



Why not a natural cellar?

Nothing provides me more satisfaction than implementing a green solution. Given all of our environmental concerns, we have an obligation to our children to leave this world at least as good as we inherited.

For the past fifteen years I have spent my time designing and installing mechanically chilled wine cellars. I can do them and do them well. But over these same fifteen years, I have been planting environmentally friendly seeds all around the Chicagoland area. These seeds are my *natural* cellars, which derive their temperature from the earth around them and require no mechanically chilled option.

I have about thirty-two of these green gems around Metro-Chicago. Thanks to good relationships with all of the individuals, I have been given the opportunity to monitor their cellar temperatures over the past decade. Some clients have moved, and that fact restricted my access to the data from those wine cellars. But many are still in place and still performing the function for which they were intended and performing that function not only environmentally-neutral but also at less cost. My competitors will think me crazy for even raising the subject of a natural cellar. Why introduce some concept that only "confuses" an already sold individual. Simply take the money and run. I don't have an answer to that question or attitude other than the statement in the first paragraph; I just want to do my part.

My clients come to me already sold upon the concept of a mechanically-chilled wine cellar. Most have enjoyed the cellars of their friends and neighbors and many have observed some type of a mechanical chilling unit, whether WhisperKool or some other brand, grinding away in the background providing cold air. These clients come to me ready to spend \$3000-\$12,000 to mechanically chill their cellar.

When we begin talking about their wine collection, most admit that very little of their personal collection contains any long-term Burgundy, Borolo, or Bordeaux stocks that require long-term refrigeration to achieve their best flavor. The majority of my clients purchase ready-to-drink wine. In fact, 94% of the wine sold in American wine stores is ready-to-drink at the time of purchase. Can this type of wine benefit from adequate cellaring? Of course. However, the actual benefit may be extremely subtle and to many palates impossible to taste the difference.

A chilled wine cellar starts off at a 55° constant temperature with humidity of 70%. The specification came from measurements in the caves in France. This is the natural condition of caves. Louis Pasteur found that a wine or any chemical reaction was reduced by one half by lowering the base temperature from 70°F to 55°F. This lowering of temperature increased the aging time of the wine and also increased the drink-ability period of the wine itself. Bordeaux aged at 70° will be ready to drink in five years and have a prime drink-ability of three years. Bordeaux stored in a cellar at 55°F would have an aging time of 10 - 15 years and a prime drink-ability period of 10 years or more.

Both wines would survive cellaring at 70° or 55°. The wine aged at 70° would not be vinegar when opened unless there was something wrong with the cork or the bottling process.

Permit me to explain, however, that no double-blind studies have ever been conducted or are planned for the future to scientifically test this hypothesis. No one has ever taken two cases of Bordeaux of the same vintage and year and aged one case in a cellar at 70°, while the other case was placed into a cellar at 55°, and then compared the result. And had double-blind studies even been considered, there would be no way to correct for problems with the cork closure, the differences within the overall bottling process, and the differences in the cellars themselves. Finally, since taste is subjective, there would also be no way to determine whether one wine tasted better than another and then to verify that the difference in taste was due specifically to the temperature of storage.

Now that we have looked at the basic science behind wine storage let's talk about the differences between natural cellars and mechanically chilled ones. In natural cellars the cold comes from the floor of the wine cellar touching earth at a constant 55° and also any surrounding foundation walls radiating 55°. During the winter months the temperature in your natural cellar may reach as low as 52°. (All of this information is based upon studies conducted in the Midwest. I cannot verify that this information will translate across the United States. I can say that from observing my thirty-two natural cellars across the Chicago metropolitan area that these numbers are correct.) I have never had one cellar go lower in temperature than 50° during the coldest of Chicago winters.

In the summer the average temperature of a natural wine cellar will fall between 58° to 64°. The highest temperature a natural cellar has ever reached, of the thirty-two I have studied, was 64° during one incredibly hot summer. The particular cellar in question was located in the center of the lower level and did not enjoy an exposure to a foundation wall.

You can't translate surface temperature to ground temperature without considering a resistance to change. In other words, if I start the day with a 58° ground temperature and experience 100° air temperatures above ground, the 100° may move the 58° below-ground temperature by 1° over the 24-hour period. Once the sun goes down, the ground returns to its original temperature with maybe a 10th of a degree increase. Over time your natural cellar will probably go from 53° to 62° over the course of a year, in a very natural swing of temperature. What will this increase of 9° due to the wine? It will obviously cause the wine to age imperceptibly faster during those

times when it is 7° over ideal temperature. Will this affect the taste? I can't say and no one else can either.

We know the advantage of a mechanically-chilled cellar: it will be 55° for the life of the wine cellar. Let's talk about the obvious advantages of a natural cellar.

- A natural cellar is definitely a green solution.
- It never breaks down. (Life has to be better when you no longer need another \$125 per hour repair guy.)
- A natural cellar will probably be half the cost of a mechanically chilled one
- There is no maintenance required with a natural cellar.
- There is more money left at the end of the project to buy wine.
- This cellar is completely quiet.
- There is nothing green about running a wine cellar cooler 365 days a year, 24/7.

It is up to you. If your collection and tastes goes to wine that requires cellaring, the question has already been answered. Mechanical-chilling is the only way to go, and I will be happy to work with you on securing the best cooler for the lowest possible price. However, if you are one of those collectors whose taste in wine stops right around the \$100/bottle price point, maybe, just maybe, a natural cellar is not only the most cost-effective choice but is also the choice that leaves more money to buy wine. More wine is always a great result.

My best,

Rick Grigsby

Chicago Wine Cellar Expert Inc.

Chicago, IL