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Berry Notes

Prepared by the University of Massachusetts Fruit Team

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IN THIS ISSUE:

Current Conditions:

Strawberry harvest is complete in many locations. Renovation will be underway soon. See more on this below. Keep renovated fields as well as new plantings regularly irrigated. Fertilization and irrigation are important for good canopy regrowth. Watch for root weevil infestations and renovate or plow down promptly if feeding is observed. This will reduce populations significantly. Sprays may still be needed. Also watch for cyclamen mite and potato leaf hopper infestations, especially in new fields. Pull blossoms and set runners on new plantings. **Highbush Blueberry** harvest is underway. Fruitset looks very good and good yields are expected. *Blueberry Scorch has been found in Massachusetts. Be sure to check for aphids and promptly control aphids in blueberries as they can vector the blueberry scorch virus from infected to healthy plants. See more on this in the last newsletter.*. Leaf samples can be taken for tissue analysis from now to mid August to determine nutrient status of the bushes. This is especially important for blueberries since soil tests are not a reliable check on adequate nutrition. Also, be sure to keep blueberries well watered during the coming weeks to help bushes sustain their fruit-load and go into the winter free from water stress. Late varieties may still benefit from fungicide applications to control anthracnose and alternaria fruit rots. **Raspberries** harvest is also underway. Primocanes may show flagging from infestation by cane borers. These should be cut out below any sign of tunneling. Watch for twospotted spider mites and potato leafhopper, especially in fall fruiting varieties. Intermittent rain can cause increases in fruitrot during harvest. Be on the lookout for Orange Rust on black raspberries and blackberries. Also keep an eye out for symptoms of fireblight in raspberries. Conditions have been very favorable for Fire Blight in apples this season and this may also be true for raspberries. **Grape** clusters are sizing up. Scouting for disease and insect levels and taking corrective action are important activities before bunch closure. Leaf pulling and cluster thinning are helpful to suppress disease potential. Mite infestations can build up quickly at this time of year. Be sure to check the underside of your leaves. Insects that will need attention now are Potato Leafhopper, rose chafer/Japanese beetle and Grape Berry Moth. **Currants and Gooseberries** harvest continues with growers reporting a heavy crop. High heat can cause fruit drop especially in gooseberries. Overhead irrigation for evaporative cooling can help. Some foliar diseases are evident now and should be controlled. Twospotted spider mites may also be building up.

– 2008 New England Small Fruit Pest Management Guide –

This guide has been extensively updated and is now available for purchase for $12 plus $4 shipping and handling. Orders (including credit card purchases) can be placed via the UMass Fruit Team website at www.umass.edu/fruitadvisor.

ENVIRONMENTAL DATA

The following growing-degree-day (GDD) and precipitation data was collected for a one-week period, June 18, 2008 through June 24, 2008. Soil temperature and phenological indicators were observed on June 24, 2008. Accumulated GDDs represent the heating units above a 50° F baseline temperature collected via our instruments from the beginning of the current 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	2008 GROWING DEGREE DAYS		Soil Temp (°F at 4" depth)	Precipitation (1-Week Gain)
	1-Week Gain	*Total accumulation for 2008*		
Cape Cod	138	704	72˚F	0.75"
Southeast	n/a	n/a	n/a	n/a
East	121	773	70˚F	0.50"
Metro West (Waltham)	124	706	68˚F	1.50"
Metro West (Hopkinton)	124	750	79˚F	1.25"
Central	124	688	62˚F	2.55"
Pioneer Valley	101	758	63˚F	2.24"
Berkshires	97	764	70˚F	3.03"
AVERAGE	118	735	69˚F	1.69"

n/a = information not available

(***Source**: UMass Extension 2007 Landscape Message #17, June 26, 2008*)

STRAWBERRY

Strawberry Renovation

Sonia Schloemann and A. Richard Bonanno, UMass Extension

Matted row strawberry plantings benefit from a process called 'renovation' after harvest to stimulate new growth to support next year's crop and to interrupt the build-up of certain pests and diseases mid-way through the growing season. For best results, renovation should be started immediately after the harvest is completed to knock down two-spotted mites, sap beetles and/or root weevils and to promote early runner formation. Early runner-set translates to higher yield potential the following year. Build-up of leaf spots and other foliar pathogens can be cleaned up with this process, too. Renovation should be completed by late-July in normal years. The following steps describe renovation of commercial strawberry fields. Specific rates and timing of applications can be found in the New England Small Fruit Pest Management Guide. To order, contact Sonia Schloemann at sgs@umext.umass.edu or John Howell at howell@umext.umass.edu.

