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## Shoot and Cluster Thinning in Grapes

*Bruce Bordelon, Purdue University*

Crop management through shoot and cluster thinning is a critical management practice for most varieties. Many varieties grown in Indiana tend to produce a large number of “non-count” shoots from adventitious buds and basal buds at count nodes. This lead to excess crop and shading in the canopy.



Shoot thinning reduces excess shoot number to both adjust crop and reduce shading. Growers typically select 40–60 nodes per vine during dormant pruning. If delayed-double pruning was done, that number may be much higher. Now that the danger of frost is mostly past, it is time to go through the vineyard and assess shoot number and adjust it to the desired number. Five to six shoots per foot of row is generally considered to be the optimum density. That equates to 40–50 shoots per vine at typical 8 foot vine spacing. It is very easy to accomplish now while the shoots are short and tender. They are not attached to

the vines very firmly so the break off easily. If you wait too long, the shoot attachment toughens and the shoots many need to be cut, greatly increasing the time required for removal.

Cluster thinning will also be necessary on most large clustered varieties. Typically each shoot is allowed to carry only one or two clusters. Excess clusters are removed, and all clusters from “short shoots” are removed. Growers should try to adjust the crop to balance the fruit production to about 10 times the vine pruning weight. e.g. vines that average 2 lb of pruning wood should be able to produce 20 lb of fruit (and 2 lb of pruning wood again). If you have taken pruning weight data in your vineyard you should be able to estimate the appropriate number of clusters to leave to produce the optimum yield. If you do not know the average cluster weights, see HO–221 Grape Varieties for Indiana for average cluster weight data from my trials and a discussion about crop load ratio. Large clustered varieties such as Chambourcin and Vidal typically have clusters that weigh 0.3 to 0.4 lb. That means you will have 1 lb of yield for every 2.5 to 3 clusters. If you leave 50 shoots per vine and each one produces 2 large clusters, you could have twice as much fruit as desired. So thinning is very important at maintaining vine size and producing high quality fruit. (*Source: Facts for Fancy Fruit, Issue 16–03, April 26, 2016*)

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