



Viticulture Notes..... Vol 33 No. 3 (May 2018)

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<https://www.arec.vaes.vt.edu/arec/alson-h-smith.html>

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Vineyard updates:

My, don't things look green? That's about the extent of my "cheerful" news for this update. Rain, and more rain in the forecast, and the prospect of black rot and/or downy mildew, is on winegrowers' minds, or should be. We might see an increase in some issues with reduced fruit set too if the rain persists through bloom. But let's be optimistic. Dr. Mizuho Nita posted a lengthy discussion yesterday on his grape disease blog about fungicide spray options in light of the current and forecast weather conditions. Read it.

<http://grapepathology.blogspot.com/2018/05/rain-rain-rain-what-should-we-do.html>

Principal concerns on the disease front right now are downy mildew and black rot. Even if you went into this period of wet weather with a strong, protective spray program, the erosion of spray residues under inches of rain will likely mean that DM and BR infection periods might well have occurred before you have a chance to get the sprayer back into a soggy vineyard. Thus, Dr. Nita's recommendation of materials that are both "rainfast" and that have post-infection activity should be heeded when you get a break with the weather. For downy mildew, phosphite (phosphorous acid) products such as Phostrol, ProPhyt, and Rampart (Mode of action or FRAC class = 33) offer good post-infection management of downy if applied within 3 or 4 days of an infection period. Ridomil (e.g., Ridomil Gold MZ) (mefenoxam+mancozeb, FRAC class = 4+M3) also offers excellent protective and post-infection activity against downy mildew, but is at risk of resistance develop. Use no more than once or twice per season. I try to conserve Ridomil for a single application around bloom/fruit set if the weather is also persistently wet at that time. Mizuho also recommends tank-mixing a downy protective product as well, and lists a number of products in his blog, including mancozeb, Revus, Forum and Zampro.

For black rot, you also have some options for post-infection action/activity, including DMIs such as Rally or Mettle (FRAC = 3), and Qols such as Abound or Sovran (FRAC class = 11). The DMIs tend to be a bit better than Qols in terms of post-infection activity, while

both DMIs and Qols have good to excellent protective activity. There are many other black rot and downy mildew protective fungicide options that are listed in the Pest Management Guide. (<http://pubs.ext.vt.edu/456/456-018/456-018.html>).

Don't ignore other diseases/pests as you see the sun again. While downy and black rot are prime threats this week, we are approaching bloom in the southern part of the state and the full range of disease pressure, including powdery mildew will be in force (if not already). Good luck with the weather and getting back into the vineyard with seasonal activities.

Seasonal reminders:

Speaking of which, the following topics have been self-plagiarized from previous Viticulture Notes. While most of the topics concern mature grapevines, there's something for everyone in the content. The topics are covered more extensively in the Wine Grape Production Guide, but offered here with some modest modifications to what might be found in our production guide. These are activities that should be going on now in southern and central VA and which we are just starting to do in northern VA.

Canopy management: Shoot-thinning

- Our goal with shoot-thinning is to promote a desirable canopy architecture for fruit ripening by limiting shoot density to about 3 to 4 shoots per foot of canopy. It is far easier to thin shoots in the pre-bloom period than waiting until you realize the canopy is too dense after fruit set.
- Note: If you are in a windy location, or with high-trained vines, you might go a bit higher with this density goal, as shoot breakage may occur and further thin the canopy.
- Note: Shoot density for Smart-Dyson (or other divided canopy training systems) should be altered to reflect the upper and lower canopies. For S-D, or S-D Ballerina, we would aim for 3-4 shoots/foot of cordon going UP and 2-3 shoots/foot going DOWN on the two opposing planes of vertically-divided canopy.
- I can't over-emphasize the importance of shoot-thinning **now** for improved disease management and fruit ripening **later**.
- Goes a long way towards achieving desirable canopy architecture AND balanced crop load.
- Try to retain shoots that are close to cordon (e.g., lower node of 2-node spur) if using cordon-training.
- More work required to shoot-thin cordon-trained vines (due to multiple base buds) than head-trained, cane-pruned vines; however, shoot development often more uniform along the cordon than along a cane (pros and cons to both systems)

Canopy management: Selective leaf and lateral shoot removal

- Timing is critical. Done too early and it can reduce fruit set; done too late (pea-sized fruit) and you can cause sunburn of the suddenly exposed fruit.
- At fruit set or shortly thereafter, selectively removing as many as 4 leaves per shoot around the fruit cluster(s) is an excellent means of assisting with disease

management, especially for botrytis bunch rot and powdery mildew. We've also seen some evidence of increased grape aroma precursors (certain carotenoids) and increased aroma compounds (e.g., β -damascenone) in the more exposed fruit treatments.