1. **Weed control**: Annual broadleaf weeds can be controlled with the 2,4-D amine formulation (Amine® 4 or Formula 40) applied immediately after final harvest. Be extremely careful to avoid drift when applying 2,4-D. Some strawberry damage is also possible if misapplied. Read and understand the label completely. If grasses are a problem, sethoxydim (Poast) will control annual and some perennial grasses. However, do not tank mix Poast and 2,4-D.

2. **Mow the old leaves off** just above the crowns 5-7 days after herbicide application. Be careful not to damage crown by mowing too low.

3. **Fertilize the planting**. The main goal is to deliver nitrogen at this time to help regrow the canopy. Nitrogen should be applied at 25-60 lbs/acre, depending on vigor and basic soil fertility. Split applications (one now and the rest in 4-6 weeks) are better than a single fertilizer application. This gives plants more time to take up the nutrients in the fertilizer. A leaf tissue analysis (recommended once the

canopy has regrown) is the best way to fine-tune your fertilizer program. This will tell you what the plants are actually able to take out of the soil and what nutrients are in sufficient supply or not. See Leaf Tissue Test Sampling Instructions at the UMass Soil and Tissue Testing Lab website at http://www.umass.edu/soiltest/list_of_services.htm for more on this.

4. **Subsoil**: Where tractor and picker traffic has been heavy on wet soils, compaction may be severe. Subsoiling between rows will help break up compacted layers and provide better infiltration of water. Subsoiling may be done as a later step if field conditions are unsuitable.

5. **Narrow rows and cultivate between rows**: Reduce the width of rows to 12-18 inches at the base. More berries are produced along row edges than in row middles. Wider rows lead to lower fruit production (yield and quality) and increased disease pressure. Narrow rows also give better sunlight penetration, air circulation, spray coverage, and over-all fruit quality. Use a roto-tiller, multivator or cultivator to achieve the row-narrowing. Work in the straw between the rows at this time, too. If possible, try to throw 1-inch of soil on top of the rows at this time to stimulate new root formation on established crowns and new runners.

6. **Weed control**: Pre-emergence weed control should begin immediately after the plants are mowed and the soil is tilled to narrow the crop row. The most common practice at this time is to apply half the annual rate of terbacil (Sinbar at 4 oz/acre). It is essential that the strawberry plants are mowed, even if 2,4-D was not applied, to avoid injury from Sinbar. If regrowth of the strawberry plants has started, significant damage may result. Some varieties are more sensitive to Sinbar than others. If unsure, make a test application to a small area before treating the entire planting. Sinbar should not be used on soils with less than 0.5% organic matter or on reportedly sensitive varieties such as Guardian, Darrow, Tribute, Tristar and possibly Honeoye. Injury is usually the result of too high a rate or overlapping of the spray pattern.

If Sinbar is not used, napropamide (Devrinol at 4 lb/acre) or DCPA (Dacthal at 8- 12 lb/acre) should be applied at this time. Dacthal is preferred over Devrinol if the planting is weak. If Sinbar is used, napropamide (Devrinol at 4 lb/acre) should be applied 4 to 6 weeks later. This later application of Devrinol will control most winter annual weeds that begin to germinate in late August or early September. Devrinol should be applied prior to rainfall or it must be irrigated into the soil. During the summer, Poast can be used to control emerged grasses. Cultivation is also common during the summer months. Cultivations should be shallow and timely (weeds should be small) to avoid root damage to the strawberry planting. The growth of strawberry daughter plants will also limit the amount of cultivation possible especially near the crop row.

7. **Irrigate**: Water is needed for both activation of herbicides and for plant growth. Don,t let the plants go into stress. The planting should receive 1 to 1-1/2 inches of water per week from either rain or irrigation.

8. **Cultivate to sweep runners into the row** until plant stand is sufficient. Thereafter, or in any case after September, any runner plant not yet rooted is not likely to produce fruit next year and is essentially a weed and should be removed. Coulter wheels and/or cultivators will help remove these excess plants in the aisles.

9. **Adequate moisture and fertility during August and September** will increase fruit bud formation and improve fruit yield for the coming year. Continue irrigation through this time period and fertilize if necessary. An additional 20-30 pounds of N per acre is suggested, depending on the vigor.

