

MASSACHUSETTS BERRY NOTES

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Message from the Editor:

New England Vegetable & Berry Growers Assoc. Cost Sharing Program for Farm Advertising: The New England Vegetable and Berry Growers Association has received a \$15,000 advertising grant from the Massachusetts Department of Food and Agriculture as part of a Specialty Crops grant program from the USDA. Advertising cost sharing of 50% will be provided with a maximum of \$500 per grower for newspaper ads placed from June through October.

Applicants must be Regular members of the NEV&BGA from Massachusetts. Ads must feature the „Massachusetts Grown and Fresher‰ logo on at least 20% of the ad space and must be for Massachusetts-grown fruits or vegetables.

For further information on the program or for an application to join the NEV&BGA contact Dominic Marini, Secretary, NEVBGA, 233 Union St., East Bridgewater MA 02333, or phone (508) 378-2546.

CROP CONDITIONS

Strawberries are in early bloom in most areas of the state. Many growers have found that their fields suffered some damage from the cold period at the end of April; flowers are opening with black centers. Strawberries that were under row covers or in high tunnels are beginning to have ripe fruit. Fruit rot management begins during bloom. An early bloom fungicide application is important especially when conditions are wet from rain or frost protection. Scouting fields for two-spotted spider mites, strawberry clipper and tarnished plant bug is an important activity now. Remember not to spray insecticides during bloom. **Highbush blueberries** are in bloom across the state. Protecting against the blossom blight infections of mummyberry will be important, especially if wet weather persists. Existing stocks of Benlate can still be used for this purpose. The first fertilizer applications should be put on during bloom with the second applied about 1 month later. Mature blueberry plantings should receive a total of 65 lbs. of nitrogen in this split application. Growers should place Cranberry Fruit Worm traps out now. **Raspberries** are in early pre-bloom. Growers should be prepared for Anthracnose, Spur blight, and Cane blight management when new canes are 6-8 inches tall and again when they are 12-15 inches tall. Keep an eye out for strawberry clipper damage in expanding raspberry flower clusters and for leaf feeding by raspberry fruitworm. **Grape** Rain will activate disease inoculum of black rot, powdery and downy mildews, and phomopsis. Keep and eye out for flea beetle damage to new foliage. Also, check under the bark of trunks and canes for evidence of mealy bug.

ENVIRONMENTAL DATA

This information is intended to be used as a guide for monitoring the developmental stages and planning management strategies of pests in your location. Growing degree day (GDD) and precipitation data was collected for the one-week period, May 2 through May 9, 2002. Soil temperature and phenological indicators were observed on May 9, 2002.

Region/Location	Growing Degree Days		Soil Temp (4" depth)	Accum. Precip
	1 Month Gain	Total		
Cape Cod: Barnstable	34	150	54° F	0.80"
Eastern: Hanson	43	197	62° F	0.95"
Waltham	64	284	60° F	0.57"
Central: Boylston	33	154	50° F	0.56"
Western: Amherst	47	230	50° F	0.45"
Great Barrington	46	222	56° F	0.49"

(Source: UMass Extension Landscape Message #10, May 10, 2002)

STATE WEATHER SUMMARY For the Week Ending Sunday, May 12, 2002

Prepared by AWIS, Inc. (available at <http://www.nass.usda.gov/weather/cpcurr/new-eng-crop-weather>)

STATE	AIR TEMPERATURES			PRECIPITATION		
	LO	HI	AVG	DFN	LO	HI
ME	20	81	52	+3	0.00	1.18
NH	13	84	54	+3	0.04	0.52
VT	24	83	53	+3	0.00	0.74
MA	35	83	58	+5	0.00	0.36
RI	40	78	58	+5	0.06	0.23
CT	38	81	59	+4	0.02	0.22

(Source: New England Ag. Statistics Service, Weekly Crop Weather Report, Volume 22, No. 3, May 13, 2002;)

Strawberry Update

Sonia Schloemann, UMass Extension

General: Scouting for two-spotted mite (TSSM), tarnished plant bug adults (TPB) and clipper begins now. TSSM can be especially abundant where row covers were used. So far, TPB have been found in moderate to low numbers in strawberry fields and apple orchards. However, populations may jump suddenly, especially in warm, sunny spells. Damage is most significant just after petal-fall. Clipper weevils are moving into fields from hedge rows, so check plants near the edges by looking for shot-holes in open flower petals and clipped or flagging unopened flower buds or by carefully pulling apart unexpanded flower clusters on late varieties and checking for live weevils inside.

