

SENSITIVE CRYSTALLIZATIONS

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I have had a fascination with the practice and interpretation of sensitive crystallizations since my first introduction to the practice of “biodynamic” farming in the mid ‘80s. Raised on a family vineyard in France, my introduction to “conventional” agriculture occurred only after I left my family’s farm. After developing sensitivity to the chemical fertilizers and pesticides that I was now working with on a regular basis, I realized the importance of working in harmony with the natural world.

When I began working with biodynamics, I was struck by how similar the practices were to the methods employed by my father and neighboring vineyardists in Provence and how immediately I could see the impact of our actions—on the land, crops, animals, and my health. I wanted to be able to quantify the results, in terms people could understand. Sensitive crystallization became a key tool in that discovery. I was curious to see how products farmed using conventional methods would compare to those farmed using organic or biodynamic practices, but there were very few people using the method and rare were the ones willing to share and teach others.

In 2005, I was leading up the Biodynamic Viticulture program for Bonny Doon Vineyard, when we began searching for someone to help us build a laboratory and teach us how to conduct the tests and, more importantly, how to interpret the results. Our motivation was to use it as a tool—to assess the wines we were producing while transitioning our vineyard to certified Biodynamic®, to diagnose issues and address those issues to the best of our ability, to produce fruit of higher potential and quality, and to protect that quality and varietal expression all the way through the fermentation and cellaring process into the bottle.

Since that time, I have been using sensitive crystallizations as a tool to diagnose and remedy issues in soils, composts, biodynamic preparations, and ultimately in the wines. It is a comparative method, requiring controls and robust sampling. I have crystallized several hundreds, if not thousands of samples, always comparing them to control samples as well as each other. (See photo Nos. 1 and 2, next page.)

It has been interesting to see within the crystallizations the effects of some steps of the winemaking process, from pumping to filtration and bottling. Each step in the process negatively affects the symmetry, organization, balance, and harmony of the sample. Even the selection of

fermentation yeast, cultured yeast introduced into the must, has a tendency to produce less complexity than a natural (or indigenous yeast) fermentation. The speed at which the wine ferments also impacts the quality. A slow, long-lasting fermentation yields a more integrated, expressive, and balanced crystallization than a short, fast one. Filtration also dramatically impacts the quality. It is commonly viewed from the perspective of taste that the wine recovers from filtration with time; however, from a crystallization point of view one can see that the wine never fully recovers from the loss of organization and life forces (Nos. 3 and 4). With the knowledge that one cannot improve the potential or the quality of the fruit once it has been separated from the plant and soil, the work of a winemaker should be to maximize the potential of the fruit coming to the winery.

Crystallizations have shown that, with each movement, handling, addition or subtraction, we lower the potential of the wine. One cannot increase the potential of a fruit at the winery; however, we can directly affect the health and vitality of the fruit by the method in which we farm.

Sensitive crystallization has no limits, except for the limits of the person performing the tests. All things except oil can be crystallized with the proper controls in place. Water can be crystallized with a solid, in this instance the solid will be the control with which the blend of water and solid will be compared. In this particular case, one will see the influence of the quality of water on the control. This can lead to some very interesting tests. For instance, you can crystallize the soil from a vineyard with the water used for irrigating the same vineyard and see how the quality of the water can affect the life forces of the soil (No. 5). One can then run the same water through a flow form and see the effect of the flow form on the water and, therefore, the effect of the same water, once revitalized on the same soil (No. 6). As one can see in the picture, a low-energy-level water can deplete a soil of its energy, where a more energetic or dynamic water can add energy and vitality to the soil. These crystallizations tell us of the importance of water quality on crop irrigation. Naturally flowing rain water yielded the most powerful crystallization in this study.

