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# Berry Notes

Prepared by the University of Massachusetts Fruit Team

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<https://extension.umass.edu/fruitadvisor/publications/berry-notes>

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#### UPCOMING MEETINGS

**Farming Finds a New Home at the Agricultural Learning Center:** UMass Amherst has come a long way from its days as “Mass Aggie,” but a new initiative is helping restore at least part of the campus to its roots—literally. The 40-acre parcel of land known as Wysocki Field is in the process of being transformed into the new Agricultural Learning Center, a working farm designed to give students hands-on training in everything from running a tractor to transplanting trees to making cheese from the milk of the cows they’ve raised. [Read more.....](#)

**Hops Field Day:** Steve Prouty, Clover Hill Farm, Gilbertville, hosted a Massachusetts Hops Field Day in his hop yard in mid August. The University of Vermont Extension Northwest Crops and Soils team joined him as he discussed issues related to his ¾ acre hop field, planted with 400 rhizomes in 2011. Fertility requirements, pest management, and best management practices were among the topics of discussions. [Read more.....](#)

**New Wine and Cheese Trail focuses on Massachusetts’ Rich Culinary Offerings:** In mid August, Governor Deval Patrick joined staff from MDAR, MOTT and 17 wineries, cheese makers and food businesses at Hardwick Winery to announce the expansion of the Massachusetts Wine and Cheese Trail, bringing the number of stops on the statewide trail to 29 wineries and 18 cheese businesses. The event was preceded by press tours at Robinson Farm and Ruggles Hill Creamery. [Read more.....](#)

**Federal Crop Insurance Reminders:** See this [link](#) for important information about USDA Crop Insurance application deadlines

## ENVIRONMENTAL DATA

The following growing-degree-day (GDD) and precipitation data was collected for the two-week period, September 20 through October 3. Soil temperature and phenological indicators were observed on or about October 3. Total accumulated GDDs represent the heating units above a 50° F baseline temperature collected via our instruments for the 2012 calendar year. This information is intended for use as a guide for monitoring the developmental stages of pests in your location and planning management strategies accordingly.

Region/Location	2012 Growing Degree Days		2011 Growing Degree Days	2010 Growing Degree Days
	2-week gain	Total accumulation for 2012		
Cape Cod	--	--	2,657	2,949
Southeast	211	2,849	2,540	2,866
East	146	3,085	2,941	3,220
Metro West	64	2,596	2,727	2,943
Central	--	--	--	2,832
Pioneer Valley	96	2,890	2,679	2,683
Berkshires	55	2,331	2,216	2,663
Average	114	2,750	2,627	2,879

(Source: UMass Landscape Messages #22, Oct. 5, 2012; #24, Sept. 30, 2011; #24 Oct. 1, 2010)

## STRAWBERRY

### Disease Snapshot: Strawberry Red Stele Root Rot

Zachary Frederick, Graduate Student and R. Kerik D. Cox, Assistant Professor, Cornell University

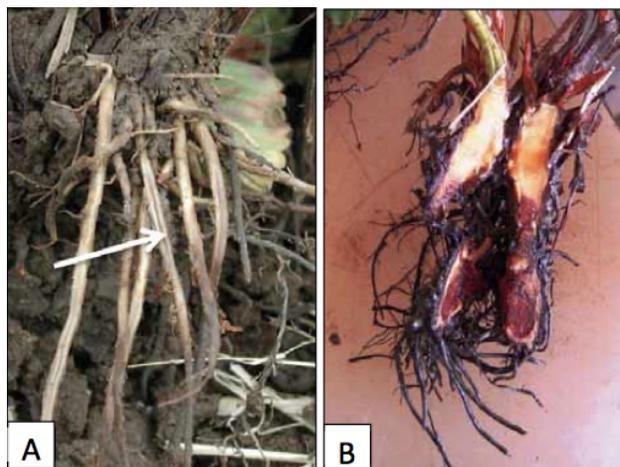
**Causes:** *Phytophthora fragariae*

**When to watch for it:** All season

**First line of defense:** Use disease free planting stock and clean tools and equipment to prevent the spread of soil inoculum.

**Summary:** Red stele root rot is a particularly severe problem in production areas where strawberries are cultured as a perennial crop in cool, wet conditions. The severity of the above ground symptoms usually depends on the degree of root rot, which implies that minor infections have few or no aboveground symptoms. Severe infections will appear as wilts in wet depressions of a field during hot weather, and may produce little or no fruit and runners. Older leaves of severely infected plants will become tinged red, orange, or yellow. Lateral roots are the first to rot away after infection, and are followed by main roots, which rot from tip to crown. The stele turns red once it is infected, and the crown will follow as infection progresses. As the infections age, the stele of the root and the inner tissues of the crown will turn brown and aboveground portions of the plant will wilt.

