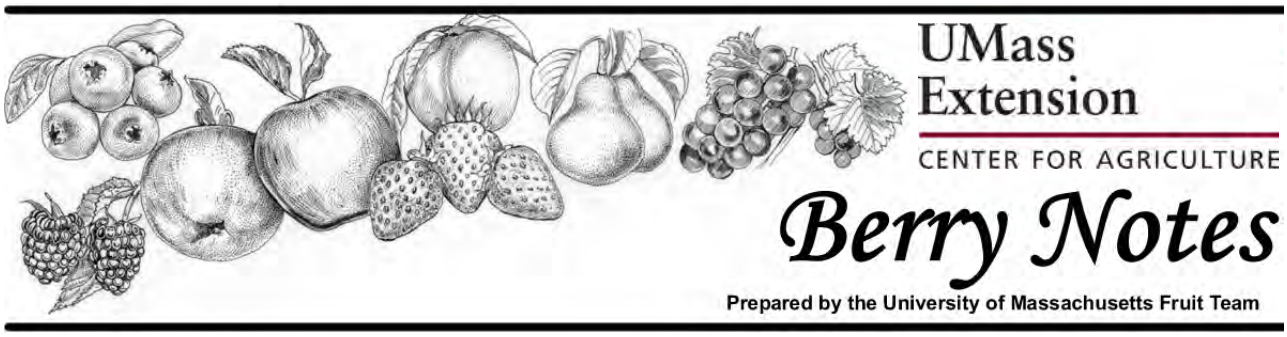

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IN THIS ISSUE:

SHORTS:

Discover the Cover: *Farmers Realize Benefits, Challenges of Soil-Improving Cover Crops* - A growing number of farmers throughout the nation have "discovered the cover"--and for some very good reasons. Read more at: http://www.growingmagazine.com/blog-6326.aspx.

USDA extends deadline for Conservation Stewardship Program to Feb. 7th - The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) has extended the deadline for new enrollments in the Conservation Stewardship Program (CSP) for fiscal year 2014. Farmers and forest-land owners interested in participating in the program can submit applications to NRCS through Feb. 7, 2014. Read more: here.

February 18: Join the Cover Crops and Soil Health Forum – (*Forty locations across the Northeast*) You are invited to attend a free live broadcast of the *National Conference on Cover Crops and Soil Health* and join the discussion about soil health, improved yields, preventing erosion, managing pests, and building resilience in your farming system. In 40 locations across the Northeast, farmers and farm advisors will have an opportunity to learn from one another while exploring local and national perspectives on cover crops. Read more below or click here.

2014 MassAggie Workshop Series lineup announced. Each year the UMass Stockbridge School of Agriculture and the UMass Center for Agriculture offer one or more workshop series on topics of general interest to homeowners and small scale farmers. In the past worshops have been offered in fruit tree grafting, pruning, wildflower identification, and cider making. Click here to see this year's lineup.

CISA workshop series on farm labor is starting January 29th. The workshops are designed to help farmers navigate labor regulations, reduce turnover, and better understand labor costs. Read more here.

STRAWBERRY

Disease Snapshot: Strawberry Leaf Scorch

Kerik Cox, Cornell University

Cause: *Diplocarpon earlianum*

When to watch for it: Year round

First line of defense: Planting resistant cultivars or frequent renewal of susceptible cultivars

Summary: Losses from *D. earlianumcan* range from lightto severe depending on the cultivar chosen, cropping system type, and prevailing weather conditions that season. Symptoms of the disease are most discernible on leaves, and manifest as irregular purple blotches that lack white or gray centers. The color of the lesion center is a feature that separate foliar symptoms from *Mycosphaerella* leaf spot. As the disease progresses infected leaves will dry out, curl at the margins, and appear burnt. *D. earlianumcan* also infect the leaf petioles, sepals, petals stamens, pistils, and fruit. Infections can occur year round, and can continue to develop under snow cover. Severe damage from *D. earlianum* may weaken the plant to the degree that it cannot overwinter. Plants that survive to the next season will have reduced vigor and yield. Resistant cultivars are available, but susceptible cultivars are often favored because of horticultural characteristics. Renewing plantings of susceptible cultivars has shown to prevent severe *D. earlianum* damage because severe damage is only seen on the second and third year of planting. Irrigation systems should be set up to ensure leaves do not remain wet for significant lengths of time because this decreases the incidence of *D. earlianum* infection within the planting. Chemical control may be necessary on susceptible cultivars, and applications of copper or copper tank mixed with thiophanate-methyl fungicide products have shown to provide effective control when conditions are conducive for infection.

