

# In California, Sustainable = Regenerative Winegrowing



## Background

The California Sustainable Winegrowing Alliance (CSWA) and the Lodi Winegrape Commission have supported the adoption of sustainable winegrowing practices in vineyards and wineries for over 20 years. While regenerative agriculture is not new, there is increased interest in the approach by retailers, trade, consumers and media who increasingly ask California's certified sustainable vineyards and wineries if they are "regenerative" or if they use regenerative practices.

In addition, the California Department of Food and Agriculture (CDFA) is undergoing the development of a regenerative agriculture definition in response to increased use of the term in California policies and programs. With this growing interest in regenerative agriculture and, currently, the lack of a single regenerative agriculture definition or standard, CSWA conducted an extensive review of peer-reviewed literature and regenerative agriculture programs and standards. The following list of regenerative winegrowing principles and examples of practices was developed to help winegrape growers better understand and communicate about the relationship between sustainable and regenerative winegrowing and to share with CDFA during their public comment period on their draft definition. Once CDFA finalizes its definition, it will be incorporated into this document.



## Regenerative Winegrowing Principles and Practices

CSWA considers regenerative winegrowing to include the following **principles**, which are aligned with sustainable winegrowing:

- Regenerative winegrowing is a holistic, place-based systems approach that acknowledges individual needs of different vineyards, based on size, scale, location, property history, ecosystems, etc.
- A regenerative farming approach includes both practices and outcomes. Practices provide clarity to growers for implementation, but practices are not one-size-fits all. Since regenerative outcomes can be achieved with a different set of practices depending on the local context of a vineyard, measuring and tracking outcomes is also important.
- Regenerative winegrowing enhances not only the environmental, but also the social and economic dimensions of sustainable winegrape production.

CSWA believes that regenerative **practices** are part of a comprehensive sustainable winegrowing approach and contribute to a healthier environment, stronger communities, high quality grapes and wine and vibrant businesses.

Examples of regenerative winegrowing topic areas include soil health, water use efficiency and quality, ecosystem management and biodiversity, climate action and social impact (see table on the following page for examples of outcomes and practices).

## Examples of Regenerative Winegrowing Outcomes and Practices

The following examples of regenerative winegrowing outcomes and practices were derived from review of multiple regenerative programs with relevance to winegrapes - see references at the end of this document. These practices are also found in California-based sustainable winegrowing certification programs such as California Code of Sustainable Winegrowing (CCSW), LODI RULES/CALIFORNIA RULES and SIP Certified.



<b>Topic Area</b>	<b>Outcomes</b>	<b>Example Practices*</b>
<b>Soil Health</b>	<ul style="list-style-type: none"> <li>- Improve soil health</li> <li>- Reduce soil erosion</li> <li>- Increase soil organic matter</li> </ul>	<ul style="list-style-type: none"> <li>- Reduce tillage</li> <li>- Protect and cover soil</li> <li>- Use cover crops</li> <li>- Use compost or mulch</li> <li>- Reduce use of herbicides</li> <li>- Soil testing and analysis</li> <li>- Integrate livestock</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>- Optimize water use efficiency</li> <li>- Improve water quality</li> </ul>	<ul style="list-style-type: none"> <li>- Irrigation efficiency</li> <li>- Distribution uniformity testing</li> <li>- Wastewater treatment</li> <li>- Establish riparian buffer strips</li> </ul>
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>- Increase biodiversity</li> <li>- Protect and enhance habitat</li> </ul>	<ul style="list-style-type: none"> <li>- Incorporate trees, hedgerows and windbreaks</li> <li>- Riparian buffer planting</li> <li>- Conserve and restore natural habitats</li> <li>- Minimize pesticide use</li> <li>- Use natural pest control</li> </ul>
<b>Climate</b>	<ul style="list-style-type: none"> <li>- Reduce greenhouse gas emissions</li> <li>- Increase carbon sequestration</li> </ul>	<ul style="list-style-type: none"> <li>- Minimize synthetic fertilizer use</li> <li>- Conduct equipment energy audits</li> <li>- Improve energy efficiency</li> <li>- Upgrade and replace old pumps</li> <li>- Use renewable energy</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>- Increase health and wellbeing for workers</li> <li>- Increase farm profitability/farmer livelihood</li> <li>- Improve social wellbeing of communities</li> </ul>	<ul style="list-style-type: none"> <li>- Practices to improve and/or protect worker health and safety</li> <li>- Responsible labor practices</li> <li>- Contribute to local community</li> </ul>

*\*Some practices contribute to positive outcomes in multiple topic areas but are only listed once for brevity.*

## Regenerative Winegrowing Key Concepts

### **Regenerative Winegrowing is Part of Sustainable Winegrowing**

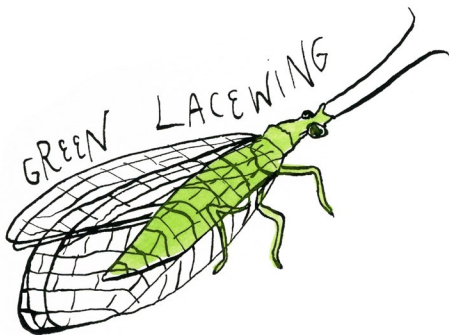
Sustainable winegrowing educational and certification programs and regenerative winegrowing programs and initiatives share common goals: to restore the land and our natural resources to better health and enhance relationships with employees and neighbors. Many regenerative practices are broadly embraced and practiced by winegrowers that have been involved in sustainability for the past several decades.

