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## Biodynamic Viticulture in the Heart of Napa Valley

Story and photos by Stacy Briscoe



Biodynamic Viticulture in the Heart of Napa Valley Quintessa Estate. Photo credit: Quintessa

It's rare I come back from a winery sans wine. Rarer still: come back with a basket of eggs and a rock—sans wine. But my purpose for visiting Quintessa in Napa Valley's Rutherford AVA was to experience biodynamic viticulture in practice.

The estate vineyard has been farmed organically since 1989, biodynamically since 1996, and is officially certifying Demeter Biodynamic this year, 2021.

"I think Napa is well-suited to biodynamic practices," says Quintessa viticulturist and winemaker Rebekah Wineburg. "Our combination of low disease pressure and high-

winegrowers to sever the reliance on herbicides and start working with compost and the goal of balance in the vineyard.”

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## Defining Biodynamics

Rudolf Steiner introduced the idea of biodynamics in 1924 Germany during a time when, due to the devastation of the first World War (and soon the second), agriculture was prized for quantity over quality. Chemical fertilizers and pesticides became the norm, greatly depleting the health and fertility of soils, plants, and animals.

Steiner is credited as the first to warn that the continuation of such practices would lead to the decline of natural resources and, subsequently, the devitalization of food—and human health.

Biodynamics is the first known ecological farming system to develop a “grassroots alternative” to chemical (now called “conventional”) agriculture.

In 1928, the Demeter Biodynamic certification was created. Today, it is the most common certification for biodynamic farming in the world, setting standards for farming as well as animal and social welfare.

The concept behind biodynamics is that the farm—or in this case vineyard—is a living, breathing organism created through conjunctive life forces: soils, plants, animals, farmer, all stimulated by universal energy. Biological diversity is emphasized, with Demeter requiring that at least 10 percent of total acreage be preserved for biodiversity. This can include forests and woodlands, wetlands, habitats for beneficial insects, and more.

Further, cover crop rotation is required and bare tillage prohibited—the land must maintain “adequate green cover” year-round. In a vineyard, this supports both the microbial fungi below ground as well as beneficial insects above ground, and has been attributed to improving the soils’ water-holding capacity and storing greenhouse-gas carbon dioxide (CO<sub>2</sub> emissions).



## Biodynamics versus Organic and Conventional Agriculture

In many ways, biodynamics parallels organic farming methods, but, for Wineburg, there are clear distinctions between the two. “Organic farming is conventional farming, but chemical inputs are replaced with organic ones,” she explains. “The idea [with conventional and organic farming] is that you see a problem arise in a plant,

identify it, make an input and defeat the problem. Biodynamics uses an approach founded as a form of medicine.”

This is seen in the use of biodynamic preparations. There are nine in total (numbered 500 through 508), each made from natural substances (herbs, minerals, manures) and have unique properties that work to enhance soil and vine health.

BD 500 involves the all-famous cow manure-stuffed horn. Buried during the autumn and dug up in the spring, the six-month-old bovine droppings are transformed into something that looks, feels, and smells (yes smells) like simple potting soil. No longer a product to be discarded, but one used to stimulate root growth and humus formation, thus improving the vine’s ability to take up soil nutrients.



Cow manure. Photo credit: Stacy Briscoe.

BD 501 (horn silica), prepared in a similar fashion, involves burying quartz-filled cow horns. The new, chalky substance, uprooted six months later as well, is diluted and sprayed into the field to stimulate foliar growth.

Demeter notes in its Farm Standard guide that, when used in composting, preparations 500 and 501 should be applied at least on an annual basis

and advises 500 be applied in the later part of the day, whereas 501 is most beneficial in the morning

BD 502 through 507, though less recognized, are no less important and involve flora and fauna utilized inside composts; BD 508 is made from horsetail plant and sprayed as mitigation for fungal disease.

Each is prepared in “homeopathic quantities,” meaning small, diluted amounts can achieve desired results. For example, the BD 500 prep at Quintessa uses just 25 grams dynamized in water to treat one acre.

“The idea of homeopathies is one I accept on a fundamental,” says Wineburg. “In my opinion, this rate of application is effective. The fermented dung is activated through the process of making the preparation 500, the preparation is activated through the dynamizing process, and the life in the soil is activated by its applicatio

The Demeter Biodynamic Farming and Compost text also speaks to the connection between the terrestrial and extra-terrestrial, citing that astrological cycles are major influencers on the proper timing for certain viticultural practices. This is the foundation of the biodynamic calendar.



Quintessa vineyard manager Martin Galvan Dilutes Manure.  
Photo credit: Stacy Briscoe.

The Demeter text supplies this example: “When the moon is ascending, a summer mood is evoked, sap is rising and, therefore, this is an appropriate time to take cuttings for grafting, but pruning should be avoided. When the moon is descending, a winter mood is evoked, and roots are favored: this is the best time to plant vines or to prune.”



## The Costs and Rewards of Biodynamic Viticulture

Between preparations, caring for plants and animals, as well as “normal” viticultural duties, biodynamics involves a lot of time and labor. “It is very expensive,” says Quintessa vineyard manager Martin Galvan. “But not as expensive as having to

because the vines are unhealthy or stop producing good fruit.”

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For Galvan the benefits of biodynamics far outweigh any costs. Through the years he’s been able to witness the evolution of healthier soils and, as a result, healthier and longer-living vines.

Galvan describes a 20-year-old vine as he would a 20-year-old person—only just starting to show true personality. “To rip out a vine that young...” he shakes his head.

And because Galvan and Wineburg are able to nurture vines into the prime of life, they are able to harvest fruit more reliably vintage to vintage. Fruit that is concentrated, chemically balanced, and shows true varietal character.

“As lovers of wine, we know that there is some special connection between wines and the place they are grown,” says Wineburg. “The flavor of wine is a result of that relationship ... and Biodynamic farming practices focus that relationship.”

Further Reading:

[Demeter Association Inc.](#)

[Demeter Biodynamic Farming & Compost Preparation](#)

[RudolfSteiner.org](#)

[Demeter Biodynamic Farm Standard](#)