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Napa Valley Grapegrowers Report

Napa Valley Grapegrowers Report: Climate benefits of ag land

Garrett Buckland Dec 13, 2018

Celebrating 50 years of the Agricultural Preserve in Napa, farmers are also considering the benefits in terms of comba climate change.

Sarah Anne Risk photo

This year marked the 50-year anniversary of Napa County's Agricultural Preserve—the first of its kind in the nation. This landmark set of zoning laws, which encompasses agricultural preserve and agricultural watershed lands, established agriculture as the highest and best use of the land in Napa County.

As grapegrowers, we believe this is a time to recognize the county's successes that have resulted from its commitment to preserving agricultural land. This is the third article in a three-part series commemorating 2018 as the 50th anniversary of the Ag Preserve.

Farming maintains a unique position. The act of agriculture is neither the natural state nor the absence of nature. In its best form, it is the perfect union between the natural world and the responsible steward. This is embedded in the mission of the Napa Valley Grapegrowers. To "preserve and promote" relies on our ability to sustain, and as such, an incredible amount of our focus is directed toward providing educational opportunities to local growers on responsible farming practices.

Many climate benefits are directly connected to a community's investment in ag land and sustainable agriculture. So, what are these benefits? Some benefits are innate to all green and open spaces while others are achieved specifically through stewardship and the implementation of best practices.

Vineyards, air quality and carbon sequestration

One of the greatest environmental benefits of agriculture comes from woody crops' inherent ability to sequester carbon in the soil. In this way, perennial cropping systems such as vineyards provide significant opportunities for managing the impacts of climate

change locally. According the American Farmland Trust, ag land is responsible for 58 times fewer greenhouse gas emissions per acre than urban spaces.

As more and more research about effective land stewardship policies emerge, we are finding that vineyards are not only carbon neutral, but can be climate positive over the medium and long term. A vineyard's low nitrogen requirements, low water requirements, and ability to thrive in drought conditions make it a powerful tool in the toolbox for combating global warming — and the perfect agricultural product for Napa County.

Through smart carbon farming practices, we are also able to maximize these inherent benefits, to permanently store carbon in huge quantities in our managed lands throughout the county. These practices include mandated cover cropping strategies, judicious use of compost, and other key farming practices promoting soil health and preventing soil erosion. Oftentimes, there is no silver bullet; however, a series of adjustments like these, in all areas of a vineyard operation, have been proven effective.

Vineyards and water use

As a vineyard manager, I often get the question, "How much water does a grapevine use?" Vines are particularly water-wise crops. In Napa County, we can see an average of more than 30 inches of rain per year between October and June each season — in some areas less, while in many areas double. Grapevines are one of the state's best drought-tolerant crops, and in many cases can even be dry-farmed. In fact, it's very hard to use more than 12 inches of water in a commercial vineyard, as wine quality is seriously compromised if grapes are watered too much.

Groundwater-deficient areas and municipal reservoirs are further protected by county mandates and conservation regulations. For example, in the Milliken-Sarco-Tulocay (MST) groundwater-deficient area around Coombsville, growers are mandated to use less than 4 inches of water per acre per year, which is 30 percent less than single houses are allowed in the area! Even with such low supplemental water use, vineyards can continue to flourish.

Vineyards and watersheds

Napa County maintains high standards when it comes to both voluntary and mandatory stewardship, especially with regard to protection of treasured watershed areas. As a result, planting a new vineyard in Napa County is an arduous task and often takes years of environmental review. Water use studies, biological studies, and climate studies are all part of the process. This high barrier of entry means that Napa County is well below its projected targets for vineyard development, as defined by the county's 2008 General Plan.

At the same time, the increase in vineyards over time has actually been linked to increased wellness of Napa County's watershed, as when the State Water Board noted vineyards as a primary reason for delisting the Napa River as impaired for sediment in 2014. This stems from extensive erosion control measures employed by growers at every stage of the vineyard planting and replanting process, as well as via annual winterization techniques. The Environmental Protection Agency (EPA) has also highlighted Napa County in a learning module on Top 10 Watershed Lessons learned related to strategies for watershed restoration.

Farming with a whole ecology mindset

As responsible growers, we farm with a whole ecology mindset. We must keep attuned to the needs of the surrounding environment and the replenishing ability of our natural resources.

For this reason, we have seen vineyard management practices change dramatically since the 1980s and will continue to see changes as new science and technology opens gateways to further improvements. As the 50th anniversary year of the Ag Preserve

comes to a close, Napa Valley growers continue to look ahead with this is mind.

Garrett Buckland is past president of the Napa Valley Grapegrowers and is a member of the Executive Committee of the Board of Directors.

Facts about the Environmental Benefits of Ag Land

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