



Viticulture Notes..... Vol. 35 No. 2 or 3, 2020

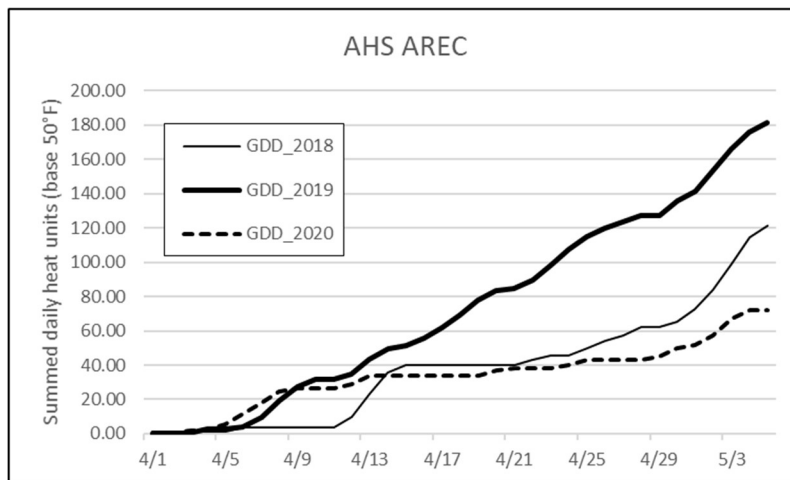
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<https://www.arec.vaes.vt.edu/arec/alson-h-smith.html>

1. CURRENT SITUATION

Let's talk about the weather. Anyone thinking that it's still winter? There is no denying that April has been cold. Unusually so. Look at the heat summations over the past 3 springs (Figure 1) for data recorded here at the Winchester AREC between April 1st and May 5th each season. April of 2019 was about 3X as warm as the same period of 2020, as measured by daily summations of heat units (sum of degrees above a daily average of 50F or greater). Globally, April of 2020 is on track as being a record warm year; however, much of the continental US saw below-average temperatures for April, <https://www.ncei.noaa.gov/news/national-climate-202004> (Figure 2). If you browse the NOAA website, April 2020 temperatures look very similar to those of 2018. With respect to rainfall, I commented at the IPM virtual meeting on 24 March that NOAA's long-range weather forecast was showing above-average precipitation for the mid-Atlantic, from early spring through fall of 2020. That forecast has not substantially changed. For example, the Jun-July-August 2020 precipitation probability forecast, updated in mid-April, is still forecasting above-average precipitation levels for the Mid-Atlantic (Figure 3). The rolling three-month trend for 2020 can be found here: https://www.cpc.ncep.noaa.gov/products/predictions/long_range/two_class.php



The 2020 season looks like it might be shaping up to be a replay of 2018. We received close to 5 inches of rain here at the AREC in April. Not a season to let your guard down on disease management, nor a season to carry a heavy crop load on late-ripening cultivars.

Figure 1. Comparison of accumulated heat units at Winchester AREC over the past three years (1 April – 5 May).

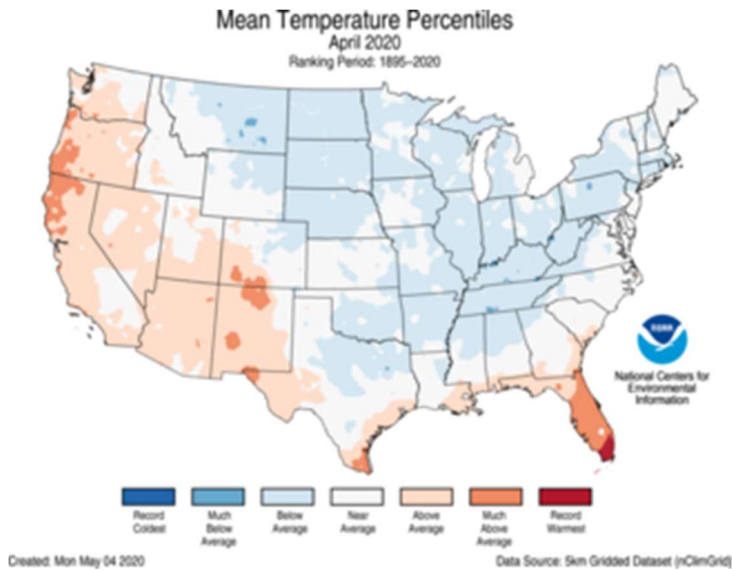


Figure 2. Generalized temperature record for CONUS for April 2020. While global temperatures reached near-or record warmth for April in 2020, the weather patterns favored a much cooler than average month for two-thirds of the US.