Preventing the introduction of *P. fragariae* into the planting site by planting certified stock and not selecting a site that will not receive runoff from infested sites is



Above: A. Strawberry roots showing characteristic reddening of the stele when cut open (at arrow). Note the blackening of root tips below the sites that were cut, and the overall lack of lateral roots one would observe on a healthy plant. This gives the infected plants a "rattail" like appearance. B. As infections progress, the crown of the plant will also discolor and rot away.

essential to preventing disease. Once established, resting oospores and persist in soils. This limits management options to improving site drainage, selection of resistant cultivars, and the use of phosphorous acid, fosetyl-AL, and mefanoxam products to reduce the incidence of red stele. Soil fumigants have not been shown to completely eradicate *P. fragariae* from infested soils. (Source: New York Berry News, Vol. 11, No. 9, Sept/Oct 2012)

## RASPBERRIES/BLACKBERRIES

### Pest Profile: Raspberry Crown Borer

*Adapted from Pam Fisher and Maryam Sultan, Ontario Ministry of Ag. And Food Resources*

The raspberry crown borer is a clearwing moth, similar in appearance to a yellow jacket wasp. It measures approximately 25mm in length and has a wingspan of about 30mm. The adult can be seen basking on raspberry foliage during the day (Figure 1).



Fig 1: Raspberry crown borer adult on raspberry leaf measuring about 25mm in length

Crown borer larvae are white with a light brown head. They possess three pairs of very small true legs and four pairs of prolegs (Figure 2). They range in size from a few mm to 30mm when fully grown. They are found in the raspberry crown where they feed and tunnel into crown tissue. As they feed, they deposit reddish brown, granular frass behind them. Their burrowing severely damages the crown and eventually affects above-ground tissue. The canes become weak and spindly and fruiting canes often collapse while the fruit is still immature. Foliage may wilt and die on affected canes. Eventually, primocanes become so few in number that the planting dies out.

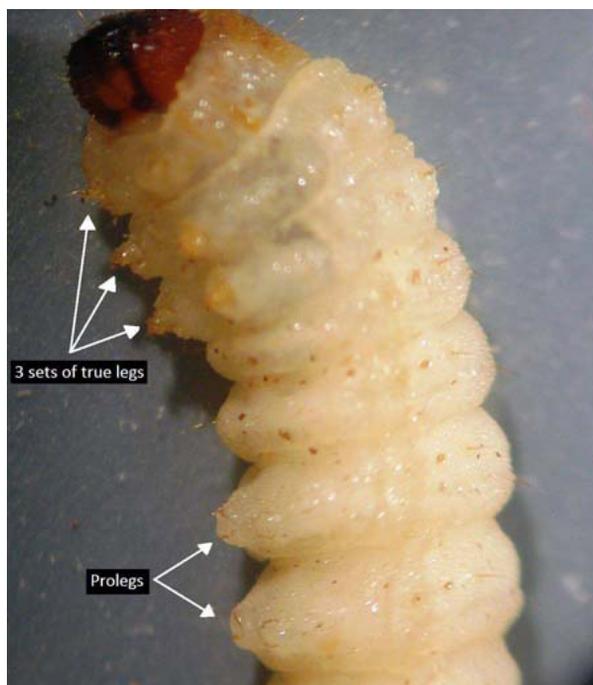


Fig 2. Raspberry crown borer larva from the side showing its 3 sets of true legs close to the light brown head. Only 2 or 4 pairs of prolegs are shown.

Damage from this pest can often go unnoticed for some time. Symptoms are sometimes confused with winter injury, or Phytophthora root rot. To diagnose the problem accurately, use a spade to dig up crowns of weak plants. Shake away the soil and examine the crown for reddish-brown frass and tunnels. Use hand-pruners to cut the crowns carefully to look for crown borer larvae in and around the damaged area (Figure 3). In late fall and early spring, tug on affected canes. If crown borer is the culprit, the affected cane will usually break off at the base, revealing larvae and frass below.



Fig 3. Raspberry crown borer larvae tunnelling into crown tissue. The arrow points at frass associated with larval feeding.

### Biology

The raspberry crown borer has a two-year life cycle. In late July, August and September females lay single, reddish-brown eggs on the underside of young leaves. The adult is active for about one week. Females can lay around 140 eggs in this time.

The larvae emerge about one to two months after egg-laying and migrate down to the base of the cane. Each larva overwinters in a hibernaculum below the soil surface. In the spring, they begin boring tunnels and cavities into the crown tissue. The larvae also feed on and girdle roots and other canes belonging to the same crown. They spend their second winter within the roots of the plant. During July of the second summer, pupation occurs inside the crown and mature adult crown borers emerge between late July and September.

### Von, a New Thornless Florican-Fruiting Blackberry

*Jim Ballington, Gina Fernandez, and Penny Perkins, NC State University*

‘Von’ is the first erect thornless blackberry to be released from the NC State University caneberry breeding program. ‘Von’ is a collaborative effort of several researchers in the Department of Horticultural Science, with ties to both present and past breeding programs. Dr. Jim Ballington selected ‘Von’ in 1995 at the Sandhills Research Station in Jackson Springs, NC. Dr. Gina Fernandez tested ‘Von’ at several locations across the state for many years, both on-farm and at several research

### Management and Control

Researchers are working on the development of a pheromone lure to attract adult insects but these are not yet available.

Field sanitation, clean pruning and habitat management will help to reduce pressure from this pest. Remove nearby wild brambles to reduce the likelihood of infestations. Prune out and destroy old canes each spring, cutting them as close to the ground as possible, to destroy larvae overwintering at the base of the cane. Keep grass mowed short and weeds under control to reduce the shelter they provide to adults during the egg-laying period.