- Very labor-intensive if doing by hand. The equipment is expensive to mechanize the leafing, but you'll realize a tremendous savings in labor.
- Leafing prior to bloom or at "trace bloom" has the potential to reduce fruit set. This might be desirable under some situations, particularly with varieties that are prone to bunch rots and those with undesirably compact clusters. We've had good results on an experimental basis in varieties such as Chardonnay, but we don't have a formula for every situation – try sparingly if you want to try this approach, and don't remove more than 3 leaves per shoot. Again – this is for timing right at the start of bloom,

Crop control:

My general rule of thumb is to aim for about 1.5 to 2.0 pounds of crop per foot of canopy: the lower number for reds, the higher for whites. Again, this is a *general* rule and you may wish to further reduce those levels if your own situation and experience warrant the reductions. You'll need your average cluster weights from previous harvests to predict how much crop is (currently) hanging (at time of thinning). But, say, if you are counting 7 developing clusters per foot of canopy and that variety averaged 0.38-pound clusters at harvest in past years, then you might be headed towards 2.7 pounds of crop per foot of canopy – I'd suggest going back to no more than 5 clusters per foot.

When to reduce crop, if needed: With vigorous vines, wait until July (but well before veraison) to remove excess crop. Thinned too early, and vines will compensate with larger berries and more compact clusters. Thinned at or after veraison, and you will gain very little if any benefit, unless you just like seeing clusters on the ground. With low-vigor and/or young vines, remove additional crop soon after fruit set, once you can see the extent of set. Remember, if rainy weather persists through bloom/fruit set, anticipate that you might see reduced fruit set and a reduced cluster size. Remove all clusters from stunted shoots (e.g., those that appear to have aborted shoot tips and that are less than 18 inches long). Basal clusters are typically the larger(est) clusters on shoots that bear 2 or more clusters. Deciding which cluster(s) to remove on a shoot has more to do with proximity to other clusters than to position on the shoot though. We prefer to thin clusters with the strategy of minimizing cluster-to-cluster contact, or contact of the cluster with trellis hardware or cordons, rather than following a particular prescription for basal cluster versus more distal cluster removal. Clusters and berries that freely develop without contact with other objects tend to be freer of fruit rots and exhibit more uniform berry ripening than do clusters that are contacting trellis hardware or grapevine parts. We'll spend some time on crop estimation methodology at one or more of the upcoming vineyard meetings (see below).

Winter injury and other weather-related issues:

We're getting some reports of winter cold injury from around the state but particularly in the south and southeastern portion of Virginia – points east of I-95. It's too early to say whether the injury was due to low temperatures around the 6th/7th of January 2018, or due

to unusually cold temperatures in mid-March. Vit Notes readers might recall my comments in the January 2018 Viticulture Notes about taking samples of vines at that point to assess whether January low temperatures (as low as -10F) caused any damage. The winter injury symptoms at this point appear to show trunk/cane injury, wilting shoots on damaged vines, and evidence of trunk browning or outright death. I'll be doing some on-site visits at some of the affected vineyards next week. I would appreciate hearing from you (vitis@vt.edu) if you feel that you're seeing evidence of winter injury from this winter/spring. I'd remind readers that if you have losses to grapevines (mortality), you could be eligible for financial assistance with replanting under the US Department of Agriculture (USDA) Farm Service Agency's Tree Assistance Program (TAP). A 2-page fact sheet on the TAP program can be found here: <https://tinyurl.com/y8d6u8gz>. Note, I've shortened the URL here for convenience; it's legit. To be eligible, your affected block or planting must have sustained at least 15% mortality. This is not the same as "injury" or crop loss due to frost or hail (unfortunately, we've had some recent reports of hail injury too). If you think a portion of your vineyard might qualify for the TAP program, start by reading the 2-pager referenced above and contact your local Farm Services Agency office if you believe that you qualify. It's worth looking into, but bear in mind that the TAP application must be received by Farm Services Agency within 90 days of when the loss is apparent to the producer.

