filing jointly).
- The maximum Earned Income Credit amount is \$6,044 for taxpayers filing jointly who have 3 or more qualifying children, up from a total of \$5,891 for tax year 2012.
  - Estates of decedents who die during 2013 have a basic exclusion amount of \$5,250,000, up from a total of \$5,120,000 for estates of decedents who died in 2012.
  - The amount used to reduce the net unearned income reported on a child's tax return subject to the "kiddie tax," is \$1,000, up from \$950 for 2012.
  - The foreign earned income exclusion rises to \$97,600, up from \$95,100 in 2012.
  - As farms manage more gross income, the need for improved financial accounting systems and increased management of farm income becomes necessary. [Michigan State University Extension](#) recommends that farms consider financial management options like the [Telfarm Farm Financial management system](#).

Information on agricultural tax topics can be found in the "Farmers Tax Guide," publication 225. This publication along with others is available at from the IRS by calling the IRS directly at (800) 829-1040 or going to <http://www.irs.gov>. You can also find several tax related articles and helpful links by visiting the [FIRM farm management webpage](#) under the Tax Information Resource tab.

This article was published by [Michigan State University Extension](#). For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).



## **VIRUS INFECTIONS IN 2012-13 STRAWBERRY CROP**

Chuck Johnson, Extension Plant Pathologist, Virginia Tech

Within 4 to 6 weeks of planting last fall, a number of strawberry producers in Virginia (and other growers in the Southeastern and Mid-Atlantic US) began noticing poor growth in their fields, sometimes in spots within fields, sometimes in virtually the entire field. Older leaves sometimes turned bright red in color, while the edges of leaves around the crowns of plants, and/or emerging leaves, showed a distinct yellowing, which sometimes developed into patterns of marginal necrosis (i.e., dead tissue along the margins of leaves). Roots and crowns of most of these plants showed no sign of fungal infection. Initially, the cause of these problems was thought to perhaps involve soil and/or fertility conditions, such as low soil moisture and/or pH, boron toxicity, or fertilizer burn, perhaps associated with weather and/or errors in custom-blended fertilizers. However, similar problems were observed in Florida, North Carolina, and other southern states, including Virginia. The images below were taken from strawberry fields in Virginia Beach and Chesapeake that Roy Flanagan, Watson Lawrence, and I visited on December 19th:

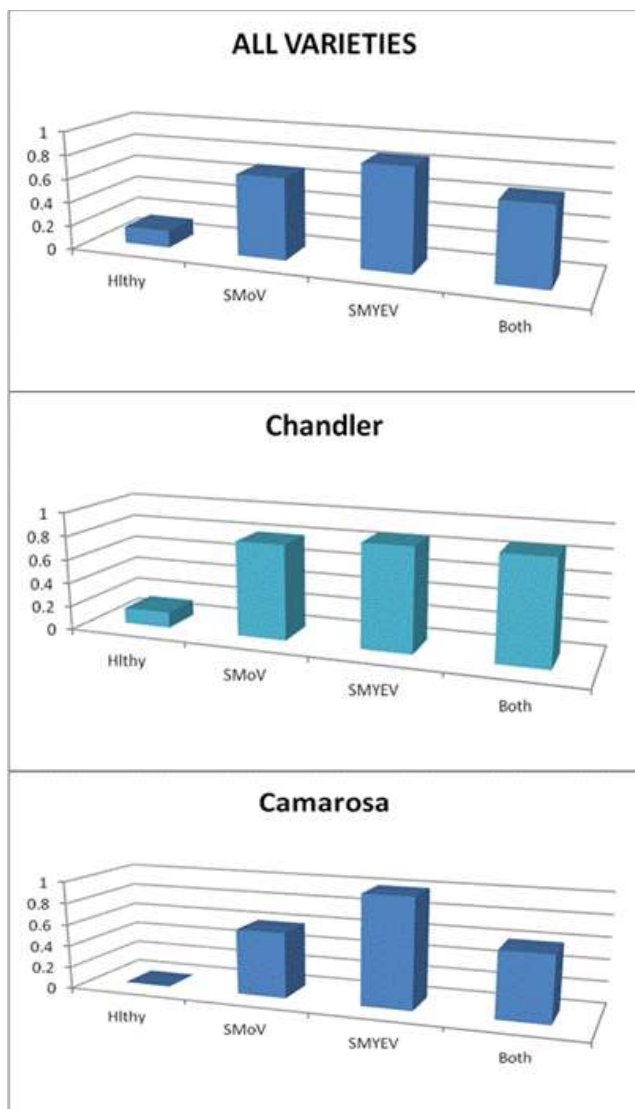


Because of the widespread nature of these symptoms, and an apparent association with bare-root plants or tips from the Great Village area of Nova Scotia, Dr. Barclay Poling of NCSU travelled to the area in early December to visit with Canadian strawberry plant growers and Extension staff. While there, Barclay was told that apparent strawberry virus symptoms had started showing up in fields of some strawberry cultivars in Great Valley in October (about the same time we started getting reports of problems). The Canadians had not had this problem before, and brought Dr. Bob Martin, a USDA-ARS small fruit virologist located at Oregon State University, in to help determine the cause. Dr. Martin is the top expert, as far as I know, on small fruit/strawberry viruses. He collected plant samples in early November to take back to Oregon for laboratory testing, and his results were received while Barclay was in Canada.

Dr. Martin found Strawberry Mild Yellow Edge Virus (SMYEV) and Strawberry Mottle Virus (SMoV) in samples from several matted row varieties. Barclay noted that he had never before seen strawberry viruses to be a problem. Barclay also noted that Chandler plants in Canada looked healthier than other varieties he saw, such as Camarosa and Winter Star. Upon returning to NC, Barclay collected and submitted 7 plant samples to Dr. Martin's lab, and found one with SMoV and five with SMYEV. All infected plants were plug plants produced from tips grown by one nursery in the Great Valley area. Although four of Barclay's samples were Chandlers, one such plant that looked "good" tested negative for both viruses, while another "good" plant tested positive for SMYEV only. Dr. Martin also tested 20 strawberry samples from Florida and found SMYEV and SMoV in 15 (75%).

As many may already know, Roy Flanagan, Keith Starke, and Watson Lawrence had been monitoring this situation in the Virginia Beach/Chesapeake area. With (very) little help from me, they collected plant samples from strawberry growers in their area and sent the samples off to Dr. Martin just before Christmas. Most of the samples (15 or 43%) were the Chandler variety, but other varieties that were tested included Albion, Camarosa, Camino Real, Festival, San Andreas, and Sweet Charlie. Of the 35 samples sent, 86% were infected by SMYEV, 69% with SMoV, and 66% with both viruses. Only 17% were non-infected. All of the infected plants were originally sourced from the one nursery in the Great Valley area of Nova Scotia, but four different vendors grew-out tips from that same nursery.

Whenever there were 3 or more samples of a particular variety, at least one was either not infected or only infected by SMYEV. The following graphs illustrate these results for all samples and for the varieties with larger sample sizes (15 samples of Chandler, 7 of Camarosa):



Based on all this information, Virginia strawberry producers with plants originally sourced from anywhere but the one nursery in the Great Valley area of Nova Scotia should not worry about possible virus infection, because, as far as I know now, no 2012-2013 plants produced from any other source have tested positive for a strawberry virus. Unfortunately, most of the plants tested so far that “traced back” to the one nursery have been infected by SMYEV, and usually SMOV as well. Growers with plug plants may not know where their plant supplier purchased the strawberry “tips” that were grown-out into plugs, and should check with their supplier.

Although this is our first experience with virus problems on strawberry, SMYEV and SMOV are very common around the world, and often occur together and with other viruses. In fact, it may be that they only cause significant problems to strawberry growers when they occur together. Yield losses (probably when 100% of plants are infected) can be expected to range from 0% to 30%, and can differ among strawberry cultivars and also depending on which “strain” of each virus may be present. These viruses are usually only a problem in matted-row strawberry production, where plants are in the field for a much longer period of time and plantings are not destroyed at the end of each growing season. Heat treatment combined with meristem tip culture usually eliminate viruses from strawberry genetic material before tips are grown-out for plugs or bare root transplants.