**[Editor’s Note:** Insecticides available for use in New England include: **Altacor:** This product was registered in August 2010 through the minor use registration program and will require more careful timing for control. It is effective on early instar larvae, which must ingest the product to be affected. The product must be present on foliage and eggs, to control hatching larvae in mid-late summer. We need more field experience with this product in order to develop the best strategy for raspberry crown borer control.

**Brigade:** This is a restricted use material so may only be applied by licensed applicators. Apply as soil drench in at least 200 gallons water. During the growing season, destroy dying canes and those showing evidence of infestation. Eradicate wild brambles in the area, because they may harbor the pest.]

*(Source: Ontario Berry Grower, Nov. 2010 – reprinted with adapted information for New England Audience)*

stations, but most extensively at the Piedmont Research Station in Salisbury, NC. Dr. Penny Perkins-Veazie conducted post harvest evaluations of ‘Von’ at the Plants for Human Health Institute in Kannapolis, NC.

‘Von’ is named after Harvey Von Underwood, who was a Researcher at NC State University. Mr. Underwood worked at NC State University muscadine and bramble breeding program in the 1950’s-70’s and was responsible for saving valuable germplasm from those programs.

The fruit of 'Von' is considered to be of medium size. However, the yields are very high, one plant can produce more than 20 lbs of fruit. Over 90% of the fruit picked from 'Von' is considered marketable, a highly desirable trait in the commercial markets. 'Von' produces fruit in the late season, with average date of harvest commencing in the third week of June, peaking in the second week of July and ending the first week of August. This is a good time for fruit production for commercial growers in the state, as prices tend to be better at the end of the season. It

should also do well in home gardens that have plenty room for this vigorous plant.

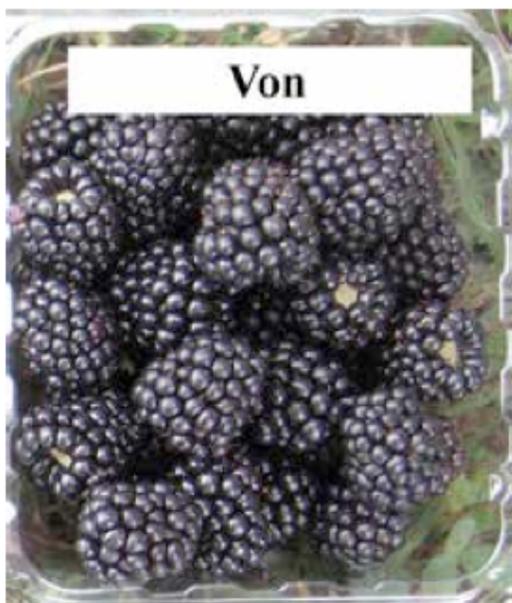
*Close-up look at fruit of 'Von'*



*Fruit ripening on 'Von'*

For more information on this new variety go to <http://ncsu.edu/enterprises/blackberries-raspberries/2012/05/16/von-blackberry-cultivar/>

(Source: NC Small Fruit News, Vol 12, No. 4, Oct 2012)



## BLUEBERRY

### **Pink Lemonade, Razz, and More! Wonderful Blueberries from ARS to You**

*Marcia Wood, Agricultural Research Service Information Staff*

#### **Pink Lemonade: Pretty and Tasty**

Anyone who grows backyard blueberries knows that some of the berries may turn pink before they finally ripen to a familiar dusty blue.

When a Pink Lemonade blueberry is ripe and ready to eat, however, it is, in fact, pink.

Though not a first, this intriguing coloration is "still somewhat unusual" for a ripe, harvest-ready blueberry, according to Agricultural Research Service plant geneticist Mark K. Ehlenfeldt.

Ehlenfeldt has his laboratory, greenhouse, and test plots at the Philip E. Marucci Center for Blueberry and Cranberry Research and Extension in Chatsworth, New Jersey, about

60 miles south of Newark in the state's pine barrens.

Here's more about Pink Lemonade and a glimpse of several other interesting blueberries developed through the Chatsworth research.

Pink Lemonade "may be the prettiest blueberry around," says Ehlenfeldt. This plant bears moderate yields of firm,

glossy, medium-sized berries, with a mild flavor that Ehlenfeldt describes as "sweet and flowery." It ripens from mid-late to late season. In New Jersey, that's usually mid to late July.

"Pink Lemonade is also a nice plant for landscaping," Ehlenfeldt says. "It has shiny green leaves in spring and summer and dusky, reddish-brown twigs in winter."

Ehlenfeldt says Pink Lemonade is suited for U.S. Department of



**Pink Lemonade blueberries have a sweet, mild, flowery flavor and a pretty pink color. (D2598-1)**

Agriculture Plant Hardiness Zone 6—where the weather, on average, never gets colder than 0°F—and for milder regions.

Pink Lemonade resulted from the crossing of two parent plants—an experimental blueberry developed by Nicholi Vorsa, a Rutgers University scientist stationed at the Chatsworth center, and a commercial blueberry, Delite, which was developed by USDA and the University of Georgia. Ehlenfeldt crossed these two plants in 1991 and, in 1996, chose one of the offspring—designated as “Selection Number ARS 96-138”—for further testing.

