

**Subject:** New England Grape Notes, May 15, 2010  
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## ***New England Grape Notes***

May 15, 2010, Vol. 5, No. 1



Welcome to the first issue of ***New England Grape Notes*** for 2010. This periodic message will contain information on field observations, weather data and other timely topics of interest to New England Grape Growers. This is the fifth year we have offered this electronic newsletter to interested readers all over New England. You can help support the continued distribution of this newsletter with a voluntary donations of \$10 by visiting the UMass Fruit Team website at [www.umass.edu](http://www.umass.edu) and clicking on the link for 'Click here for Newsletter Subscriptions and Program Donations'. Feedback and contributions are always welcome.

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**General Info** - Vines are well into shoot growth and most vines have flower clusters clearly visible and expanding in many cases. See <http://www.omafra.gov.on.ca/english/crops/facts/grapestages.htm> for a great display of the various growth stages and their rating according to several scales (BBCH scale, Eichhorn & Lorenz code and Baggiolini scale). This helps when using different recommendations that are based on different rating scales.

**Freeze Damage:** This year's shoot development is 2-3 weeks ahead of schedule in many areas, which has left vineyards vulnerable to frost/freezing damage during several cold nights in the last 2 weeks. The critical temperature for grapes at the current growth stage (BBCH 53-57, Eichhorn & Lorenz 12-17, Baggiolini F-H) is about 28°F. Many growers have reported damage. The severity of damage is hard to assess until 48 hours after the injury occurs. If you feel that your vineyard has suffered significant damage and you have Crop Insurance through FSA (NAP) you must call in and report the injury within 7-10 days to qualify for a claim. See more below on how frost/freezing damage impacts disease management.

### **Resources:**

If you haven't already ordered your reference materials for this year, here are some suggestions:  
[2010-2011 New England Small Fruit Pest Management Guide](#)  
[2010 NY/PA Pest Management Guidelines for Grapes](#)

and a tool that we find extremely useful:

Jeannete Smith's [The Fungicide, Insecticide & Herbicide Guides in the Vineyard Pest Management Tool Kit](#). Here are some testimonials:

"Clear, concise, indispensable..." - Mark Chien, Wine Grape Educator, Penn State University  
"Saves me so much time!..." - Lucie Morton, Consulting Viticulturist

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### **Disease Management:**

#### **Frost Injured Grape Plants and Diseases**

Over this past weekend, temperatures again fell below freezing, resulting in damage to grape shoot growth or developing buds. Reports from grape growers from around the state, suggest that frost damage was variable depending on location and the stage of development of the grape vines.

At this stage, it is very difficult to predict how yield will be affected. However, grapes are resilient, having two other buds to replace the primary bud should such an event such as frost take place. Even if you lost all of your primary buds, the secondary buds should produce a harvestable, quality crop. In 2007, a late spring frost in Missouri killed over 90% of the primary buds in most grape varieties. Most of these grape varieties still produced quality fruit in the range of one ton per acre on secondary buds.

Pest management in frost damaged vineyards can be a bit more difficult. A frost damaged vineyard likely will contain shoots that were produced from primary and secondary buds. Flowering in the secondary shoots likely will lag behind flowering of the primary shoots by as much as two weeks. It follows that clusters in the vineyards will be at different maturities. In essence, you will be dealing with a prolonged bloom and for some grape diseases, a longer period of extreme susceptibility. For example, berries are susceptible to powdery mildew from immediate prebloom through fruit set. The developing berries will

remain susceptible to new powdery mildew infections until a brix level of 8 to 10 is achieved. In a frost damaged vineyard, the window of susceptibility is now lengthened.

It may be possible to reduce some fungicide protectant sprays in frost damaged vineyards since new shoot tissue growth is retarded. Shoot tips damaged from frost will have growth retarded and new growth will come from axillary buds (buds in the axils of leaves). It will take a period of time before axillary shoots emerge from axillary buds. With shoot tissue not emerging there is little plant tissue left unprotected if protective fungicides have been applied on schedule. However, as secondary buds begin to break and axillary buds begin to grow this new relatively "soft" tissue will be emerging likely when temperatures are higher making the tissue susceptible to disease infection. For example, powdery mildew infection needs a minimum of 50° F for infection to occur, but as temperatures increase there is greater potential for infection. It will be very important to use protectant fungicides as secondary shoot tissue begins to emerge and grow and axillary bud shoot tissue commences growth. (*Source: University of Wisconsin Cooperative Extension Vineyard IPM Scouting Report for week of 10 May 2010*)

### Virginia Tech Tutorial on Grape Diseases

*Ashley Myers, Virginia Tech*

This is a macromedia tutorial presentation to familiarize oneself with the spectrum of diseases found in East Coast Grape Production. This can be viewed directly from your computer and takes approximately 1 hr and 15 minutes. It's great for new viticulturists as well as being a good refresher for more experienced growers. Go to: <http://connect.aq.vt.edu/p39096663/>.