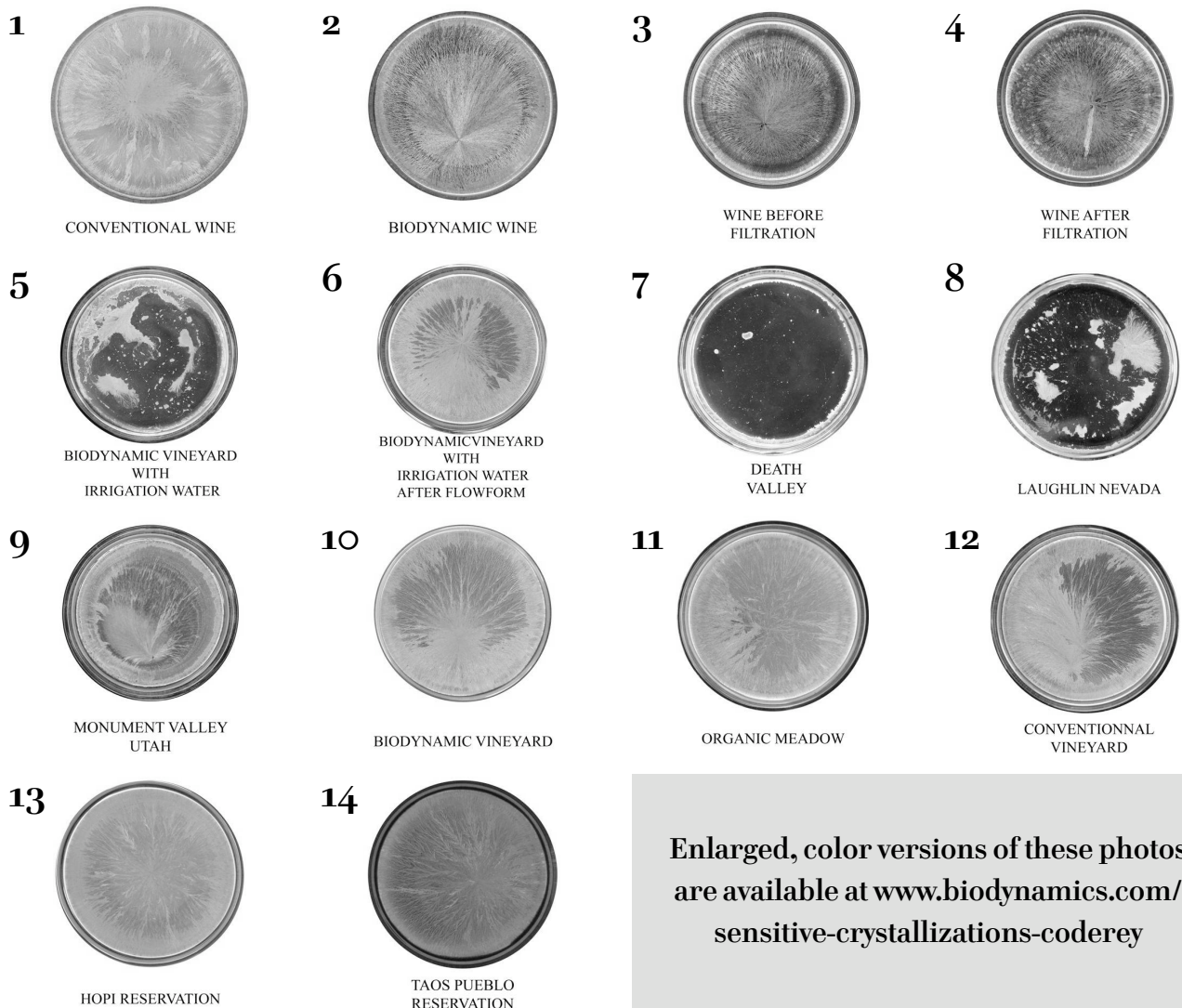
Crystallizing wines, vegetables, and fruits is fascinating, but perhaps the most compelling tests are those performed on soils. We know that everything starts with the soil. Without land there is no agriculture. The quality and life forces found in the fruit are the consequence of the way we approach and farm our lands. I have crystallized

many soil samples, from varied locales. One can see that Death Valley, for instance, deserves its name (No. 7). There is very little to support the life processes taking place there. Another sample taken near a Nevada casino shows a very weak, disorganized and disturbed crystallization (No. 8). What do we really see in these crystallizations? Even untouched or protected lands show sign of advanced deterioration (No. 9).

Our vineyard in Soledad is surrounded on one side by a certified organic ranch and on the other side by a conventional vineyard. In this case, the three samples were taken only 300 feet away from each other; basically, we are looking at three soils with the same composition and chemistry (decomposed granite), but the crystallizations show 3 distinctly different organizations. Here one can really see the balance, symmetry, and organization of the soils farmed used biodynamic practices (No. 10) versus organic (No. 11) and conventional (No. 12).

Unfortunately, some biodynamic vineyards are as poorly organized as some conventionally farmed. Is this

due to the method of their practice, or something beyond physical pollution? We know that soils are the receptacle of cosmic radiation, energies and other types or wave forms. Do they absorb other kind of energies? Is the land a receptacle of our emotions and intentions? Is the manner in which you practice farming the land affected by your intentions? Would feelings of despair, greed, or ego affect the quality of your biodynamic practice on the lands? These are (of course) only questions, but questions we may want to consider after looking at the last two crystallizations. Soil samples taken from the edge of a corn field on a Hopi Reservation in Arizona (No. 13) and a dance floor in the Taos Pueblo Reservation (No. 14). Samples taken from seemingly barren land—expansive land that appears to have very little to support life—until one looks at their crystallization. Powerful and organized soils from a place where the people live in respect of the land and in peace with Mother Earth.



Enlarged, color versions of these photos are available at www.biodynamics.com/sensitive-crystallizations-coderey