Upcoming meetings:

6 June, Winchester VA,

New Grower Workshop, Virginia Tech, registration required:

<https://tinyurl.com/Vit101>

See additional program and registration information below.

13 June, Shenandoah Valley, Virginia Vineyards Association (VVA) summer technical meeting, (Shenandoah County)

Registration required <https://virginiavineyardsassociation.org/technical-meetings/>

23 June, Twilight Meeting, 6:30pm.

Rivah Vineyards at the Grove (Westmoreland County)

<https://www.rivahvineyards.com/location.html>

Northern Neck and Chesapeake Bay region

Tremain Hatch, Dr. Mizuho Nita, Stephanie Romeczyk

Seasonal updates, vineyard tour, winery tour

27 June, Rock Mills Vineyard, (Rappahannock County)

11:00 am – 1:30pm *bring a lunch

743 Vineyard Lane, Rock mills road, Washington VA 22747

Seasonal updates and pest management reminders.

Wayne Mills, Vineyard Operation Manager, overview of vineyard and management practices, Dr. Tony Wolf, Dr. Mizuho Nita, Dr. Doug Pfeiffer, Tremain Hatch & Kenner Love

18 July, Sunset Hills Vineyard (Loudoun County)

1:00pm

Joint Roundtable with LWA, LWGA, and Virginia Cooperative Extension

<https://www.sunsethillsvineyard.com/Contact-Us>

[Click Here to Register](#), email Aimee Henkle <aimee@lostcreekwinery.com>

Registration Information 6 June 2018

Introduction to Mid-Atlantic wine grape production

Virginia Tech's AHS Jr. Agricultural Research and Extension Center

595 Laurel Grove Rd., Winchester VA 22602

Winchester, VA (Frederick County)

(<https://www.arec.vaes.vt.edu/arec/alson-h-smith.html>)

Team-taught program designed for those either exploring grape production or recently engaged in wine grape production. On-site registration will occur from 8:00 to 8:30 am.

Registration is required: \$100 per person (includes lunch). Online registration via a secure website <https://tinyurl.com/Vit101>. No refunds available after 1 June 2018.

Contact Tremain Hatch Thatch@vt.edu with registration questions.

Tentative program may be subject to slight changes.

- 8:30 am: Introduction and market opportunities
Tony Wolf, Virginia Tech
- 9:00 am: Natural Resources Conservation Service (NRCS) support for new vineyards
Brent Barriteau, NRCS
- 9:30 am: Vineyard business planning, predicted cash flows
Tremain Hatch, Virginia Tech
- 10:00 am: Lender's perspective on vineyard enterprises
Ryan Clouse, Mid-Atlantic Farm Credit
- 10:30 am: Vineyard site evaluation and environmental challenges
Tony Wolf
- 11:15 am: Vineyard design considerations
Tremain Hatch
- 12:00 pm: Lunch (provided by registration)
- 12:30 pm: Walk to vineyard and review vineyard design
Tony Wolf and Tremain Hatch
- 2:00 pm: Variety/clone/rootstock considerations for the mid-Atlantic
Tony Wolf
- 2:45 pm: A grower's perspective of vineyard management
Tom Kelly, Kelly Vineyard Services and Past-President, VVA
- 3:30 pm: Fundamentals of grape integrated disease management
Mizuho Nita, Virginia Tech
- 4:15 pm: Virginia Cooperative Extension resources
Beth Sastre, VCE
- 4:45 pm: *Depart AREC for James Charles Vineyard and Winery*
- 5:00 pm: Post Workshop Social & Winery Perspective

Winery

*Jim Bogaty, Veramar, Bogati Bodega and James Charles Vineyard and
Overview of Virginia Wine Industry and informal wine tasting*

If you are a person with a disability and desire any assistive devices, services or other accommodations to participate in this activity, please contact Tremain Hatch, AHS Jr. AREC at (540) 232-6032 during business hours of 9 a.m. and 5 p.m. to discuss accommodations 10 days prior to the event.