TEXAS A&M GRILIFE **EXTENSION**

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Grape Variety Profile: Tempranillo Michael Cook* Michael Cook*

Tempranillo is a European (*Vitis vinifera*) grape cultivar that is planted across the globe. It is thought to have originated from northern Spain and is commonly referred to as Spain's noble grape. In Portugal, it is sanctioned for Port production under the name of 'Tinta Roriz.' Tempranillo is most commonly grown on the Iberian Peninsula but is quickly gaining popularity in Texas due to its good productivity in a hot climate. Tempranillo is now the second most widely planted grape variety in the state.

The name Tempranillo originates from the Spanish temprano-meaning "early"-which is a reference to its early bud break and subsequent ripening characteristics. In Texas, Tempranillo has been observed to break bud about one week after Chardonnay (earliest to bud) and one week before Cabernet-Sauvignon (mid-season bud).

Similar to most European cultivars, Tempranillo has an erect (upward) growth habit and is, therefore, best adapted to a vertical shoot positioned (VSP) training system (Figs. 1 and 2). The leaves of Tempranillo are large and contain five deep lobes with overlapping lateral lobes and sharp teeth along the margin (Fig. 3).



Figure 1: Vines trained to a Mid-Wire Bilateral Cordon System with VSP.



Figure 2: Vines trained to a Mid-Wire Quadrilateral Cordon System with VSP

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Figure 3: Large leaves and cluster of Tempranillo grown in the High Plains of Texas.

Tempranillo growth can be vigorous, especially when grown in loam and clay soils that are deep and fertile. Due to its inherently high vigor potential, trellis design and other viticulture practices should be aimed at promoting a good balance between vegetative growth and crop load (Fig. 4). Under low vigor potential, it can generally be grown on a mid-wire bilateral cordon trellis with vine spacing at a minimum of five feet between vines. Under moderate vigor potential, vines should be grown with eight feet between vines but can otherwise be grown similarly. Under high vigor conditions, vines are often trained to a mid-wire quadrilateral system to ameliorate vegetative growth.



Figure 4: Hedging vigorous Tempranillo vines in summer.

Tempranillo is adapted to many regions of Texas due to its ability to perform in a hot climate and in many soil types. However, it is regularly grown as a grafted vine due to other limiting factors such as phylloxera, drought and highly calcareous soil.

As with all European cultivars, Tempranillo is susceptible to Pierce's Disease (PD) and should not be grown commercially in high-pres-

sure areas. It is also susceptible to many common fungal and bacterial pathogens. Tempranillo appears to be particularly sensitive to black rot, powdery mildew (Fig. 5), and downy mildew. Powdery mildew and downy mildew can become problematic if



Figure 5: Cluster infected with powdery mildew.

canopy architecture prevents air flow, fungicide spray is ineffective or if conditions are too wet. The risk is higher on compact clusters during the late season. The most important insect pest of Tempranillo is the grape berry moth.

One of the advantages of Tempranillo is the ability to produce moderately high yields

dependably. Vines can produce 10 to 25 pounds of fruit with a typical spacing of eight feet between vines. Clusters of this cultivar range from medium to very large with moderate cluster compactness. Berries are medium to large in size and become deep blueblack in color once mature (Fig. 6).



Figure 6: Large cluster with deep purple-black colored berries.

One of the most common challenges in growing Tempranillo is achieving appropriate vine balance. Vines are sensitive to imbalance and can quickly enter a vegetative cycle under high vigor conditions. They can also be over-cropped under low to moderate vigor conditions. Both situations lead to poor fruit quality and subsequent difficulties for the winery. Another challenge of Tempranillo grown in Texas is the tendency of the vine to take up excess potassium, which can lead to a high pH value. However, if a suitable site is selected and the vineyard is managed properly, fruit quality can be excellent. Tempranillo wines are frequently medium to full-bodied with flavors ranging from fruit to leather.



Figure 7: Tempranillo vine in fourth-leaf (fourth season).

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