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Winter injury

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To assess the kill of dormant fruiting buds from low winter temperatures, gather 10 canes of the same quality that would be retained during pruning. Store them at room temperature for a minimum of 48 hours, then make cross-sections of fruiting nodes. Systematically evaluate damage to buds and alter pruning practices accordingly. Healthy cambium tissues are green; injured cambium tissues immediately below the bark or older wood become brownish. Even when these tissues appear completely dark brown, they may be viable and worth saving to maintain balanced growth.

Portions of severely winter-injured vines may begin to grow and then collapse around the time of bloom or shortly thereafter.



A cross-section with dead primary bud in the middle and live secondary and tertiary buds on the sides.

Photo: T. Zabadal



Winter injury as it appeared in early July on the Baco Noir variety. Shoot growth may begin on injured vines because of the mechanical uptake of water and nutrients. Shoots then collapse early in their development because woody portions of the vine lack live cambium tissue. Photo: T. Zabadal



Healthy tissue.
Photo: T. Zabadal



Injured tissue.
Photo: T. Zabadal

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- [Search](#) MSU Fruit CAT Alert newsletter for articles. Type in keyword: freeze or frost
- Look under winter injury in the [cultural practices](#) or [weather](#) section of this web site.