News you can use

Disease management
Applying Stylet Oil, Sulforix or Armicarb now to vines with powdery mildew will reduce disease pressure next year. Do not apply Sulforix to sulfur-sensitive grapes. Bunch rots are best controlled by leaf pulling, but application of Fungastop may help reduce sour rot.

Insect management
Low insect pest activity, except for some grape berry moth hotspots. Monitor your vineyards to determine if grape berry moth will be a problem for you at harvest.

Save the date: Winegrape workshop on recent achievements in viticulture research and vineyard management practices; November 12th at NWMHRS in Traverse City. See event calendar for full details.

GROWING DEGREE DAYS

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*5-yr Avg = 2005 to 2009
See enviroweather.msu.edu for more information.
Grape berry moth (GBM) activity continues this week, with feeding damage still visible in clusters. Potato leafhopper levels remain low and few growers report the need for management. Ants and yellow jackets remain active on the clusters in area vineyards. They can become a hazard for hand-pickers, but rarely require control and usually only affect a small area of a vineyard. Phylloxera is also being observed at high levels at one area vineyard.

Downy mildew continues to be reported (Fig. 1). It is important to keep in mind that the list of fungicides effective against both downy and powdery mildew is short (Abound-reduced risk, Sovran, Serenade Max-OMRI approved, Pritistine-Strobi+boscalid), so even if growers applied fungicides for powdery mildew it may be necessary to treat for downy separately. Powdery mildew was slow to arrive this season, but we have received reports of isolated severe infections in area vineyards. These sites are being tested for fungicide resistance. As fruit ripens, botrytis continue to spread. This is not surprising given the persistent wetting events lately and the elevated levels of grape berry moth infestation this season.

Symptoms of leafroll virus are also visible on area vines. Leaves on vines infected with leafroll virus become yellow or reddish purple as the season progresses (see image on front page); the main veins remain green. By late summer, the leaves start rolling downward and at harvest fruit clusters are small, poorly colored, and low in sugar. The disease does not kill the vine but is chronic and is spread primarily via infected nursery stock and the grape mealybug. Within-field spread by mealybug is very slow. Crown gall and nutrient deficiencies can produce similar foliar symptoms, so growers should not assume that leafroll virus is the cause. If you have sites you would like tested please contact Erin at taylo548@msu.edu or (231)946-1510.

Lastly, bird feeding damage is increasing and nets for protecting fruit are common around the area.

-E.L.
Grape Berry Moth. Grape berry moth infestations in clusters at the lower pressure sites remain quite low with just a few infestations at the vineyard borders. Infestations at one of the higher pressure sites (Van Buren Concord) continue to decrease as older infestations fall off the clusters. However, infestations at the other higher pressure site (Berrien Vignoles) have increased slightly. Also, even though older infestations are decreasing at the Van Buren Concord site, there are quite a few fresh GBM eggs noticeable on clusters, indicating that the 4th generation of GBM is underway. Many of the eggs present on the clusters are parasitized and we found one egg being fed upon by a predatory mite. This vineyard has not received a broad-spectrum insecticide spray for quite a while so the natural enemy population has had a chance to build up. For more information on the 4th generation of GBM see Rufus’ article in this newsletter.

Japanese Beetles. We have not found any Japanese beetles for several weeks at any of the vineyards scouted for this report.

Grape Leafhoppers. We have been finding low, yet consistent levels of grape leafhoppers (both nymphs and adults) at the two Concord sites. Their presence isn’t surprising since neither of these sites has received a broad-spectrum insecticide spray that would affect the leafhoppers in quite a while. Since there are only a few leafhoppers on the vines they don’t really present the need for sprays to be applied.

Ants. Ants are still showing up on clusters, feeding on cracked and GBM-infested berries, although there are fewer this year compared to previous years.

Phomopsis. Phomopsis continues to show up on berries at the Berrien Vignoles site and the Van Buren Concord site. Infected berries are now mostly shriveled black mummies. Phomopsis levels at the Berrien Vignoles site are similar to what they’ve been the last couple of years. Clusters with the worst infections are the ones closest to the trunk and/or hanging underneath the canes, as these clusters were exposed to more disease spores earlier in the season.