Tarnished Plant Bug: Sticky traps can be used to monitor for tarnished plant bug (TPB) adults. Nymphs hatch within the 7 - 10 days of significant adult activity when daytime temperatures are above 60°. When bloom approaches, we sample for the immature stage (nymph) of this insect by shaking flower clusters. In the past, we used an action threshold for TPB nymphs of an average of 0.25 nymphs per flower cluster or greater than 4 infested clusters out of 30 sampled. The latter threshold allows you to simply note presence or absence of TPB

nymphs in a cluster rather than counting them. To save time, a sequential sampling plan may be used to determine how many clusters should be sampled. By using **Table 1** below, you can make a spray/no spray/keep looking decision by first examining a minimum of 15 clusters. If you find 0 TPB nymphs, you can stop and make a "no spray" decision. If you find more than 0 but less than 3, (or, between 1 and 5 if you are using a high threshold) you must continue sampling. If you find 3 or more TPB nymphs, control is required in order to avoid economic damage to your crop. If the maximum of 50 flower clusters are sampled and no decision is indicated, the grower should sample again in 1 or 2 days. This method allows scouts to spend less time monitoring in fields where populations are very low, or very high. More time is spent sampling fields where TPB populations are close to the threshold. Controlling weeds in and around the planting may reduce populations of this insect, but insecticide sprays may be necessary. If mowing around fields, do so after insecticides have been applied (to control migrating insects). Avoid planting strawberries near alfalfa which attracts high populations of TPB.

Table 1. Monitoring for Tarnished Plant bug in Strawberry

Number of Clusters Examined	Number of Flower Clusters Infested			
	Control not required	Keep sampling	Control required	
			Low threshold*	High threshold**
15	0	0 to 3; check 5 more	3 or more	5 or more
20	0	0 to 4; check 5 more	4 or more	5 or more
25	1 or less	1 to 4; check 5 more	4 or more	6 or more
30	2 or less	2 to 4; check 5 more	4 or more	7 or more
35	3 or less	3 to 5; check 5 more	5 or more	7 or more
40	3 or less	3 to 5; check 5 more	5 or more	8 or more
45	4 or less	4 to 6; check 5 more	6 or more	9 or more
50	5 or less	5 to 6; check 5 more	6 or more	9 or more

*0.15 nymphs/cluster = 2% damage; **Primarily for processing fruit, 0.25 nymphs/cluster = 4% damage

(Source: N. J. Bostanian, Agriculture and Agri-Food Canada, St. Jean-sur-Richelieu, P. Q. Courtesy Pam Fisher, Ontario Ministry of Food and Ag.)

Two-spotted spider mites: Two-spotted spider mites (TSSM) are active and building up already. Mites should be monitored weekly by sampling the field in 5-10 locations. Five to ten leaves should be sampled at each location for a total of 60 leaves. Examine the underside of the leaves for the presence or absence of TSSM. Record the information on a field map so that "hot spots" can be identified and treated. A miticide application is recommended if 25% or more of a 60 leaf sample is infested with TSSM.

Natural predators exist which feed on two-spotted spider mites. One such predator, also a mite (*Neoseiulus fallacis*), is native to the northeast and often maintains TSSM populations at non-damaging levels. It is equally small but lacks the two spots on its back, is teardrop shaped, shiny, and pale yellow in color. They are also easily distinguished from TSSM by their rapid movement across a leaf in search of prey; (they resemble bumper cars moving forward and backward as they search for food). When sampling a field, presence of predators as well as TSSM should be noted.

Relying solely on the release of commercially reared mites is not recommended since natural populations of *N. fallacis* are pervasive. It is important to encourage natural enemies of spider mites by reducing the use of broad-spectrum pesticides (especially carbamate and pyrethroid insecticides) which harm natural enemies.

One strategy that has worked exceptionally well has been the early-season use of 1% oil with a mist blower. This inexpensive treatment is highly selective: it kills TSSM, but not predatory mites. The resulting imbalance between predators and TSSM allows predators to "mop-up" the remaining TSSM. Please note that oil-incompatible pesticides should not be applied prior to the oil spray.