While Ehlenfeldt was scrutinizing the plant’s performance in New Jersey test plots, colleague Chad E. Finn, a plant geneticist in the ARS Horticultural Crops Research Unit in Corvallis, Oregon, was evaluating it on the West Coast, in response to interest by the plant nursery industry in that region.

Based on that interest and the good scores that ARS 96-138 achieved in these evaluations, the scientists formally released the variety in 2005, assigning the selection number as its identifier. In 2007, to help build market identity for the plant, the researchers named it “Pink Lemonade.” In that same year, the novel blueberry garnered a “best new shrub” honor at the prestigious Far West Horticultural Show. You can find “Pink Lemonade” for sale in garden catalogs and on the web.

### **Razz: Its Flavor Will Surprise—and Please**

Razz is a blueberry with a taste that’s rather surprising. Its name is a hint: Razz tastes quite a bit like a raspberry.

“The remarkable raspberry overtones make Razz unlike any other commercial blueberry that we know of,” says Ehlenfeldt.

Razz is a “rediscovered” blueberry. It was bred in 1934 by USDA’s first blueberry breeder, Frederick V. Coville. It was selected for further study by USDA scientist George M. Darrow and Rutgers plant breeder J.H. Clarke in 1941.

After that, it “just hung around for a long time,” says Ehlenfeldt. “It was considered unsuitable for large-scale commercial production because it was too soft for shipping or storing. And, although people appreciated its flavor, the berry was simply too different for the times.

“Eventually, several nurseries expressed an interest in growing and marketing it to backyard gardeners. We decided to test it here in New Jersey and released it in 2011.”

Razz produces good yields of medium to large berries that ripen in midseason. “In New Jersey, that is the end of June through the first week or two of July,” Ehlenfeldt says.

“Razz should do well in most places where northern highbush blueberries can be grown. Growers, pick-your-own farms, and backyard gardeners might want to give this specialty berry a try.”

### **Sweetheart: A Berry To Begin—and End—the Growing Season**

Sweetheart may be the perfect plant for those who just can’t wait for the first blueberries of the growing season—and, of course, hate to see the season end.

That’s because Sweetheart meets both needs. It produces firm, delectable, medium to medium-large berries early in the season, about mid-June through the end of the month. Then, if the autumn is mild, Sweetheart may reflower and refruit, Ehlenfeldt says. “The autumn yield is not really large enough to be called a ‘second crop,’” he explains, “but it’s a nice treat at a time when most

blueberry plants have long since stopped fruiting.” Late-season refruiting is “a somewhat unusual trait,” he notes.

Sweetheart berries have “a superior flavor that lasts, even in storage,” he says. That’s unlike some blueberries, which “begin to lose some flavor soon after they’ve been picked.”

Well suited for commercial growers, Sweetheart is “great for home gardens, too,” says Ehlenfeldt who, in 1996, made the cross that resulted in today’s Sweetheart plants. In 1999, he chose it—from among other candidate seedlings—for further study, continued testing it at Chatsworth through 2009, then formally released it as a named variety in 2010.



The superior flavor of Sweetheart blueberries isn't lost during storage. (D2600-1)



Razz blueberries offer a taste of raspberry. (D2599-1)

Sweetheart can be grown in USDA Plant Hardiness Zone 5—where temperatures usually won't get colder than -10°F, on average—and in milder zones. What's more, some preliminary studies "suggest that Sweetheart may also be hardy in regions colder than Zone 5," says Ehlenfeldt.

**Cara's Choice: Outstanding Flavor**

Cara's Choice is "regarded by some blueberry aficionados as having the best flavor of any blueberry," says Ehlenfeldt. "This is a very sweet, medium-sized blueberry, with a pleasant aroma."

Even though its yields are only moderate—about 35 percent less than industry standards such as Bluecrop, for example—this berry nonetheless offers growers the significant advantage of keeping its quality while still on the bush. "That's a plus," notes Ehlenfeldt, "because it allows growers to distribute their harvests over a longer period of time." Meanwhile, the berries' sweetness tends to increase.

"The berries can stay on the plant for several weeks after ripening, without losing flavor or firmness," he reports.



Some blueberry fans say Cara's Choice is the best they have ever tasted. (D2601-1)

Best for Zone 6 and milder zones, this berry is ready for harvest in midseason.

Blueberry researcher Arlen D. Draper, formerly with USDA in Beltsville, Maryland, and now retired, made the cross that yielded today's Cara's Choice in the late 1970s and, in 1981, singled it out for further study. Since then, evaluations at the Atlantic Blueberry Company and at Variety Farms—both in Hammonton, New Jersey—by Draper; Ehlenfeldt; now-retired ARS scientists Gene J. Galletta and Allan W. Stretch; and Rutgers's Vorsa led to the plant's release in 2000.

Ehlenfeldt expects to have yet another superb blueberry ready to introduce in the near future.