RASPBERRY

Raspberry Powdery Mildew

Jay W. Pscheidt, Oregon State University

Cause: *Sphaerotheca macularis*, a fungus. Powdery mildew is occasionally a serious disease on foliage, new canes, and fruit of red raspberry in the Pacific Northwest. It also can infect 'Loganberry' leaves. The fungus overwinters as mycelium in dormant buds of stunted cane tips or as cleistothecia. Optimum conditions for spore germination and infection are 65 to 80°F with relative humidity of 97 to 99%. In May, leaves develop lesions that produce fungal spores that are blown to healthy foliage. In June small, secondary-infection lesions appear on vegetative tissue and developing fruit.

Powdery mildew also attacks 'Munger' black raspberry, 'Himalaya', and some other blackberries. The 'Puyallup' red raspberry is very susceptible, so powdery mildew may be a limiting factor with that cultivar. 'Canby', 'Fairview', 'Skeena', and 'Washington' are sometimes infected. 'Chilcotin', 'Meeker', 'Nootka', 'Sumner', and 'Willamette' are resistant.

Symptoms: A whitish gray powdery coat covers foliage, young growing tips of canes, and fruit. The first lesions on infected leaves are light green blotches on the upper surface. Severe mildew retards, dwarfs, and distorts plant parts. Infected fruit may become covered with a white, mealy mat

of fungus. Severely infected berries fail to size properly and wither and die.

Cultural control:

1 Plant resistant cultivars.

Chemical control:

1 Apply dormant or delayed-dormant lime sulfur. Sprays may burn foliage in warm weather.

   a. Lime sulfur (29 %) at 10 gal/90 gal water. 48-hr reentry. Or

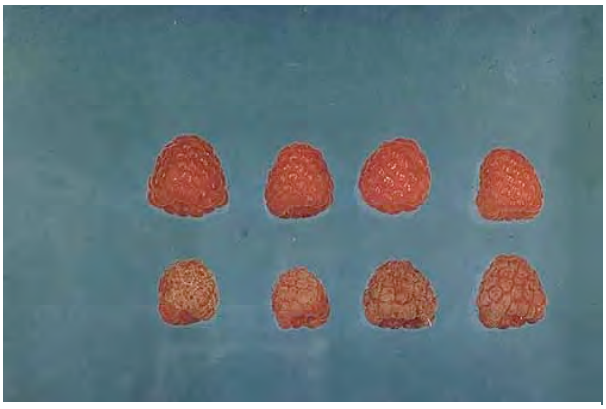
   b. Sulforix at 3 gal/100 gal water. 48-hr reentry.

2. Apply first spray when first blossoms open, then weekly until all fruit is set.

   a. Abound at 6.2 to 15.4 fl oz/A. Do not apply more than two (2) sequential applications or more than three (3) applications per year. May be applied on the day of harvest. 4-hr reentry.

   b. Armicarb 100 (85% potassium bicarbonate) at 2.5 to 5 lb/100 gal water. Might supplement a normal program when powdery mildew is first observed. Do not mix with acidifying agents. Thorough coverage is essential. 4-hr reentry. Or

   c. Cabrio EG at 14 oz/A. Do not apply more than twice sequentially or more than four times per year. May be used at harvest. Overuse of this material will lead to resistant fungi, so alternate with other materials. 24-hr reentry.



Powdery mildew on raspberry fruit, Note the lower row of berries are smaller with a dull appearance.

   d. Flowable sulfur (52%) at 2.5 gal/A. 24-hr reentry.

   e. JMS Stylet Oil at 3 to 6 quarts/100 gal water. Do not use with or near a sulfur application. Do not use during freezing temperatures, above 90°F, or when plants are under heat or moisture stress. Do not use when foliage is wet as good coverage is essential. 4-hr reentry.

   f. Kaligreen (82% potassium bicarbonate) at 2.5 to 3 lb/A. Might be used to supplement a normal program when powdery mildew is first observed. Do not mix with other pesticides. Thorough coverage is essential. 4-hr reentry.

   g. Kumulus DF (80% sulfur) at 6 to 12 lb/A. 24-hr reentry.

   h. Microthiol Disperss (80% sulfur) at 6 to 15 lb/A. Do not use a spreader sticker. 24-hr reentry.

   i. Pristine at 18.5 to 23 oz/A. Do not use more than 2 consecutive applications or more than 4 times/year. Can be used day of harvest. 24-hr reentry.

   j. Rally 40 W at 1.25 to 2.5 oz/A. Applications may be made up to the day of harvest. Do not apply more than 10 oz/A/season. Overusing this material leads to resistant fungi, so alternate with other materials. 24-hr reentry.

   k. Thiolux (80% sulfur) at 6 to 15 lb/A. 24-hr reentry.

