

Subject: New England Grape Notes - April 4, 20018
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New England Grape Notes - April 4, 2018

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New Winegrape Cultivar Evaluation Publication and Continued New Research from UVM Fruit Team

Terrence Bradshaw, Univ. of Vermont

We've got just about one month to go before vines start to wake up and start doing their thing for the 2018 season. That's one month to wrap up your pruning, clear the brush, and get things in order before the seasonal management activities start in earnest.

Late winter is a good time to review your previous season's spray records and to identify any gaps that may have led to disease issues. Because 2017 was so wet in the early season, there was a lot of opportunity for disease to get established in area vineyards. Remember that we have recently updated two disease management documents for Vermont and area grape growers: a table http://www.uvm.edu/~fruit/grapes/gr_ipm/RelativeDiseaseRatings2017.pdf of relative disease susceptibility of cold-climate cultivars and an initial IPM strategy http://www.uvm.edu/~fruit/grapes/gr_ipm/InitialIPMStrategyGrape2017.pdf for cold climate winegrapes. More information on general viticulture and other small fruit production can be found in the 2018 New England Small Fruit Management Guide <https://ag.umass.edu/fruit/ne-small-fruit-management-guide> , and the 2018 New York and Pennsylvania Pest Management Guidelines for Grapes <https://cropandpestguides.cce.cornell.edu/> are now available and should be used in combination with specific pesticide labels to select pesticide materials for use in your IPM program.

I am including a comment I made last year that may be especially relevant in the coming month to help with disease management:

One pesticide spray that is often considered by growers is a late dormant application of lime sulfur (LS) which aids in inoculum reduction against many diseases, especially phomopsis and anthracnose. Growers who have had more than a passing amount of either of those diseases, as well as organic growers with more limited choice of materials during the growing season may consider applying this practice, but I make that recommendation with several caveats. While LS is an organically-approved pesticide, it is one of the most acutely toxic materials I have ever used, and demands special considerations for its use. It is also a restricted-used spray material, so unlicensed applicators may not purchase or apply it. LS (active ingredient calcium polysulfide) is very caustic; spray mixtures tend to have pH around 10-11, and that characteristic is what gives it its sanitizing effect as a biocide. Contact with skin or especially eyes must be avoided, and it is pretty noxious even through a respirator. This material demands respect. While those effects will dissipate in the field after sufficient washoff and degradation by rain and other elements, I would only plan on applying after pruning is finished so not to muck around in it after application. In fact, very thorough pruning out of all dead and diseased wood is an important cultural disease control practice, and if you have a lot of such wood left in the vineyard, spraying your way around pruning it out won't help.

LS is typically labeled for application at "15–20 gallons per acre in sufficient water for coverage" (Miller Liquid Lime Sulfur). That is a very high amount of LS, and would be difficult to apply and very costly when applied to large acreages. The key is to fully soak all woody tissues in the vineyard. This may mean aiming all nozzles at the cordons, but that would leave the trunks uncovered. Alternatively, the sprayer could be operated to cover the whole zone from the fruiting wire down, which would waste a tremendous amount of spray. The best application may come from a careful handgun application, which will take a long time and should be done with full protective gear including heavy nitrile gloves, full face shield and respirator, and Tyvek or other chemical-resistant, disposable coveralls. It is hard to say how much you would apply per acre in a directed spray, since that would be much more efficient with less wasted spray than an airblast application. My suggestion would be to apply a 10% solution (1 gallon LS to 9 gallons water) by handgun to cordons and trunks in a very thorough soaking spray. If you need to use an airblast to cover more ground, I would concentrate my nozzles toward the cordons but leave one or two directed toward the trunks, that will waste spray between vines but will allow you to cover ground much quicker. Because of the reduction in efficiency, I would calibrate to apply ten gallons of LS per acre in at least fifty gallons of water.

Remember, this stuff is caustic, stinky, and degrades just about everything it touches. It's also quite phytotoxic– application at these rates to vines after bud break will cause leaf damage if not outright defoliation. I have used a lot of LS during the growing season in organic apple production, and don't recommend it there unless absolutely necessary. I do not have experience using it in-season (post-bud break) on grapes, so this recommended spray must be applied during the window between pruning and bud break. The spray, if left on tractors and in sprayer plumbing, will corrode hoses, gaskets, and even stainless steel. It must be thoroughly rinsed from sprayer systems and the rinsate applied back out in the vineyard, not dumped on the ground. Some growers have applied a film of vegetable oil via backpack prayer to tractors and sprayers before an LS application to prevent it from soaking into and corroding steel and other materials on equipment. It's that bad, and I could show you sprayer hitches, mix screens, and ceramic nozzles that have been degraded by it. With all that said, LS is extremely effective as a preventative practice to reduce disease inoculum, and I still recommend its use in vineyards where anthracnose and/or phomopsis have gotten a bit out of control. Just be careful out there and treat it with the same (and a little more) respect that you should retreat any pesticide."

Good luck with your vineyard activities in the coming weeks, and let's all hope for a 'normal', gradual spring warm-up.

(Source: UVM Fruit Blog 4/4/18, <http://blog.uvm.edu/fruit/>)

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