*This research is part of Plant Genetic Resources, Genomics, and Genetic Improvement (#301) and Plant Diseases (#303), two ARS national programs described at [www.nps.ars.usda.gov](http://www.nps.ars.usda.gov). "Pink Lemonade, Razz, and More! Wonderful Blueberries From ARS to You" was published in the September 2012 issue of Agricultural Research magazine.*

(Source: *New York Berry News*, Vol. 11, No. 9, Sept/Oct 2012)

**GRAPE**

**Grape Post-Harvest Checklist**

Jodi Creasap-Gee, Cornell University

*I pulled out last year's post-harvest checklist and noticed the last step was to "Have a great Thanksgiving!" This is just another reminder of how far ahead we are this season. Sheesh, I can barely throw a "Happy Halloween!" out there at this point. Regardless, the end of harvest is here (or almost here, for some growers and winemakers), and it is time to review the list of things to do after harvest. Applicable to both juice and wine grape production, this list may or may not be comprehensive for all vineyard businesses. Either way, I hope it serves as a reminder of what needs to be done.*

*This year was a tough one. Spring started early, and then was interrupted by the return of winter in the form of several freeze events. Followed by a short spring, a long, dry summer ripened the small crop, which was then threatened by harvest rains. Luckily, growers are adaptable and made it through with relatively good quality fruit and a relatively cheerful industry.*

1) If the ground is not frozen and you have not done so already, take some soil samples in the blocks throughout your vineyard. Stop in the office, and we can go through vineyard maps to create a soil sampling strategy for your vineyards.

- 2) Collect, clean, and store all bins properly, preferably under cover.
- 3) How much is your equipment worth to you? Vineyard equipment is expensive and essential, so take good care of it. Clean, winterize, oil, grease, and properly store vineyard equipment that is not to be used again until spring.
- 4) Grab your vineyard maps and take a tour (in truck – good; on Gator – better; on foot – best) of your vineyards to identify/evaluate trouble spots – damaged posts, skips, ruts between rows, broken drainage tile, etc.. [If vines need replaced, record what and where and either order plants now or mark vines for layering. Grafted vines should be planned for planting 2 years in advance.]
- 5) If you had weed problems this year, you might want to try a fall application of Roundup after the leaves drop from the vines. Remember, use of several 2, 4-D formulations is illegal in the Western New York Grape growing counties, so double-check formulations and regulations prior to applications to eliminate broad-leaf weeds.

- 6) If you have new vineyards that are clean tilled, it might not be too late to get a winter cover planted, but one can consider planting some grass or a cover crop on the soil for next year to prevent erosion, improve organic matter, and break up compaction. The standard types of grasses used are rye, barley or oats. These are not permanent covers and, when taken down, they will enhance the fertility of your soils. Remember, the higher the organic matter in your soil, the less nitrogen you need to apply pre-bloom. You can plant a permanent cover of durable slow and low growers like creeping red fescue, especially if vine vigor is a chronic problem, but this can be expensive.
- 7) Business management: Collect your weight tickets or whatever you use to calculate your charges. If need be, check and double-check your contracts and numbers. If there are issues related to the contract, you can either take that up with the winery or processor now or a little later. [Send itemized invoices out to the wineries with payment terms.]
- 8) Be sure to record trouble spots in each block, be it a downy mildew (unlikely this year), powdery mildew, or phomopsis problem from this year. Losing leaves to disease only skews the leaf-to-fruit ratio, thereby making ripening more difficult in these “high yield and minimum standards” times. Being on top of sprays right out of the gate next spring will keep the vines cleaner and healthier and more productive. A healthy vine can be a productive vine.
- 9) Many growers are thinking about pruning, are you? Is your equipment ready, and do you know who will be pruning and what their skill level is? Is this year the year you need to consider mechanical pruning? Pruning sets the tone for quality in 2013; we had fairly bud development weather in 2012 (depending on levels of drought stress in each vineyard), plus a small crop so crop potential might be higher than average in 2013.
- 10) Tag vines with red leaves or white varieties with leaf curl, crown gall. These may or may not be candidates for virus – be sure to check the trunk for damage or crown gall. If the trunk is clean, tag and test the vine for the presence of viruses. They should be pulled if they test positive for virus, or you should plan to renew trunks if tumors or injuries are present.
- 11) For grafted plants, hybrid or vinifera, you will need to hill up vineyard soil with a grape hoe to insulate the graft unions. Recall that the graft union is essentially a weak spot – like scar tissue – that is more sensitive to cold temperatures. Sure, we had a fairly mild winter last year, but that doesn’t mean Mother Nature won’t surprise us this winter. Hill up 5” to 6” of dirt over the union. Other options include straw and mulch. The lighter the material, the more volume you need to protect the vine. Hilling up can be tricky, and this is where laser-planted vineyards can be very nice – the straight rows allow for relatively easy hilling up and taking down of soil. Ask someone who’s experienced in hilling up, if need be, and remember that weed management needs to be spot-on, and soil conditions should be just right (not too wet or dry).
- 12) If applicable, talk to winemakers to request samples of your wines, especially the lots that are not yet blended. Talk to the winemaker who buys your fruit and discuss the season, the fruit quality, and assess if anything needs to be done differently next year. Wine grapes bring more money because more work is required to make high quality fruit for fine wines. Your grapes represent this region – you certainly would prefer a positive perception of good quality fruit and wine, right? It’s kitschy, but true: Quality starts in the vineyard, and it is essential to forge a relationship with the winemaker to whom you are selling fruit.
- 13) When you have the time, sit down and review the season carefully. Figure out what worked and what didn’t, and remember that if you were trying something new in your blocks, it usually takes almost 3 full seasons to see a statistically significant difference in treatments. Again, record trouble spots (disease, insects, frost pockets, etc.) and plan to manage your blocks accordingly for next year. Will you leave more buds on and plan to crop thin 30 days post bloom? Or will you plan to leave fewer buds on this year? One of the keys to vineyard management is managing on a yearly basis – every year is different, so you may not always have the same management plan from year to year. How was vineyard nutrition? Did you get your soil and petiole tests completed and recommendations back? Petiole tests showed artificially low potassium levels, due to the dry season. Plan for nutrient amendment applications to build up soil health. Should anything be done differently for next year for vineyard floor management? Finally, you are running a business, so assess the health of the business. Did you make money? Did you sell your entire crop? Take a long, hard look at this and determine where you can improve efficiency and profitability without cutting corners at the expense of vine health.