<https://www.ncei.noaa.gov/news/national-climate-202004>

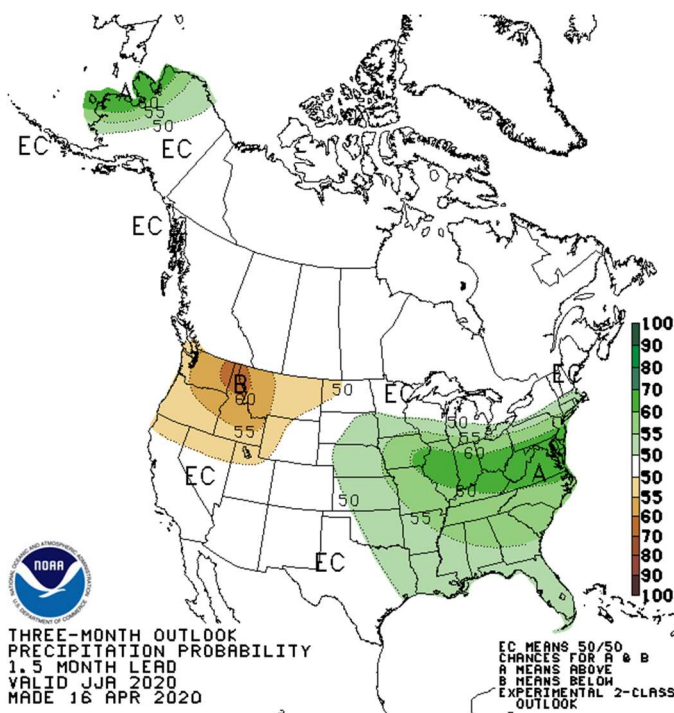


Figure 3. Long-range precipitation probability for June-July-August 2020. Forecast updated 16 April 2020.

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/two_class.php

2. UPDATES ON APRIL FROSTS:

I issued a separate Viticulture Notes last week on the frosts of mid- to late-April, and will talk about recovery options somewhat more at tomorrow's virtual vineyard meeting (also announced last week). I've had the opportunity to follow-up more with some of the affected vineyards, and a few highlights and thoughts stand out:

- First, and most alarmingly, the "last" frost of 19 April might not be the "last" that we see this spring. The numbers have been jumping around, but there is little doubt that we are going to get unseasonably cold again this Friday – Sunday. I saw forecast lows of 28F in Shenandoah County for Friday morning. Although I have not placed a great deal of faith in sprayable, prophylactic frost-prevention measures, this might be an occasion to try one of these materials if you have a frost-prone section of the vineyard. You can find a more in-depth discussion of this in the February 2017 Viticulture Notes: https://www.ares.vaes.vt.edu/content/dam/ares_vaes_vt_edu/alson-h-smith/grapes/viticulture/extension/news/vitnotes2017/Viticulture%20Notes_February-2017.pdf
- The central and southern Piedmont appeared to bear the brunt of the frost injury in April. Topographic effects were pronounced. In Albemarle County, vineyards below 850' asl had a much greater likelihood of injury than those above that elevation.
- Chardonnay was probably the most severely impacted variety and was at or beyond E-L stage 12 (10-cm shoots, inflorescences clearly visible) on 19 April in central Virginia. In cases, 80% or more of primary shoots had been frosted.
- Interestingly, striking variety differences were evident in some vineyards. In at least one vineyard, Merlot was not frosted as severely as Chardonnay was, with the two varieties planted adjacent to each other, and with both showing at least 5 unfolded leaves at the time of frost.
- We've had much greater frost damage in previous years and the Easter Freeze of 2007 still stands out as a record in my mind when we saw temperatures in the teens with shoots out 2 inches or more. As pointed out last week, the unusual aspect of the frosts around 16-19 April was the fact that March was so warm. Had we dodged that warmth, the unseasonably chilly weather of April would have translated to a very late bud-burst.
- The April frosts (I am intentionally avoiding May) likely changed some of the plans for buying and selling grapes this year. This is a touchy subject and I can't speculate on what demand will be for "extra" crop this year. While the CV pandemic might have tempered the fruit purchasing plans of some wineries, the frosts might have created a need for more fruit with others, at least with some varieties.
- A consideration with severely frosted vines would be to take a bare-bones approach to pest management and canopy management to cut your costs. Disease sprays might focus