All of the virus-infected plants diagnosed this year had SMYEV, which is a “persistent, circulatively-transmitted” virus spread by some (but not all) aphids – *Chaetosiphon fraeolii* (the strawberry aphid), *C. thomasi*, and *C. jacobi*. “Persistent” means that these aphids need to feed for hours or days in order to “get” and spread the virus. However, “persistent” and “circulative” mean that a virus spreads through the body of an insect once the virus has been acquired, and once an aphid has the virus, the virus remains in the aphid through most or all of its life. If a grower only has a small percentage of infected plants in fields with low to moderate aphid populations, promptly spraying an insecticide that kills aphids quickly should be more likely to kill the insects before they can acquire and transmit viruses like SMYEV. Some more “good news” about SMYEV is:

- 1 – It infects no weeds or crop plants other than strawberry (wild *and* cultivated).
- 2 – It is only supposed to be a problem when other viruses are also present.

Most of the virus-infected plants diagnosed so far also had SMOV, which is also aphid-transmitted (*C. fraegaefolii*, several other *Chaetosiphon* species, and the melon aphid, *Aphis gossypii*). However, SMOV is “semi-persistently” transmitted, which means that aphids can “get” and transmit the virus within only a few minutes as they probe infected plants and then move to nearby healthy plants. However, aphids also “lose” the virus within a few hours as they probe plants, potentially slowing the initial rate of virus spread if most of the plants that aphids probe are healthy, such as when only a low percentage of plants in a field are infected. In addition to wild and cultivated strawberry, SMOV also infects several species of *Chenopodium*, including common lambsquarters. Aphid control programs are also supposed to be effective in reducing SMOV spread in strawberry fields.

**So, what are we in Virginia to do about this situation? I have the following suggestions:**

1 – Growers with fields that “look good” and contain plants that weren’t sourced from the one nursery in the Great Valley area of Nova Scotia should NOT be “at risk”. One cautionary note: because these viruses are both transmitted by aphids, it is possible that active aphid populations in Virginia strawberry fields could cause “secondary spread” from infected to non-infected plants in the same field or in nearby fields (I doubt anyone knows exactly how close “nearby” is). However, given the time of year we’re in, I think this situation should be rare.

2 – Plants that were sourced from the one nursery of concern are likely to be infected by one or both viruses. Plants traced back to other, nearby sources in Nova Scotia could also be involved, but not as far as we know at this time. However, it’s very important to remember that apparent symptoms of plant virus infection can be very misleading. Sick plants may have similar symptoms, yet can be suffering from very different causes, none of which may involve virus infection. *My experience with viruses in another crop (tobacco) suggests that factors such as production practices and weather conditions could have a major impact on apparent damage and yield loss.* Even if a grower knows that their plants are infected, ensuring that they are *doing everything that they possibly can to minimize*

stress on their crop could significantly improve their outcome this growing season. The factors that come to my mind for strawberry are frost protection, fertility, and irrigation/moisture stress.

3 – There is no cure for plant virus infection. Once infected, plants are infected for life, and every cell in an infected plant will eventually contain virus. There are no “silver bullets” or miracle cures, despite what some may claim. Infected plants can’t be saved, although growers could see some improvement in their appearance and growth between now and harvest. We don’t know why that is, so we don’t know how to promote it. This means that growers with infected plants should focus on preventing spread to healthy plants. Since we can’t test every plant, the safest assumption is that apparently symptomatic plants are infected, while those that “look good” aren’t, even though we know this isn’t always true. Therefore:

a – If almost all of the plants in a field are stunted and symptomatic, applying an insecticide will not help them. The only possible benefit from such a spray would be to minimize possible spread to nearby healthy strawberry fields. Treating severely-infected fields that are isolated is extremely unlikely to produce any benefit whatsoever.