Biological control: Sonata (*Bacillus pumilis* strain QST 2808) at 2 to 4 quarts/A. May be applied up to and including the day of harvest. 4-hr reentry. (***Source***: *Oregon State University Online Guide to Plant Disease Control*)

BLUEBERRY

Blueberry Insect and Disease Problems – Late June Early July

Gary Pavlis, Rutgers University

PEST/DISEASE	WEEK OF JUNE 30	WEEK OF JULY 7
Anthracnose *Abound, Cabrio, Captan or Phosphite*	In problem fields consider an application of a phosphite prior to your next picking. Abound, Cabrio or Captan can be used in problem fields. Remember, do not use Abound or Cabrio more than 2 times in sequence. Always alternate with Captan.	
Blueberry maggot	Growers should follow a calendar-based or	Continue with spray program

	trap-based program if exporting to Canada	
Scales	Crawler stage almost over. Treat if a problem post harvest, i.e., next crawler generation.	Continue to monitor for scale on berries or wood.
Oriental beetle	See previous article (June 9) for treatment information. Admire is the only registered control.	
Scorch/Sheep Pen Hill and Aphids	Scout for symptomatic plants and flag for removal. Aphid populations have declined.	Should be under control.
Leafrollers	Scout for larvae. Treat if over 1 larva/100 clusters.	Continue scouting for larvae. Use same threshold.
Root rot	Have a diagnosis for any suspicious plants	

Organic Options for Managing Weeds in Highbush Blueberry

William Sciarappa and Gary Pavlis, Rutgers University

Weeds are especially problematic in highbush blueberry which has a long establishment period, shallow-fibrous roots, and poor competitive ability in obtaining water, nutrients and sunlight. Commercial approaches in certified organic blueberry fields compared horticultural management methods in two NJ sites. The trials utilized both new and established blueberry blocks having trickle or overhead irrigation. Some common weed species in these trials include annual grasses like hairy crabgrass (D*igitaria sanguinalis*) and foxtail species (S*etaria spp.)*. Perennial weeds include quackgrass (*Agropyron repens)*, goldenrod (*Solidago)* and aster species.

Commercial methods investigated included rotary cultivation, mowing, propane flaming, cover crops, landscape fabric and various mulches. Mulch comparisons included pine bark mulch, hardwood mulch, coffee grinds, cocoa grinds, municipal leaf mulch and composted tea leaves. 3' x 12' plots were replicated 4 times in 4 adjoining rows. Applications of 3-4 inches of these mulches within the crop row to a new planting of Duke highbush blueberry have provided a combined weed control level of ca. 95% without landscape fabric and ca. 98% with landscape fabric during 2003.

In an established planting, three years of regular mowings in a mixed stand of native weeds led to a grass-dominated row middle that allowed both equipment and customer traffic in wet spring periods. In other established blueberry fields, regular cultivation with tines and discs effectively uprooted new germinating weeds and provided clean row middles. The articulating rotary cultivator was found highly effective at navigating within the crop row of both new or established crops with overhead irrigation.

Walkway weed suppression in new plantings was achieved with the establishment of two types of fine leafed turf fescues and monthly mowings. Bare ground percentage decreased from 80% to <2% within one year's time as these fine fescues gradually out-competed annual weeds for space. These fescue cover crops increased ground coverage from 8% to >95% over the seven month growing season. These new varieties were selected because they have good germination, require little water, use limited nitrogen and can squeeze out weeds through allelopathy. These varieties were very low growing and slow growing and needed only a few mowings throughout this entire season compared to standard turfgrass species.

These applied research studies indicate that several suitable methods can be utilized for effective weed management in such organic production systems. (***Source****: Blueberry Bulletin, Vol. 24, No. 9, June 30, 2008*)

Grape Tumid Gallmaker

Erin Lizotte, Michigan State University

Grape tumid gallmaker (GTG) are about 2.5 mm long. They are dark brown to reddish, delicate flies, with feather-like antennae and have only one pair of wings. It can be difficult to positively identify the adults because of the large number of similar midges in North America.

