



Fact Sheet

Winemaking

FROM THE VINEYARD TO THE FINISHED WINE

Guided by the winemaking staff, Le Clos Jordanne wines make themselves.

The harvest is the busiest time of the year for winemakers, and in the Niagara Peninsula the race is on to finish before the autumn rains begin and harm the grapes' delicate skins, the most vulnerable being those of the Pinot Noir.

The winemaking team at Le Clos Jordanne is no exception, and in their case, the work is particularly challenging as the grapes are all picked by hand and moved through the winery as gently as possible with minimal mechanical intervention. This is a time of celebration and great expectations, and the small winery team is joined each year by a handful of aspiring winemakers across Ontario and other parts of the world such as France, New Zealand and Australia, who are keen to learn the practical side of winemaking, organics and the importance of minimal handling.

The winery that has served the four Le Clos Jordanne Estate Vineyards since 2004, is a short distance from each at 2540 South Service Road, in Jordan Station, and just a few minutes drive from the Queen Elizabeth Highway (QEW). Known as the Lower Jordan Winery or, in French, La Cuverie Bas-Jordanne, the approximately 2,500 square metre (close to 25,000 square foot) building formerly served as a cut flower warehouse.

Sorting and Preparing the Grapes

No expense was spared in sourcing the best winemaking equipment for Le Clos Jordanne, most of which was designed and shipped from Europe. Given the fragility of the Pinot Noir grapes, gentle handling was of paramount importance, leading the winemaking team to choose gravity flow over pumping, and hand care over machines.

The process starts with hand-picked grapes arriving at the winery in very small increments, in bright yellow baskets, custom designed with small holes on all sides, so that none of the berries are crushed when the baskets are full.

The baskets are then emptied and the whole grape bunches move gently onto a table, which thanks to its vibrating action, and the help of a blower, removes insects and water droplets. The vibrating table was made for Le Clos Jordanne in the Loire Valley, by Vaslin Bucher, one of the highest regarded winery equipment suppliers in France. The grape bunches then fall onto a second sorting table where a team of six people carefully watch for, and remove any imperfections. The bunches are then gravity fed into a state-of-the-art destemmer, falling afterwards, like perfect black pearls into the bin waiting below. The machine used for destemming Le Clos Jordanne's grapes is also made by Vaslin Bucher from Chalon sur Loire, and is designed exclusively for hand-picked grapes.

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Red Wine Fermentation

The Pinot Noir berries are then carried to the fermentation cellar, where they are placed on what is referred to as a “Giraffe,” because of its tall narrow structure or “long neck.” This escalator-style lifting system was introduced this year (2006), and is a prototype, custom-made locally for Le Clos Jordanne. Its purpose is to carry the grapes to the top of one of 21 magnificent, 3.4 metre-high (16 foot-high), five or eight tonne capacity, open-top oak fermentation vats, custom-made for Le Clos Jordanne by Foudrerie François in Brive, France.

Each vat is fitted with strong wood stays, which are known as the “assisés” (French for sitting). Installed in the Lower Jordan winery by a team of tonneliers (coopers) from France, the vats are mainly used for fermentation, and eight have optional lids that can be fully closed, enabling them to be used for wine storage and homogenization, pre-bottling.

The Pinot Noir berries are then cold-soaked in the vats at approximately 12°C to 15°C (54°F to 59°F) for four to five days, to extract the depth of colour from the skins. During this process, the winemaking staff test the suitability of a variety of wild yeasts that they hope will become good “pied de cuves” or “fermentation starters,” promoting a good, clean fermentation. A separate “pied de cuve” is started for each vat (or vineyard parcel) and the resulting fermenting wine is thoroughly checked in the laboratory to assess cell counts, the correct shape of the yeast, smell and other factors, before it is returned to the cuvée from which it originally came, to inoculate the indigenous ferments.

At this point, the ‘must,’ which includes everything from the grape solids to the fermenting juice, starts its own wild fermentation, which lasts another 10 to 15 days, with temperatures rising as high as 28°C up to 34°C (82°F to 93°F). During this time the whole berries start to split due to the weight of the grapes in the vat. Carbon dioxide is released as the grapes’ sugars turn into alcohol making the grape skins float to the top, in the form of a “cap.” This creates the need for “pigeage” or “punching down” which involves pushing the cap down into the newly fermenting wine with a wood or metal rod, to promote aeration (controlled exposure to oxygen) and the gentle extraction of the goodness in the skins, including their tannins, colour and flavour.

Due to the exceptional height and width of the fermentation vats, the winemakers must climb up a moveable ladder system to reach the tops of the vats, where they oversee this process. For safety purposes the winemakers do not lean into the large, eight tonne vats, to “punch down” with rods or paddles, but utilize pneumatic-assist “punch-down” tools. Once again, these are prototypes designed in Burgundy by Demoisy to closely mimic the manual “pigeage” process, and can be positioned at the top of each vat as required. The smaller, five tonne tanks are “punched-down” in the traditional Burgundian manner.

Spiral heating and cooling coils within the vats maintain the cool temperature during the initial cold maceration, and then sustain the warmth after fermentation, keeping the wine at approximately 28°C (82°F) at the end of the process. The oak vats themselves have a marked effect on the fermenting wines, by gently and naturally moderating temperatures throughout the process.

After fermentation, the must is left to settle and keep warm in the vats for a post-fermentation maceration, which softens the tannins and promotes “tannin polymerization.” It is then placed in a Vaslin Bucher press, to gently separate the new wine from the skins and seeds. Shortly afterwards, the barrels will be filled with the new wines by gravity and carefully labelled with the wines’ place of origin (vineyard and sub-parcel). The wines are then left to age in one of Le Clos Jordanne’s three temperature controlled cellars.

