

A Comparative Guide to Late-Season Cluster Disorders

- Both occur after veraison, close to harvest
- Neither is associated with sun exposure
- The cause of these disorders is not known at this time

Berry Shriveling

- Rachis remains **green**; appears normal
- Berries are flabby, but still have juice
- Berries taste watery, not sweet; may have off-flavors



If you see Berry Shriveling, please contact:

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Bunch Stem Necrosis / Waterberry

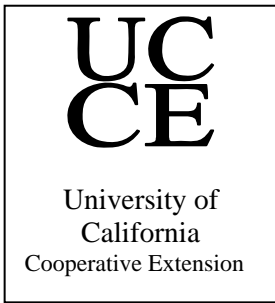
- Rachis is **brown**, dry, necrotic
- Berries turn to raisins, eventually getting completely dry
- Berries are sweet but may taste less mature; then pruney and overripe



Berry shrivel is a physiological disorder that affects clusters after veraison in North Coast vineyards. Some time prior to harvest, berries on affected clusters lose turgidity and fail to mature. The rachis (cluster stem) appears normal. Depending on the timing of the onset of berry shrivel, the fruit may taste sour and have off-flavors and the berries may have less color than normal fruit. Growers commonly drop affected clusters just prior to harvest. When this disorder occurs in a vineyard, affected vines usually have only a few symptomatic clusters and the vines otherwise appear normal. Berry shrivel may not appear the following year in the same vines or the same block.

Berry shrivel occurs in both red and white varieties and research is underway to determine the cause. It may or may not be related to a distinctly different looking late-season cluster disorder in which the rachis dies and then the berries dry and become raisins. This disorder has been given several names and most describe the affected rachis - such as bunch stem necrosis and stalk necrosis. However, in California the term “waterberry” has been used for several years.

We would like to document cases of **berry shrivel** in Napa and Sonoma Counties. Please contact me if you have seen this disorder in your vineyard.



BERRY SHRIVEL



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