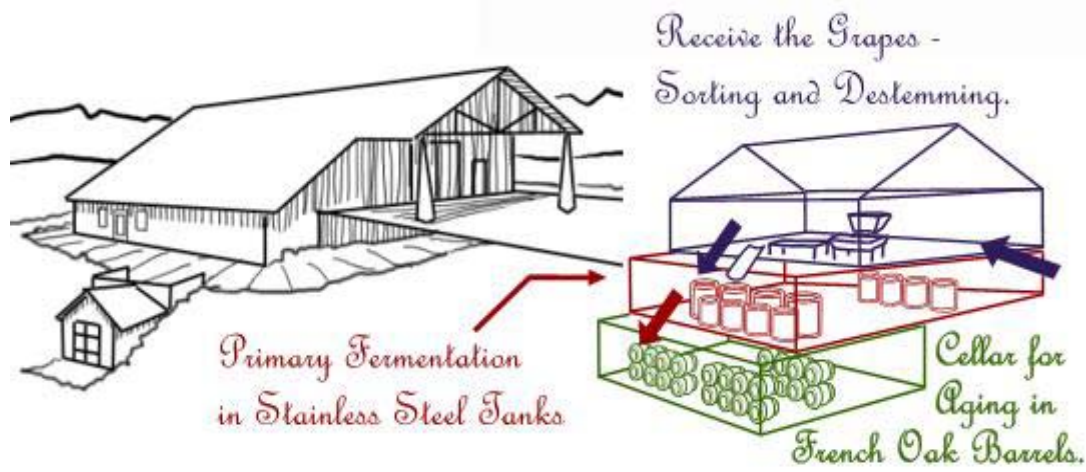


WILLAKENZIE ESTATE.

Gravity Flow



The Philosophy of Gravity Wineries

Nurturing and gentle handling of Pinot Noir wine at every stage of its development are requirements for achieving greatness. In a gravity flow winery, grapes fall naturally into the fermenting tanks (just like Isaac Newton's apple fell to the ground!), and wine moves gently from the fermenters to the aging barrels. Neither the grapes nor the wine are ever moved by pumps, which might bruise them. Instead, the multiple levels of the winery buildings exploit the force of gravity to softly move grapes and wine through the processing steps. The simple and elegant gravity flow concept has been validated by over 500 years of wine making in Burgundy. The inherent sophistication of the design and higher construction costs make this approach best suited for low volume production of high quality wines.

WillaKenzie Estate's multi-level gravity flow facility was completed in 1995, just in time for our first crush. The facility is a reflection of the backgrounds of owner Bernard Lacroute and winemaker Laurent Montalieu, who share the goal of producing high quality wines with minimal handling.

WillaKenzie Estate Winery Design and Architecture

WillaKenzie Estate's facility consists of two hillside buildings with A-frame designs. One of the buildings is the original barn that was in existence when the Lacroutes purchased the property in 1991. The barn was completely renovated while maintaining its architecture, which is typical of Oregon's traditional farm buildings. The upper level of the barn houses offices and an area that can be used for art display. The lower level, which is naturally cool due the addition of earth berms during the renovation, is used to store some of our bottled wines. The winery building was designed to facilitate the gentle flow of grapes and wine while its architecture is patterned after the original barn, thus blending naturally into the adjacent landscape.

Grape Processing

Grapes are brought in small bins from the Estate vineyards to the upper level where they are processed. All the grapes are picked by hand, hand sorted in the vineyard and sorted again at the winery. We custom designed a vibrating table to evenly dispense the fruit to a sorting table, which then feeds the Pinot Noir grapes to a destemmer or the Pinot Gris and Pinot Blanc grapes to a bladder press. The press, vibrating table, sorting table and destemmer are located on the upper level where the grapes are received. Processing equipment for red grapes is moved from tank to tank so that the destemmed berries fall directly by gravity into one of the stainless steel fermenters. Depending on the vintage and the block where the grapes were picked, we may add a percentage of whole clusters to the tank.