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## **Insect Management:**

### **Early Season Insects**

*Alice Wise and Greg Loeb, Cornell Univ*

Generally early season insects are a curiosity more than a concern, the exception being European red mites. Scouting, which we all should be able to do at this time of year, is important in catching any developing problems. Remember to check registration status of each and every material before purchase or use. In recent years, we have stumbled upon several situations where a material is no longer legal to use but the information was not well publicized.

**Flea beetle** – Flea beetles or steely beetles are small (5 mm), shiny black beetles. They overwinter as adults. They attack both wild and cultivated grapes by boring into swollen buds, hollowing out the inside. Damage is more common near shrubby or wooded areas. Sometimes it is difficult to discern between flea beetle and cutworm injury. Sevin, Danitol and Imidan are labeled. Note Imidan still has a 2 week restricted entry interval.

**Cutworm** – This general term applies to the larvae of a large number of lepidopterous species. These nocturnal feeders chomp on buds and will also feed on young leaves. In some eastern grape growing regions, cutworm is a pest problem that sometimes requires treatment. Infestations are apparently worse with cool spring weather as bud swell for an extended period gives the larvae more opportunity to feed. Damage is also more likely if there is mulch and/or weeds under the trellis as these provide daytime cover for larvae. This damage is not uncommon on Long Island but it does not appear to be so serious as to warrant treatment. As buds swell, take a couple of walks around the vineyard, particularly where previous cutworm damage has been seen. Danitol and Capture 2EC are labeled for control. Both are pyrethroids, harsh on predators. If the damage is extensive enough to warrant treatment, consider a spot treatment vs. a larger area.

**Grape plume moth** - Signs of grape plume moth feeding have been increasingly common in local vineyards. First seen a few years ago on Long Island, this prebloom pest is actually the hairy larva of the plume moth. More advanced cases involve webbing together of leaves and even clusters. If the mass is examined, usually frass and sometimes the larvae may be present. You might also see a vine or part of a vine with basal leaves full of large holes. Expect to see more problems on edge rows. According to Cornell entomologist Greg Loeb, Danitol is currently the only labeled material. Dr. Loeb recommends a 20% threshold, that is, 20% of shoots/clusters affected before treatment is warranted. If the infestation involves primarily clusters, the risk of crop loss is higher and a slightly more conservative threshold would be warranted. Usually the window for treatment is gone by the time damage is seen. At the research vineyard, the level of damage has varied from year to year but it has never been wide- spread. Also, by the time the canopy fills the trellis, it can be difficult to tell where the plume moth damage has been.

**European red mite** - Very stunted, pale shoots may mean a mite outbreak. Upon close examination of

both upper and lower leaf surfaces, leaves are loaded with tiny red mobile mites. It is common for a small area – shoots in the head area of a vine seem to harbor mites but infestations also may occur on just one side of a vine. One vine or two vines might be infested while neighboring vines have few or no mites. Thus, these early spring outbreaks are usually not well distributed through a block. It is difficult to predict exactly where these infestations will take place. If you can't walk your blocks, tractor scouting is a good way to spot mite infestations because the pale, stunted shoots will stand out. Best treatment option – use of horticultural oil in early season sprays for powdery mildew will also provide control of ERM if coverage is good. Because of the wide- spread early season use of oil, these early infestations have not been a major problem in recent years. However, this is not an option if committed to a sulfur schedule or if using other incompatible materials such as captan due to the risk of phytotoxicity.

**Thrips** – Tiny leaves, stunted shoots, leaves often some what tattered or shredded in appearance with necrotic (dead) areas may be due to a thrips infestation. An affected shoot can be next to a shoot with no symptoms. Thrips are impossible to see without a good hand lens or microscope. Older leaves are usually not affected. Thrips are more common bloom to postbloom. Thrips infestations are not common but do occur occasionally. (*Source: Long Island Veg & Fruit Update, No 6, April 23, 2010*)

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## Vine Nutrition:

### Prebloom Foliar Nutrient Sprays

*Alice Wise, Cornell Extension, Long Island*

Given the cost of fertilizers and fuel, it is important to think through the benefits of all foliar nutrients. Visual verification as well as petiole and soil analysis can be helpful in diagnosis of deficiencies, even at this time of year.

**Nitrogen** – Long term nitrogen (N) needs of vines, particularly in sandy soils, can be addressed in whole or in part by improving soil organic matter. Otherwise, N fertilization is best addressed via ground application whether using a dry product or dripping in liquid N. The benefits of foliar N are debated but experience dictates that periodic foliar applications can be of benefit in maintaining a green, photosynthesizing canopy. Some growers feel foliar N helps sluggish early spring growth; others feel the primary benefit is later in the season both in terms of maintaining canopy and helping to avoid sluggish and/or stinky fermentations. There are many different products from which to choose. Price may dictate what a vineyard can afford to use. Note that some phosphorous acid products contain nitrogen.

