

OPINION

Close to Home: Outdated state rules are holding back farming



A farmworker loads a box of vegetables onto a flatbed trailer being pulled behind a slow-moving driverless tractor. (Phil Klein — Associated Press)

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California's iconic wine industry supports jobs, tourism and economic growth throughout the state. But with a changing climate, unpredictable production, escalating costs and a labor crisis, it is increasingly difficult for Californian winegrape growers to sustain their businesses.

California's wine industry is in crisis as growers are removing thousands of acres of vineyards, planting other crops or shutting down altogether. Without modernization, this economic cornerstone will continue to shrink, costing jobs, local revenue and long-term competitiveness.

For more than a decade, autonomous tractors have proven their value in supporting agricultural production thanks to their unmanned design and operational sustainability. This equipment serves as an essential lifeline for winegrape growers who are struggling to stay in business. California's vineyard owners are ready and eager to utilize these innovative tools, but the state's technological promise continues to be hindered by outdated regulations that no longer reflect modern farming or economic realities.

The International Organization for Standardization updates its standards for autonomous tractors every five years, ensuring safety and consistency worldwide. However, California's tractor safety regulations continue to reflect guidelines dating to the 1970s, long before autonomous systems even existed. While neighboring states like Washington and Oregon allow driver-optional equipment, California's outdated framework prevents its farmers from deploying these proven technologies.

Manned tractor operation involves significant safety risks. In fact, operating a tractor remains one of the most dangerous jobs in agriculture. Being atop a tractor means exposure to heat, noise, boredom, fatigue and sometimes chemical exposure. But it doesn't have to be this way. In Oregon, winegrape growers are using autonomous tractors to increase worker safety, reduce their carbon footprint and limit the use of chemicals in vineyards.



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Around the world, farmers are using autonomous and driver-optional tractors to reduce risks for workers, taking them out of the cab and into safer, more productive roles. From Spain to New Zealand, early adopters of autonomous technology have shown that automation reduces risk while improving productivity, sustainability and boosting overall economic efficiency.

In fact, AI-driven cameras and sensors can detect any animal or person in the tractor's path and bring the tractor to a safe stop. These cameras and sensors can also detect weeds, diseased plants and invasive species with pinpoint accuracy. Autonomous systems can then apply precise, reduced amounts of chemicals only where needed, thereby safeguarding both workers and the environment.

We are not aware of any reported injuries or fatalities involving autonomous tractors, underscoring how technological innovation can create a healthier, more resilient agricultural workforce and a stronger, more resilient agricultural economy.

These innovative machines help decrease carbon emissions, reduce noise pollution and lower fuel consumption. This increase in sustainable practices will, in turn, benefit the state as a whole, helping California meet its ambitious climate goals of cutting emissions to below 1990 levels by 2030 and achieving carbon neutrality by 2045.

Amid an aging workforce and a shortage of skilled workers, autonomous farm tools offer a path forward, helping farmers backfill employment gaps without sacrificing production. At the same time, by integrating innovative technology, vineyards can attract workers interested in high-skill, technology-driven careers.

California colleges are starting to train the future workforce for innovative, forward-thinking careers, and younger farmers are already leading the way with advanced technology, robotics and automated machinery, proving that there's an eager workforce ready to embrace modern agriculture — if policymakers will enable them to do so.

To keep California's farms competitive, we must modernize state regulations to permit the use of autonomous tractors in agricultural workplaces. California has long led the world in both innovation and food production, but that leadership depends on our ability to adapt. Agriculture and innovation built this state's economy together; now they need a change in law that recognizes technology and allows them to move forward together toward a more sustainable, efficient and economically resilient future for Californian farming.

We call on California Occupational Safety and Health Administration regulators to remove the barriers for drivers in autonomous tractors.

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