



# Colombard

## Synonyms

Colombard is the official name in France and the most widely used name worldwide. It is also called Colombar and Colombier in France, French Colombard in California, and Colombar in South Africa.

## Source

The variety was first cultivated in southwest France and is now mainly used for brandy, including Cognac and Armagnac. It is also used as a supplementary variety in the white wines of Bordeaux and other districts. First brought to California in the 1850s, Colombard was grown for years in the Central Valley as “West’s White Prolific,” after George West, a prominent San Joaquin County wine grape producer. Acreage was very limited until the table wine boom in the 1960s–70s when it became the state’s most widely planted variety. Plantings peaked at 90,000 acres in 1987, with the greatest concentrations in the San Joaquin Valley. The California plantings are still the largest in the world, followed by South Africa.

## Description

**Clusters:** medium; long conical to cylindrical, well-filled, often winged or double; long peduncles.

**Berries:** medium; round to short oval; yellow-green with high acid levels when ripe.

**Leaves:** Large to medium-large, mostly 3-lobed to almost entire; wide V-shaped petiolar sinus; short, sharp teeth; mod-

erately dense hair on lower leaf surface; leaves can be pinched; petioles pink-red with green veins.

**Shoot tips:** felty white; young leaves yellow and downy.

## Growth and Soil Adaptability

Own-rooted vines are exceptionally vigorous and develop large canopies when grown on medium- to fine-textured soils (sandy loam to clay loam); they are sometimes excessively vigorous on very fertile soils, and show moderate to poor vigor on very sandy soils, largely due to the variety’s high susceptibility to root knot nematodes. Colombard is more tolerant of saline and high boron soil conditions than many other varieties, probably the result of dilution by large canopies. Recommended in-row spacing is 7 to 8 feet; 8 feet is preferred in good soil sites. Row spacing of less than 10 feet in vigorous sites may be too crowded for conventional equipment due to large canopies.

## Rootstocks

Own-rooted Colombard vines are highly susceptible to root knot nematodes in sandy soils. Freedom, Ramsey, and Harmony successfully avoid this problem but may be too vigorous in fertile, medium- to fine-textured soils. Phylloxera-resistant rootstocks should be selected for moderate vine vigor characteristics in fertile soils to avoid excessive vigor problems associated with Colombard.



## clusters

*Medium; long conical to cylindrical, well-filled, often winged or double; long peduncles.*

## berries

*Medium; round to short oval; yellow-green with high acid levels when ripe.*

## Clones

Available registered selections in California have been limited to selections from regional commercial vineyards. The clonal differences measured in comparative trials have been minor. Yield component, fruit composition, and wine sensory analyses of French Colombard FPS 01, 02, and 05 over six years have shown too little difference to demonstrate clonal preferences. Selection 02, which has been widely available through the California grapevine nursery industry, shows good vine and fruit characteristics.

## Production

Colombard usually yields 8 to 13 tons per acre. Higher yields are commonly achieved in young, vigorous vineyards and those trained to quadrilateral systems.

## Harvest

**Period:** In the San Joaquin Valley, Colombard is a midseason variety, with harvest beginning in Kern County in mid- to late August and ending in mid- to late September in Lodi. In the North Coast, Colombard is usually the last

white variety to be harvested. Harvest can be substantially delayed by heavy cropping.

**Method:** The relatively thick cluster stem, which is short to medium in length, must be cut for hand harvest. Dense foliage can interfere with harvesting. Pre-harvest cane trimming may be helpful on trellised vines. Canopy shakers result in medium harvestability, with fruit mainly removed as single berries and some cluster parts. The wood is brittle, and machine harvesting can cause some spur breakage. Pre-harvest trimming can decrease the interference by dense foliage and strong shoot growth. Trunk shakers result in easy to medium harvestability and medium juicing. Fruit is mostly removed as single berries and some cluster parts. Trunk shakers cause less cane breakage than do canopy shakers with rods.

## Training and Pruning

Vines are most commonly trained to bilateral cordons with spur pruning. Blind buds on young cordons of vigorous vines are a problem during vine training. Cordon branch canes (usually trained during second leaf) exceeding  $\frac{5}{8}$  inch diameter are most susceptible to poor emergence of dormant buds. A solution is always to prune the lateral shoots to one-node spurs at each intended spur position. Training vines of moderate vigor also helps. This can be accomplished by training in the first year of vine establishment. For training during second leaf, leave four or more lateral shoots on the vine trunk to dilute vine vigor while the cordons are being trained.



## leaves

Large, to medium-large, mostly 3-lobed to almost entire; wide V-shaped petiolar sinus; short, sharp teeth; moderately dense hair on lower leaf surface; leaves can be pinched; petioles pink-red with green veins.



## shoot tips

*Felty white; young leaves yellow and downy.*

Colombard is commonly pruned to 14 to 20 spurs, although higher node numbers are sometimes used on extremely vigorous vines. Yields are usually increased with machine-hedge pruning, with a slight or no delay in fruit ripening and no change in fruit composition at harvest. The method retains all nodes within the box configuration of the spur zone. Quadrilateral cordon training with 30 spurs has successfully spread the vine canopy and fruiting zone in highly vigorous vineyards, resulting in higher yields with minimal delays in fruit ripening. Quadrilateral cordon separation of 24 to 30 inches and without foliar wires is recommended to facilitate machine harvest. Minimal pruning (no pruning except for canopy bottom) is another acceptable management system (demonstrated by experimental and commercial experience), but expect two-week delays of fruit maturation.

### Trellising and Canopy Management

Vigorously growing shoots are subject to wind breakage in early spring. A foliar catch wire with bilateral cordons will reduce damage. Colombard's high vigor and large canopies respond favorably to horizontal quadrilateral cordon systems such as GDC, but they are not suited to vertical-shoot-positioned systems.

### Insect and Disease Problems

Some plantings have occasionally shown "spindle shoot" symptoms on individual vines in the spring; leaves are small, yellowish, and puckered around the margins. Affected vines should not be used as a source of propagating wood due to a suspected virus-disease presence. The disorder has not appeared in certified wood sources. Shoots may be stunted by feeding western flower thrips in cool springs or grape thrips in the summer.

Bunch rot may be a problem, especially in 3- and 4-year-old vines. Colombard's dense foliage, which interferes with spray and dust



coverage, results in a higher potential for powdery mildew. It is very susceptible to Phomopsis cane and leaf spot and moderately susceptible to Eutypa dieback.

### Other Cultural Characteristics

In early summer, sudden heat spells may cause shoot tips to die back and occasionally damage developing clusters. Colombard is medium-late in fruit ripening, although the fruit holds well on the vine until rainfall.

### Winery Use

In warm to hot climates, Colombard is a versatile variety of high productivity and good fruit composition (high acidity and low pH). It produces a fruity, crisp wine in cool districts and has sufficient acid for a balanced and distinct varietal wine or for use in blends in warm districts. Colombard is used widely in the San Joaquin Valley as a blending base of white table and sparkling wines and in the production of grape juice concentrate and brandy.

—L. Peter Christensen