b – If there are enough good plants in a field that look to be worth saving, application of a systemic insecticide should be an effective treatment to prevent or minimize spread of these viruses. Scientists disagree to some extent on the effectiveness of this approach, but the plant pathology literature suggests treating can reduce further disease spread. Remember that this only works if there are aphid populations in the field. If there are no aphids, what is an “aphid-killer” going to accomplish? Growers may consider treating to prevent aphid populations from developing this spring as a type of “insurance”, but an alternative approach that should be cheaper and more environmentally friendly would be to scout fields more closely for aphids so that a crop is treated only if when determined necessary. If a grower decides to treat, the systemic insecticides need to be applied at least 14 days before bloom to avoid injuring pollinator populations. Recommended insecticides include imidacloprid (Admire Pro for drip, Provado for foliar applications) and thiamethoxam (Platinum for drip, Actara for foliar spray). There may also be some generics labeled for strawberry that have the same active ingredients, but may be cheaper.

4 – Don’t be too discouraged. This virus situation is yet another plant disease problem in strawberries tied to transplants that look healthy, but aren’t, but should be “containable” to this year. Those involved in strawberry plant production in Nova Scotia are aggressively working to correct their virus situation. Although many growers consider carrying strawberry plants over from one season to another, 2013 looks to be a very poor year for this. If possible, all strawberry plants should be destroyed after this season’s harvest is completed, to avoid potential carry-over of SMYEV and SMoV. Leaving potentially infected plants in the field this summer risks virus spread into next years’ crop. Fields in matted-row production should be monitored for potential virus incidence as well. Southern Region strawberry research and extension folks are meeting with national experts and Canadian representatives in late March to plan methods to avoid a repeat of this past fall.



## National Clean Plants Network-Grapes Special Webinar

### Grapevine Red Blotch Disease: An Emerging Issue



Marc Fuchs

Rhonda Smith

Deborah Golino

Wednesday, March 27, 2013 3:30 to 5:00 PM EST

Connect over the internet. **Preregistration required.** Preregister by **March 25**at: [https://cornell.qualtrics.com/SE/?SID=SV\\_9RWAGgg3sXYHC85](https://cornell.qualtrics.com/SE/?SID=SV_9RWAGgg3sXYHC85)

Grapevine red blotch disease was first identified in 2008 as a syndrome that affects fruit ripening. Virologists in New York and California have identified a graft-transmissible virus, called Grapevine red blotch-associated virus (GRBaV) that is associated with the symptoms. Infected vines have been identified in California, New York, Virginia, Maryland, Pennsylvania, Texas and Washington. Join Cornell University virologist **Marc Fuchs**, University of California Cooperative Extension Farm Advisor **Rhonda Smith**, and University of California-Davis Foundation Plant Services director **Deborah Golino** for an informational session on red blotch disease. We will describe the virus, its impact on vine health, what informal field observations have told us, and what measures are being taken to test and identify infected vines and planting material.

- *GRBaV, its association with Red Blotch disease and presence in vineyards.* **Marc Fuchs**, Department of Plant Pathology and Plant Microbe Biology, Cornell University (with contributions from Mysore Sudarshana and Keith Perry).
- *An Extension Perspective: Field observations and impact on vines.* **Rhonda Smith**, UCCE Farm Advisor, Sonoma County.
- *Testing and identification of vines and planting material.* **Deborah Golino**, UC Davis Foundation Plant Services.

We intend this webinar to be interactive, with time set aside between presentations to answer your questions. Bring your questions and submit them during the webinar via the 'chat bar'.

**Tim Martinson**, Senior Extension Associate, Cornell University, will moderate.

**To register, fill out the on-line form posted here:**

[https://cornell.qualtrics.com/SE/?SID=SV\\_9RWAGgg3sXYHC85](https://cornell.qualtrics.com/SE/?SID=SV_9RWAGgg3sXYHC85)

by 8 AM EST on Tuesday, March 26. You will receive an email with connection instructions

## WEBSITES OF INTEREST

Insect and disease predictive information is available at:

<http://enviroweather.msu.edu/homeMap.php>

60 Hour Forecast

<http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc>

Information on cherries is available at the new cherry website:

<http://www.cherries.msu.edu/>

Fruit CAT Alert Reports have moved to MSU News

<http://news.msue.msu.edu>