

BARREL AGING

By Steve Gonzalez, Stone Brewing

At this stage most of us are familiar with the awesome, amazing flavors derived from barrel aging beers. Barrel aging is as diverse in terms of flavor impact as aroma hopping in my opinion. From caramel and oak compounds such as vanillin and furans from charred spirit barrels, to spicy, clove, sometimes vinyl, wild microflora derived 4-ethylphenol and 4-ethylguaiacol, these flavors are all over the place!

Many of these compounds are desirable, though some such as volatile acidity are not except in tiny amounts. Volatile acidity is a sharp vinegar character of acetic acid that eventually oxidizes into ethyl acetate, the nail-polish-remover character I've tasted in some bourbon barrel-aged beers. Some winemakers have described to me a hint of volatile acidity as "the pepper on the steak" at very low levels and it can work at those low levels!

Fortunately, volatile acidity is avoidable! Make sure barrels are fresh and hydrated, and gas them at 20 psi or so with nitrogen or CO₂ for 2 minutes prior to filling to reduce head space air. If leaks occur, empty the leaky barrels into a tank, rinse those barrels well, repair leaks, and refill!

If volatile acidity remains a problem when you rack that beer out of barrel, it can still be salvaged! Rack out to a tank at ambient temperature, cleaned and sanitized of course, and purged with CO₂.

Leave it warm, put 10 psi pressure on the tank, taste it every couple of days, and purge and gas it as needed. Yes, you will lose some volatile flavor compounds, but the flavor threshold for volatile acidity is pretty high, and it's called "volatile" for a reason. You can drive it into the headspace faster than you think!

Hopefully you found this practical and useful! Barrel aging is fun and makes tasty beer!