### **A Common Mission: Sustainable, Organic, Biodynamic and Regenerative**

CSWA views sustainable, organic, biodynamic and regenerative approaches adopted in the wine community as contributing to the common mission of leaving the land and people better than they were previously. All of these farming approaches, regardless of which an individual winegrape grower follows, lead to higher quality winegrapes and wine and to a healthier environment and wine community.

### **Communicating about Regenerative Winegrowing**

Winegrowers can reference the list of practices and outcomes to better understand how they are implementing regenerative winegrowing practices. If planning to communicate about regenerative winegrowing, it is important to share specific examples of regenerative practices and outcomes to be accurate and truthful in messaging.



"A sustainable agriculture is one that, over the long term, enhances environmental quality and the resource base on which agriculture depends; provides for basic human food and fiber needs; is economically viable; and enhances the quality of life for farmers and society as a whole."

– American Agronomy Society

## Frequently Asked Questions

### **Q. Does regenerative winegrowing require organic as a baseline?**

**A.** While some regenerative agriculture definitions and programs, such as Regenerative Organic Certified, include a foundation of organic practices, there are many more that do not consider organic as a requirement for practicing regenerative agriculture.

Organic practices can play a part in regenerative winegrowing; however, it is not a prerequisite to using practices that build soil health, improve water quality, increase biodiversity and sequester carbon. Therefore, CSWA does not believe regenerative winegrowing requires organic as a baseline. CSWA is consistent with other sustainable agriculture programs and certifications, which allows for the use of targeted, low-risk crop protection materials only when deemed necessary and when used as part of an Integrated Pest Management strategy.

### **Q. Doesn't sustainability, by the nature of the word, focus on "sustaining" environmental quality and not regenerating it?**

**A.** Sustainable winegrowing has always been more than "sustaining" soil and water quality, ecosystem health, etc. Sustainable winegrowing has long focused on enhancing and rebuilding the resources that vineyards depend on to grow high quality grapes, and making the land, business and relationships better than winegrowers found it.

"A sustainable agriculture is one that, over the long term, enhances environmental quality and the resource base on which agriculture depends; provides for basic human food and fiber needs; is economically viable; and enhances the quality of life for farmers and society as a whole." – American Agronomy Society, 1989.

Sustainable winegrowing is a continuum and most certification programs require annual assessment of practices and demonstration of continuous improvement or improvement as a whole over time.

### **Q. Why does regenerative and sustainable winegrowing need to include outcomes and not just practices?**

**A.** Depending on the individual vineyard, a different set of practices may be needed to reach a desired outcome. For instance, while practices such as cover crops, applied compost and reduced tillage can lead to improved soil health, any combination of these may be needed for a specific vineyard. By tracking outcomes through soil testing and use of soil health indicators, a grower can ensure that the set of practices they used led to increased soil health.



## References/Resources

*The following were reviewed during the development of this document:*

### **Peer-Reviewed Literature and Reports**

Manshanden, M., Jellema, A., Sukkel, W., Hennen, W., Jongeneel, R., Brazao Vieira Alho, C., Miguel Garcia, Á. de, Vos, L. de, & Geerling-Eiff, F. (2023). *Regenerative agriculture in Europe: An overview paper on the state of knowledge and innovation in Europe*. Wageningen Economic Research.

Newton, P., Civita, N., Frankel-Goldwater, L., Bartel, K., & Johns, C. (2020). What Is Regenerative Agriculture? A Review of Scholar and Practitioner Definitions Based on Processes and Outcomes. *Frontiers in Sustainable Food Systems*, 4, 577723.

NRDC. (2022). *Scientific Literature Review of Regenerative Agriculture Definitions, Practices, and Outcomes*. Natural Resources Defense Council for the CDFA Science Advisory Panel.

O'Donoghue, T., Minasny, B., & McBratney, A. (2022). Regenerative Agriculture and Its Potential to Improve Farmscape Function. *Sustainability*, 14(10), 5815.

Schreefel, L., Schulte, R. P. O., de Boer, I. J. M., Schrijver, A. P., & van Zanten, H. H. E. (2020). Regenerative agriculture – the soil is the base. *Global Food Security*, 26, 100404.

Textile Exchange. (2022). *Regenerative Agriculture Landscape Analysis*.

### **Programs and Standards (in addition to California Sustainable Winegrowing Certifications)**

Regen1. Regen1 Overview. [thelexicon.org/regen-ag/](https://thelexicon.org/regen-ag/). Accessed May 2024.

regenagri. (2024). Regenagri Standard Criteria v3.1 (farms). [regenagri.org/standards-documents/](https://regenagri.org/standards-documents/).

Regenerative Organic Certified. (2023). Framework for Regenerative Organic Certified Version 4.1.

Regenerative Viticulture Alliance. (2023). Regenerative Viticulture Certification Standard Version 2.

Regenified. (2024). Regenified 6-3-4 Verification Standard for Regenerative Agriculture.

SAI Platform. (2023). Regenerating Together: A Global Framework for Regenerative Agriculture.

Savory Institute. Ecological Outcome Verification Manual (Public).