



Grapes

UC DAVIS
COLLEGE OF AGRICULTURAL
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About Grapes

Grapes grow as a vine and are used for wine, raisins or fresh markets (Table grapes). They do not require wind or insects for pollination, but grapes do require a dormancy period. Grapes produce buds on the previous season's growth (Canes). Bud burst is usually in early spring with flowering 7-9 weeks later. Fruit is normally ready to harvest in Autumn 5-7 months after bud burst. Management varies, but in general is a function of variety and desired outcome (e.g., wine, raisins or table grapes) and growing conditions (e.g., humidity and sunlight).



Climate and soil

Temperature	Frost tolerance	Water needs	Tolerance to waterlogging	Drought tolerance
Warm 24°C (best for Wine); Hot 35°C (best for Table and raisins)	Tolerates -20°C if dormant; else to -0.5°C.	Deep rooted, moderate needs	Low in summer, moderate in winter	Good – especially in deep soils
Humidity tolerance	Wind tolerance	Soil needs	Nutrient requirements	
Low – disease control needed in wet environments	Moderate to good	Prefers deep and well drained, Light textured preferred	Avoid heavy fertilization which can cause excess vegetative growth	

Cultural practices

Propagation	Can use cuttings or rootstock
Rootstocks	Use resistant rootstock if insects (e.g., Phylloxera) or nematodes are a problem or if soils are saline, wet or heavy.
Spacing	Varies, but can use rows: 2.7-3 m apart with 1-2 m between plants. Target: Typically 1,000 – 1,500 plants per ha
Training and Pruning	Keep the canopy open to reduce disease problems and facilitate crop and vine management. Training: Various options– e.g., Vertical shoot positioned. Prune while dormant.
Thinning (or crop drop)	Thin if needed to improve fruit quality and uniformity of harvest. Sometime done for table grapes and wine.
Tillage and vineyard care	Keep surface between and around vines clean. Grow cover crops - if adequate water - to reduce dust and associated mite problems.
Time to 1st harvest	3 rd – 4 th season
Time to full production	4-5 seasons
Normal productive life	40-60 years
Expected yields	2 years: ± 2 t/ha (Should drop crop to protect vines) 3 years: ± 5 t/ha 4 years: ± 10 t/ha
Harvest	Machine harvest for wine and juice. Hand pick for table grapes.
Storage	3-6 months at 1°C
Pests and diseases	Insects, nematodes, fungal and bacterial diseases, birds.

Prepared by Corky Lovin, Mark Bell, Louise Ferguson and Ali Almeahdi, June 8, 2007

Primary reference: Jackson, D.I. and Looney, N.E. 1999. Temperate and Subtropical Fruit Production. 2nd Ed. CABI Publishing. Wallingford (United Kingdom)

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