***Pictured Here - A**: foliar, fruit, and petiole lesions reduce not only plant vigor but also the value of the crop. **B**: Foliar lesions lack white to gray centers, which distinguishes them from foliar lesions caused by Mycosphaerella leaf spot.*

(***Source**: New York Berry News, Vol. 12, No. 11. January 2014*)

Winter Injury in Strawberry

Richard Marini, Penn State University Extension

Strawberry is an herbaceous perennial plant and it is fairly susceptible to low winter temperatures. An understanding of the cold acclimation process is important to delay mulch application until the plants have acclimated but before plants are exposed to injurious temperatures.

Depending on the variety and time of winter, flower buds may be killed by exposure to 20 degrees F and plants may be killed by 16 degrees F. Fortunately the short stature of the plant allows us to protect plants with mulch or snow.

During the late summer, upon exposure to short days, strawberry plants start to acclimate. A pigment in the leaves, called phytochrome, perceives day length and is responsible for producing compounds that move in the plant to cause the plant to become dormant and to develop some cold tolerance. Short days alone will cause strawberry plants to develop tolerance to about 25 degrees F. Declining non-freezing temperatures will cause further acclimation, but exposure to a frost triggers rapid additional cold tolerance. Characteristics of acclimated plants include leaves with wide angles, so the leaves look flat, and older leaves turn red. Continued exposure to below-freezing temperatures results in maximum cold tolerance and this usually occurs by early December.

Most of the research on strawberry acclimation and low temperature injury has been done with June-bearers. Researchers in Quebec however suggested that day-neutral plants may not respond to day length, but declining autumn temperatures is the primary environmental factor triggering acclimation.

By late January the chilling requirement is satisfied and when the temperatures rise above about 50 degrees F, the plants begin to de-acclimate and lose cold tolerance. When exposed to non-injurious low temperatures, the plants will re-acclimate and regain some of their cold tolerance, but they will not regain maximum levels.

Several factors influence cold tolerance of strawberry. Different varieties vary in their cold tolerance. Northern breeding programs generally select for the ability to survive low temperatures. A study was conducted in Minnesotta (Yao et al. 2009), where 9 varieties from the breeding programs at Kentville, Nova Scotia or Geneva, NY were grown under mulch or with no mulch for two seasons. When mulched, plants were less injured than when not mulched and the variety 'Sable' tended to have better plant survival than the other varieties. In a Canadian study (Gagnon, et., 1990), the June-bearer 'Redcoat' and the day-neutral 'Tristar' were killed at 19 degrees F compared to 20.8 degrees F for the day-neutral 'Hecker'.

Fall fruiting of day-neutral varieties may also influence cold tolerance. Research on day-neutrals in Quebec showed indicated that fall fruiting can suppress the accumulation of nitrogen, starch and total non-structural carbohydrate level in the plants. Fall fruiting also reduced the cold tolerance and plants that were de-blossomed were killed at 21.6 degrees F, whereas plants that fruited continuously all Fall were killed at only 23.2 degrees F.

Injury Prevention

The best way to prevent winter injury is to cover the plants with some type of mulch in the early winter, but it is important to apply adequate amounts of mulch and at the appropriate time. Dr. Bertie Boyce performed several studies to learn about the acclimation process and winter injury in Vermont. In growth chamber studies he found that strawberry plants don't acclimate when defoliated, and light is required for acclimation and the development of cold tolerance. In a field experiment he applied mulch at the rate of 5 tons per acre at 4 different times during the fall for 3 years. In 1984, 1985, and 1986 mulch was applied at approximately 14-day intervals starting in mid-October. The coldest air temperatures recorded during October, before the second mulching date was 24 degrees F, the lowest temperature recorded in early November was 17 degrees F and temperatures of 12 to 16 degrees F were recorded during the second half of November. Average yields (pounds/acre) for the 4 mulching dates were 5,215 (Oct. 1), 11,088 (Oct. 15), 14,434 (Nov. 15), and 14,340 (Dec. 1), so applying mulch before November resulted in reductions in yield of 23 to 65% compared to mid-November. The reason for reduced yields following early mulching is probably due to inadequate light reaching the leaves in induce early acclimation and because plants were not exposed to temperatures low enough to induce development of maximum cold tolerance. It is important to apply mulch after the plants are fully acclimated, which usually occurs in early December, but before the occurrence of temperatures low enough to injure the plants.

