



Viticulture Notes..... Vol 34 No. 4 (June 2019)

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I. Seasonal reminders:

Winter injury: I commented on this in the April Viticulture Notes. Only thing to add at this point is that the severity and geographic extent of injury is greater than fully appreciated earlier this season. As previously mentioned, the greatest problems have been observed and otherwise reported in the northern counties of Frederick, Loudoun, Fauquier and Warren, and with varieties that we would normally classify as “cold-tender”, including Merlot, Tannat, Sangiovese, and Nebbiolo. Although it’s tenuous to draw cause-and-effect relationships that generally explain every situation. Above and beyond the obvious: the injury resulted from cold temperatures (Duhh!), contributing factors to the cold injury could be vines being in a compromised condition going into the dormant period of last fall/winter due to foliar disease (early defoliation in cases) and possibly very wet soil conditions, either of which could delay or reduce cold acclimation and mid-winter cold hardiness. We’ve seen very graphic cases of small, depressed topographic areas within a vineyard where vines suffered, or are suffering now, due to water-logged soils. It’s tempting to think that if the weather ever gets really dry again, maybe the vines in these low spots will turn around and perform well. The 2018 season and, to some extent, the 2019 season to-date has highlighted the contrasting performance of vines in swales or other low-lying areas, relative to those planted on elevated, convex land forms. We’ll pick up on this somewhat at the VVA summer technical on 12 June.

Canopy management: We’re at full-bloom on Cabernet Sauvignon now at Winchester so points further south will be into first rounds of shoot-hedging and post-bloom leaf thinning from fruit zones. We are shoot-tucking (VSP) and also finding the need to do a second round of shoot-thinning on our cordon-trained vines. First round was done about a month ago to achieve about 3 – 4 shoots per foot of cordon, but some vines (Cab Sauvignon in particular?) just want to keep pushing basal buds, which will aggravate our canopy management later this summer when it really matters if those small shoots are not removed now. It’s obvious to experienced growers, but if the advice registers with just one new grower, it’s worth repeating that keeping a relatively open fruit zone with good ventilation and dappled sunlight exposure will do more than anything else to aid disease management in our typically humid, often wet climate. Much of our standard canopy management is aimed at this goal. See the Wine Grape Production Guide for Eastern North America (2008) for the basics of canopy assessment and management.

For now, here are some reminders for selective leaf and lateral shoot thinning:

- Timing is critical. Done too early/severely (pre-bloom) and it can impact fruit set; done too late (pea-sized fruit) and you can cause sunburn of the suddenly exposed fruit.
- To expound on bullet point #1: You are not too early at this point, regardless of where you grow grapes in Virginia. While you might be *later than desired* to start leaf-thinning, it can still be done if it's done judiciously. This can be difficult to convey to a work crew or a mechanical leaf remover operator, but remember that you can always take more leaves/leaf area off the vine as the season progresses, but shaded fruit that is suddenly exposed to sunlight is exceptionally sensitive to sunburning (see my July 2018 Viticulture Notes).
- Generally done at “fruit set” or immediate post-fruit set. Very labor-intensive if done by hand, but we are seeing more vineyards making the investment in machinery to speed this important operation.
- Selectively removing 1 or 2 leaves per shoot as well as small lateral shoots in the fruit zone is an excellent [think *most important*] means of assisting with disease control, especially for botrytis bunch rot and powdery mildew.
- In addition to disease management, the seasonal maintenance of a relatively thin, light-and air-porous canopy also aids fruit fly management in the preharvest period.
- I prefer not to “over-expose” fruit, even though some of our own research shows increased total phenolics and a modest increase in wine aroma precursors in Cab franc and Petit Verdot that are leaf-thinned prior to bloom or heavily leaf-thinned post-fruit set. My reasons for a more modest leafing rest with our recent observations (supported by field trials in 2018) that “full” fruit exposure can have the unintended consequence of increasing certain fungal diseases such as Macrophoma rot (*Neofusicoccum ribis*). Ideally, about 1 leaf layer (on average) in the fruit zone or elsewhere in the canopy is a good target (see the “before” and “after” photos below).
- If your canopy exceeds this, think about additional shoot-thinning or selective leaf pulling. See figures 1 and 2 for examples.



Figure 1. Cab Sauvignon, immediately post-bloom, prior to leaf-thinning.



Figure 2. Cab Sauvignon, same cordon as Fig. 1, after basal leaf and basal shoot removal. Approximately one leaf layer retained.

Disease management: Pre-bloom and up to 6 weeks post-bloom is a hyper-critical period for fungal disease management due in part to the susceptibility of developing grapes to many of our fungal diseases. Added to this susceptibility is the relatively moist condition that many parts of the state have experienced in May. Dr. Mizuho Nita's disease blog is a great way to review management options for our principal diseases (<http://grapepathology.blogspot.com/>). Take advantage of this information and apply his recommendations as part of your overall disease management program. He goes into considerable detail on chemical options for disease management.

Vineyard oddities: Had several inquiries recently – all of which surface in most years. One gentleman asked about the nature of galls found on grapevines. They were grape tumid galls, covered in the April 2019 Viticulture Notes. We also get questions about berry bruising at this time of year – normally a consequence of hail (see Viticulture Notes, July 2019). If you see something odd, let us know. Chances are it's been observed before.

