



WILLAKENZIE ESTATE

Winemaking - Big Chill

Cold-Soak Technique

For a very long time, winemaking in Burgundy has employed the cold-soak technique. The idea is to cool the must (destemmed or crushed grapes or whole clusters) in a tank before the fermentation process is allowed to start. By keeping the must cold, typically below 50° F, the winemaker prevents the yeast from starting the conversion of sugars to alcohol, while extracting color and flavors in a non-alcoholic environment. The cold-soak process can significantly enhance the aromatic profile of the wine, especially for Pinot Noir.

Pushing the Cold-Soak Concept

At WillaKenzie Estate, we have consistently used the cold-soak technique, and a few years ago we started pushing the cold-soak concept even further by cooling whole grape clusters before processing them. We discovered that if we cool the berries to a temperature between 35° and 45° F before we destem them, we could preserve the integrity of the berries to a much greater extent and further refine the aromatics of the wines.

Refrigerated Trucks

After several years of using refrigerated trucks to cool selected lots of grapes, we built our own custom cold-storage facility, the 'Big Chill'. It is partially buried in the hillside to conserve energy and was ready in time for the wet 2007 harvest. We now cool all of our Pinot grapes before we process them. It functions like a giant wind tunnel in which high-velocity cold air is forced through shallow, slotted bins full of grapes. The 'Big Chill' is comprised of four cooling cells. Three cells are capable of bringing 20 tons of grapes to 35° F in less than 24 hours, while the fourth cell is capable of reaching 20° F in the same amount of time (like a giant freezer!).

Custom Design

Bernard took advantage of his physics background to design a system that not only can cool grapes very quickly but also can also remove the surface water as well as some water within the grapes by controlling the dew point and judiciously using heating coils. This comes in particularly handy in wet years. And yes, the system is also capable of adding some moisture.

Impact

Long-term studies with Oregon State University are underway to assess how the system can help in maturing grapes as well as the impact of such a process on acidity, pH, and—most importantly—tannin structure. This is truly an exciting undertaking that may help us further advance our understanding of tannin structure and tannin management. The use of the 'Big Chill' has demonstrated improvement in our aromatics, most likely because a greater percentage of whole berries are present in the fermentation tank after destemming. This also allows the winemaking team to approximate whole-cluster fermentation without the stems, which often introduce a vegetal characteristic to the wine. A cold, uniform temperature in the tank can be achieved immediately, thus improving the traditional cold-soak technique.

To find more information on WillaKenzie Estate, please visit the Trade Toolkit section of our website at: www.willakenzie.com/trade/toolkit