



Timely Viticulture

"Timely Vit" is designed to give those in the Maryland grape industry a timely reminder on procedures or topics they should be considering in the vineyard.

- Dormant
- Pre-Bloom
- Bloom
- Post Bloom
- Mid Season
- Pre-Harvest
- Harvest
- Post Harvest
- Dormant

Joseph A. Fiola, Ph.D.
Extension Specialist in Viticulture and Small Fruit
University of Maryland Extension

Warm Weather and Deacclimation

By Joseph A. Fiola, Ph.D., Extension Specialist in Viticulture and Small Fruit

Many fruit growers get understandably concerned in January and February when we get a run of "warm" weather like we have been experiencing. When a deciduous vine or tree experiences weather warm enough to start the deacclimation process, there is an increased risk of winter damage to buds and wood. Here is a simplified model of dormancy.

Dormancy

- Deciduous vines go through various phases as part of their winter survival:
- **Acclimation** – As temperatures drop in the fall, the vine begins to "go dormant" and slowly become more and more tolerant to lower and lower temperatures.
 - If you remember correctly, this past fall temperatures slowly went down and we did not have a hard frost until well into November in most locations in the state – that was premium acclimation conditions leading to good cold tolerance.
 - Tony Wolf at VA Tech reported that the MLTE values he got from testing Traminette and Viognier were all very good, indicating very good acclimation in fall and early winter.
- **Dormant** - When vines have reached "full dormancy" they then need to experience a certain period of time of temperatures around 40 degrees Fahrenheit to satisfy their "rest."
 - This year December was colder than average, so most vines and fruit trees received enough cold to satisfy their rest requirement by the end of the year.
- **Deacclimation** - After their rest is satisfied, they then require another period of time with conditions above a specific temperature to come out of dormancy and begin a new growth cycle.
 - During this period, grapevines in the Mid-Atlantic typically experience a series of deacclimation and deacclimation periods caused by periods of alternating warm and cold weather. This is what many refer to as the "fluctuating temperatures" of January and February.
- **Vines are more sensitive to cold damage when they have recently experienced a period of deacclimation, especially when temperatures drop very low and quickly shortly after the warm spell.**
 - For example is a dormant vine can normally tolerate down to 0 degrees with no bud damage, after a period of deacclimation above 50, the vine may only be able to only tolerate +5 degrees with no damage and will experience a percentage of bud death at 0 degrees.
 - If temperatures drop down gradually slowly after the warm spell, the vines have the capacity to "re-harden," possibly even down to their previous low temperature tolerance (in this example back down to 0 degrees).

Let's all hope for a gradual change back to "reasonably cold" weather - for the vines and fruit trees at least.

071309