Primary Fermentation of Red Grapes

During the primary fermentation, sugar is converted into alcohol. This process takes place in open top stainless steel fermenters, which are located on the second level of the winery. The stainless steel fermenters are "jacketed" to allow a food grade glycol flow to cool or heat the content of the tanks. The temperature of the tanks can be controlled from a central panel located in the adjacent laboratory. We follow a time proven Burgundian regime to transform the "grape juice" into wine. First the destemmed but uncrushed berries undergo a "cold soak" maceration, meaning that the "must" (destemmed berries and whole clusters, if any) is cooled to around 48 degrees Fahrenheit for several days to extract flavors in a non-alcoholic environment. Then the temperature is allowed to rise, and the fermentation process starts. It may take 8-12 days for the yeast to completely convert the sugar into alcohol. During the fermentation, *Big Foot*, our pneumatic automated punch down device, travels from tank to tank on its overhead rail to gently "punch down the cap". *Big Foot* simulates the action of human feet and gently mixes into the juice all of the solids, called the "cap", which settle on top of the juice in the stainless steel tanks. Many of the flavors of the wine are extracted from the skins and seeds of the berries and stems, if any have been left. The extraction of flavors takes place by mixing the juice with the solids in a very gentle fashion to avoid bitterness and harshness in the wine. *Big Foot* can deliver safely and consistently 7200 gentle "punches" per day without complaining! This unique device was designed at WillaKenzie and built locally.

At the end of the alcoholic fermentation, the wine is sometimes kept in contact with the must for several more days under a layer of inert gas to further extract tannins and flavors. This is called the "post fermentation" maceration phase.

Finally the wine is drained from the tanks by gravity into French oak barrels located at the next level below. The "must" is removed manually from the tanks, loaded into large bins, which are driven back to the top level with a forklift. The "must" is then gently pressed to extract the remaining wine, which is gravity fed into the barrels. The press wine is sometimes kept separately from the "free run" wine, which has gone directly into barrels from the tanks.

Primary Fermentation of Pinot Blanc and Pinot Gris Grapes

We have made a stylistic choice for our Pinot Blanc and Pinot Gris to emulate the Alsatian style. We are aiming for a round, full bodied wine which emphasizes fruitiness. Because of this choice, we strive to pick our Pinot Blanc and Pinot Gris grapes very ripe. After hand sorting, the grapes are loaded as "whole clusters" (i.e. neither destemmed nor crushed) into the press, and gently squeezed in the "bladder" press. The juice is collected at the bottom of the press and fed by gravity to closed top stainless steel fermenters. The wine undergoes the primary fermentation in the closed tanks and is not allowed to go through the secondary malolactic fermentation in order to achieve the level of freshness and fruitiness that we are seeking. The wine is bottled a few months after the fermentation is complete.

Barrel Aging and Bottling

The lowermost level is home to our underground barrel storage and bottling line. Our barrel room is underground with 4'-6' of soil on top of the cellar, which maintains the temperature in the 55-59°F range and 60% humidity range year round, without heating or air-conditioning. This natural underground cellar not requiring air conditioning is typical of Burgundian tradition. All our Pinot Noirs, Pinot Meunier and Gamay Noir are aged in French oak barrels in the cellar. Up to 1000 barrels can be stacked in the barrel room.

The wine undergoes a second fermentation called "malolactic" fermentation, during which malic acid is converted to lactic acid, a process that softens the mouthfeel of the wine. During barrel aging the wine is checked and topped frequently to minimize oxidation. Our typical Pinot Noir is aged for about twelve months in the barrels. We use several different coopers to enhance the flavors of the wine with various levels of "toastiness". We keep our barrels an average of three years and certain lots of wines receive 100% new oak barrels. The wines are typically bottled unfiltered and unfined using our own bottling line located in a separate room adjacent to the cellar. The wines are then stored in the bottles for about a year before they are released.