simply on mildews and minimal sprays for black rot and Japanese beetles with cheap materials. If you can afford to remove the remaining crop from the vines there would be little or no concern with grape berry moth, ripe rot, botrytis, or pre-harvest intervals. Go cheap – it's a non-bearing vineyard at this point. Do the minimum canopy management necessary to ensure light penetration into the renewal zone of the canopy to ensure good fruitfulness in 2021. The absence of a crop on big vines means you'll probably have to do more canopy management such as shoot hedging, than normal, but that still might be an economical alternative to a full-blown spray program to protect fruit integrity. Just a thought.

3. TOBACCO COMMISSION VINEYARD GRANT PROGRAM EXTENDED

The Virginia Tobacco Region Revitalization Commission (TRRC) has extended the Vineyard Development and Expansion Program and has approved continued program management by the Institute for Advanced Learning and Research (IALR) in Danville, VA. The program promotes the state's wine economy and agritourism growth by providing growers throughout TRRC's 34-county footprint incentives to expand vineyard acreage.

Through the cost-share program, IALR will continue to work with Virginia Cooperative Extension, TRRC and the Virginia Vineyards Association to increase vineyard acreage and address the shortage of Virginia-grown grapes. A cost-share award of up to \$3,000 per acre is available for qualified vineyard growers, reimbursing 33 percent of eligible expenditures. Vineyards with up to nine acres may receive a maximum award of up to \$15,000, and those with 10 or more acres may receive a maximum award of up to \$20,000.

Complete details are found in the attached flyer. Additional information, including a detailed map of eligible counties and the application, can be found online at <http://trrcgrape.com>. Applications are now being accepted, and the deadline to apply is Dec. 31, 2020. For additional information and questions, please contact Program Manager Amy Turner at Amy.Turner@ialr.org or 434-766-6788.

4. QUESTIONS FROM THE FIELD:

Q: Are there student interns at Virginia Tech that might be interested in vineyard or winery work this summer, possibly into the fall?

A: We've been able to help match up some students with wineries and vineyards over the years, and I'm happy to run your ad in this newsletter (Viticulture Notes). But you can reach a wider range of students by contacting relevant departments on our main campus. If you're primarily interested in vineyard labor, I'd suggest that you reach out to the School of Plant and Environmental Sciences (<https://spes.vt.edu/>) in the College of Agriculture and Life Sciences. See the SPES contact person, below. If you're more interested in a cellar worker, you might wish to

contact the student coordinator in Food Science and Technology (<https://www.fst.vt.edu/>), also listed below. Unless the student arranges independent study, the “internship” is basically just wage labor; however, we would hope that you can provide an educational opportunity for the student(s), as some of these students will be entering the industry workforce in the near future. The information that you’ll need to advertise your position is:

- Company name, location
- Internship description
- Required qualifications
- Start and end dates if known
- Pay rate, range or based on qualifications/experience
- How to apply and application documents required
- Who to contact if applicants have questions

The following individuals can help advertise your position in SPES or FST:

Ms. Jen Stewart

Student Support Coordinator

School of Plant and Environmental Sciences

(540) 231-9785

jen.stewart@vt.edu

Dr. Herbert “Bruce” Bruce

Department of Food Science and Technology

Virginia Tech

Blacksburg VA 24061

(540) 231-9570

brucehr@vt.edu

Q. I’m short on labor to strip trunks of suckers this spring. What options are there for chemical de-suckering?

A. “Suckers” (viticulturally speaking) are unwanted shoots that arise from the trunk and from below-ground. The removal of suckers is generally desirable in the early years of vine establishment to foster development of the permanent structures of the vine, to aid in canopy, disease and crop management, and to reduce the amount of suckering needed in later years. Suckers can be a mixed blessing. In healthy vines, they are unnecessary and unwanted. With injured or diseased vines (e.g., cold-damaged or crown gall-diseased vines/trunks), suckers can be useful to re-establish trunks [Yes, Irene, they’re often there when you don’t want them, and hard to find when you need them]. Shoots that arise on bench-grafted vines from below-ground are usually an indication of incomplete disbudding of the rootstock wood prior to grafting. Allowed to “mature” such below-ground suckers beget more suckers, so it’s a good idea to remove those rootstock suckers early in the vine’s life. Rootstock suckers will have leaves that look more like wild grapevines, and not like the scion variety. The trunk suckers are originating from latent buds. “Water sprouts” is a comparable term for suckers on grapevines and it refers to any sucker shoot

originating from buds on wood older than one-year-old (a cane). In their text General Viticulture, Winkler and others restrict the term “water sprout” to only those suckers in the head region or cordons (arms) of the vine. Others are less discriminating. I tend to restrict my usage of “suckers” to those unwanted shoots on the lower portion of the trunk.

Chemical removal of these shoots is an option for those who don’t mind using contact herbicides. Several options are paraquat (gramoxone), a restricted-use pesticide, carfentrazone-ethyl (Aim EC), and pyraflufen-ethyl (Venue). These herbicides, and directions for their use for sucker management, are included in the current Pest Management Guide for grapes (https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/456/456-017/ENTO-337C.pdf). You need to read the label (ideally before you even buy the product). These are non-systemic, contact herbicides that provide a very rapid burn-down of weeds and unwanted grapevine suckers. The herbicides need to be applied to young, succulent shoots (suckers). It is also important to understand that you can cause irreparable damage to young vine trunks (shoots) if the herbicide comes into contact with green, succulent shoots being trained as trunks. This caution is clearly articulated on the herbicide label: apply only to trunks that have mature, woody bark. I can speak from personal experience that glufosinate-ammonium, another non-systemic, contact herbicide, will cause permanent injury or kill young trunks that have not yet developed a woody periderm or bark if the herbicide comes into contact with those green, immature trunks.

Other “chemical” forms of suckering might be achieved with high rates of urea or calcium ammonium nitrate as applied primarily as nitrogen supplying fertilizers; however, the need for suckering (well before bloom) is really too early for optimum utilization of nitrogen fertilizer (bloom or immediately post-bloom). The alternative to chemical control, is hand-thinning or tractor-mounted brushes marketed under several brands (browse ‘vineyard mechanical sucker management’). While suckers are easy to rub off by hand or machine when young – less than about 6 clearly visible nodes, or about 6 inches long – they become more difficult to simply rub off beyond that point without damaging the supporting cane or trunk. Beyond this stage of development, it’s probably better to cut the shoots with shears. Timing is everything.

2019 Grape Acreage and Crop report:

The 2019 (and earlier) Virginia grape acreage and crop report is available at the Virginia Wine website: <https://www.virginiawine.org/resources?category=1>. Scroll to the bottom at the link to find the 2019 report. Funding for this latest report was provided by the Virginia Wine Board and was conducted by SMS Survey Research. Highlights of the report include a 57% increase in reported crop above 2018, with Chardonnay, Cab franc, and Merlot representing the top three varieties with respect to overall yields. Albariño, Tannat, Sauvignon blanc and Viognier each showed substantially increased yields since 2014. One of the more interesting aspects of the 2019 census was that over 25% of the current Virginia acreage is young, non-bearing acreage. While only about two-thirds of producers completed the survey, the 2019 report gives a snapshot of how the Virginia industry compares to other US production regions, and provides updated crop value figures.

