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Study Finds Palo Cortado Sits Closer to Oloroso

Researchers say the elusive Sherry style shows chemical and sensory traits that place it between Amontillado and Oloroso.

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A new study of Sherry wines from Spain's Jerez region has found that Palo Cortado, one of the category's most elusive styles, sits chemically and sensorially between Amontillado and Oloroso, but leans closer to Oloroso in several key traits.

The research, published June 1 in OENO One, analyzed 18 wines from six wineries and combined tasting-panel results with measurements of pH, total polyphenols, color, infrared spectroscopy and volatile compounds. The authors said the work was designed to give a clearer scientific basis for distinguishing Palo Cortado, a wine style that has long been defined more by tradition and sensory description than by measurable criteria.

Sherry wines are fortified wines made by adding grape spirit to base wine before aging. In the Jerez system, they can age biologically under a layer of yeast called flor, oxidatively without flor, or through a combination of both. Amontillado typically begins with biological aging and then moves into oxidative aging. Oloroso is aged oxidatively from the start. Palo Cortado is more ambiguous: it begins like a Fino, under flor, but later shifts toward oxidative aging.

That uncertainty has made Palo Cortado difficult to classify in commercial and technical terms. The researchers said their goal was to see whether analytical data could support its separation from the better-known styles.

The wines came from six bodegas in the Jerez de la Frontera area and were identified by winery-defined style. Each style was represented by six samples. The team measured pH, total polyphenol index, acidity, sugars and other parameters using FTIR spectroscopy. They also examined color with CIELAB coordinates and quantified volatile compounds by gas chromatography with flame ionization detection. An eight-member tasting panel evaluated aroma and palate attributes, with special attention to whether each wine seemed more biologically aged or more oxidatively aged.

The results showed overlap among the styles, but also clear patterns. Palo Cortado generally fell between Amontillado and Oloroso in the data set. In some measures it was closer to Oloroso, including pH and several sensory traits. Oloroso had the highest pH values, Amontillado the lowest, and Palo Cortado was intermediate.

The study found that sensory differences were among the most useful markers for separating the styles. Color parameters also helped distinguish them, as did certain volatile compounds tied to aging. Acetaldehyde, a compound associated with biological aging under flor, was 50% higher in Amontillado than in Oloroso and 37% higher than in Palo Cortado. Ethyl acetate, which is linked more closely to oxidative aging, was about 30% higher in Oloroso and Palo Cortado than in Amontillado.

The authors said those findings reflect how aging conditions shape the chemical profile of each wine. They also noted that despite variability within each style from winery to winery, grouping patterns still emerged.

Palo Cortado remains one of the most commercially difficult Sherry styles to explain to consumers because it does not fit neatly into a single aging category. The study suggests that its identity is not just a matter of tradition or tasting language but can be traced in measurable chemical features as well.

For producers and regulators in Jerez, that matters because clearer analytical markers could help with quality control and style definition at a time when Sherry is trying to maintain relevance in export markets while preserving its traditional production system.