The barrels for Le Clos Jordanne wines were made by eight of the best cooperage houses in Burgundy and unlike their slender Bordeaux counterparts, are rounder in shape, reflecting the good health and hearty “joie de vivre” of the Burgundy region. The local coopers also understand the lighter toasting that is preferred for the delicate Pinot Noir and Chardonnay barrels as well as the use of thicker staves (in contrast to Bordeaux’ thinner staves), because Pinot Noir requires much less micro-oxygenation.

Le Clos Jordanne is an ‘all barrel’ facility, which means that no wine is stored or aged in a tank. It currently uses 500 barrels, both new and used, and at capacity, is expected to have upwards of 1,500 barrels.

The winemakers’ goal is to minimize the barrels’ oak influence in order to let the wines express themselves naturally. Thus, a small percentage of new oak barrels are selected for each cuvée in order to complement and sustain the wines’ delicacy, while most of the cuvée is aged in previously used “neutral” barrels which have minimal influence on the wine.

As a result of the long aging period for all Le Clos Jordanne wines, which lasts approximately 18 months, there are times when two separate vintages will be in barrel at the same time. This means that the winery requires double the number of barrels, along with double the cellar space.

Malolactic, or secondary fermentation, for both the Pinot Noir and the Chardonnay wines, naturally occurs in Le Clos Jordanne’s barrels, but is deliberately held back during their first winter, to allow for the development of more complexity. Malolactic fermentation then starts naturally, approximately six months later, when the cellars warm up in the spring.

Le Clos Jordanne keeps fining and filtration (techniques which are known to speed up clarification and stabilization) to a minimum. The viniculturists are patient and know that clarification and stabilization will always take place, eventually. The Clos Jordanne winemakers also prefer to retain the flavour compounds and fine lees that are typically removed through fining, as they know these elements will contribute to the complexity and texture of their wines. This is consistent with their strong pride in the “élevage” which, loosely translated, means the way in which they “bring up” their wines, like children.

Le Clos Jordanne wines are released for sale two years from the harvest date. After 18 months of careful aging in barrels, they are bottled and left to age for another six months in bottle. This period is crucial to the development of tertiary “bottle aromas,” a time when the still young wine progresses from having secondary fruit flavours to developing a perfumed “bouquet.”

White Wine Fermentation

Le Clos Jordanne's Chardonnay grapes are hand-harvested and hand-sorted the same way as its Pinot Noir grapes. They are whole-bunch pressed immediately and very delicately, through a thin membrane that slowly releases the juice over three and a half hours known as a "Champagne cycle." The juice is then placed to settle naturally in one of a small number of state-of-the-art stainless steel tanks, made by DiFrancesci in Piedmonte, Italy. The capacity of the current tanks ranges from about six to 95 hectolitres (160 to 2,510 gallons). Here, the juice settles for 24 to 36 hours while its viscous solids gradually sink to the bottom, leaving only the fine lees that will stay with the juice, adding complexity to the wines and the necessary nutrients to carry out fermentation.

The sweet Chardonnay juice and the fine lees are then placed in small 228 litre (60 gallon) barrels, to which will be added a "pied de cuve." As in the case of the red wines, a separate "pied de cuve" is started for each lot of Chardonnay, and this potential wild yeast "fermentation starter" is studied carefully under a microscope to check its yeasts and ultimate viability for starting, and successfully finishing, the fermentation.

Chardonnay ferments in its own barrel, at its own pace and in its own unique manner. The temperatures are much lower than those reached by Pinot Noir, and the process lasts between six to eight weeks; in the Chardonnays' case, the slower the fermentation, the better the complexity and flavour. The Chardonnays' temperatures start at around 17°C or 18°C (63°F or 64°F), and usually peak at between 21°C and 22°C (70°F and 72°F). In fact, the "soyeux" or "seamless" character of a great Chardonnay is produced when the fermentation reaches 20°C to 24°C (68°F to 75°F). If the wine peaks lower than 20°C (68°F), the Chardonnay will not achieve the desired texture, and will impart the tropical fruit flavours that are consistent with cool fermentation.

As the Chardonnays settle in their barrels, the winemaking team will stir them carefully once a week, to bring the yeasts and other components into suspension. This is called "bâtonnage," and is a centuries-old tradition in Burgundy. Bâtonnage promotes "mouthfeel," and complexity of flavour, and by putting the nutrients into suspension, also encourages malolactic fermentation. Once the malolactic fermentation is finished in the early spring or summer, the wines are left to rest and evolve at their own pace, and like the Pinot Noir wines, will spend another 18 months developing in barrel. It is these leisurely last months of *élevage* that are so important in making a truly great Chardonnay. This is when the wine becomes more refined and gains complexity and texture.

As described earlier, Le Clos Jordanne keeps fining and filtration to a minimum with its white wines, employing those techniques only when it is felt that they will actually improve the wine. The white wines are released for sale two years from the harvest date to ensure that they are at their finest.

Like children, and all things of great value, it takes a long time and considerable patience to raise them to become accomplished adults with their own special gifts to share with their family and community.

So it is with the wines at Le Clos Jordanne.

For each vintage, the vines work hard for one year in the vineyard, and their wines then spend at least two years ‘growing up’ in the winery. For their guardians, the viniculturists at Le Clos Jordanne, the three years that it takes to create each vintage is a “labour of love” that is humbling, rewarding, and joyous.

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