

Spring Frost Update

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I participated at a growers meeting in Northeast Ohio on 16 June 2006 organized by David Marrison and sponsored by OGIC. The purpose of the meeting was to share updates from the severe spring frost experienced in that region in April and May; followed by a session of questions and answers from grape growers. David Scurlock shared pictures and data taken from our research vineyard in Wooster. Greg Johns from AARS was in attendance as well and shared his observations from our research vineyard in Kingsville. David Marrison gave also an update on the temperatures data collection from participating vineyards and shared that data with me. Here are summary of my comments and recommendations to participants and growers who were not able to attend:

- Following berry set, growers had a better estimate of potential yield in 2006 and resulting crop loss. Many have overestimated crop losses, which varied with grape type and varieties. Concord was the worst hit and sustained probably the highest crop loss. At OARDC-Wooster, in April, I estimated 90 % bud damage in Concord (see 2 May O-GEN issue). After berry set, many shoots originated from the basal buds (see attached pictures) and cluster count averaged 28 per vine (normal is 160 clusters/vine) or 83% reduction. Hybrids with fruitful secondary and base buds faired better even with severe frost damage. For example spring frosted Vidal would still produce a normal crop. Losses from vinifera grapes varied with site and variety.
- Temperature records of more than 30 vineyard blocks in the area did not show a specific pattern or trend and absolute elevation did not help in many instances (high-elevation vineyards did not fair better). This again shows the importance of *relative elevation* (elevation relative to surrounding area).
- High relative humidity may have worsened the extent of bud damage. Wet buds are few degrees less hardy than dry buds.
- Tips to keep in mind after frost: reduce or avoid nitrogen fertilization; more time and labor on canopy management due to high vegetative growth and low fruit production; more rigorous disease and insect management program due to excessive foliage and resulting shading; and earlier harvest than normal due to light crop.

Shoot Growth of Concord in Mid June 2006 at OARDC-Wooster. Note no growth from 5-6 bud long spurs and most shoots originated from basal buds. Not much fruit can be seen either (>85% crop loss!)