*Many thanks to Mark Chien, Penn State Extension Viticulturalist, for allowing me to adapt from his post-harvest checklist. (Source: Lake Erie Regional Crop Update, Oct.4, 2012)*

## 'Faith', 'Hope', 'Joy' and 'Gratitude' Seedless Table Grapes for Local Markets

John R. Clark, University of Arkansas

Four new seedless table grapes have been released by the University of Arkansas. Brief descriptions of these are provided, and more detailed data on performance is available. These are intended for local markets and should expand options for eastern US table grape growers.

**Faith (A-2412)** is a blue, non-slipskin, seedless grape that ripens early, late July to early August in Arkansas. It has a largely neutral flavor with slight fruity flavor in some observations. Berries average 4 g, and cluster weight ranges from 150 to 250 g, medium in size. Soluble solids content averages 19% and skin is edible. Fruit cracking was usually not found after summer rainfall during ripening or at maturity



Figure 1: Faith (A-2412)

for Faith. Vines usually have moderate vigor and yield and exhibit good hardiness in Arkansas. This new variety should complement Jupiter for the early local market for table grapes. Negative aspects of Faith include uneven set of berries in some years resulting in reduced cluster fill, occasional seed traces that can harden in some years, and a slight skin astringency noted occasionally.

**Hope (A-2053)** is a white (green) seedless grape with a fruity flavor and high yields. Berries of Hope average 3 g. Seed traces are seldom seen with Hope. Soluble solids averages 19%, and berries are non-slipskin. Texture is soft. Only slight fruit cracking was seen following rainfall for Hope. Harvest of Hope was usually August 20. Clusters are usually very tight and range from 300 to 330g.



Figure 2: Hope (A-2053)

Yields of Hope were usually 35 to 50 lb/vine. Vines are moderate in vigor. Negative observations on Hope have included excessively tight clusters and a moderately thick skin.

**Joy (A-2494)** is a blue, non-slipskin, seedless grape with exceptional fruity flavor.



Figure 3: Joy (A-2494)

The skin of Joy is very thin, likely the thinnest of any Arkansas- developed grape. Fruit cracking during rainy periods near or at harvest has rarely been seen with Joy. Berry weight averages 3 g and clusters weight is usually near 300 g. Average harvest date is August 11 in Arkansas. Vine yield is usually moderate to high and vines have moderate

vigor along with consistently good vine health. Shortcomings include a very soft texture, occasional variable berry set resulting in some "shot" berries, and shatter of ripe berries at maturity noted in some years. Occasional hard seed traces were seen with Joy.

**Gratitude (A-2505)** has an exceptional crisp texture with seedless, green (white) berries. Berry weight averages 3.5 g for Gratitude and clusters

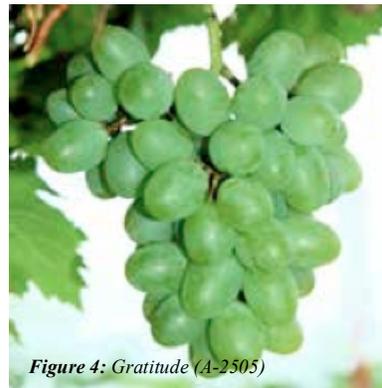


Figure 4: Gratitude (A-2505)

14can weigh up to 500 g. Skin is very thin for Gratitude and in most years no seed traces were found. Soluble solids averages 19%, and

flavor is neutral, similar to most *Vitis vinifera* table grapes. Fruit cracking was not observed on Gratitude, an exceptional characteristic for a crisp, thin-skinned variety grown in an area with rainfall near maturity and harvest. Clusters are usually very tight for Gratitude. Productivity is moderate. Negative characteristics for Gratitude include occasional winter injury to vines and tight cluster fill.

All vines were grown in west-central Arkansas, where wintertemperatures normally were 5 to 10 F in most winters when these genotypes were being evaluated. Fungicides were applied to the vines each year to control common grape diseases found in the eastern United States. Vines were not exposed to Pierce's disease during development or testing and these varieties are not assumed to have an Pierce's disease resistance.