II. Spotted lanternfly quarantine established for City of Winchester and Frederick County, Virginia:

Dr. Doug Pfeiffer issued the following information last week, which is also available in a similar version on the Virginia Department of Agriculture and Consumer Service's website:

<https://www.vdacs.virginia.gov/press-releases-190528-spotted-lanternfly.shtml>

VDACS announced the establishment of a quarantine for spotted lanternfly (SLF), the invasive pest insect that was found in Winchester in January 2018. Despite an eradication effort in 2018, SLF increased its distribution from about 1 square mile to 16 square miles. This year, the overwintering eggs began their hatch on April 27, earlier than last spring. They are now in the second instar, or second nymphal stage. The photos show nymphs feeding on poison ivy at about this time last year, and a collection of all four nymphal instars (second instar is second from the left).



The press release on the SLF quarantine [linked here](#). A direct link to the quarantine document is [linked here](#) as well. The regulated area includes the City of Winchester and Frederick County. Some of the key provision of the quarantine are:

- 1) Regulated articles (plants, outdoor industrial materials, shipping containers, outdoor household articles, and others) may be moved from the quarantine area if they have been inspected, and are accompanied by a permit;
- 2) Regulated articles may be moved within the quarantine area following an inspection; a certificate is not required.
- 3) From April 1-Dec 31, regulated articles may be moved through the regulated area without stopping, or stopping only for fuel or traffic conditions.
- 4) To obtain a permit to move regulated articles, a person doing business must complete a VDACS-approved training (see below) and agree to train employees on identification of SLF.

The training needed to obtain a SLF permit is [available online](#). There is a \$6.00 fee.

My (TKW) notes: The on-line training takes about 30 minutes, including the short quizzes associated with each of 4 different aspects of the training. You have to register on-line and an email message will be sent separately explaining how to access the training materials. I understand that the permitting process (for example, to move picked grapes out of Frederick County) may take some time (days). Therefore, don't wait until the grapes are being harvested to apply for a permit. Virginia Cooperative Extension has information on SLF here: <https://ext.vt.edu/agriculture/commercial-horticulture/spotted-lanternfly.html>

There are numerous other fact sheets, photos and videos that can easily be found on-line. Slowing the spread of this invasive pest is going to take community effort. Recognizing the various life stages of the insect, including egg masses and nymphs is a good start.

We hope to include a "what if I find spotted lanternfly nymphs in my vineyard" discussion at the June 12th summer technical meeting discussed below. Penn State Cooperative Extension has updated chemical management recommendations for grape and other fruit crops here: <https://extension.psu.edu/updated-insecticide-recommendations-for-spotted-lanternfly-on-grape>

Pennsylvania has been dealing with SLF longer than we have. This is passed along simply as a matter of interest and does not represent an endorsement of specific management options on my part. Speaking and visiting with grape growers in Schuylkill County Pennsylvania in 2018, it was obvious that heavy insecticide usage aimed at SLF was aggravating the situation with secondary pests such as European red mite.

III. Meeting reminders:

12 June: Virginia Vineyards Association's Summer Technical Meeting.

Join us on Wednesday, June 12, at [Stone Tower Winery](#) in Leesburg for the VVA's 2019 Summer Technical meeting. This year's agenda is focused on detailed site and soil mapping and vineyard establishment considerations. We will hear from a collection of established growers throughout the state, for a mixture of classroom style and in-the-vineyard talks. Registration details will be announced soon. Program at registration details can be found here: <https://virginiavineyardsassociation.org/2019-summer-technical-meeting/#id=122&cid=1041&wid=3201>

44th Annual meeting of the American Society for Enology and Viticulture-Eastern Section (ASEV/ES)

16-18 July 2019

Hobart and William Smith Colleges

Geneva, NY

The 2019 ASEV-ES conference will be held at the Hobart and William Smith Colleges in Geneva, NY July 16-18, 2019. The **ASEV-ES conference** will begin with technical/research presentations on Tuesday, July 16 and include the awards/lunch and Oenolympics with Wines of the East Reception. On Wednesday, July 17 there will be a **New York Digital Viticulture Tour and Equipment Demonstrations** in vineyards on Keuka and Seneca Lakes. The **Nelson J. Shaulis Symposium** on Thursday, July 18 will feature invited speakers to discuss “Digital Viticulture: New Tools for Precision Management of Vineyards”. [Click here for more information about the tour and symposium.](#) Visit our website <http://asev-es.org/> for more information.

There are several options for hotel and room accommodations for the ASEV-ES Conference and Nelson J. Shaulis Symposium. [Click here to download the conference registration information.](#)

If you have never visited the Finger Lakes and its many wineries, July is a perfect time of the year to enjoy the views, the wines and the cooler weather! Here’s one of many websites that explain what’s available to see and visit: <http://www.fingerlakeswinecountry.com/wine-food/wineries/>

IV. Parting shot:

Virginia Cooperative Extension recently updated an interesting bulletin on agro-tourism that leans heavily on the Virginia wine industry and, in particular, the increasingly popular Shenandoah Valley. In **A Geographic Analysis of Agritourism in Virginia**, authors Chris Lucha and others at Virginia Tech discuss factors that contribute to the success of agri-tourism operations, including transportation infrastructure, raw materials (e.g., grapes/wine), labor, proximity to consumer markets, and corollary amenities including natural resources. Parts of the discussion evoke an “of course” refrain, but there are novel considerations too and the article does highlight the potential of the Shenandoah Valley for further agritourism development. Check it out: <https://www.pubs.ext.vt.edu/AAEC/AAEC-62/AAEC-62.html>

