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Quinta do Noval’s Nacional vineyard defies phylloxera and produces legendary port wines in Portugal’s Douro Valley

Ungrafted vines yield rare, highly prized vintage ports as scientists and collectors marvel at the vineyard’s enduring mystery and quality

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In the Douro Valley of northern Portugal, Quinta do Noval's Nacional vineyard stands as one of the most renowned and mysterious plots in the world of wine. Tucked discreetly near the estate's main buildings in the Pinhão river valley, this small parcel has achieved legendary status among wine collectors and connoisseurs for its unique history and the extraordinary Port wines it produces.

The vineyard's name, "Nacional," refers to its vines being planted directly into Portuguese soil, with their own roots, rather than grafted onto American rootstock. This method was standard in the Douro before the arrival of phylloxera, a devastating insect that reached the region in 1868 and destroyed most of its vineyards. The widespread solution to phylloxera was to graft European grape varieties onto resistant American rootstock, a practice that remains common today. However, the Nacional vineyard is an exception: its vines have survived on their own roots, immune to phylloxera for reasons that remain unexplained.

Quinta do Noval itself faced difficult times in the late 19th century. After suffering from powdery mildew and then phylloxera, the estate changed hands several times. In 1894, António José da Silva acquired Quinta do Noval and began a major recovery effort, replanting most of the property with American rootstock and local grape varieties. Historical records indicate that da Silva also experimented with chemical treatments to combat phylloxera on a small plot—possibly laying the groundwork for what would become the Nacional vineyard.

The precise origins of the Nacional vineyard are unclear because much of Quinta do Noval's historical documentation was lost in a fire at its Vila Nova de Gaia warehouses in 1981. What is known is that the current Nacional vineyard was planted in 1924. It covers just 1.6 hectares on nine traditional schist terraces at an altitude of 375 meters. The vineyard contains about 6,000 vines spaced roughly one meter apart, with an average age of 50 years.

The vines are a field blend of traditional Douro grape varieties, dominated by Sousão (about 35%), which contributes to the wine's deep color. Other important varieties include Touriga Nacional, Touriga Francesa, Tinta Roriz, Tinta Francisca, Tinto Cão, and Tinta Barroca. The ungrafted vines show less vigor than their grafted neighbors: they

have smaller trunks, less dense foliage, lighter green leaves, smaller grape clusters, and lower yields—typically half or even a third of a normal vineyard's production. However, this low yield results in grapes with remarkable concentration.

Three vine training systems are used: Guyot, spur, and cane pruning. One terrace serves as a nursery for new vines; each year about 20 to 30 are replanted directly into the soil to replace losses. These new vines take up to seven years before producing their first grapes. Attempts to plant ungrafted vines elsewhere on the estate have failed.

All work in the Nacional vineyard is done by hand. The estate practices organic viticulture without pesticides or herbicides. Instead, pheromone diffusers are placed among the vines each spring to disrupt insect mating cycles and control pests naturally.

Yields from the Nacional vineyard are extremely low—about 10 to 15 hectoliters per hectare compared to 30 to 35 from grafted vineyards nearby. To determine harvest time, berries from different grape varieties and locations within the plot are sampled and analyzed for ripeness. The entire vineyard is harvested by hand on a single day each year.

Vinification takes place using traditional methods in Quinta do Noval's old winery. All grape varieties from the field blend are fermented together in granite lagares—shallow stone tanks—using foot treading throughout fermentation for optimal extraction. Fermentation lasts about two days before being stopped by fortification with grape brandy. The wine then spends 18 months aging in a large oak and chestnut barrel ("tonel") with a capacity of 2,500 liters.

The decision to declare a Vintage Nacional is made after careful monitoring during aging. Not every year produces a declared vintage; sometimes only Quinta do Noval's classic vintage Port is released, or vice versa. In years when no Vintage Nacional is declared, its grapes are blended into other Ports produced by the estate.

The first declared Vintage Nacional came from the 1931 harvest when the vines were just seven years old. That wine became legendary and was later named one of the greatest wines of the twentieth century by Wine Spectator magazine. Other vintages have also achieved iconic status: both the 1963 and 1994 vintages received perfect scores from critics; more recently, James Suckling awarded 100 points to the 2011 vintage.

Annual production from this tiny plot ranges between 2,000 and 3,000 liters—enough for only about 100 to 250 cases per year—making it one of the rarest Ports on earth. Bottles are allocated by quota to distributors worldwide.

Nacional Vintage Ports are known for their depth, concentration, complexity, freshness and elegance—a profile that remains consistent across decades. These wines can age for many decades; some bottles have been known to last a century or more.

There have been experiments with aging some Nacional Port as Tawny Colheita—a style aged longer in wood—but so far these remain limited trials announced by Quinta do Noval.

Today, Quinta do Noval’s Nacional vineyard continues to fascinate both scientists and wine lovers alike for its resilience against phylloxera and its ability to produce some of Portugal’s most sought-after wines from a unique micro-terroir in the heart of Douro Valley.