The galls are typically located on leaves and measure between 3.2 to 6.4 mm in diameter. Galls may also form on petioles, and flower clusters. Heavy infestations may reduce vine vigor and can cause shoots to break, but in most instances, galling is of little economic importance. If galling occurs on flower clusters, poorly shaped fruit clusters or the complete loss of clusters can result.

Adults produce one to three generations per year, depending on weather and climate. The life cycle begins with an egg laying in unfolding buds or shoot tips. These eggs produce larvae that then enter the vine tissue. As the larvae begins to feed, a gall forms around them. When the larvae are mature, they leave the gall and drop to the soil, where they pupate. Depending on the time of year, larvae will pupate and become adults, or they will overwinter in the soil and emerge as adults the following spring.

Pesticide applications for GTG are not economically practical unless the infestation is heavy or the vineyard has a history of gall problems. If treatment is required, it should target the adults from the overwintering generation as they emerge. As it is difficult to positively identify adults, it may be easier to time control measures based on the first signs of larval entrance into vine tissues, indicated by small white scars. Growers might also consider burying the pupae by mounding soil up under the vines early in the season. This form of cultural control may prevent adults from emerging.

Reference: L. Clark and T. Dennehy, Department of Entomology, Cornell University.

(***Source**: Michigan Weekly Vineyard IPM Scouting Summary Report for the week of June 23, 2008*)

Beetles On Grapes

Alice Wise and Daniel Gilrein, Cornell University

We have also been seeing Oriental beetle in the research vineyard in recent weeks. According to CCE-SC entomologist Dan Gilrein, it may be feeding lightly but is probably not doing economic damage. A brief overview of beetles from Dan: "There are several notable scarab pests here and some confusion surrounds their identity. Except for turfgrass, ornamentals and a few other situations, control is generally with foliar sprays if needed.

Oriental beetle: emerging from late June onward, they are abundant now. Shaped like Japanese beetle but usually tan with dark grey or black markings, some all tan or black. The beetles often rest on plants but do very little feeding. Some are active during the day but more during the early evening. The grub stage is our #1 turfgrass pest and sometimes damages roots of other plants.

Rose chafer: A slender, pale tan beetle with gangly reddish legs. Emerges starting around late May, but relatively uncommon here on LI. More often a pest upstate and elsewhere.

Japanese beetle: Brown with metallic green thorax, they are starting to emerge now (first ones in late June here). The adults (beetles) can be very destructive to grapes, roses and other ornamentals. The grub stage damages roots of turfgrass and resembles but is less common than oriental beetle.

Asiatic garden beetle: Chestnut-brown, more rounded than Japanese beetle, they are active at night and often seen around porch lights. They appear starting in late June (a similar but different species has been active over the last month). The beetles sometimes feed on foliage of plants such as basil, peppers and ornamentals, hiding in the soil beneath during the day. The grub stage is sometimes a serious pest of turfgrass (esp. parts of CT) and possibly other plants. There was an 'outbreak' of beetles several years ago damaging many garden plants." (***Source**: Long Island Fruit & Vegetable Update, No. 17, JULY 3, 2008*)

General

Hail Damage: Trying to Make the Best of a Bad Situation

Laura McDermott, Cornell University

Late spring and early summer 2008 has been fraught with hailstorms throughout the state. Hail is sporadic and unpredictable and can devastate an entire region or just a few rows in a specific field. This year, in addition to smaller hail events, a large storm swept through the center part of the state on June 16th and left millions of dollars of damage in its wake. From Niagara County to Columbia County, fruit and vegetable growers suffered massive losses to crops that had withstood repeated frost threats, dry early spring weather and late spring deluges. In light of the expected interest in locally grown produce and what had appeared to be an excellent crop, these losses were particularly devastating.

