

Wine grapevines and native plants make a fine blend, study shows

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Vineyards that include a mixture of grape vines and native vegetation provide more environmental benefits than do just vines. Credit: Louise Jackson/UC Davis photo

(PhysOrg.com) -- Grapevines and native plants are a fine blend for the environment, suggests a team of researchers led by a plant ecologist at the University of California, Davis.

According to their research, reported in the online journal [Carbon Balance and Management](#), vineyard landscapes that include both vines and native vegetation provide more environmental benefits than vineyards planted solidly in [grapevines](#).

Potential [ecological benefits](#) include habitat for wildlife, [pollinators](#) and

other [beneficial insects](#); water quality enhancement; and mitigation of damaging [greenhouse gases](#).

“All too often, natural ecosystems are rapidly lost in regions where intensive agriculture becomes economically successful,” said John Williams, a post-doctoral researcher in the Department of Environmental Science and Policy, and lead author of the study. “The results of this study clearly indicate that agricultural systems that include a mosaic of both natural vegetation and planted crops can yield significant environmental benefits.

“What is needed now are land-use policies that will include incentives that will make it economically viable for landowners to develop and manage such complex agricultural landscape mosaics,” he said.

“Agriculture has dramatically transformed both land-based and aquatic ecosystems around the world and much of that land will continue to be in agricultural production for years to come,” said Louise Jackson, a professor and Cooperative Extension specialist in the UC Davis Department of Land, Air and Water Resources. “It is imperative, therefore, that we promote a multifunctional approach to agricultural land use.”

UC Davis has for decades led California in research devoted to all aspects of grape growing and winemaking and to solving real-world environmental problems, including climate change and habitat conservation.

The new study examined the amount of carbon storage on five ranches that produce organic grapes for the Bonterra label of Fetzer Vineyards, located in Northern California’s Mendocino County. Altogether, the ranches cover 2,962 acres, with roughly one third each devoted to vineyards, forested wildlands or grasslands. The ranches have been

organically certified since the late 1980s.

Carbon storage is the process through which carbon dioxide is removed from the atmosphere and stored in wood and soil, lessening its impact on global climate change.

The researchers found that the level of carbon storage varied throughout the wildland areas, depending on the type of native vegetation, and, as expected, was much lower in the vineyard areas. In addition, the areas of conserved wildlands also retained habitat for native plant and animal species.

Provided by UC Davis

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