WEATHER
The 2009 growing season offered some substantial challenges to the winegrape growers of northwest Michigan. The biggest problem this year was not a pest, but the cool and gray weather that did not provide enough heat and sunshine to ripen even our minimally demanding varieties in northwest Michigan.

Looking at degree day accumulation over the past four seasons, 2009 was well behind the previous 3 years, and well behind the 19-year average. As in previous years, the Northport and Old Mission weather stations recorded substantially lower degree day accumulations than those located further inland. The highest degree day accumulations over the past years occurred in 2007 at around 2,500 DD50, during 2009 many area weather station recorded accumulations of less than 2,000 DD50, a 20% deficit of degree days when compared to an average years accumulation.

Many area growers removed a significant portion of the fruit from vines in an attempt to allocate resources to a smaller number of fruit and speed up the ripening process to produce a smaller crop, but with higher brix. The success of this method is highly dependent on the timing of fruit removal. Those who removed a portion of the crop before veraison were more likely to see a significant advantage in ripening the remaining fruit. Some growers were successful, but at the end of the season there was a great deal of fruit that never reached a brix level desirable for winemaking.

Rainfall for the region was down overall with the East Leland weather station only recording 12", despite receiving 15-20" in the previous four seasons. The NWMHRS received the greatest rainfall at just over 19". Benzonia received the most rainfall of all listed stations from 2005-2008, but diverted from that pattern in 2009 and received only moderate rainfall compared to regional averages.

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<th>Rainfall (inches) from January 1-October 1</th>
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<td>2005</td>
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**PEST REPORT**

Potato leafhopper pressure remained relatively low this season with few exceptions. Peak nymph activity occurred throughout July in the region. Peak adult trap catch occurred in mid to late August on both Leelanau and Old Mission Peninsulas. The highest trap counts were recorded from traps located along border rows. Potato leafhopper activity ended in early September.

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**Average Adult Potato Leafhopper Trap Catch, 2009**

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Grape berry moth monitoring with baited delta traps continues to yield variable results. We tend to capture very few adult moths, despite the substantial presence of cluster infestation by the larvae. Peak adult trap catch occurred in mid June on both Leelanau and Old Mission Peninsulas with a secondary, smaller peak in mid to later September. Peak larval activity in clusters occurred in early September and was significant.

Based on a biofix (wild grape bloom) of June 19, the new [Enviroweather grape berry moth model](http://www.enviroweather.com) predicted that first generation egglaying began on 1 August, and second generation egglaying began on 13 September based on weather data from the Traverse City weather station. Based on the idea that larvae hatch from eggs within 3-6 day, we would expect to see increased evidence of larval infestation 7-14 days after egglaying. Although we do see some increased levels of infestation during those time periods, particularly for the second generation, the pattern is not terribly discrete.

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**Leelanau Grape Berry Moth Scouting Data, 2009**

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In terms of all the other pests we spotted this season, rose chafer arrived in sometimes high numbers but no major problems were reported or observed. Mites, grape plum moth, hornworm, and Japanese beetle were all spotted but were not reported in high numbers. One interesting insect that we observed on grape leaves this year were lecanium scale. The second instar nymph of lecanium scale was spotted in local vineyards. High populations in hardwoods surrounding the vines were the likely cause. There are scale pests of winegrapes that can weaken vines under intense pressure and the honey dew they exude provides favorable conditions for some molds to grow. Lecanium scale are not a documented pest of winegrape in Michigan, but we'll be keeping an eye on them next spring! We are also happy to report that we observed many beneficial parasitoids and predators as well as native pollinators.

Grape phylloxera, *Daktulosphaira vitifoliae* (Fitch) are insects that rarely make serious pest status in areas with our sandy soils; they are considered to be more problematic in regions with heavier clay soils. We rarely see damaging numbers of phylloxera in the north, but growers should be vigilant. This caution should be particularly noted in choosing a phylloxera-resistant/tolerant rootstock for newly planted vines. If populations reach high enough levels, the foliar or aerial part of the phylloxera life cycle can result in premature defoliation, reduced shoot growth, and reduced yield and quality of the crop.

Grape plume moth larvae disguised within a leaf.

To the naked eye the 2nd instar of lecanium scale (left) appear as small yellow-brown, football-shaped specks on the underside of leaves. The nymphs are protected under a thin wax coating as they prepare for overwintering.

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**DISEASE**

**Powdery Mildew:** Powdery mildew arrived in late August and early September in the Leelanau County Vineyard we scout, but wasn't spotted until late September on Old Mission Peninsula. Leaf infections remained moderate this year and we saw very little powdery mildew on fruit in well covered vineyards.

**Downy Mildew:** We observed a small amount of downy mildew on leaves on both Leelanau and Old Mission Peninsulas with symptoms becoming visible at the end of August and into early September. We did not observe any downy mildew on clusters. The fungus can result in yield losses by rotting inflorescences, clusters and shoots.

**Botrytis:** This fungal pathogen was observed in fruit clusters in mid-August. This disease is most commonly found under cooler conditions (59 to 68°F) and spreads more quickly under rainy conditions, which were not evident this season. Botrytis symptoms appeared in September and was usually seen in conjunction with grape berry moth infestation. Infection levels remained low as the region experienced dry weather in September. As the season progressed into fall the disease intensified with significant rainfall and increased fruit maturity in October. Botrytis is often more of a problem in varieties that have tight clusters. Overall, we observed botrytis mainly in grape clusters infested with grape berry moth.

**THANKS!**
That wraps up another season of the Vineyard IPM Scouting Report. Thanks to all of our participating growers who allow us to scout in their vineyards, and thanks to all the subscribers as well. Just a reminder, there will be a Winegrape Session during this year's Orchard and Vineyard Show, located at the Grand Traverse Resort in Acme, MI, January 19-20, 2010. For more information contact Erin Lizotte at 231 946-1510 or taylo548 "at" msu.edu.

For more information on this project, contact Steve at vantimm2 "at" msu.edu
More information on Vineyard IPM is available online at: [www.grapes.msu.edu](http://www.grapes.msu.edu)

All photos: Steven Van Timmeren and Erin Lizotte