A limited supply of vines is available during the 2012-13 sales season from:

Double A Vineyards, Inc. 10277 Christy Road Fredonia, NY 14063 Phone: 716-672-8493 Website: [www.doubleavineyards.com](http://www.doubleavineyards.com)

(Source: Lake Erie Regional Crop Update, Oct.4, 2012)

## GENERAL INFORMATION

### Effects of Fruit Cooling on Spotted Wing Drosophila

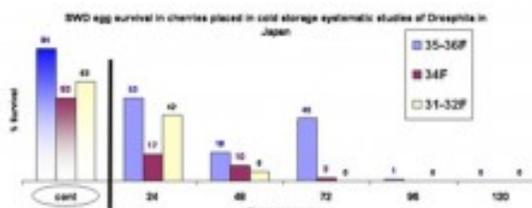
Abigail Foster, Cornell Cooperative Extension Capital District Program

In some of the first literature written in Japan in 1939 (Kanzawa, T.) about spotted wing drosophila, *Drosophila suzukii*, (SWD), experiments were made regarding the sensitivity of the egg and larval stages of spotted wing drosophila to periods of temperatures above and below freezing (32°F).

As is noted in the two graphs below, at constant temperatures of up to 35°F, 96 hours or more of cooling resulted in total mortality of spotted wing drosophila eggs and larvae. This was also anecdotally confirmed in tests conducted in 2009 in California.

While temperatures below freezing are not useful to fruit shippers, temperatures in the area of 35°F are useful. However, it is important to note that for success the constancy of the temperature is critical. So, while in an ideal situation constant temperatures of 35°F or a little below are effective in SWD egg and larvae suppression when extended for periods longer than 96 hours, the reality can vary significantly from the ideal. Shipped fruit ordinarily do not experience lengthy regimes of constant temperature as they are moved from place to place. Temperatures of a refrigerator truck can vary by location inside and placement of the produce (ie on the side, towards the bottom etc.), and certainly the temperatures at the point of sale can vary from the ideal to room temperature to even warmer.

Additionally, while initial damage from SWD on raspberries, blackberries and strawberries can be difficult to detect, this is not the case for other fruits such as cherries or blueberries, where the activity of



SWD will leave an unsightly blemish.

The take home message from this information is that while extended cooling can be suppressive of SWD, growers should not rely on cooling alone. It will still be important to manage SWD in field. Thanks to Shinji Kawai for making the information from the 1939 Kanzawa paper available.

This article was posted on the UC Santa Cruz county blog by Mark Bold on March 23, 2010. You can view more [blog posts](http://cesantacruz.ucdavis.edu/Strawberry_Nursery_Plant_Production/) by going to: [http://cesantacruz.ucdavis.edu/Strawberry\\_Nursery\\_Plant\\_Production/](http://cesantacruz.ucdavis.edu/Strawberry_Nursery_Plant_Production/)

(Source: Capital District Weekly Update, August 23, 2012)

### Eastern SWD Working Group Meets in North Carolina

Debby Wechsler, North American Raspberry and Blackberry Association

On September 20, I attended a meeting of “eFly”, the Eastern SWD Working Group, which brought together about 40 people (with another half dozen people attending remotely) to discuss current SWD infestation, research, and management in Eastern states, start to develop an impact statement for SWD (which can help get funding, changes in pesticide regulations, etc), and begin to prioritize potential next steps in research, extension, public education, and regulations. Those attending were growers, researchers, extension, marketers, and others from many Eastern states. Peter Scheerer, Oregon State University, brought a report from the West Coast, where SWD has been an economic

problem for about three years, and a multistate consortium of institutions is in the middle of a \$5.6 million 4.5 year grant to work on this rapidly expanding invasive pest.

Some of the points that were brought out by this meeting that caught my interest:

The two most widely used baits for SWD monitoring traps are a vinegar solution, and a yeast/sugar solution; it seems the yeast/sugar solution may work better, but is messier. It was noted, these are both fermentation products, yet this is a fly attracted to ripening fruit, not overripe berries. A new alternative lure combining several chemicals is in the works and looks promising. Better monitoring methods are being researched. The

key will be to develop monitoring or models that alert when to start control measures.

Alternate wild hosts for SWD in the East include pokeweed, bush honeysuckle, buckthorn, wild cherries, elderberries. And we still don't know where they overwinter. Control of the population may be an impossibility, and it is hard to get good spray coverage. Control methods that focus on creating a chemical/physical barrier that prevents the flies from laying their eggs in may be the best strategy. Work is being done to find biocontrol agents such as predatory wasps.

There appears to be variation between different raspberry/blackberry varieties in how susceptible they are to SWD. Breeding resistant varieties may help long-term.

The SWD experience in the East differs from that in the West. The hot dry summers suppress SWD in the West; here, higher humidity helps them thrive, and rains wash off sprays. Growers are finding that once-a-week sprays may not be not enough.

The group developed a long list of avenues for further work from mating disruption, increasing pesticide efficacy with feeding stimulants, finding new control materials to figuring out the best way to dispose of damaged fruit and greater outreach to small growers and backyard gardeners. Now, the job is to prioritize among them, seek funding, and coordinate the work of different institutions to maximize effectiveness.

Note that sessions on SWD will be held at the Portland and Savannah berry conferences.