Strawberry Bud Weevil or Clipper: Clipper monitoring can be started as soon as the flower clusters are visible in the crowns of the plant. The weevils will sometimes crawl in among the unopened buds for shelter. They are most likely to be in rows near woods or hedgerows. Later, look for shot-holes in opened flower petals and/or clipped buds of unopened flowers. In the past, the IPM action threshold for this insect is 1 clipped bud per 2 ft. of row or one live adult. Research done in recent years suggests that many more clipped buds can be tolerated without significant yield loss. A comparison of old and new sampling methods done by researchers at Cornell University (Hortscience 34 (1): 109-111. 1999) can be seen in **Table 2** below. Sample at least 5 locations in the field. If you determine that the infestation is limited to the edge of a field, you may only need to spray the border rows. If you see evidence of clipper and determine a spray application is necessary, follow recommendations for materials and timing in the strawberry pest management schedule.

Table 2. Revision to monitoring procedure for strawberry bud weevil (clipper).

	Old Method	New Method	New Method
Unit Examined	Flower buds	Flower Clusters	Flower buds
Assessment	Clipped buds or Not clipped	Cluster highly damaged* or Cluster with low amounts of damage	Clipped buds or Not clipped
Threshold	2 clipped buds/m	3 highly damaged clusters/m	3 clipped 1• buds/m or 30 clipped 2• or 3• buds/m

*highly damaged=1 clipped primary (1•) bud, or 2 clipped secondary (2•) bud, or 3 clipped tertiary (3•) buds

Courtesy Pam Fisher, Ontario Ministry of Food and Agriculture

New Plantings: Where traditional matted row planting systems are used, strawberries are already in the ground or soon will be. When planting, be sure to check planting depth frequently and make adjustments to your planter as needed. Follow up with nitrogen fertilization

once a month until September. Apply 20 - 30 lbs of nitrogen (depending on your soil conditions) at each application. Herbicides can be applied once the soil has settled and should be watered in after application.

Brambles

Raspberry Update

Sonia Schloemann, UMass Extension

As mentioned in the beginning of this message, summer raspberries are at early pre-bloom, depending on variety and location. Growers should watch for evidence of leaf shredding on the newest leaves done by the adult form of the raspberry fruitworm. This small brown beetle later lays an egg which will hatch a small 'worm' that lives inside the raspberry fruit. Clean this insect up before bloom prevents the use of insecticides. Growers should also be scouting for cane borer adults by visually inspecting canes for live adults or puncture wounds, tarnished plant bug adults using visual inspections or white sticky traps, and two-spotted spider mites by looking at the under-side of the leaves in the lower 1/3 of the canes. See below for more information on cane borers.

Cane Borers - two types of cane borers attack Raspberries. The *raspberry cane borer* is a 1/2" long, slender black beetle with an orange band just below the head and has long antennae. The female beetles girdle the tips of young raspberry canes by chewing two rings, about a half inch apart, around the stems about 3 to 6" below the top. An egg is inserted into the cane between the two girdled rings. When the larvae, or grubs, emerge, they feed inside the cane, tunneling downward, and

eventually destroying the cane. Soon after the cane tips are girdled, they wilt, blacken, and may fall off.

As soon as the wilted tips are noticed, they should be cut off, several inches below the lowest girdle mark. Remove the infested tips from the field and destroy them. Also eliminate any wild brambles near the field which may be harboring this pest.

The *red necked cane borer* is 1/4" long, slender, and black with a "coppery" neck. Unlike the raspberry cane borer, it has short antennae. The red necked cane borer also causes a different sort of damage. The females insert an egg into young canes, usually within 10" of the base of the cane. They do not girdle the cane, but the presence of the egg, and later the grub, causes a swelling in the cane which can vary in length from 1/2" to nearly 3". These canes become weakened and may break off.

Remove all canes which show the swelling and destroy them, and eliminate any wild brambles nearby which act as hosts for this pest. Insecticide sprays can be applied for adult cane borers just before bloom, but regular removal of the infected canes and elimination of wild brambles often provides adequate control. See pest management schedule for recommended materials and timing.