In another experiment Boyce and Linde (1986) grew 'Midway' plants in 8"-high raised beds. They used snow making equipment to apply 6" man-made snow as mulch in mid-December for two seasons. They also had treatments that included no mulch or snow, straw mulch, and natural snow. Crown temperatures were recorded at 5:00AM and 2:00PM each day during the winter. Plants with no snow or mulch had the most days with crown temperatures below 23 degrees F and it was the only treatment with crown temperatures below 14 degrees F. Crown temperatures below 23 degrees F were recorded for only 7 and 9 days, respectively for treatments with natural snow or man-made snow. Six inches of snow was a slightly better insulator against low temperatures than straw mulch and man-made snow was as effective as natural snow. Plant survival and yield were related to crown temperatures. They also found that plant survival was better for daughter plants than for the mother plants.

Summary

Strawberries are only moderately able to survive low winter temperatures. The reason strawberries can be successfully grown in the North is because plants are low to the ground and are often covered with snow and can be covered with straw mulch. To ensure high yields, growers should plant varieties that have performed well in their region and plants should be mulched with straw during early winter. (***Source****: Penn State Vegetable and Small Fruit News, Dec. 11, 2013*)

RASPBERRIES/BLACKBERRIES

Raspberry & Blackberry Harvest & Postharvest Handling

Craig Kahlke, Cornell Cooperative Extension, Lake Ontario Fruit Team

Brambles (raspberries and blackberries) are the most delicate of the small fruit we harvest in the Northeast, so special care must be taken in their handling. Since nearly all of the bramble operations in our region are harvested by hand for the fresh market, training pickers becomes extremely important. Prior to harvest, workers should undergo a Good Agricultural Practices (GAPs) training, in which they are instructed on proper hand-washing, personal hygiene, and subsequent harvest of produce with clean hands. They should only take breaks and eat lunch in designated area(s) outside the harvest area, and should not eat or smoke while in the field. Hand-washing is mandatory when returning to the fields to continue harvest. Only potable drinking water should be brought into the picking area. An operation that is strictly pick-your-own (PYO) should provide hand-washing facilities prior to entrance to the field. Signage should also be provided similar to the worker dos and don'ts above.

Workers should be instructed to only pick undamaged berries with good appearance, and harvested fruit should not be exposed to direct sunlight. Finger pressure will damage berries, so observe pickers and train them to pluck brambles delicately. Do not pick the berries when they are wet. One-half pint containers are the traditional size for brambles, and wide, shallow containers are better than deep ones. Overripe berries will crush lower berries in the container if it is too deep.

As most raspberries and blackberries produced in the Northeast are consumed quickly, these operations should harvest fruit as close to peak ripeness as possible. The theory here is that whether PYO or a small roadside stand or farm market, consumers will pick or buy the fruit, promptly refrigerate them, and consume them within 2-3 days. Thus storage life is not a serious consideration, so fruit should be harvested at ornear peak ripeness and flavor. If the operation plans on retailing the fruit to local or regional supermarkets, more care must be taken in harvest, postharvest handling, and stage of fruit at harvest. In this case, fruit may sit a while or suffer a break in the cold chain, reducing storage and shelf-life. Therefore, it is best to harvest fruit slightly under-ripe. These brambles will be firmer and consequently hold up better in the long-term, with some sacrifice of flavor. 31-34°F is ideal. Pallets of fruit should be transported in refrigerated trucks leaving space for cold air movement along the walls, floor, and ceiling. If berries are covered with plastic, berries should be allowed to warm only when they are ready to display to customers, allowing condensation buildup on the outside of the plastic wrap.

Whichever the type of operation, berries will likely need to be harvested at least every other day. Regardless of the final market destination, brambles will have longer storage and shelf-life if they are harvested early in the morning and promptly cooled. Early in the day there is less heat buildup in the fruit and they will cool quicker than fruit harvested at mid-day. Retail growers may want to consider setting up an inexpensive forced-air cooling system to more rapidly remove field heat from your fruit and therefore cool them much faster than traditional passive cooling. For more information on forced-air cooling, see the article "Forced-air Cooling to Improve Berry Quality & Shelf-life" in the May 21, 2010 (Volume 10, Issue 13) article of Fruit Notes. This article is also in the New York Berry News, June 10, 2010 (Volume 9, Number 6) that can be found online at http://www.fruit.cornell.edu/nybn/archives.html.
Brambles picked early in the day, rapidly cooled, and kept in a cold chain can expect to have a maximum storage life of 5 days in our region.