(Source: *NC Small Fruit News*, Vol 12, No. 4, Oct 2012)

### MDAR Ag Business Training Courses Gear Up

MDAR's Agricultural Business Training Program responds to these and other planning needs by raising awareness and providing a forum for feedback and support. More than 475 agricultural enterprises have completed one of three MDAR course formats for different stages of farm development. Before completing an application, please review the individual course descriptions for relevance and pre-requisites:

- **Course Description:** For pre-venture and just beginning farmers still trying to decide on their basic early ideas – a five session course: - "**Exploring Your Small Farm Dream (course description)**"
  - [2012 Exploring Your Small Farm Dream Application Form](#)
- **Course Description:** For those a step beyond Explorer who have firm access to land and a clearer sense of what they want and are capable of doing, but who do not yet have a financial, marketing and

personnel track record for their enterprise – a six session course: "**Planning for Startup (course description)**"

- [2012 Planning for Startup Application Form](#)
- **Course Description:** For existing agricultural enterprises with at least two years of income generating operation and farm recordkeeping that are seeking an in-depth tune-up and are preparing to make new investment and/or prepare for expanded operation – a 10 session course "**Tilling the Soil of Opportunity (course description)**"
  - [2012 Tilling the Soil of Opportunity Application Form](#)

(Source: *MDAR Farm & Market Report*, Vol. 89, No. 5, October / November 2012)

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### UPCOMING MEETINGS:

**October 14, 2012 - MA Farm Winery and Growers Association Wine Festival**, 1:00 pm to 4:00 pm at the Marshfield Fairgrounds. For more information [click here](#).

**October 24, 2012 - Attracting and Conserving Natural Enemies in Plant Production Yards and Greenhouses.** 9:30am - 3:30pm, Publick House, Sturbridge, MA. Details: <http://extension.umass.edu/floriculture/>.

**October 26, 2012. Elderberry Winemaking Workshop**, Columbia, MO. Five hour workshop designed for those interested in learning how to make elderberry wine hosted by the University of Missouri. For more information, <http://www.brownpapertickets.com/event/276034>.

**October 30, 2012 - North Country Fruit & Vegetable Seminar & Trade Show.** Mountain View Grand, Whitefield, NH, 03598. 9:00am – 3:30pm. For more information see: <http://extension.unh.edu/events/files/8F3BFDA1-0F2C->

[E5AD-68ACB1FDB492E1C0.pdf](#)

**November 5, 2012** – *Profitable Year-Round Farming and Marketing*, 8:30am – 5:30 pm. Stonehill College, The Martin Institute, 320 Washington Street, Easton, MA. Presented by NOFA-MA. For more information and registration, go to: <http://www.nofamass.org/seminars/fallseminar.php>.

**November 7-8, 2012** – *Northeast Greenhouse Conference and Expo*. DCU Center, Worcester, MA. For complete program and registration information, go to: <http://www.negreenhouse.org/>.

**November 7-10, 2012**. *Southeast Strawberry Expo*, Hilton Charlotte University Place, Charlotte, NC. Farm tour, workshops, educational sessions, and trade show. For more information, contact the NC Strawberry Association, [info@ncstrawberry.com](mailto:info@ncstrawberry.com), 919-542-4037, or visit [www.ncstrawberry.com](http://www.ncstrawberry.com). Exhibitor inquiries welcome.

**December 4-6, 2012**. *Great Lakes Fruit, Vegetable and Farm Market EXPO*, DeVos Place Convention Center, Grand Rapids, MI. For more information: [www.glexpo.com](http://www.glexpo.com).

**January 12, 2013** – NOFA-MA Winter Conference. Worcester State University. For complete program and registration information, go to: <http://www.nofamass.org/conferences/winter/index.php>.

**January 22-24, 2013**. *Empire State Producers EXPO*, OnCenter, Syracuse NY. More information: <http://nysvga.org/expo/info>.

**January 27-30, 2013**. *North American Strawberry Growers Associations*, Portland OR. More information: Kevin Schooley, 613-258-4587, [info@nasga.org](mailto:info@nasga.org) or [www.nasga.org](http://www.nasga.org).

**January 28-30, 2013**. *North American Raspberry and Blackberry/Strawberry Growers Association*, Portland OR. More information: 919-542-4037, [info@raspberryblackberry.com](mailto:info@raspberryblackberry.com).

**January 29-31, 2013**. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey, PA. More information: William Troxell, 717-694-3596, [pvga@pvga.org](mailto:pvga@pvga.org) or [www.mafvc.com](http://www.mafvc.com).

**February 27 – March 1, 2013** – *US Highbush Blueberry Council Spring Meeting*, in Savannah, GA. More information: 916-983-0111 or [www.blueberry.org](http://www.blueberry.org).

**March 13, 2013** – *Cape Cod Cranberry Growers' Association Winter Meeting*, in Hyannis, MA. More information: 508-866-7878, [info@cranberries.org](mailto:info@cranberries.org), or [www.cranberries.org](http://www.cranberries.org).

*If you know of an event that would be suitable for this list, please forward to [sgs@umext.umass.edu](mailto:sgs@umext.umass.edu)*

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*Massachusetts Berry Notes is a publication of the UMass Extension Fruit Program, which provides research based information on integrated management of soils, crops, pests and marketing on Massachusetts Farms. No product endorsements of products mentioned in this newsletter over like products are intended or implied. UMass Extension is an equal opportunity provider and employer, United States Department of Agriculture cooperating. Contact your local Extension office for information on disability accommodations or the UMass Extension Director if you have complaints related to discrimination, 413-545-4800.*