

In Quake, Wine Barrels Became Quarter-Ton Projectiles

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File - This Aug. 24, 2014 file photo shows barrels filled with Cabernet Sauvignon that toppled on one another following an earthquake at the B.R. Cohn Winery barrel storage facility in Napa, Calif. Napa Valley's seismically reinforced winery buildings generally held up to the largest earthquake to hit Northern California in a quarter-century, but the precious wine piled inside often did not. (AP Photo/Eric Risberg, file)

NAPA, Calif. (AP) — Napa Valley's seismically reinforced winery buildings generally held up to the largest earthquake to hit Northern California in a quarter-century, but the precious wine piled inside often did not.

In winery after winery, oak wine barrels stacked high and weighing more than a quarter-ton each came cascading down, renewing worries about a lightly regulated threat to safety in fault-riddled wine country.

Vintner Richard Ward, in his south Napa Valley winery in the hours after the Aug. 24 magnitude-6.0 quake to help workers re-stack barrels, was one of many to say the time of the quake — 3:20 a.m. — limited casualties.

Authorities say falling debris seriously injured three people, none apparently at wineries that were then mostly unstaffed.

Had the quake happened one day later, Ward said, gesturing as workers used forklifts to right toppled empty barrels at his Saintsbury vineyard, "this place would have been full of people" working on this year's harvest.

Napa Valley's roughly 500 wineries still are compiling financial estimates for the quake's impact, spokeswoman Cate Conniff of the Napa Valley Vintners trade group said. The most commonly reported damage was the fallen stacks of wine barrels.

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The barrels each hold the equivalent of 25 cases of wine. At some wineries and wine-storage centers after the quake, spilled wine from broken barrels pooled over workers' feet and ran under doors to puddle on streets and sidewalks.

Wine barrel storage sites, which can hold thousands of barrels belonging to many owners, said they too were still assessing the loss, but numerous full wine barrels had spilled to the ground in some.

Beyond general worker safety rules, state officials say there are no specific regulations addressing wine barrel stacks, which a 2004 report by the Oakland-based Earthquake Engineer Research Institute said pose "significant threats to life and property."

In a few wineries with tasting rooms among the barrel stacks, tourists could have been in harm's way as well.

Materials in workplaces are supposed to be secured, but there are no specific state laws or regulations covering wine barrel stacks, said Peter Melton, a spokesman for the California state division of occupational safety and health.

OSHA inspectors tended to see such stack collapses as inevitable in a large temblor, Melton said, and no wineries have been cited in the latest quake. "I don't think they (barrel racks) were designed for an earthquake," he said.

Beyond the economic losses of wine, "the bigger issue is the risk to life safety is profound if it happens during the day," said Joshua Marrow, an earthquake safety specialist who has written on easing the dangers of the stacks for more than a decade.

Wineries typically use two-barrel racks to hold barrels, stacking them up to five or six high, well overhead.

After a 2006 fire heavily damaged Napa Valley Silver Oak family winery, CEO David Duncan said he heeded seismic studies written by Marrow and rebuilt winery buildings to incorporate a seemingly simple change — switching to steadier four-barrel racks, even though that required buying bigger forklifts to move them.

At Silver Oak during the latest quake, the towers of wine barrels stood, although three barrels in partially full racks fell. "Every single photograph I've seen" of collapsed barrel stacks elsewhere in wine country "were all on two-barrel racks," Duncan said.

For Silver Oak, each full barrel that stayed put and didn't break represented upward of \$32,500 in wine saved.

For wine-industry colleagues who hesitate at the expense of retooling for different racks, "I tell them it's not as big an investment as having your barrels fall and crack open," Duncan said.

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The danger of wobbly barrel stacks in earthquake areas has come up before, said Marrow, including after a 6.5 magnitude quake on California's Central Coast in 2003 and after a 5.2 magnitude quake in Napa County in 2000. Some Central Coast vintners began using shorter barrel stacks as a result of the 2003 quake, said Chris Taranto, spokesman for a vintners' association there.

The recession dissuaded many vintners from spending to switch to steadier stacks, however, Marrow said.

Beyond recommending four-barrel racks, Marrow and other winery seismic safety experts have pointed to ways to better hold barrels in place, such as gates added to the front of them.

Wineries also can build sturdy steel cages in rooms where barrels are stacked, so workers have someplace to run for protection if a quake starts, he said. Shorter stacks of barrels are safer than ones that reach toward the ceiling, he added.

Vintners probably would be looking at lessons learned from the Napa quake after cleaning up damage and harvesting this year's grape crop, said Michael Kaiser of the WineAmerica national trade group.

The issue isn't going to go away, Marrow said, given that the majority of California's vineyards lie in active seismic areas.

"Rolling vineyards generally were created by earthquake faults," he said.

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