Powdery Mildew. Powdery mildew leaf infections remain at low levels at the two sites where they have been found (Berrien and Van Buren Concord sites). Most colonies are present on leaves deeper in the canopy where the humidity is higher. Infections on cluster rachises at these two sites have increased over the last couple of weeks but remain scattered with most clusters remaining clean and a few having heavier infections.

Downy Mildew. The small amount of downy mildew on leaves at the two Concord sites has not changed over the last few weeks. Quite a few of the colonies that were originally present on the leaves have died out and the colonies that are left are small and scattered on the undersides of the leaves.

Botrytis. Botrytis infections on clusters at the Allegan Chardonnay site increased slightly over the last couple of weeks. This increase was mostly in the form of small new infections showing up on individual berries and not the spreading of existing infections. Infections at the Berrien Vignoles site were also slightly higher than they were a couple of weeks ago, but are still far lower than they were at this time last year. As long as the weather remains dry infections will probably hold mostly steady where they are.
Sour Rot. Sour rot has begun to show up in low amounts at the Berrien Vignoles site. Overall, there is very little sour rot on the clusters compared to some previous years. Given that harvest in this vineyard begins next week sour rot is not likely to pose a problem.

Growth Stages. Clusters at the Berrien Vignoles site are at the soft fruit stage; harvest will begin at this site next week. Both Concord sites are at soft fruit stage with only the youngest secondary clusters still undergoing color changes. The Allegan Chardonnay site clusters are also at the soft fruit stage. See the table at right for Brix levels of grapes at the Trevor Nichols Research Complex in Fennville, Michigan. Data taken this week is compared against the past two years.

-S.V.

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How to differentiate grape bunch rot diseases

The term “bunch rot” actually refers to a complex of diseases, including Botrytis bunch rot (*Botrytis cinerea*), sour rot (acetic acid bacteria, yeasts), and Phomopsis fruit rot (*Phomopsis viticola*) which appear late in the growing season, close to harvest. In a warm year like this, ripe rot, caused by *Colletotrichum* spp. may be present. Below is a description and pictures to aid in bunch rot diagnosis.

Some grape cultivars, particularly tight-clustered ones, are particularly susceptible to bunch rots. For instance, Vignoles may be affected by all three major bunch rot pathogens. Rainy weather close to harvest increases the likelihood of bunch rot diseases.

Botrytis bunch rot is characterized by a rapidly spreading brown rot which usually affects several berries in tight clusters. Berries affected by Botrytis develop a gray mold on them and sometimes ants can be seen feeding on the sugary sap oozing out of Botrytis-infected berries. In contrast, sour rot is a wet rot, which causes clusters to smell distinctly of vinegar. Fruit flies are often present in sour rot clusters and help spread the disease. Damage can be extensive because infections that begin in a single berry can rapidly spread to adjacent berries and destroy most or all of a cluster. Injury to the berry, either by rain splitting, separation from stem due to internal pressures in tight clusters, hail, powdery mildew infection, or insect or bird feeding can all allow sour rot organisms to enter the berry. Even inconspicuous powdery mildew colonies resulting from late-season infections can increase the severity of bunch rot.

In the case of Phomopsis, berries get infected directly through the skin or via the berry stem and turn brown and rubbery. Typically, the berry stem becomes necrotic and dies and the fungus moves from the stem into the berry. Within several days, the berry turns entirely brown. Any wounds on the berry can also provide entry points and brown spreading lesions can be seen. Black to brown lesions are also visible on the rachises, canes, and leaves. In severe cases, the entire rachis dies and all the berries shrivel up and fall to the ground. In ‘Niagara’, berries fall off readily when the berry stems or rachis dies. In wine grapes, berries may stay attached but rot and often get hollowed out by ants.