**Magnesium** – Many growers include Epsom salts (magnesium sulfate) in a few of their prebloom sprays. Though replicated research trial results are lacking, there is universal agreement among growers that this foliar nutrient is essential in maintaining a green, healthy canopy.

**Zinc** - Considered essential for proper cluster development, berry set and normal shoot growth. Deficiency is seen early summer. New leaves are smaller, distorted and may be chlorotic with darker green veins. Straggly clusters and shot berries may also occur. Soil application of Zn is less effective because Zn can be tightly bound in soil (though past recommendations for our vineyard were soil applications of zinc sulfate). Zinc sulfate, zinc oxide and chelated Zn are used as foliar sprays; follow label for rates and timing. Rely on your soil and petiole analyses to gauge the need for this nutrient.

**Boron** – Distorted basal 1-2 leaves at this time of year might indicate B deficiency (a lab can verify this). We are currently seeing this on some of our Chardonnay. Soil levels are listed as deficient (0.4 ppm), thus we will include a foliar spray or two this spring. Later symptoms are stunted zigzag growth and death of shoot tips, poor set with shot berries, often flattened or oblong. Soil treatment is effective since boron (B) moves with the soil water, however this is best applied in the fall or with the spring herbicide. Common boron products include Solubor and Borosol. For foliar sprays, no more than 0.2 lb./a actual B in 1 or 2 prebloom sprays is the standard recommendation. The low rate reflects the high risk of phytotoxicity with boron. Boron interferes with the dissolving of water-soluble packets used for certain pesticides. When tank mixing, dissolve the packet thoroughly in the spray tank and then add B to the spray mix.

**Manganese** - Deficiency is seen mid-late summer starting as interveinal chlorosis on basal leaves. A heringbone pattern is characteristic. At soil pH's >6.0, e.g. properly limed soils, Mn availability in the soil is relatively low. Where a deficiency is confirmed by petiole analysis, foliar applications of manganese sulfate (2-3 lbs./100 gal.) are recommended as a corrective measure. Other manganese products used at label rates may also be effective. Foliar manganese oxide materials are considered to be less effective. (*Source: Long Island Fruit & Vegetable Update, No. 8, May 6, 2010*)

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**Weather data:** (Source: [UMass Landscape IPM Message #11, May 14, 2010](#))

Region/Location	2010 Growing Degree Days	
	1-week gain	total accumulation for 2010
Cape Cod	58	264
Southeast MA	45	264
East MA	53	285
Metro West MA	39	221
Central MA	33	220
Pioneer Valley MA	36	232
Berkshires MA	33	217

**Additional Weather Data is available form the following sites:**

- UMass Cold Spring Orchard (Belchertown MA), Tougas Family Farm (Northboro MA), and Clarkdale Fruit Farm (Deerfield MA) at <http://www.umass.edu/fruitadvisor/hrcweather/index.html>
- University of Vermont Weather Data from several sites around the state at <http://pss.uvm.edu/grape/2010DDAccumulationGrape.html>
- New Hampshire Growing Degree Days at <http://extension.unh.edu/Agric/GDDays/GDDays.htm>
- Connecticut Disease Risk Model Results at <http://www.hort.uconn.edu/ipm/>

In addition, we are working on integrating new base stations into the Network for Environment and Weather Applications program run by the Cornell IPM team at <http://newa.cornell.edu/>. This will include the ability to run disease and insect development models for a wider area. Stay tuned.

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**Meetings:**

**Massachusetts Farm Wineries & Growers Association's Wine Blending Workshop**

Time: 9:30 am

Date: Tuesday May 18

Place: Boston Wine School, 1354 Commonwealth Ave., Boston (Allston), MA

Contact: Kim LaFleur at [leesidemini@gmail.com](mailto:leesidemini@gmail.com) to register

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**FYI - check out the newly formed [Massachusetts Farm Winery and Growers Association](#) and [New Hampshire Winery Association](#) and the [Vermont Grape and Wine Council](#). These associations are of, by and for you! Join today!!**

For Massachusetts residents, check out the new [Massachusetts "Ag Tag" license](#) plate. Each purchase can yield \$15 for the Massachusetts Farm Winery and Grower's Association through a check-off plus pooled funds available for various programs or competitive grants. Get yours today!

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*This message is compiled by Sonia Schloemann from information collected by:  
Arthur Tuttle and students from the University of Massachusetts*

and Frank Ferandino from the University of Connecticut. We are very grateful for the collaboration with UConn.

We also acknowledge the excellent resources of [Michigan State University](#), Cornell Cooperative Extension of Suffolk County, and the [University of Vermont Cold Climate Viticulture Program](#). See the links below for additional seasonal reports:

[University of Vermont's Cold Climate Grape Growers' Newsletter](#)  
[UConn Grape IPM Scouting Report](#)

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