

Central Coast Farm & Ranch

SPRING 2024

A photograph showing five agricultural workers in white protective suits and hoods walking through a field of young plants. The workers are positioned in the middle ground, moving from left to right. The field is covered with rows of small, green plants growing in a dark, possibly mulched, soil. The background features a line of tall, dark trees under a clear blue sky. The overall scene suggests a controlled agricultural environment, likely related to the article about fruit fly control.

Suiting Up For Fruit Fly Battle

+ LIMONEIRA FOR SALE. WHAT'S NEXT?

Smoke Signals

Wildfires leave Central Coast growers grappling with smoke exposed wine grapes

BY JODI HELMER

Smoke from 2020 wildfires near Santa Rosa threaten vineyards.

CREDIT: GIBSON OUTDOOR

In 2019, as wildfires burned up acreage on the Central Coast, Nicholas Miller was fielding calls from wineries who wanted Bien Nacido Vineyard to harvest their vines right away.

Their concern wasn't destruction of the Santa Maria vineyards, it was the smoke. "We sell most of our grapes to third-party wineries," explains Miller. "There was quite a bit of panic."

Smoke from wildfires contains compounds that can bind to the skin of the grapes. Factors ranging from wind speed to grape varietals influence whether smoke exposure imparts an undesirable smoky, burnt or ashy flavor in the grapes. If exposures are mild, grapes can still be used to produce wine, but more severe exposure, called smoke taint, ruins the crop.

"If a winemaker has to skip a vintage, that's a definite challenge," says Alisa Jacobson, owner/winemaker at Turning Tide Wines in Santa Ynez and chair of the research committee for the West Coast Smoke Exposure Task Force. *Continued on page 14*

"There was quite a bit of panic."

Nicholas Miller of
Bien Nacido Vineyard
in Santa Maria



Alisa Jacobson of Turning Tides Winery in Santa Ynez is on the West Coast Smoke Exposure Task Force that is looking for solutions and relief for smoke-tainted wine grapes.

COURTESY ALISA JACOBSON

Smoke signals

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Climate change has made California wildfires more frequent and intense, increasing the risk for growers. In 2020, \$601 million worth of California wine grapes were unharvested due to smoke exposure. While recent wet weather has diminished the risk a return to drier and hotter seasons is inevitable, climate experts say.

The West Coast Smoke Exposure Task Force, which includes winemakers and researchers from universities in California, Oregon and Washington, was formed in 2019 to research the effect of wildfire smoke exposure on wine grapes and wine, and to provide tools to manage or prevent damage from wildfire smoke.

The USDA National Institute of Food and Agriculture Specialty Crop Initiative provided the task force with a \$7.65 million grant to fund their research. One of the primary areas of research is agreeing on a definition of smoke exposure.

“One of the main issues that we’ve had in the past is that the industry is not all on the same page about...what the compounds are [that cause smoke exposure] and above certain thresholds, it’s definitely tainted,” Jacobson says. “Smoke is so

complex and there are so many compounds and our researchers are still working on what those markers are and then the industry has to decide what markers they want to use.”

To complicate matters, some varietals absorb more smoke compounds than others and it’s impossible to tell whether grapes have been affected while they are still in the vineyard; it forces winemakers to do micro-fermentations to assess the impact.

Clearing the smoke

When smoke affects the flavor, growers have limited options—both before and after exposure. It’s possible that spraying grapes with a protective coating could prevent smoke compounds from seeping into the skins but the idea is still in development. For now, blending appears to be the best bet but it remains problematic, according to Miller.

“It works for some but most wineries, especially smaller wineries, don’t have the ability to blend it away,” he adds.

Gregg Hibbits, chairman of the California Association of Wine Growers, thinks blending is a good concept but believes more can be done. Currently, crop insurance is a primary tool to help growers recoup grapes lost to smoke exposure but it’s difficult to make claims. The federal crop insurance program



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requires laboratory testing that shows elevated levels of two compounds, guaiacol and 4-methyguaiacol, but has no established benchmarks for determining the validity of a smoke exposure claim.

“Crop insurance is federally subsidized and that makes it much more cost effective for growers. The downside is that it’s truly catastrophic insurance,” Hibbits says. “It’ll protect you from financial ruin, but it won’t [fully cover the losses].”

In 2023, Senators Alex Padilla (D-Calif.), Jeff Merkley (D-Ore.) and Patty Murray (D-Wash.) introduced The Smoke Exposure Crop Insurance Act to address the nascent problem. The bipartisan legislation, which is expected to take effect in 2025, will allow growers in high-risk areas to purchase expanded coverage for losses related to smoke exposure.

Instead of relying solely on lab testing “they decided to look at it from a different perspective and say if your vineyard is covered in smoke for a certain number of days, we will pay you,” Jacobson said.

Growers recognize the problem of smoke exposure and are eager for solutions.

“We can’t prevent the fires from happening, so we need to do further [research and development] to understand how can we either isolate the smoky flavor or help at the wine level,” says Miller. “The best solution hasn’t been discovered yet.”

Jodi Helmer is a North Carolina-based farmer and freelancer who writes about agriculture.