Leaf pulling (usually done earlier the season, at least by veraison) significantly reduces sour rot as well as Botrytis bunch rot by reducing humidity and increasing sun exposure of the clusters. Specific fungicides for Botrytis bunch rot are Vangard (cyprodinil), Scala (pyrimethanil), Elevate (fenhexamid), Pristine (pyraclostrobin + boscalid), Endura (boscalid).

In trials, the biofungicides Serenade Max (*Bacillus subtilis*) and Fungastop (citric acid, mint oil) were also fairly effective against sour rot and Botrytis bunch rot. Phostrol (phosphorous acid) also aided in control.
A late-season flight of grape berry moth

Monitoring traps for grape berry moth checked in the past few weeks across southwest Michigan have indicated an upswing in activity by grape berry moth at high pressure sites, with associated egglaying on berries. This pest pressure is most obvious in traditional hot spots, but growers are advised to check their vineyards (especially on wooded borders) to look and see whether they are getting new infestations developing at the vineyard edges. With the cooler nights and windy days this week, the suitability of the weather for berry moth mating and reproduction is not ideal. However, this pest has apparently been able to provide some late-season pest pressure by trying to fit in another generation. If vineyards are being harvested this week or next they are unlikely to benefit from attempts to control berry moth, because larvae are either already inside berries, or the eggs laid in the next week will grow slowly under these cool temperatures, making them less likely to be detected. For those hot spots where additional activity is being seen in vineyards that are being harvested later in September or early October, growers will need to decide whether an additional spray is worthwhile at this point in the season. This decision will obviously need to take into account the level of infestation, expenses to date in the vineyard, and the level of crop present.

Why are we seeing this late season berry moth activity? With the very warm 2010 season, we have accumulated sufficient degree days for a fourth generation of this pest, exceeding the 2430 growing degree days from wild grape bloom that is required to start another generation. This is much more than usual, and the insects are responding to this heat. For comparison with last season, we had accumulated 2660 GBM degree days in Berrien Springs yesterday, whereas only about 2100 had been accumulated at this time last year. In a typical season, as the days get shorter in August, grape berry moth enters a resting state or 'diapause' so that larvae develop to pupae and then stop at the pupal stage to make it through the winter. With this season's hot summer, they apparently could detect the signal from the environment that it might be worth 'trying' another generation, and so the heat counterbalanced the usual effect of the shorter days. This resulted in a significant portion of the larvae developing through to adult moths that are now flying, mating and looking for egglaying sites on clusters. As a result, we are now seeing some higher late-season activity from berry moth.
2010 TNRC Field Day
September 28
1-4PM
TNRC, Fennville

Winegrape Workshop:
Recent achievements in viticulture research & vineyard management practices
More information: Paolo Sabbatini, 517-355-5191 X1302 or Paul Jenkins, 517-648-5099.
November 12
8AM-5PM
NWMHRS, Traverse City
Lunch provided

Cost: $75 for the first person from each winery/company, $25 for each additional person from the same winery/company.

Registration for this event will open soon.

Program (subject to change):
Recent advances in canopy management, Nick Dokoozlian, E&J Gallo
Mechanization of vineyard operations with emphasis on crop, R. Keith Striegler, University of Missouri
Rootstocks for grapevine root health, Peter Cousins, USDA/Cornell University
Vineyard cultural practices: Where is the biggest bang for your buck?, Nick Dokoozlian, E&J Gallo
The role of rootstocks in achieving vine balance, Jim Wolpert, UC-Davis
Winegrape cultivars: A key to reconciling viticulture practices and production efficiency, Diego Barison, Novavine
Dealing with freezing stress in grapevines, Imed Dami, The Ohio State University

2010 Great Lakes Fruit, Vegetable, & Farm Market Expo
December 7-9
DeVos Place Convention Center, Grand Rapids
Please note there will not be an enology session at the GL Expo this year.

2011 Orchard & Vineyard Show
January 18-19
Grand Traverse Resort, Acme

2011 SW Hort Days
February 2-3
Lake Michigan College, Benton Harbor

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