Resources:
Raspberry & Blackberry Production Guide for the Northeast, Midwest, and Eastern Canada, NRAES-35. 2008.

(***Source**: Cornell Capital District Veg & Small Fruit Program Blog, Jan 9, 2014*)

Raspberry & Blackberry Varieties for New Hampshire Growers

Becky Sideman, UNH

This list was developed to help growers select among the many raspberry and blackberry varieties available. Growers in Northern areas should prioritize winter hardiness. We have indicated varieties that have been used widely for commercial plantings in New Hampshire, those that should be grown on a trial basis, and those best suited for home production. Information is not available for all varieties, particularly newer releases. Remember that flavor and preferences vary, and for any new planting, multiple varieties should be selected to increase the likelihood of success in your specific location.

		Variety	Hardiness	Flavor	Harvest Time	Pros	Cons
RED RASPBERRIES	RED	Algonquin	3	H	M/L	Yields, large fruit, firm	Not hardy
		[a]Boyne	5	F	E	Very hardy, good yields	Fair flavor, dark and soft fruit
		Canby	3	E	M	Nearly thornless, flavor	Not hardy
		[b]Encore	5	VG	L	Good quality, large fruit	
		K81-6	4	-	L	Large, firm fruit	History of winterkill in NH
		[a]Killarney	5	VG	E	Flavor, very hardy	Suscept. to mildew, anthracnose
		Latham	5	F	M	Very hardy, vigorous plants	Crumbly, fair flavor
		Lauren	3	G	-	Large fruit, good quality	Not hardy
		[a]Nova	5	G	M	Few thorns, hardy	Acidic fruits
		[b]Prelude	5	G	VE	Very early crop, very hardy	
		Taylor	4	E	L	Excellent flavor, color, firm	Disease susceptible, semi-hardy
		Titan	3	F	M/L		Disease susceptible, semi-hardy
	FALL-REDS	Polana	F	F	E	Early ripening, productive	Misshapen fruit, fair flavor
		[c]Fall Red	F	VG	E	Flavor, good for short seasons	Soft fruit, spiny
		[a]Autumn Britten	F	VG	E/M	High quality fruit	
		Redwing	F	G	M/L	Large, earlier than Heritage	Soft fruit, not vigorous
		[a]Caroline	F	G	M/L	Vigorous plants, productive	Rough-shaped fruit
		[a]Heritage	F	G	VL	High yields, good flavor	Late, need long season
		[b]Prelude	F	G	L	Late crops on first year canes	
		Autumn Bliss	F	E	E	Flavor, early fruiting, productive	
RASPBERRIES-OTHER	YELLOW	[a]Anne	F	E	VL		Brittle canes, very late
		[c]Fall Gold	F	VG	M/L	Vigorous, flavor	Soft, poor for freezing
		Kiwigold	F	G	VL		Very late
		Goldie	F	-	VL		Very late
		Golden Harvest	F	-	-		
	PURPLE	Brandywine	3	G	L	Excellent for jam	Tart fruit, crown gall susceptible
		[b]Royalty	3	VG	L	Excellent flavor, productive	Soft fruit, crown gall susceptible
		[a]Success	4	G	M/L	Hardiest purple, yields	Not vigorous
	BLACK	[a]Jewel	3	VG	M	Disease resistant, flavor	
		MacBlack		G	-		
		Haute	2	VG	E	Productive, flavor	May not be hardy
		Black Knight	F	-	-	Can be pruned for fall fruiting	
		Bristol	2	VG	E		May not be hardy
		Allen	2	F	E/M	Attractive fruit	Only moderately hardy
		[b]Black Hawk	3	VG	-	Relatively hardy	
BLACKBERRIES		[a]Illini	4	VG	-	Moderately hardy	
		[a]Darrow	3	VG	-	Moderately hardy	
		[b]Prime Jim	F	F	VL	Primocane-fruiting	Fair flavor
		[b]Prime Jan	F	F	VL	Primocane-fruiting	Fair flavor
		[b]Chester	1	G	L	Quality fruit, vigorous	Hard to pick, not hardy
		[b]Triple Crown	1	VG	M/L	Quality fruit, vigorous	Need winter protection

a Suitable for commercial growers	HARDINESS (1-5, low-high)
b suitable for trial	HARVEST (E-early, M-mid, L-late, VL-very late)
c suitable for home gardeners	FLAVOR (1-5, weak-excellent), - data not available