What is Hail? Hail usually occurs on days that are hot and humid, resulting in strong upward convection of air, creating large thunderclouds. The temperature in the upper levels of these clouds are well below freezing, and water droplets that are carried into the middle and upper layers of the clouds quickly turn into ice balls. The ice ball grows as it falls down through the cloud and then is tossed back up by the convective action of the warm air from earth. Each trip up and down through the cloud allows more water vapor to condense and then freeze on the growing ice ball. The result of this action is easily seen if you cut a hailstone open and observe its "onion-like" layering. The strength of the air currents in the cloud helps determine how large the ice ball will be before it finally gives in to gravity. A single trip through a thundercloud can cause a hailstone to enlarge by 1/2", so several trips are necessary to create large hail. Hailstones usually are less than 1/2" in diameter, but sizes over 1.5" are not uncommon. (1)

What does hail damage look like? Hail damage can appear as bruising and/or pitting on fruit, leaves that are tattered or shredded, complete defoliation of the plant and stem pitting. In fruit that is close to maturity, these wounds can look very similar to bird damage. Stem pitting can cause problems for bud formation and thus have an impact on the following year's crop. Hail damage is easy to tell immediately after a hail event, but as callous tissue develops over the wounds it may become more challenging to recognize. Pay attention to the pattern of damage, both on the plant itself and within the field and larger area. Look for bruises or wounds on one side of the damaged plant or plant part. Evidence of hail damage on woody plants will persist for years – these wound sites may show secondary infection problems later on. (2)

What are the effects of hail damage? Depending upon the severity of the storm, the obvious effects are the complete loss of the crop and perhaps the death of the plant. Immediate loss of fruit is extremely disappointing, but the secondary damage is the real problem as wounds caused by hail can serve as the infection sites for fungi and bacteria.

How can I minimize the effects of hail damage? Due to the unpredictable nature of hail, it's hard to recommend not planting in "hail prone" areas, but that is mentioned in the literature. For those with berry crops in the ground, there are a few strategies to employ that might help reduce current or future damage.

• Salvage the ripe fruit as quickly as possible. Get rid of ruined fruit - it becomes a real mess, and is a HUGE sugar source for fungal diseases. If you can clean up the fields within a few days of the hail event, you have a decent chance of salvaging the remaining crop. Green berries will often heal well enough to have very minor appearance problems and might still be satisfactory for U-Pick.

• According to Dr. Kerik Cox, Cornell University Fruit Pathologist, growers must consider the type of damage, the fruit, and the primary disease threat at the time the hail event to decide which fungicide to spray. Fungicide use helps reduce the growth of opportunistic fungi that take advantage of the wounded tissue to colonize the berry.

For instance, if the hail damage was to blueberries and it removed all fruit and caused severe stem pitting, the grower would remove fruit as best she could, then spray to help prevent canker diseases on the blueberry shoots.

Try to use materials that will provide a broad spectrum of defense and give you some ongoing protection. For example, rather than use Elevate, which does a great job on Botrytis, the grower should consider a strobilurin fungicide which would give a longer period of protection from a greater number of pathogens. **Apply this spray as soon after the damage as possible, ideally within 24 hours of the event**.

• If you are an organic grower, even a spray of Stylet oil might help with diseases like leaf rust and powdery mildew.

Keep an eye out for diseases that should be removed by hand, like fireblight on raspberries or even Botrytis on ripe fruit. Prune out injured tissue where possible.

• Don't be too quick to throw in the towel. Plants look especially poor immediately after the damage, but in a few days they will look much better. Baby the plants for a while. Keep them well watered, control weeds, prune and destroy

damaged canes on woody plants. Make sure mulch is in place in proper amounts.

• Explore the use of hail netting which might also solve existing bird problems. I don't know anyone that has hail netting on berries, but if you start pricing this material, you should also be considering growing your crop in a high tunnel

• According to Marie Ulrich, CCE Orange county Vegetable Extension Specialist, "Growers need to TAKE PICTURES of damage ASAP and report even the tiniest amount of damage to FSA and/or crop insurance adjustor. Accurate, timely damage assessments can only be taken now, even while waiting for them to "grow out of it" production loss might be down and growers will need paper back-up for insurance and or NAP payments."

References:

1. **Schaefer, V.J., and J.A. Day. 1981**. A Field Guide to the Atmosphere, Peterson Field Guide Series, No. 26. Houghton Mifflin Company, Boston. P. 197, 244-245.

2. **Schubert, T. 1991.** Hail Damage to plants, Plant Pathology Circular No. 347, Fla. Dept. Agric. & Consumer Serv., Division of Plant Industry.

