



# The Vineyard



*wine and beer making supplies*

*"turning beginners into experts since 1983"*

## **South Store**

6025 Centre Street, South  
Calgary, AB, T2H 0C2  
phone (403) 258-1580 fax (403) 258-0077

## **North Store**

5403 Crowchild Tr. N.W.  
Calgary, AB, T3B 4Z1  
phone (403) 288-7775

---

## **Why we use "cultured yeast" to make wine**

Whether you are a first time winemaker or an old hand, one thing will never change — you need yeast to make wine. Simply put, all wine is the by-product of fermentation. Alcoholic fermentation is a biochemical process where yeast consumes sugar and produces alcohol and carbon dioxide. How does yeast get into the must? There are two sources. One, you may supply it by inoculating the must with cultured yeast cells. There are many strains of cultured yeast available on the market that will bring out different characteristics of wine. This brings us to the second source — wild yeast. Wild yeast is what the name implies. Wild. In other words, it is the naturally existing yeast in the air, on vegetation or blowing around in the air. Wild yeast clings to surfaces in the vineyard, winery and on equipment. Any wild yeast species — whether good or bad for making wine — can end up in your must. What comes, comes. The various species of wild yeast floating around your vineyard may not be the same as someone else's. When you pick your grapes and let them sit there, eventually they will ferment as the wild yeast on the grapes — and whatever wild yeast is hanging around your winery — colonizes and begins to consume the natural sugar in the must. In a few days it starts turning into wine.

Note: Sometimes wild yeast is referred to as "natural" yeast. The term natural is rather ambiguous. There is no such thing as artificial or fabricated yeast. All yeast — even cultured yeast — is natural. The difference is whether the fermentation is from "wild" or "inoculated" yeast.

Just because it is yeast, does not mean it is good for wine. On the other hand, if they were all bad humankind would have given up making wine thousands of years ago.

That being said, why such caution? Quite simply, it is the unpredictable nature of spontaneous fermentation that either attracts us as winemakers, or scares us off.

One of the most common characteristics of wild or indigenous yeasts — even good ones — is their low resistance to alcohol. Many wild types of yeast are unable to perform once alcohol levels reach 6%. The result is stuck fermentation, flabby wine with a low immune system, and a pile of unwanted residual sugar — to name just a few problems.

Another risky feature is the fact that wild yeast exists on grapes in much smaller numbers than a dose of inoculated yeast. Therefore, it takes longer for wild yeast to colonize - up to a week in larger batches - leaving the grapes open to infection from other spoilage organisms and from oxidation. In addition, once fermentation begins, it is longer and slower, and at a lower temperature.

A third risky feature is the unpredictable by-product of off-aromas and esters that wild yeast can impart to the wine. No two batches of spontaneous fermentation taste the same, even when grapes are from the same vineyard, fermented side by side.

Grapes picked with a low pH and good acid possess inhibitory qualities that stifle spoilage during the lag phase it takes for spontaneous fermentation to kick in. During the lag phase, the must is vulnerable to bacterial growth and VA (volatile acidity) from acetobacter and lactobacillus. These bacteria can produce very unpleasant aromas in the wine and literally turn it to vinegar.

### ***Rain***

If rain fell just before harvest, yeast may have washed off and yeast cell populations will be severely reduced or limited to what arrives on winery equipment. In the mean time, lingering water and moisture on the grapes also promotes rot. Bacteria in the must will multiply during the lag phase while what little indigenous yeast is present is trying to colonize.

### ***Secrets of the Old World***

After reading all of the above, the original question may still lurk: why is it that some old-world (i.e. Burgundy) wineries have been successfully fermenting great wine on indigenous yeast for hundreds of years?

The answer to the question is in the question itself. It is because they have been doing it for hundreds of years. And...dare I say it...some do inoculate with wild yeast.

### ***Micro Flora***

Over decades of growing and fermenting (often the same grape), and dumping the old pomace and yeast sludge back into the vineyard, an accumulative buildup of particular yeast strains tend to dominate the region. They blow in the wind, cling to the winery walls, stick to equipment, on hands and feet and clothing and lodge themselves in the wood grain of barrels. The grapes themselves are covered with the same dominant microflora year after year. Decade after decade. Century after century. The result is every harvest spontaneously ferments the grapes with the same "native" strain(s) of yeast. No inoculation is necessary. The entire appellation has been permanently inoculated over generations.

Unless your vineyard and winery has that consistency of wild yeast that has built up over generations, chances are your wine will not have the same reliable results. Even so, even in Old World wineries, nothing is left to chance. Having said all the above, it is easy to understand the old adage: wine is made in the vineyard. Wine will ferment itself, with or without you. However, making good wine is a much less risky using a cultured yeast than with wild yeast.

*---the above article is excerpts from Wild Yeast: The Pros and Cons of Spontaneous Fermentation by Jeff Chorniak*

Enjoy - Tom and the Vineyard Staff