Cabernet Sauvignon

Synonyms

In France, the variety is known as Petite Cabernet, Vidure, Petite-Vidure, Bouche, Petite-Bouche, Bouchet Sauvignon, and Sauvignon Rouge. In Spain it is called Burdeos Tintos.

Source

Cabernet Sauvignon is the most important variety in the Bordeaux region of southwest France, but it is increasingly important in the Languedoc area of southern France. It is also grown widely in eastern Europe, Australia, Chile, Argentina, and, in the United States, in California and Washington. In California the variety has increased dramatically in the past 20 years in moderately warm regions, especially in high Winkler Region II to high Region III, such as central Napa Valley, as well as in Region IV, such as Lodi in the northern San Joaquin Valley. Recently Cabernet Sauvignon was shown to be a cross between Cabernet franc and Sauvignon blanc.

Description

Clusters: small to medium; conical, loose to well-filled clusters; medium-long peduncles.

Berries: small; round, blue-black berries; thick skins.

Leaves: medium; very deeply 5-lobed; overlapping, lyre-shaped petiolar sinus and lateral sinuses that appear like five round holes around leaf margin; medium-sized teeth; upper surface dark green and smooth; scattered tufts of hair on lower surface.

Shoot tips: felty with red margins; young leaves with bronze-red cast.

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Growth and Soil Adaptability

The vine is vigorous to excessively vigorous depending on the site, rootstock, planting density, and trellis system interactions; it is rarely inadequately vigorous. Shoots are initially upright but trail in late season when growth is abundant. Production of a second crop can be moderate when vigor is excessive. Recommended vine spacing is 5 to 7 feet depending on site conditions. High-density plantings (1,500 vines per acre) can cause uncontrollable growth. Regardless of rootstock choice, Cabernet Sauvignon does not perform well on poorly drained soils.

Rootstocks

Rootstocks are usually selected to counteract scion vigor. On deep soils with high-vigor potential, the low-vigor rootstocks 3309C, 101-14 Mgt, or 1616C are preferred; on moderately deep soils Teleki 5C or SO4; and on shallow soils or hillsides where irrigation is limited the drought-tolerant and vigorous rootstocks 110R and 140Ru are preferred. The rootstock 420A can only be recommended on deep, fine-textured soils and at relatively close spacing. There is interest in Riparia Gloire for deep, fertile soils but relatively little data or experience is available. While St. George has been a traditional combination for Cabernet Sauvignon, soils must not be root restricted, and a tendency for poorer fruit set exacerbates excessive growth.

Clones

The most widely planted Cabernet Sauvignon clones are the identically performing selections Cabernet Sauvignon FPS 07 and 08. (Both originated from the same Concannon vines, differing only in days of heat treatment.) Cabernet Sauvignon FPS 06 is a highly regarded selection from the former UC Jackson Foothill Experiment Station; however, its yield is about 60 percent that of FPS selection 08. Whether the trade-off in yield is balanced by a commensurate increase in wine quality is a matter of debate. Interest has also surfaced in Cabernet Sauvignon FPS 04 from Mendoza. More recently, new clonal material is available for which there is little California performance information. From France, Cabernet Sauvignon ENTAV-INRA® 15, 169, 170, 191, 337, 338, 341, and 412 should increase the diversity of Cabernet materials available to growers and vintners. Viticulturists should be wary of traditional field selections of Cabernet Sauvignon. Many are infected with leafroll and/or corky bark viruses and exhibit graft incompatibilities with certain rootstocks. Three of these field selections from the Napa Valley have been treated for virus and are now available as registered selections: Cabernet Sauvignon FPS 29 (Niebaum-Coppola Vineyards), Cabernet Sauvignon FPS 30 (Disney Silverado Vineyards), and Cabernet Sauvignon FPS 31 (Mondavi Vineyards).

Production

Vineyards can bear 6 to 7 tons per acre, especially at higher planting densities, but lower yields (3 to 4 tons) are expected when grown on hillsides or shallow soils. The crop is often thinned significantly at veraison (up to 20 percent) to eliminate later-ripening fruit.

Harvest

Period: A mid- to late-season variety; harvest occurs in late August to late October, depending on the location and heat unit accumulation.

Method: Hand harvest is the typical method for the variety in high-quality regions. Machine harvest with a canopy shaker is easy to medium, with fruit removed mostly as single berries and some clusters. Juicing is light. Trunk shaking is easy, with mostly single berries and some clusters removed. Juicing is also light. There is less MOG and spur damage with trunk shaking when compared to straight-rod heads. Bow-rod machines picking vines trained to vertical-shoot-positioned systems will have less MOG than unpositioned trellis systems.

leaves

Medium; very deeply 5-lobed; overlapping, lyre-shaped petiolar sinus and lateral sinuses that appear like five round holes around leaf margin; medium-sized teeth; upper surface dark green and smooth; scattered tufts of hair on lower surface.

shoot tips

Felty with red margins; young leaves with bronze-red cast.

Training and Pruning

Vines are commonly trained to a bilateral cordon and pruned to six to eight two-node spurs per 3 feet of cordon. Unilateral cordons may be used when vines are spaced less than 5 feet apart. Quadrilateral cordon training is often practiced where high vigor is expected. There are strong proponents of cane pruning the variety in the North Coast. Cabernet Sauvignon is very adaptable to mechanical pruning and harvest.

Trellising and Canopy Management

Vertical-shoot-positioned systems are generally used whether as undivided or as horizontally divided systems. Vertically divided systems such as Scott Henry or Smart-Dyson are sometimes used to balance expected vigor with additional retained nodes in the fruiting zone. GDC systems are falling out of favor as the upright growth of Cabernet Sauvignon is difficult to position in a downward manner. Orienting rows of VSP systems to prevent direct exposure of fruit to afternoon sun is desirable. Trimming shoot growth in VSP systems is common, but a trellis should provide approximately 4 feet of canopy after trimming for proper balance of fruit and leaf area.

Insect and Disease Problems

Cabernet Sauvignon is moderately susceptible to powdery mildew. Its loose clusters are not prone to bunch rots, but rot can occur when spur selection at pruning results in crowded shoot growth. The variety is quite susceptible to Eutypa dieback; vineyards 12 to 15 years old can have a high percentage of vines with at least one point of infection. Vineyards older than 15 years often also exhibit symptoms of black measles. Illegally imported clones are strongly suspected to be infected with viruses, probably leafroll or corky bark, or a mixture both.

Other Cultural Characteristics

Cabernet Sauvignon often produces blind buds, typically in the mid-cane region, nodes 6 through 10 on a 12-node cane. This is a particular problem in the training phase when long canes are laid out on the fruiting wire to become cordons. Blind buds on those canes preclude normal spacing of spurs. Latent shoot production is prodigious, and shoot thinning removes unwanted shoots at the base of two-node spurs or at the head of cane-pruned vines.

Winery Use

Cabernet Sauvignon is used exclusively for high-quality to middle-quality, dry table wines. Small amounts may be blended into Merlot or Cabernet franc wines to provide more tannin structure. Grapes grown in areas too cool for the variety can develop a highly undesirable herbaceous or “green bell pepper” aroma in very shaded conditions. In areas too warm for the variety, fruit will not develop normal varietal character.

—James A. Wolpert