Blueberries

Blueberry Update

Sonia Schloemann, UMass Extension

The main concerns at this time of year are 1) second stage (blossom blight) mummyberry control, 2) Anthracnose and Botrytis control, and 3) cranberry fruitworm (CFW) monitoring and control. Dry weather has stalled the development of most of these disease problems. However, forecasts are for a showery periods over the next week. A Captan®/Benlate® application can be made for protecting blossoms from the secondary infections of *Monolinia vaccinii-corymbosi*, mummyberry. This application will also control Anthracnose and Botrytis. Ziram is another possibility, especially for controlling Anthracnose (See article below). Traps are available for the adult moths of cranberry fruit worm or visual inspections of the flower clusters for newly deposited eggs on the calyx end of developing fruit. CFW are active for about 5 weeks and they cannot be controlled with only one post-pollination spray.

Other considerations:

- Fertilizer may be applied as a split between bloom and one month later.
- Dormant plants should be planted as soon as possible. Avoid planting after mid May. Dr. Gary Pavlis recommends rubbing off the flower buds for the first two years after planting so that the plants can put their energy into sizing up the bushes.
- Make arrangements for pollination. While blueberries are self-fruitful, but cross pollination increases the size of the fruit. Pollinators are needed for this cross pollination. Different varieties vary in their attractiveness to bees and therefore require either more or fewer hives per acre to successfully pollinate them. Bumblebees are better pollinators for blueberries but are more expensive to get. Call me for more information on numbers of bee hives needed for good pollination.

Grapes

Important Grape Sprays

Bruce Bordelon, Purdue University.

Grapes will be starting to bloom in the southern part of the state over the next two weeks so growers should be aware that the next few fungicide applications are very important for controlling the major fruit pathogens. So far, this has been a fairly wet year so disease pressure should be high. Early sprays generally contain an economical broad-spectrum material such as Mancozeb or Captan. The 10-inch shoot spray is probably the first one where black rot control is needed, so addition of one of the sterol inhibitors (Nova, Elite, Rubigan, etc.) is recommended, especially if black rot was a problem in the block last year. The immediate pre-bloom (or early bloom) and the first post bloom applications are the most important sprays for controlling the major grape diseases.

Care should be taken to get thorough coverage of all foliage and developing fruit.

Slow the tractor speed, spray every row middle, increase volume, and use full label rates. This would be a good time to use one of the new strobilurin fungicides such as Abound or Sovran. On bunch rot susceptible varieties, addition of a botryocide such as Rovral, Vangard, or Elevate may be beneficial. For a complete discussion of grape pest management refer to the Commercial Small Fruit and Grape Spray Guide (<http://www.hort.purdue.edu/hort/ext/sfg/>) and the Midwest Small Fruit Pest Management Handbook (<http://www.ag.ohio-state.edu/~sfgnet/>). (*Source: Facts for Fancy Fruit 2002-05 May 8, 2002*)

Crop Load Adjustment in Grapes

Bruce Bordelon, Purdue University

: Annual pruning of grapes is necessary to balance the amount of fruit production with the amount of vegetative growth to insure high yields of high quality fruit. Pruning severity is based on the strategy of balanced pruning, which dictates the correct number of buds to retain, or crop load, which determines the amount of fruit to retain based on the vine's pruning weight. Many growers prune vines lightly during the early spring to assure adequate bud number in case of damage by a late frost or freeze. Now that the danger of frost and freeze is over (we hope) and grape shoots are growing rapidly, growers can go back through the vineyard and adjust the crop load by removing shoots and clusters. New shoots are easily broken off by hand without the need for pruners. Growers should pay close attention to the fruitfulness of

shoots. Shoots from primary buds have full fruiting potential, whereas secondary buds and latent buds on older wood produce shoots with little or no fruiting potential, depending on cultivar. Ordinarily, all secondary shoots and shoots from older wood should be removed. However, on early budding varieties that may have suffered frost damage this year, the secondary shoots should probably be retained. Shoots should be spaced evenly along the trellis if possible and at a density of about six shoots per foot of row. Cluster thinning (removing one or more of the clusters on each shoot) done before bloom results in the least yield reduction because the remaining cluster(s) generally set more berries. However, on tight clustered cultivars, cluster thinning after bloom can result in looser, less rot susceptible clusters. (*Source: Facts for Fancy Fruit 2002-05 May 8, 2002*)

Meeting Announcements

Massachusetts Cultivated Blueberry Growers Association

Summer Meeting

Dominic Marini, President

The Massachusetts Cultivated Blueberry Growers Association will hold their Spring Meeting on Saturday, June, 1, 2002 at John and Carol Peterson's Town Line Farm, 202 West St., in Plympton, MA. All blueberry growers are invited to attend, amateur or commercial growers alike.

