

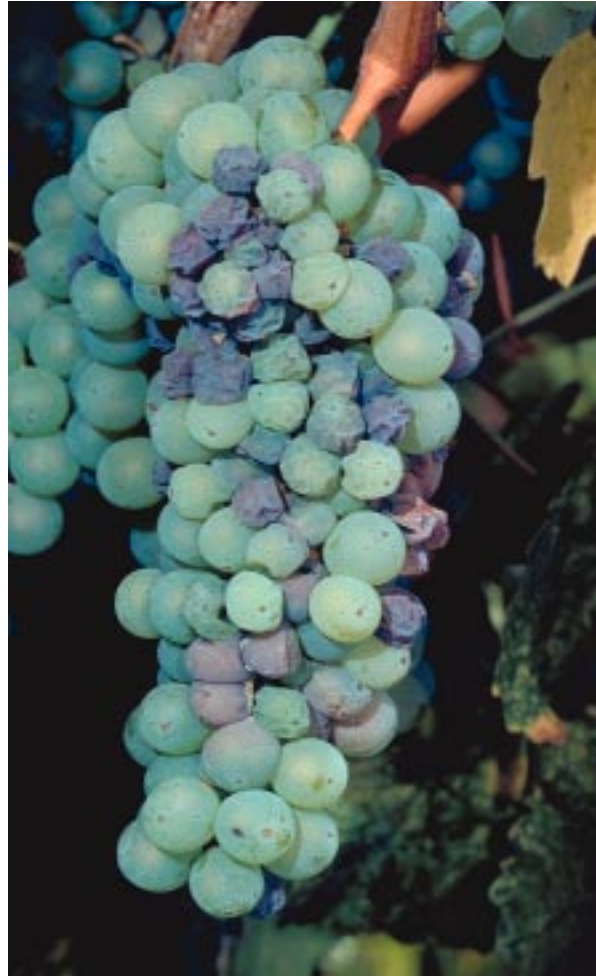
Botrytis



- Clusters infected with early spring Botrytis.



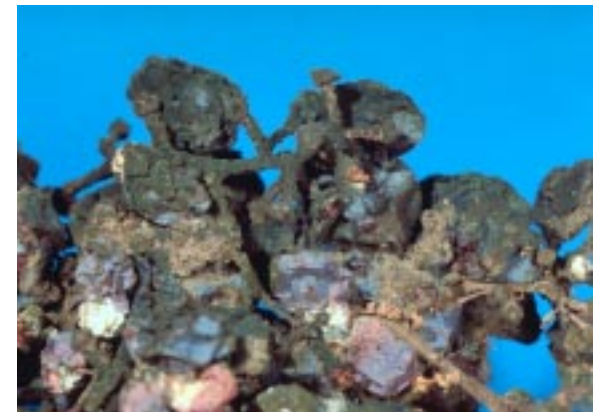
- Leaf infection that has dried and become necrotic.



- Cluster infected late in the season with Botrytis.
- Intact berries may be infected in tight-clustered varieties.



- Spores are formed on stalks of fungal tissue creating the appearance of fluffy gray mold.
- These spores will infect adjacent berries, as well as berries in nearby clusters.



- Botrytis grape mummies contain the overwintering structure of the fungus.
- Mummies produce spores after spring rainfall.

Botrytis

DATE	WHAT TO LOOK FOR	DATE	WHAT TO LOOK FOR
Bud break to bloom: <i>Botrytis Shoot Blight</i>	<ul style="list-style-type: none"> Cool, mild temperatures with persistent free water in the canopy. On any green tissue, infections will result in brown, water-soaked lesions. On a stem or petiole these become soft and spongy. If wet, mild conditions persist, then fluffy, gray spore masses ("gray mold") may be produced in these infection sites. On fully expanded leaf blades an infection may cover a few square inches; however young leaves close to the shoot tip may be entirely infected. Infected cluster parts will turn brown. All infected tissue will be killed and eventually dry up. <p>Plant parts that were infected the previous year – such as grape mummies – contain the overwintering structure of the fungus. After spring rainfall, spores are produced from these structures. The spores will germinate when there is free water on the foliage. The likelihood of infection is determined by both temperature and duration of free moisture – the longer wet conditions prevail, the greater the risk of infection. The optimum temperature for germination is 72°F. At 90°F or higher temperatures, the fungus cannot grow; however at 34°F it can grow although slowly. Rain, fog, heavy dew and overhead frost protection all result in free water in the canopy.</p>	Berry softening to harvest: <i>Botrytis Bunch Rot</i>	<ul style="list-style-type: none"> Infected berries become discolored (this is more noticeable in white varieties) and the berry skin easily slips off the pulp ("slip skin"). Cracks appear in the berry skin and these contain gray mold. Infection spreads throughout the berry and moves to adjacent berries. Infected cluster parts are covered with gray, fluffy spore masses that may contain green or black spores of other fungi. Late-season rainfall, under optimum temperatures, creates conditions whereby a complete generation (spore-to-spore) can occur in three days. Hot, dry conditions will cause infected berries to dry up, yet gray mold will reappear if wet weather occurs prior to harvest. <p>Although flower parts are infected around the bloom period, these infections remain latent until the berries begin to accumulate sugar at the onset of ripening. Free water is not required for berry infections. Berries with intact skin may become infected as well as those with skin that has been damaged by contact with adjacent berries, insect feeding, etc. Varieties with tight clusters are more susceptible to infection than varieties with loose clusters. Rainfall during the ripening period will cause the fungus to grow rapidly and produce more spores, thus leading to increased infection sites. If dry, warm weather occurs, some infected areas of the cluster dry up.</p>