Information has been compiled from many sources including Cooperative Extension publications and specialists' expertise, research studies, and nurseries. For more information, please contact your local UNH Cooperative Extension Educator. (***Source**: UNH Fruit and Vegetable Fact Sheets and Research Reports:* http://extension.unh.edu/Agric/FactSheetsandResearchReports.htm

SWD and Blueberry Varieties for Organic Production

Cathy Heidenreich, Cornell University and Kathy Demchak, The Pennsylvania State University

Q: We were really hit hard with SWD on our organic blueberries...everything harvested after mid-August was affected. We're planting more blueberry plants in 2014, and I need to order now. Are there varieties or other considerations I should make in choosing varieties in terms of managing SWD?

A: Note that the timing and extent of SWD infestations will vary depending on location and spray programs. However, for all growers considering planting blueberries (and actually, this applies to any mid to late summer berry crop), it makes sense to utilize varieties that ripen before SWD numbers soar. This way you can hopefully avoid SWD issues for at least a portion of the harvest period.

We were interested in different people's thoughts on early and early-midseason varieties, so we had a little conversation via email. Dr. Eric Hanson (Michigan State University) had these top picks:

Early season: Earliblue (not good for frost pockets), Reka, Duke, and Patriot.

Early-mid season: Draper, Huron, Bluecrop (in order of fruiting) and possibly Blue Ribbon, a new introduction from Fall Creek.

Kathy Demchak added these thoughts:

When we grew Reka, it was productive, but the berry size was really tiny on 2 of our 4 plants and overall, berry size tended to be smaller. Maybe that was just its tendency to overcrop and we should have pruned differently. Birds also seemed to prefer Reka, maybe because the berries were bite-size for a bird, or maybe they just liked the flavor better. Mark Ehlenfeldt recommended it for our blueberry school last year.

I personally found Duke to be too lacking in flavor, but feel pretty good about Patriot and Bluecrop. You'd need at least one or two SWD sprays to make it through harvest on Bluecrop. When we incubated Bluecrop berries from our research plots starting during the second week of harvest in 2013 (note that this is without any sprays), we found 0 SWD per berry on July 18, then 0.08 per berry on July 24, increasing to 0.98 per berry on July31. This backs up what the grower mentioned –that anything from mid-August on was pretty well infested. The date when heavy infestation is noticed will likely be earlier the further South you go.

So then we floated the question past Mark Ehlenfeldt, USDA-ARS blueberry breeder, who was a wealth of information, which follows:

Breeders are always hesitant to give an unequivocal answer, because we know there is no perfect variety, and a lot depends on the locale and the grower. That being said, here are some useful thoughts (hopefully) followed by the descriptions. Expanded versions of the info in italics below can be found in the Mid-Atlantic Berry Guide

Duke - For more northern climates like ours, Duke has the most proven productivity record. Duke's major downside is its mild flavor. Duke's flavor improves after a day or two in storage, but will never be a "wow" berry. Nonetheless, there are people who like the mild flavor of Duke and its crispness. Berry Guide comments: Duke is vigorous and blooms late, avoiding early frosts, but ripens relatively early. It starts producing quickly after planting. Harvest can be completed in two or three pickings. Duke is moderately resistant to anthracnose; has good resistance to mummy blight (primary shoot infection); and is moderately susceptible to mummy berry fruit infection. Stem blight problems have also been documented.

Draper - Draper is an offspring of Duke and is not as early ripening, but has better flavor. I haven't seen any fully-mature fields of Draper in NJ, but the young ones look pretty good and will probably have good productivity. Some of our disease screening studies have suggested Draper is susceptible to mummy berry blight, but field performance may be better than the screening results which were done with high levels of inoculum Timing factors also come into play with blight infection, but I would still assume it's less resistant than Duke. (As a side note, we've had very little mummy berry in NJ for about the last 5 years, although this spring there was a bit of a rebound with the cool wet weather). There are easy cultural practices for organic growers to control mummy berry, as long as there isn't uncontrollable outside inoculum (i.e. wooded areas with mummy berry). Mid-Atlantic Berry Guide comments: Released in 2004 from the breeding program at Michigan State. Ripens slightly later than Duke, but with better flavor. Relatively susceptible to mummy berry blight.