The meeting will begin with a picnic lunch at noon – bring your own lunch and chairs – followed by a speaking program and tour of the Peterson blueberry planting. Sonia Schloemann, UMass Extension Small Fruit Specialist will present information on two topics: "Update on Blueberry Insect Pest Management" and "Blueberry Pollination". This will be followed by a review of methods for protecting blueberries from bird

depredation by Dominic Marini, President of the Association.

In addition, Charles Harris Irrigation Co. and Orchard Equipment Supply Co. have been invited to display irrigation equipment and sprayers, pruning equipment, bird scaring devices and other equipment.

Peterson's Town Line Farm is located at 202 West St. in Plympton immediately beyond the Halifax-Plympton line. From Route 106 turn south on South St. in Halifax Center, turn left on East St. which becomes West St. at the town line. From Route 44, turn north on Route 58, turn left on Elm St. to West St. The farm is at 202 West St.

TWILIGHT MEETING IN VERMONT:

Wood's Market Garden, Brandon, VT Weds. May 22, 5-7 PM

When Bob and Sally Wood retired from Woods Market Garden in Brandon, VT two years ago, their long-established farm was purchased by Jon Satz, with help from the Vermont Land Trust. Jon has built on the farm's reputation for high quality and diversity. He's put up 6 new greenhouses, expanded the farm stand, and converted to organic production methods. There are 25 acres under cultivation, including 2 acres of strawberries, and 10 acres of sweet corn. The greenhouses produce bedding plants, ornamentals and greenhouse tomatoes, and the farm stand also features a variety of local products. Among the many innovations on this farm, Jon will show us his technique for transplanting corn, and the

tool he uses to roll up row cover that helps it last for several years. He will also share his experience with renovating the 'annual hill' strawberry system.

Note: Jon Satz lived and farmed and had many friends in western Massachusetts before he found this great opportunity to farm in the Cenorth country,. Here,s a chance to see what he,s created in central, western Vermont! Figure about two hours drive from Greenfield, MA. Directions: the farm is on Route 7, 1½ miles south of Brandon and 15 miles north of Rutland. For more information contact Vern Grubinger at 802-257-7967.

Garden Center Design, Layout & Marketing Workshop

Presented by UMass Extension Floriculture Program

When: Wednesday, July 10, 2002
9:00 AM to 4:30 PM

Where: Bemis Farms Nursery, Spencer, MA

Judy Sharpton, Growing Places Marketing will present a hands-on workshop on to help garden retailers focus on specific improvements for their businesses. Workshop participants will bring photos and scale drawings of their retail business. Each participating business will receive a preparation packet to assist them in preparing their individual workshop materials. As a follow-up Judy will provide phone consultation on the areas of focus for the remainder of 2002. This workshop will be limited to 15 businesses. Each business can bring a maximum of three people.

Workshop fees: \$125 if one person attends from a business, \$200 per business if more than one attends (maximum 3 attendees). Make checks payable to University of Massachusetts. Send to: UMass Extension Floriculture Program, Garden Center Workshop, Room 203 French Hall, University of Massachusetts, Amherst, MA 01003. For more information contact Paul Lopes 508-295-2212 ext. 24 or Tina Smith 413-545-5306 or visit our website www.umass.edu/umext/floriculture.

General

Food Safety at U-Pick Farms

Craig Hollingsworth, UMass Extension

Food borne illnesses are on the increase. Customers are increasingly concerned and the media is always on the alert. You have worked hard to produce a safe crop, using appropriate pesticides at appropriate times, avoiding manure applications to mature beds, using care with compost applications, testing your water, and keeping pets and wildlife out of the crop. What more can you do? You need to help protect your customers from themselves!

Do they keep their pets out of your fields? Do you have well-maintained toilet facilities? Do you supply liquid soap and hand-washing facilities? Lastly, do you educate your customers about why they should wash their hands? How about a sign:

Welcome U-Pick Customers

We work hard to ensure the safety of the
produce on this farm by following:

GOOD AGRICULTURAL PRACTICES

Please do your part to ensure produce safety by

WASHING YOUR HANDS

Before you pick any produce.

Thank you.

Massachusetts Berry Notes is a publication of the University of Massachusetts Extension Fruit Program which provides research based information on integrated management of soils, crops, pests and marketing on Massachusetts Farms. No product endorsements over like products are intended or implied.