

# Viticulture - Characteristics of the vine - Life Cycle of the Vine

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## DEFINITIONS

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## STAGES

- Young vines: 1-3 years.
- First crops: 4-6 years.
- 7-20 years.
- 20+ years.
- 100+ years.

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## YEARS 2-3

- The vines grows its trunk and any other permanent wood needed for the chosen training system.
- Complex trellis structures can take longer to establish.
- It is important for the vine to focus its energy on vegetative growth, so bunches are usually removed (together with any shoots in undesirable locations).
- The root system begins to explore the space that is available below ground.

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## YEARS 4-6

- After the vine's permanent frame has grown, the first crops are harvested.
- During the first two to three crops, the trunk and arms are still quite thin and over-wintering carbohydrate reserves are relatively low, which limits the vigor of shoot growth.
- This frequently results in a very good fruit to leaf balance, and well-exposed fruit, and consequently the first few crops from a vine can be of very high quality.
  - Famous examples of outstanding wines from very young vines include the early crops at Domaine de la Romanee-Conti after replanting in the 1940s, and Stag's Leap SLV cabernet sauvignon 1973, from three-year-old vines.
- During this period, the root system continues to explore the available space.

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## YEARS 7-20

- Permanent wood continues to thicken, but the proportional increase each year is smaller than the previous year.
- With plenty of carbohydrate reserves and an extensive root system, this is the time when the vine is at its most vigorous.
- Potential yields are at their highest, but the canopy needs to be managed to avoid excessive shading, and excessive competition for photosynthates, which are needed by the fruit.
- Compared to the earliest crops, it is common for quality to drop at the beginning this period.

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## YEARS 20+

- Years of winter pruning slowly weaken the vine.
- Summer trimming also has a devigorating effect, as does damage to the roots from soil compaction, drought, pests and diseases.
- This declining vigor can slowly restore the fruit to leaf balance that was enjoyed in the early years, but yields also decline.
- By the time the vine is about 20 years old, the grape grower may decide that yields have declined to an uncommercial low level.
- It is normal for the vines to be ripped out and the site replanted.
- Vines in premium sites may achieve fruit prices that can justify continuing to harvest at such low yields, and vine age may be used as a selling feature of the wine (with *vieilles vignes*, *alte Reben* or *Old Vine(s)* stated on the label, though there is no legal definition of these terms).

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## YEARS 100+

- Vines can live for hundreds of years, provided they are not overstressed, have sufficient access to nutrients, and avoid damage from termites, fungal infections and other hazards.
- Due to phylloxera, there are very few ancient vines in Europe, but a number of 19th century vineyards in South Australia and California are still producing high-quality grapes.