Reka - I did mention Reka as a "best bet" as Kathy stated, and I stand by that recommendation. Reka does have a tendency to crop heavily and fruit size can be small as a result. Thus, it becomes a cultivar that needs to be managed more aggressively. Fruit area bit dark, and the flavor, to me, is just average, but it grows well in many places and has "average" to "better than average" disease resistances. *Berry Guide comments: From New Zealand. Upright, very vigorous habit that has been very productive where grown. Berries are small and deep blue with a spicy flavor. Average resistance to anthracnose, relatively resistant to both phases of mummy berry*.

Now for a few others:

Bluetta - I have occasionally seen really nice plots of Bluetta. The fruit was at a perfect stage of development and was firm, beautiful, and flavorful. It made me see why someone released it originally. Even now, I think it may be the earliest-ripening blueberry. Its downsides are included in the comments below. *Mid-Atlantic Berry Guide comments: Bluetta -Bush is compact, low growing, and of medium vigor. Fruit is medium-sized, soft, and blue-black with fair flavor. Consistent production may be a problem. Moderately resistant to mummy berry disease; highly susceptible to anthracnose and red ringspot virus.*

Hannah's Choice - Hannah's Choice is a variety with significant potential, and delicious fruit, but performs variably in different locales. A nice variety if it can be grown reliably. *Mid-Atlantic Berry Guide comments: Fruit has superior firmness, sweetness, and flavor with peachy overtones. Large first-pick berries, with some size decrease in later picks. Relatively resistant to anthracnose; average resistance to both phases of mummy berry. Less productive in some areas than others.*

Sweetheart - Sweetheart is an early variety, with perhaps the best flavor in early-season fruit, but needs to develop a large plant before yielding ability is fully apparent. Many people will probably judge this plant too early and dismiss it. Even after it "sizes-up" it will need good management to keep fruit size up. It's too early to know if it performs equally well in all locales. *Mid-Atlantic Berry Guide comments: A new productive variety with excellent flavor that holds up in storage. Can overcrop. Cross-pollinate and prune assertively to maintain fruit size. Not precocious like Duke.*

Bluejay - Bluejay is early-ripening, and is one of our standards for mummy berry resistance. It's another variety that would be excellent if one could get it to produce consistently. But we don't see that consistency here in NJ.

Spartan - Some growers here in NJ grow modest amounts of Spartan as an early variety that tastes better than Duke. For me, it hasn't grown very well, nor been very productive, probably due to soil issues, and it doesn't do very well on amended upland soils.

And finally ...

Huron - We only have some small plants, so I haven't been able to judge them very much. Below are a few notes from the plant patent (with my highlights and comments). The patent gives no indications as to disease resistance.

*"It is **exceptionally late flowering** and was one of the few early to mid-season genotypes to survive a late frost in the mid-1990s. 'Huron' also has **excellent winter hardiness**, as it has routinely been challenged with mid-winter temperatures below -20 C."*

*"In the trials conducted in Michigan at Grand Junction, 'Huron' was consistently one of the top rated advanced selections. It had among the **highest fruit load** of any of the early to midseason cultivars and the best flavor. The average date of first harvest was **5d before 'Draper' and 6d after 'Duke'**. The fruit of 'Huron' was slightly softer than 'Draper' and much firmer than Bluecrop'. 'Huron's' fruit were smaller than 'Draper', but larger than 'Duke' and 'Bluecrop'. Its fruit color was similar to 'Duke', but a little darker than 'Bluecrop' and 'Draper'. 'Huron' fruit had a storage life as long as 'Draper', which was several weeks longer than 'Duke' and 'Bluecrop'. 'Huron' had the second highest levels of soluble solids next to 'Draper' and the second lowest acidity next to 'Duke'."*

*"Blueberry growers in Michigan and the cooler production regions across the USA, Europe, and Canada will find 'Huron' desirable as a new early northern highbush variety. However, some fruit **pedicels of 'Huron' fruit remain attached in very hot weather**. The fruit of 'Huron' also **develops sugar slowly and if picked too early can be very tart**. In addition, the fruit clusters of 'Huron' are relatively tight, which may reduce picking efficiency."*

Mark's bottom line (mostly on consistency and productivity):

Top picks (still): Duke, Draper, and Reka.

Wild cards: Hannah's Choice, Sweetheart, Huron, and Bluejay.

