

**Title: "TCA No Longer a Major Problem for the U.S. Wine Industry"**

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Wine Competition Shows Increase in Non-cork Closures

- \* Closure types were tracked at the 2008 Indy International Wine Competition.
- \* Less than 50% of the competition's 3,240 entries had natural cork closures.
- \* The drop in cork's market share could have been avoided in the mid-'90s with more attention to university research.
- \* TCA is no longer a major problem for the American wine industry.

When I talk to wine writers and journalists, I am often asked about the percentage of alternative closures used in the wine industry today. "Well," I'd usually say, "nobody really keeps official statistics on closures, and suppliers tend to keep their sales figures close to their hairy chests." On the other hand, I am the chief judge of the Indy International Wine Competition, undoubtedly one of the finest-smelling and best-organized competitions in the country. Certainly it's one of the largest: About 10,000 bottles of wine pass through my enology lab at Purdue University on their way to Indianapolis in any given year. So when the 2008 Indy competition came up

last June, I thought I'd ask a few members of our "Pit Cru" (Will Smith, Tom Moritz, Isaac Miller and Amanda Haehl) to count the different closures as the thousands of bottles were opened, waiting to be poured for our 75 esteemed wine judges.

The 2008 competition featured 3,240 wine entries, including 2,504 commercial ones from 39 U.S. states and 12 countries. The price-points of our entries ranged from \$2 you-know-what to \$100 vintage Port, and the size of producers ranged from teeny-tiny family wineries to really large family wineries. Quite representative one might say, and probably the best and largest snapshot of the U.S. retail market for wine available for a closure assessment.

If this sampling is any indication, natural cork now accounts for less than half of wine bottle closures. In combination with natural-cork-derived products such as three-piece corks with an agglomerated layer sandwiched between two solid cork disks, or entirely agglomerated ones, they now have a market share of about three quarters. Twenty-three percent of all bottle closures are divided between screwcaps that now stand at 6% of total entries (1 in 16 bottles) and synthetic corks at 17% (1 in 6 bottles). Already about 3% of our entries come in bag-in-box, Tetra Pak or aluminum packaging.

Now, let me give you a little bit of a "historic" background on these stats. In 1994 when I was a young whipper-snapper and California's state enologist at UC Davis, my grad student Adam Suprenant and I accepted an invitation from Portugal's national tourism organization to go on one of those delightful cork and wine tours that showcase the local cork industry. What we saw back then was quite disturbing: from lifeless cork forests to mold-infested factories to unsafe working conditions and immense air pollution, it was clear the traditional cork industry was in deep trouble.

It wasn't long after we returned that I proposed a process analysis that could have eliminated the main sources for TCA taint all the way from the cork forest to the winery in California or Australia. However, back in those days, the prevailing attitude was best summarized as, "Well, if you Americans don't like the way we make corks, why don't you plant an acorn, wait 40 years and punch your own corks."

In 1995, Suprenant presented our study on wine drinkers' sensory thresholds for TCA at the Cool

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Cli-mate Symposium in New York, and two years later we published our Cooperative Extension "Cork Sensory Quality Control Manual" that laid out the proper sampling procedures for wineries and cork producers alike.

Though the situation in Portugal has improved quite a bit in the last 14 years, the once-dominating natural cork industry has lost more than one-quarter of its market share, worth an annual approximately \$100 million dollars in the United States alone. It's a stunning example of how a little university research could have made a 1,000-fold return on investment. In the end it was California wineries themselves—in the form of CERA and the American Vineyard Foundation—that supported our work. Maybe all parts of our industry can learn a little lesson from this sad story.

If it wasn't for the improved quality control for imported corks provided by the United States' largest enology technical services laboratory under leadership of Dr. Eric "Releasable TCA" Herve and sponsored by the Cork Quality Council, the advocacy group for U.S. cork suppliers, the numbers would be even worse.

## MAJOR REDUCTION IN "OFF" WINES

Which brings us to the truly positive side of the issue: Since I have been overseeing the Indy International, the number of wines called by my experienced judges to be re-poured because they appear "off" has been rather minute. In my estimate — based on smelling the rejected wines with my own super-TCA-sensitive olfactory bulb — less than 1% of our 3,200-plus wines is noticeably corked. Coincidentally, that is exactly the percentage of tainted wines that we deemed acceptable. The often-scrutinized but non-debatable sampling requirements from our cork manual were an attempt to drop the number of TCA-tainted corks from the observed 5% to less than 1%. The reasoning behind this arbitrary number was the fact that even a (hard) core wine consumer (assuming about 120 bottles average annual wine consumption per person) wouldn't care about coming across only one corked bottle a year (versus one in every other case).

The assessment of sub-recognition threshold TCA that masks the fruit-forwardness of wines remains difficult during a wine competition. It can only be confirmed by analytical methods. (The essential GC/MS-SIM/SPME analysis was developed by another grad student of mine and Sue Ebeler's, TJ Evans, now winemaker and viti-culturist at Vina Gracia in Chile, and has been commercially optimized. and offered by our cooperators ETS Labs in St. Helena.) By the way, and despite the reports in the popular press, TCA has been 99% a cork problem, not a winery problem (with the exception of knuckleheads who still use chlorinated cleaning products in their winery, cellar, or tasting room despite 10-plus years of me arguing against it.)

Almost 30 years after Dr. Rudi Tanner discovered the source of cork taint, I am happy to announce that in my irrev-erent opinion, from both a winemaker's and consumer's perspective, TCA is no longer a major problem for the American wine industry. We should be proud that enough pressure from competi-tors, scientists, and winemakers (and especially our friends in Australia), has finally started to fundamentally change an established and traditional industry that still is very intricately (and by its own marketing power) connected to the unique image and mystique that sur-rounds wine. To that, we shall pop some corks. Cheers!