

Benefits of Extended-Season Planned Grazing of Vineyards

Grape farming can be simultaneously more profitable, ecologically resilient and socially responsible than the status quo of both conventional and sustainable practices. Through the synergy of human creativity, ecological principles and holistically sound decision making, viticulture can be weaned of the majority of off farm inputs and operate primarily by current solar income.

Continual increases in fuel, equipment, labor and fertilizer costs, along with the associated negative impacts to our environment by many of these practices make it imperative for us to find realistic, long-term solutions for sustaining agriculture.

Advancing the economic viability and ecological integrity of viticulture will increasingly depend on the presence of properly managed grazing animals during the growing season of both the cover crop and the vines themselves. Proven strategies exist to allow grazing throughout the year in many established vineyards, and effective design solutions allow for the creation of new vineyard establishment with even greater effectiveness, cost savings and ease of management for integrating livestock.

Utilizing good grazing management practices (Holistic planned grazing) and a deterrent system that allows for grazing throughout the growing season of a vineyard, the following results have been realized in both Australia and the USA:

- Eliminated the need for any mechanical cultivation, tillage or mowing both between rows and under the vines as this task was accomplished through simple grazing moves. This corresponded to four - eight fewer tractor passes per row per year and all forage consumed was converted to fertility in the vineyard.
- Eliminated the need for hand suckering of the vine trunks as sheep browsing performed this task. Eight hours of labor saved per year/per acre and suckers were converted to manure.
- Sheep consumed all canopy lateral and leaf thinning's (removed by hand and placed on ground). Converted this material into manure and eliminated need for disking into the soil.
- Reduced irrigation use by 90%, compared to neighboring vineyard (conventionally managed – same clones, rootstock and soil). This amounted to approximately fifty gallons less water per vine used on the trial plot: fifty-five gallons per vine on the conventional side, five gallons per vine on the grazed side. The year of the trial (2009) and the previous year were both drought years. 039-16 was the rootstock on all vines.
- Reduced on-site irrigation use by 80% from the previous year (2008), during which the vineyard was managed biodynamically and organically. Sheep were grazed from January until the end of March during the non-trial year.
- Increased yield (over previous year) by 1,245 pounds per acre.
- Based on tastings, wine quality from fruit harvested during the extended season grazing trial is exceptional.

- Provided on-site fertility in the form of high quality dung and urine, eliminating the need to haul in compost or other fertilizers.
- The electrified deterrent system proved adaptable and effective in the trial vineyard VSP trellising system. With modifications this approach would likely prove viable with other trellising methods.
- Provided a saleable, edible product that is self-replicating, powered by current solar energy, and pairs well with red wine – no tractor can match those features.
- Cost of farming savings from \$400/acre/year with potential for a combined savings and income of \$1000 acre/year.
- Reduces reliance on and cost of machinery, fuels, fertilizers, hand labor and herbicides.
- Improves soils ability to sequester carbon.
- Reduces atmospheric carbon emissions.



Vineyard in Alexander Valley after 4 months of extended-season planned grazing.

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