Bottom picks (for me): Spartan and Bluetta

(***Source**: New York Berry News, Vol. 12, No. 11. January 2014*)

GRAPE

Assessing and Managing Winter Injury of Grapevines

Imed Dami, PhD , OARDC, The Ohio State University

1) How to assess winter injury:

- Evaluate bud mortality: best if done immediately before pruning.
- Collect at least 100 buds from each variety.
- Samples should represent buds that you normally retain during pruning.
- Conduct separate sampling of the same variety if it is grown in separate and distinct blocks (e.g. one block is high and one is low in elevation of the same variety).
- Keep cane samples warm at room temperature for 1-2 days.
- Cut the buds with a sharp razor blade.
- Record the number of dead (brown or black appearance) primary buds and the total number of buds observed (in this case 100). Some growers record the status of secondary buds, but it is not required. Calculate the percent (%) of dead primary buds.

2) Pruning adjustment following winter injury:

- Use the following guidelines to adjust the number of buds to retain during pruning (we assume in this example that vines are normally pruned to 30 buds per vine):

% Primary bud injury	Recommendation	Example
0 to 20	Do not adjust pruning; prune normally.	Prune to 30 buds per vine.
20 to 75	Add equivalent number of buds based on following formula: Adjusted bud number (ABN) = normal bud number/(1- % primary bud injury)	If 50% bud injury, then ABN = 30/(1-0.5) = 60. Prune to 60 (i.e. double) buds per vine.
75 to 100	Do not prune. Vascular system (phloem, cambium, and xylem) of canes and/or trunk is likely damaged. Wait until after bud burst (Mid-May to June) to assess extent of trunk injury. Adjust cultural practices as described in section below.	a) At 75% bud injury, trunk vascular system may recover and low to moderate crop is possible. b) At 100% bud injury, no crop, die-back and weak growth are expected; trunks need to be removed and multiple suckers trained.

3) Other cultural practices adjustment following winter injury:

- With moderate damage, normal cultural practices (fertilization, pest control, canopy management) are followed.
- With severe injury (75-100%), dead trunks need removal and multiple suckers trained. Focus on slowing growth and maximizing winter hardiness by reducing or eliminating fertilization and protect suckers from late season mildew.

(***Source***: *Ohio Grape-Wine Electronic Newsletter, January 17, 2014*)

GENERAL INFORMATION

Join in a National Cover Crop and Soil Health Conversation on Feb. 18th.

Diane Baedeker Petit, MA NRCS

You are invited to attend a free, live broadcast of the SARE-sponsored "Forum on Cover Crops and Soil Health: Harvesting the Potential" on **Tuesday, February 18th**. Join the conversation at one of four Massachusetts locations, which are among nearly 200 *locations* nationwide hosted by the USDA Natural

Resource Conservation Service (NRCS) and Cooperative Extension.

Each forum will feature a live-streamed video broadcast of the opening sessions of the National Conference on Cover Crops and Soil Health in Omaha, Nebraska. The broadcast will begin at **10:00 am EST**. Registration begins at **9:15 am** and local welcoming remarks at **9:45 am**.

Following the broadcast, discuss with fellow forum participants how cover cropping can build soil health, improve yields, curb erosion, manage pests and build resilience into your farming system. The forums are open to anyone who would like to hear about and discuss the prospects for cover crops and soil health improvements on American farms and ranches. The program concludes at 12:00 noon.

Please RSVP to Tom Akin, USDA-NRCS at 413-253-4365 or thomas.akin@ma.usda.govby close of business, Friday February 14th to help us plan accordingly. If you need special accommodations, please let us know. The program is free.

The broadcast from Omaha will feature:

- Howard G. Buffett, Howard G. Buffett Foundation
- Tom Vilsack, Secretary of Agriculture (invited)
- Ray Gaesser, American Soybean Association president
- A panel of expert producer conservationists:
  - Dave Brandt (Ohio)
  - Gabe Brown (North Dakota)
  - Dan DeSutter (Indiana)
  - Clay Mitchell (Iowa)

The post-broadcast program will include a presentation by local soil health experts and discussion open to all participants.

