

Allowing Multiple Suckers to Develop for Trunk Replacement Next Season  
Date: 6/27/07

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In the advisory that was posted in early June ([www.ces.ncsu.edu/disaster/freeze/Musc\\_Update\\_3.pdf](http://www.ces.ncsu.edu/disaster/freeze/Musc_Update_3.pdf)), we discussed removing cold-injured cordons as soon as is practical on 2- and 3-year-old vines injured by the Easter Freeze. In addition, we showed pictures of a 2-year Carlos vine that had cold injury extending into the trunk itself, and then we showed a severe pruning cut that was made on the trunk -- leaving only the bottom section of the trunk (about 1 foot from the ground).

Of course, we hope that the trunks of vines in your 2- and 3-year old vineyards are not this badly damaged. But, if they are, it is important to know that making a trunk cut like this will help in the long run to: 1) fully restore the trunk's "food and water pipe system" that was damaged in the freeze (as evidenced by brownish tissues beneath the bark), and 2) prevent trunk infection by the fungus, *Botryosphaeria dothidea*. The incidence and severity of infection by this fungus increases over the weeks and months following injury.

In this follow-up advisory we wish to share information from a past experience (1989 freeze) with renewing muscadine trunks. The lesson from 1989 is that you are better off to allow multiple shoots (and suckers) to develop (Figures 1 and 2) over the rest of this growing season, than to select only one shoot or sucker, and remove all the rest (as you would do with a 1-year muscadine vine).



Figure 1. Freeze damaged vine with severe trunk cut and suckers allowed to compete with shoot that is being trained to the wire.



Figure 2. Allow multiple shoots to develop this season to give you several healthy choices to train a new trunk next season.

Experience has shown that if you allow just one shoot to grow, it could become "too vigorous". Excessively vigorous shoots are known to be much more susceptible to winter injury than shoots that do grow more moderately.

Keep in mind that a 2- or 3-year old muscadine root system is radically different than that of a 1-year old vine. The 2- or 3-year-old vine's root system is very extensively developed compared to the 1-year vine. And the best way to prevent excess shoot vigor in a 2- or 3-year vine is to make sure that you have multiple shoots growing on top! In this situation, shoot competition can be a very good thing as far as achieving better shoot hardening in the fall, and better wood hardiness in the winter season.

A grower in Bladen County found that he had much better winter survival when he allowed multiple shoots or suckers to grow after making a large pruning cut into the trunk. In contrast, they just kept "losing vines" where they made a severe cut, and then tried to push just one shoot for the rest of the season.

In summary, the main purpose of this update is to let you know that allowing multiple shoots to develop from cold injured trunks is the best way to avoid further "issues" with winter injury and vine survival, and we would greatly appreciate it if you would not treat these 2- and 3-year-old vines like a 1-year vine where we do select a single shoot or sucker for training as the trunk, and then remove competing suckers and shoots.

It is hard to be more specific about how many shoots or suckers may be optimum to leave on vines that are 2 or 3 years old. It would be nice to have several shoots develop this summer and fall that would "qualify" as good candidates for trunk replacement next year. If too many suckers and shoots grow this summer, you may find that they are too small and weak to use for trunk replacement in 2008. It is best not to worry too much about trying to get the arms developed this summer, and really concentrate on developing a really healthy trunk for the long run!

We greatly appreciate your valuable feedback to these advisories, and we are especially indebted to one of our veteran muscadine growers in Bladen County who told us about what happened to his vines following the 1989 winter freeze. Again, he found that leaving a single renewal shoot or sucker was a big mistake after cutting older trunks back, and he found that allowing multiple shoots to develop from cold injured trunks was the very best way to avoid further "issues" with winter injury and longer term vine survival.