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Viticulture Notes ..... Vol 33 (Florence edition)

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I. Florence

Hope springs eternal and I, like many, kept hoping that weather of late-summer would begin to dry and that the hard work of the spring and summer – the extra shoot-hedging and the additional black rot and downy mildew sprays -- would not be for naught. There's still hope, but after a weekend of more than three inches of rain, and Florence bearing down on the mid-Atlantic, and threatening to stall once here, my own hopes are becoming dampened. Yes, the year is starting to look more and more like 2003 when hurricane Isabel pulled a similar stunt at about the same point in September. Isabel moved fast though, and conditions improved in late-September and into October – at least if you avoided an early fall frost around the 2nd of October.

My concern with Florence is three-fold: One, we are due to get a lot of rain out of what is now a category 4 storm, regardless of where it makes landfall. Second, Florence has the potential to stall in the vicinity of the NC/VA border, leading to more persistent, rainy weather for much of the mid-Atlantic. Some reports forecast up to 32 inches – that's about 4 times the amount of rainfall that Camille delivered to Virginia. And third, Florence is in the vanguard of two additional storms, Isaac and Helene. Of course we don't know their tracks yet, but they too could bring more rain.

"Hold or fold?", it's the timeless question about grape picking in advance of a big storm that we all agonize over. I've done both, with mixed results. There is no "one" correct answer that can be anticipated, only a sober, post-mortem evaluation of your decision. Here are some considerations (based on my experience) that you might use to decide what to do now and with future forecast rains:

- *Variety*: Some do better than others: Vidal, P. Manseng, Chambourcin and Norton all hold up *relatively* well to some rain. The Cabernets and Petit Verdot – somewhat less so; Viognier, Merlot, Sauv blanc and other early whites – I would get them off. Nothing that I've seen holds up indefinitely to repeated wetting when it's ripe.
- *Degree of fruit maturity*: The more mature the fruit, the greater the speed with which it degrades with prolonged wetting. Degradation can take the form of botrytis development, quickly followed by non-specific fruit rots, including sour rot, or it might start as fruit splitting, particularly on tight-clustered varieties. There's no magic number that I'm aware of below which you don't have to worry, but fruit that is above about 18 to 20° Brix is more prone to degradation from wetting than is less ripe fruit. Again, there are exceptions among varieties, such as Petit Manseng, that would skew that critical Brix range up. The degree of ripeness of the fruit now also has a bearing on

whether the fruit can make *acceptable* wine now. The possibility of having no fruit after the rain due to rot or other losses has to be considered as an alternative. I might be inclined to make a rosé wine with "early" fruit rather than having no grapes to make any wine after the event.

- *Condition of fruit and vine canopy going into the rain event:* This is a big deal. If the fruit is "sound" going into the rain, and there is plenty of grapevine canopy to support continued fruit ripening after the rain event, the prospects for crop improvement after the rain are good. On the other hand, if the fruit is already soft-skinned, has a high incidence of berry moth or other injury, or there is already evidence of sour rot, it's not going to last long in rains, no matter how good the foliage looks. Similarly, if the canopy is already shot due to downy mildew, there's no point in hoping for improvements in grape quality on the other side of the rain.
- *Grape composition going into the rain event*: aside from Brix, consideration of the fruit pH and titratable acidity are important factors for the winemaker. If the pH is already near the upper tolerable limits of the winemaker, there is little point in holding the fruit through a prolonged rainy period. I don't think that I've ever seen rain bring the pH back down.
- *Weather forecast after the rain event*: A loss of a degree or two Brix can take a week or more of fine ripening weather to recover. It's too soon to know what Isaac and Helene will do, but if Florence stalls out in the mid-Atlantic, don't expect blue bird skies immediately after the storm – it could be soggy for some time. This will substantially erode the chances of any crop improvement mentioned above.
- *Logistics*: These are aspects that I can't begin to answer for you, but logistics will affect what you can and can not do, and thus your harvest decision. If you don't have the labor or time to get the fruit off, it's sort of a moot point, right? If you have the capability for field sorting or press pad sorting of fruit, it opens up some options.
- *Your experience*: It counts. If you and your vines have been through these challenges in the past, you have a sense of what, within forecast reason, they are capable of withstanding. Resilience varies from site to site due to exposure and wind movement, how rapidly the fruit and foliage dry after rains, how soon you can get back into the vineyard after heavy rains, etc. Consider past events in your decisions this week.
- *So you hold, what then*? If you go this route, get into the vineyard as soon as possible after the rain and be prepared for some intervention in the form of downy mildew and possibly fruit fly sprays, particularly if the temperatures rebound into the seventies and eighties. Botrytis can be a significant problem under conditions of prolonged wetting, even for varieties that are considered relatively "resistant" (botrytis is our chief challenge with Cabernet Sauvignon in wet harvest periods). I will defer to the VCE Grape Pest Management Guide (http://pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/456/456-017/grapes.pdf) on effective fungicides and insecticides for these pests/diseases; however – watch the PHIs on anything that you might consider using and bear in mind that you might have to make a quick decision on getting the fruit off the vine.
- *Safety*: Above all, be safe. We tend to get in a hurry with impending challenges like Florence, and bad things can happen when we hurry without thinking carefully about the consequences of what we're doing.

Tremain Hatch put the data in the figure below together for me recently. This is from a met station here at the AREC and only covers the period from 1 April through late-August for 2017 and 2018. Our heat accumulation over this period (the upper yellow [2018] and dotted [2017] lines) are running neck-and neck for the two years. Night-time heat accumulations (the lower two lines) are also about the same. The stark difference is the much greater amount of rainfall in 2018 (the lighter blue area shading). We had 20 inches alone in May and June this year.

I started my September-October 2003 Viticulture Notes (Vol. 18 No. 5) newsletter with the comment: "It's been a great year to start a lawn." It seems a fitting comment to repeat with this short, miserable commentary on the close of the 2018 growing season. Good luck, friends.