(***Source**: New York Berry News, Vol. 7, No. 5, July 2008*)

Upcoming Meetings:

July 9, 2008. **New Hampshire Tree Fruit Twilight Meeting.** 5:30 - 8:00 pm. This meeting was scheduled in response to a request made by Tracy Leskey. Dr. Leskey will have research projects going on at both Poverty Lane Orchard (West Lebanon), and Apple Hill Farm (Concord). We will be finalizing which site for the meeting later. Speakers: Dr. Tracy Leskey, Research Entomologist at the USDA-ARS Appalachian Fruit Research Station in Kearneysville, WV and Dr. Starker Wright, Support Scientist at the USDA-ARS Appalachian Fruit Research Station in Kearneysville, WV. For more information, contact George Hamilton at george.hamilton@unh.edu or 603-641-6060.

July 9-10, 2008. **Handling Berries and Other Perishable Produce for Quality**. Gro-Moore Farms, Rush, NY and Schoharie Valley Farms, Schoharie, NY, respectively. More details follow.

July 16, 2008. **NOFA-NH Farm Tour & Potluck Dinner: Integrating Schooling and Farming.** The Meeting School, Rindge, NH. 6pm. For info, contact NOFA-NH at 603-224-5022 or info@nofanh.org or visit: www.nofanh.org .

July 16, 2008. **Strawberry Weed Management demonstration trial** at Cornell Orchard, followed by **High Tunnel Raspberry and Blackberry Tour**, 1:30 to 3:45 PM, Ithaca NY. Directions and registration information follow.

July 14-16, 2008. **The 9th International Vaccinium Symposium** will be held at Oregon State University in Corvallis. For more information: http://oregonstate.edu/conferences/vaccinium2008/.

July 17, 2008. **Massachusetts Fruit Growers' Association Annual Summer Meeting**, UMass Cold Spring Orchard, 391 Sabin St., Belchertown MA. **Fee**: $25 per person, tour, lunch, speaking program, and pesticide recertification credits included. For more information go to http://www.massfruitgrowers.org/2008/summermeeting.html.

July 23, 2008 - **The Great Ideas Summer Conference, The Crane Estate, Ipswich, MA 8:00 AM – 3:30 PM. Sponsored by: Massachusetts Flower Growers Assoc. (MFGA) and Massachusetts Nursery Landscape Assoc. (MNLA)**
Educational program, tours, trade show and great food! Featuring – Judy Sharpton, Growing Places Marketing, Atlanta, Georgia. Judy has over 20 years experience in advertising and promotion specializing in store design and renovation, development of product-based promotion plants and development of customer communication programs. Judy will present a two-part Store School. She will cover consumer trends and how you can respond to trends at your store level and store layout from entrance to cash wrap. *Total 3-1/2 pesticide credits*. For more information go to **www.mnla.com**.

July 23, 2008. **Day Neutral Strawberry Workshop** held in conjunction with the Pennsylvania Vegetable Growers' Association's Vegetable and Small Fruit Field Day at Rock Springs, PA. For more information: Kathy Demchak, 102 Tyson Building, University Park, PA 16802 or email kdemchak@psu.edu.

July 23, 2008. **Tractor and Farm Safety Workshop.** Wilson Farm, Litchfield, NH. Dr. Sam Steel, Farm Safety Specialist from Penn State University will use displays and demo models to present Tractor Roll-Over Safety, Tractor PTO Safety, ATV Safety for Farms and Farm Safety for Children. For info, contact George Hamilton at george.hamilton@unh.edu or 603-641-6060.

July 24, 2008. **Tractor and Farm Safety Workshop.** Lancaster Fairgrounds, Lancaster NH. Dr. Sam Steel, Farm Safety Specialist from Penn State University will use displays and demo models to present Tractor Roll-Over Safety,

Tractor PTO Safety, ATV Safety for Farms and Farm Safety for Children. For info, contact Steve Turaj at steven.turaj@unh.edu or 603-788-4961.

July 24, 2008. **Mid-Season Grape Twilight Meeting** Coastal Vineyards, S. Dartmouth MA. Dr. Tony Wolf and Dr. Richard Kiyomoto will discuss the current season with particular emphasis on best management practices leading into fruit ripening. Cost: $25 per person. For info or to register, contact Sonia Schloemann at sgs@umext.umass.edu or 413-545-4347. Co-sponsored with the Massachusetts Farm Winery & Growers Assoc.

