



Grapevine Yellows and Other Vineyard Problems

Growing wine grapes has never been easy, especially in the East with our climate conditions, but it is getting harder with the arrival of some old and new problems in the vineyard. Last year the red flag was waving as Brown Marmorated Stink Bug arrived with a vengeance in regional orchards and caused concern both for direct damage to fruit and tainted wines in vineyards and wineries.

You have heard of the phytoplasma (a bacteria-like organism) called Grapevine Yellows, which appears in many guises, also as Flavescence Doree in Europe, Bois Noir and other names. Dr. Tony Wolf and his former research assistant, LeAnn Beanland did significant work on the disease in Virginia, identifying vectors and alternate hosts. They found three leafhoppers that are prime suspects but there are surely more, as well as many potential host plants. As I have stressed in the past, the woods are a deep, dark and dangerous place for vineyards as many harmful insects and diseases reside in native vegetation.



This summer, while traveling in vineyards around the region I have been concerned to see yellows in many varieties including Chardonnay, Cabernet Sauvignon, and Petit Verdot. Recently, I have seen symptomatic (but not positively identified) GY in Lemberger, Malbec, Pinot Gris, Pinot Noir, and Sangiovese, and, according to Dr. Wolf, possibly his first encounter of GY in a hybrid variety. Needless to say this is cause for concern because at the moment the only response to a vine with yellows is to destroy and replace it.

<<<< The photo at left is symptomatic (but not positively identified) grapevine yellows leaves with tightly curled edges. Dr. Tony Wolf was present to confirm a visual identification of likely GY. I advise all grape growers to be knowledgeable of the symptoms of grapevine yellows so you can properly respond to its presences in your vineyard.

Another visual cue for GY is aborted clusters, either partial or entirely, as in this photo >>>>>

Failure of bark or periderm tissue to fully mature or lignify on affected shoots and leaves with a brittle or leathery texture are also indicators of GY.

Dr. Robert Davis, a scientist at the USDA Agricultural Research Service laboratory in Beltsville, MD is an expert on phytoplasma diseases. He has surveyed vineyards across the region. While he did not find positives in Pennsylvania but Tony has in the past. We are fortunate to



have both Bob and Tony working on this problem. It's another chronic problem in the complex of vine decline that afflicts vineyards in the Eastern U.S. This one, I believe, is already having economic consequences for grape growers. For more information about phytoplasma and grapevine yellows visit these websites:

- ARS Phytoplasma Resource Center http://plantpathology.ba.ars.usda.gov/pclass/pclass_grapevine.html
- <http://plantpathology.ba.ars.usda.gov/phytoplasma.html>

Two others problems of note are leafroll virus

(http://www.nysipm.cornell.edu/factsheets/grapes/diseases/grape_leafroll.pdf) and crown gall, which continue to cause problems, especially for new growers seeking to establish high quality vineyards using California nursery stock. It is economically and psychologically damaging to have new vines fail because of these problems but until a system can be brought to bear on them to clean them up in the nursery system growers will continue to experience problems in their vineyards. I have always wondered why the commercial wine industry accepts this situation in the U.S., it's like buying a car knowing for certain that a mechanical problem will develop in a year or so. The only solution I know of for the concerned wine grower is to engage the services of Dr. James Stamp (<http://www.jamesstamp.net/home.html>), who works with his clients to source healthy and clean plant materials.

In my visits this summer I will also call upon commercial grapevine nurseries to do a better job of delivering the varieties (and certainly clones) that their customers ordered. I have seen numerous cases of mistaken identity in new vineyards, again, a very costly and frustrating error for grape growers to contend with. In most cases a mistaken variety cannot be positively identified until fruit appears in the second year so time, income and uniformity are all lost in the vineyard. There is a bond of trust between growers and nurseries, the former rely on the latter to deliver the variety, clone and rootstock that were ordered will be delivered true-to-type and as healthy and disease free plants. I'm not sure what the incentive will be for nurseries to improve their quality and practices but it's unlikely to happen without some push from their customers.



Another pest may be on the horizon for vineyards in Pennsylvania and the region. Colleagues in the western states and recently the Penn State small fruits specialist, Kathy Demchak, have delivered alerts about the Spotted Wing Drosophila, a small vinegar fly that lays its eggs in berries (like grape berry moth). I don't know much about it except what appears on fact sheets circulating around. But grape growers should be aware of this pest and be able to identify it and the damage it causes. Like BMSB, the extent of the problems it will cause in vineyards is as yet unknown. Go to the Penn State IPM website for more information about SWD -

<http://extension.psu.edu/ipm/agriculture/fruits/spotted-wing-drosophila>

Growing grapes does not get any easier. Yet, I marvel at how successfully it is done by our intrepid wine growers. It is testimony to your tenacity and adaptability to ever changing biological, environmental, meteorological, economic and all the other conditions that challenge you in the vineyard and winery.

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