

ABSTRACT

In recent decades, the age of vines has gained increasing attention, with terms like ‘vieilles vignes’, ‘alte reben’, and ‘old vines’ frequently appearing on wine labels. Despite the widespread belief that wines from older vines are of higher quality, this claim remains the subject of debate. While certain regions have established regulations, most of the world relies on private initiatives with varying standards. This thesis investigates the viticultural and phenological aspects of vine age to evaluate its influence on grape quality, focusing on physiological development and its impact on the chemical and sensory attributes of grapes. The primary research question is:

“OLD VINES, GUARANTEE FOR QUALITY GRAPES?”

The research draws on scientific studies and expert interviews to provide an unbiased overview of vine phenology, examining both the below-ground and above-ground development. Historical shifts in viticultural practices are analyzed, alongside potential changes in grape berry composition, verified by renowned viticulturists. The goal is to identify significant age brackets affecting grape quality based on vine phenology.

Conclusions indicate that while the concept of quality grapes varies depending on location and price point, vine age does offer physiological benefits such as improved root systems, increased carbohydrate reserves, enhanced resilience, balanced vines, and favorable attributes in the berry composition. These factors contribute to better grape quality.

From a purely physiological perspective, disregarding the end use of the fruit, it is evident that vine age does benefit quality. Older vines, with their better-developed root systems and increased reserves, exhibit improved health. They are more resilient to weather extremes and vintage variations and achieve a better balance between fruit and vegetative growth, which enhances grape quality. It is important to note that vines can only exceed thirty or even sixty years in ideal conditions, with appropriate planting material in the right terroir, and managed by skilled staff. Vineyards must be profitable enough to justify their continued cultivation. When well-managed and disease-free, any vineyard has the potential to age well and produce high-quality grapes.

In conclusion, defining what constitutes quality grapes in the industry is challenging. Certain parameters in grape juice, when balanced, can enhance the final quality of wine. However, the definition of quality varies across countries and wine price points. For instance, high-volume wineries may not benefit from old vines, and winemakers seeking an expressive, fruity style might prefer grapes from younger vines. Numerous

factors, including vintage variation, terroir, winemaking techniques, and aging, complicate the assessment of whether old vine grapes produce better wines.

The absence of official regulation leads to speculation and varied interpretations. Based on the scientific research underpinning this thesis, we propose a universal standard for vine age. This standard would be based on physiological changes in the vine, categorizing them as juvenile (0-10 years old), productive (10-20 years old), adolescent (20-30 years old), old (30-60 years old), and heritage (60+ years old). This universal quality label should provide wine producers with a quality and sustainability standard, as well as creating a more transparent message to the end consumer.

PERSONAL STATEMENT

For as long as I've worked in wine, I've been intrigued by vineyards, especially old vines. Their gnarly shapes and impressive sizes, sculpted by time, always felt like they had stories to tell. I vividly remember a visit to an old site in South Africa and meeting a vineyard worker who had cared for that vineyard his entire life. His eyes sparkled as he shared their stories. As a sommelier at the time, it struck a chord with me. The vines, the wines, the people, and the sites all combined—it was romance to me, and I loved sharing those stories with our guests.

I initially started this thesis in 2021 with a different perspective than I have now. Now, in 2024, I am one of those vineyard workers myself. I experience firsthand the difficulties of managing a vineyard and see the consequences of our choices. I now understand that there is no romance in it. The goal of this thesis was to uncover the science behind old vines in relation to quality. And even though the image is no longer as glamorous, I'm happy to conclude that those old vineyards are truly something special. So without all the glamour, backed up by science and personal anecdotes, I love to continue telling their stories.

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