July 31, 2008. **NOFA-NH Farm Tour & Potluck Dinner: Native Plants in the Landscape.** Found Well Farm, Pembroke, NH. 6pm. For info, contact NOFA-NH at 603-224-5022 or info@nofanh.org or visit: www.nofanh.org

Aug. 4, 2008. **Organic Vegetable Twilight Farm Tour.** Vegetable Ranch, Concord NH. 6-8pm. Larry Pletcher will host an educational tour with UNHCE Specialists Becky Grube and Alan Eaton. CoSponsored by UNH Cooperative Extension and NOFA-New Hamphire. For info, contact Elizabeth Obelenus at 603-224-5022 or Sadie Puglisi at 603-225-5505 ext. 323.

August 6, 2008. **Currant Growing Workshop**. More details follow.

Aug 8-10, 2008. **NOFA's 34th Annual Summer Conference.** Amherst, MA. Workshops on organic farming, gardening, land care, homesteading and more. For info, contact Julie Rawson at 978-355-2853 or julie@nofamass.org or visit www.nofamass.org .

Aug 13, 2008. **Pumpkin Diseases Twilight Meeting.** Yankee Farmer Farmstand, Greenfield, NH. This meeting will focus on pumpkin disease management, but also offers a chance to see the Yankee Siege Trebuchet in action. The trebuchet throws pumpkins for hundreds of yards for entertainment (but is one method for getting infected pumpkins out of the field??). For info, contact George Hamilton at 603-641-6060 or george.hamilton@unh.edu

Aug 19, 2008. **Vegetable Twilight Meeting.** Tassey's Farm, Shelburne, NH. More details to follow. For info, contact Steve Turaj at 603-788-4961 or steven.turaj@unh.edu

Aug. 20-21, 2008 **NASGA Summer Tour** Columbus, Ohio. See http://www.nasga.org/ for more information

Aug 21, 2008. **NOFA-NH Farm Tour & Potluck Dinner: Land Use Partnership & New Farmers.** Two Mountain Farm, Andover, NH. 6pm. For info, contact NOFA-NH at 603-224-5022 or info@nofanh.org or visit: www.nofanh.org

Aug 27, 2008. **NH Vegetable and Fruit Growers' Twilight Meeting.** Woodman Horticultural Farm, Durham NH. 4:30-7:30pm. See and hear about the latest UNH research on vegetable crops, ornamental horticulture, fruit crops, and more. Contact: Suzanne Hebert at suzanne.hebert@unh.edu or 603-862-3200.

September 18, 2008, ***On Your Way to Growing Greener*: Using Biological Control in Greenhouses 9:15 AM – 3:45 PM Sturbridge Host Hotel and Conference Center, Sturbridge, MA** *Sponsored by: University of Massachusetts, University of Connecticut, University of Rhode Island and Northeast SARE* ***Featuring Stanton Gill, (University of Maryland) and Suzanne Wainwright-Evans, (Buglady Consulting).***

Topics will include: Why Should Growers and Retailers Consider Biological Control in Their Greenhouses, Practical Steps in Starting a Biological Control Program: Is it for you? What crops should you start with? Sources and Quality Control of Natural Enemies, Which Natural Enemies are Best for Fungus gnats, Spider mites, Thrips and Aphids: How to use them, Compatibility, Where and how to release them, What rates to use, *Examples of Live Specimens!,* Using Banker Plants, "Future" New Products, Case Studies: Real Experiences of Greenhouse Growers, Panel of Wholesale Growers and Grower Retailers Cost: $35 (includes Handouts, Refreshments, Lunch) Four pesticide recertification credits for attendees from CT, MA, RI, ME, NH and VT

Sept 19-21, 2008. **Common Ground Country Fair.** MOFGA Common Ground Education Center, Unity, ME. For info, visit www.mofga.org. **AC, O.**

September 23, 30, October 7, 14, and 21. **Building a Successful Small Farm Operation** in Orleans County, NY. Contact Paul Lehman of Niagara County CCE or Lynn O'Brien of Allegany/Cattaraugus County CCE for more information.

Nov. 6-8, 2008 **Southeast Strawberry Expo**, at the Hilton Charlotte University Place, Charlotte, NC. Includes Strawberry Plasticulture Workshop for New Growers, farm tour, educational sessions, and trade show. For more information, email info@ncstrawberry.com

Dec. 8-10, 2008, **North American Raspberry & Blackberry Conference** in Grand Rapids, MI, as part of the Great Lakes Expo. For more information, email info@raspberryblackberry.com.

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