Massachusetts forum locations:

UMass-Amherst Fernald Hall, Rm 11 270 Stockbridge Rd. Amherst MA 01003 Moderators: Sonia Schloemann, UMass Extension and Vince Snyder, USDA-NRCS

UMass Cranberry Experiment Station 1 State Bog Rd East Wareham, MA 02538 Moderators: Deb Cannon, UMass Extension and Lisa Petruski, USDA-NRCS

Doyle Center, The Trustees of Reservations 464 Abbott Avenue Leominster, MA 01453 Moderators: Mary Johnson, The Trustees of Reservations and Dan Lenthall, USDA-NRCS

Brigham Hill Community Farm 37 Wheeler Rd North Grafton, MA 01536 Moderators: Katie Campbell-Nelson, UMass Extension and Tom Akin, USDA-NRCS

This forum is being jointly funded by the USDA-NIFA Sustainable Agriculture Research and Education (SARE) program and the Howard G. Buffett Foundation. The program has been planned by a diverse committee of cover crop and soil health experts, including representatives of USDA-NRCS and the Midwest Cover Crops Council. Logistics for the conference are being handled by the Soil and Water Conservation Society.

UPCOMING MEETINGS:

January 27, 2014 – *Vt. Vegetable and Berry Growers Assoc. Annual Meeting*. 8:30 – 3:00. Capitol Plaza, 100 State St., Montpelier VT. For more information or to register, go to: http://www.uvm.edu/vtvegandberry/meetings/VVBGAMontpelier14.pdf. .

January 27, 2014 – *SEMAP Annual Winter Networking Meeting*, 3:00 – 6:30, Simpson Spring: 719 Washington St., South Easton, MA. For more information see: http://semaponline.org

January 28-30, 2014. *Mid-Atlantic Fruit and Vegetable Convention* ***and*** *North American Raspberry and Blackberry. Growers Association Annual Meeting*. Hershey, PA. More information: http://www.raspberryblackberry.com/.

January 29, 2014 – UNH Small Family Farm Conference; Funding your Farm Business. 8:30-3:30. Holiday Inn, 172 Main St. Concord NH. For more information Contact Mike Sciabarrasi at 603-862-3234 or mike.sciabarrasi@unh.edu or go to: http://extension.unh.edu/events/index.cfm?e=app.event&event_id=36322.

February 1, 2014 - *New England Vegetable & Berry Growers' Association Winter Meeting.* 9:30 – 4:00. Hudson Lodge of Elks, 99 Park St., Hudson MA. Pesticide License recertification credit offered. For more information see: http://nevbga.org. To register, contact John Howell at Howell@umext.umass.edu.

February 1, 2014 – *12th Annual NOFA-NH Winter Conference*. 7:30AM -5:00PM. Rundlett Middle School, South St. Concord NH. For more information go to: http://nofanh.org/events/winter-conference/.

February 5-8, 2014 – *The Pennsylvania Association for Sustainable Agriculture (PASA) 23rd Annual Farming for the Future Conference,* Penn Stater Conference Center Hotel in State College, Pa. To register, and to view a full schedule of conference programming, visit pasafarming.org/conference.

February 10, 2014 – *Harmonized Good Agricultural Practices (GAP) Training Program.* 10-4. Massachusetts Farm Bureau Offices, 249 Lakeside Dr., Marlboro, MA. For more information and to register go to: https://extension.umass.edu/vegetable/events/harmonized-good-agricultural-practices-gap-training-program-0.

February 11, 2014 – *Massachusetts Farm Winery & Growers' Association Winter Meeting.* 8:30 – 4:00. The Publick House, 277 Main St. Sturbridge, MA. For more information or to register, contact Kim LaFleur at masswinery@gmail.com.

February 15-17, 2014 – *NOFA-VT Winter Conference*. University of Vermont, Burlington VT. For more information, see http://nofavt.org/annual-events/winter-conference.

February 18-19, 2014 – *Ontario Berry Growers Association – Ontario Fruit and Vegetable Convention*, Embassy Suites, Niagara Falls. For more information and registration, go to: http://www.ofvc.ca.

March 22, 2014 – *SEMAP Ag and Food Conference.* GNB Voc Tech Hich School, 1121 Ashley Blvd., New Bedford MA For more information and to register, go to: http://events.r20.constantcontact.com/register/event?oeidk=a07e8nej2rff911f897&llr=jp7zj6bab

June 18-25, 2015 – *11th International Rubus & Ribes Symposium* , in Asheville, NC, June 21-25, with preconference tour to farms and research sites June 18-20. More info to come. If you are interested in being a sponsor of this event, contact gina_fernandez@ncsu.edu.
