



SUMMERHILL
PYRAMID WINERY

BIODYNAMIC BACKGROUNDER

Harmonious work with the natural world





SUMMERHILL
PYRAMID WINERY
Celebrate Nature's Perfection

Biodynamics seeks to re-establish the natural microbial life in the soil. Conventional vineyards often spray and fertilise these life forms into non-existence. Microbes in the soil are important for supplying the vine nutrients. They get carbohydrates from the roots of the plant and process surrounding soil in a way that the minerals become available for the plant to take up through their roots. The soil type being mineralized will have the defining effect on the distinct Terroir of the grape, giving the grape its sense of geography and place.

Under Biodynamics, everything is important, healthy soil life, sub-soil life, healthy insect populations, healthy cover crops, and plant and animal life; in a word, healthy biodiversity. Ultimately this does not make it more difficult to farm, it just requires a greater understanding and appreciation of biological diversity and habitats needed to grow grapes and other crops in a healthy and harmonious way.

– **Eric von Krosigk, Winemaker/Viticulturist**





SUMMERHILL
PYRAMID WINERY
Celebrate Nature's Perfection

Summerhill Celebrates Demeter Certification in July 2012

After a rigorous process, Summerhill Pyramid Winery has received its **Demeter Biodynamic certification** – the very first winery in BC to do so. So what does this mean, for Summerhill, and for wine consumers in Canada?

Biodynamics take **sustainable farming** (limited use of synthetic additives) and **organic agriculture** (which use entirely natural additives) a step further, working even more closely with the overall environment to create healthy soil structure, enhanced fertility, increased biodiversity, and top-quality crops that are naturally resistant to pests and disease.

Biodynamic Viticulture is regarded as the ultimate state of farming with nature, minimizing overall human intervention. The theories were first expounded in a series of lectures in 1924 by Austrian scientist and philosopher Rudolf Steiner, who proposed that it is critical to view the operation of a farm as a 'single living organism', in which artificial additives (pesticides, herbicides, fertilizers) are to be excluded, and that man-made interference is to be minimized.

Field and compost preparations for stimulating the humus (organic soil content) are laid out in detail, which include the use of increasingly recognized medicinal herbs such as Chamomile and Yarrow blossoms, Stinging Nettle, Dandelion and Valerian flowers, among others.

This philosophy also considers the effect of astrological rhythms on soil and plant development, which suggest the most ideal times for planting, pruning and harvesting.

It is by restoring the natural connection to the earth and its biological rhythms that significantly increase the quality of the soil and overall environment, while allowing for the expression of true **terroir**.



Quite simply: Alive soil equals higher quality fruit, which leads to flavourful wines of unparalleled character.

Certification requires the absolute commitment of the farmer to its theories, and is an arduous process. Gabe Cipes has been actively involved in overseeing their vineyards conversion for over three years, even after the farm has been under the organic regime since 1988.

It is a tremendous milestone that Summerhill is now the first (and so far only) BC winery to be certified Biodynamic. While the complete theories of Biodynamism may be challenging to implement, the potential for quality is undeniable. Consider other famous Biodynamic wineries that include Domaine de la Romanée Conti (Vosne-Romanée), Zind Humbrecht (Alsace), Chapoutier (Rhône Valley), and Domaine Leflaive (Puligny-Montrachet).

BC's own Summerhill now shares a significant bond with some of the most acclaimed wineries in the world.



SUMMERHILL PYRAMID WINERY

Celebrate Nature's Perfection

Summerhill is proud to be recognized as industry leaders in sustainability, organics, and biodynamics. For more information on the dedication and force to the environment behind the winery, please read the following background on Summerhill's green efforts.

Background: A Demonstration of Summerhill's Commitment to the Environment

When Stephen Cipes moved his family to the Okanagan Valley in 1987, he had a vision to preserve the pristine conditions of his new home in spite of rapid agricultural and civic development. To protect the Okanagan's lake and inhabitants, Cipes set out to turn the entire valley organic. He agreed to purchase entire crops from independent grape growers who would transition to organic practices. His enterprise, Summerhill Pyramid Winery, would pay premium prices and offer training and support to those who would pursue this vision. The result is that Summerhill has been a hub for organic viticulture in Canada. Winemakers have apprenticed at the winery, and former growers have opened their own organic wineries, compelling Summerhill to convert yet more vineyards. This has led to a substantial rise in the amount of organic agriculture happening throughout the valley and Canada.



The Cipes family has continued to push Summerhill and the wine industry towards a sustainable future.

Here is an overview of their initiatives and accomplishments:

- Currently Summerhill is the largest certified organic winery in Canada, producing 180,000-270,000 liters annually. This translates to 20,000 to 30,000 12-bottle cases.
- In 2011 Summerhill began marketing high-end organic wine in 100% recyclable 'bag-in-box' format that reduces carbon by an estimated 76% over glass bottles, again pushing the Canadian wine industry towards a more sustainable future, challenging the status quo.
- Summerhill Vineyard has gained Demeter Certification in 2012.
- Plants are being planted between the vines as a trial, aiming to convert a mono-crop paradigm into a synergetic Permaculture system, increasing biodiversity, health, and yields. These plants include many flowering species in order to increase the population of beneficial predatory insects and various culinary herbs for use in Summerhill's on-site catering/bistro kitchen.



SUMMERHILL

PYRAMID WINERY

Celebrate Nature's Perfection

- Summerhill operates a half-acre on-site culinary garden now in its seventh season of production. Providing the kitchen with various heirloom vegetables, herbs and berries, this garden is managed with hand-tools, no-till farming methods and biodynamic preparations to organically enhance the biological activity within the soil.
- Working in partnership with renowned Canadian artist/naturalist Robert Bateman's 'Get To Know Your Wild Neighbors' foundation, Summerhill offers a series of five wine labels featuring Mr Bateman's artwork, donating one dollar per bottle sold to the foundation. The foundation works with the park service and schools to bring North American youth into nature to form meaningful relationships and foster the next generation of conservationists.
- Twenty acres of the Summerhill property are under restrictive covenant through The Land Conservancy of British Columbia to protect wildlife habitat for future generations, adding to the biodiversity of the farm, and providing a source for wild-crafting.
- Summerhill management has completed the Climate Smart business training program, designed to help companies become carbon neutral.
- The winery showcases internationally revered, award-winning wines that are produced organically, proving that the world's best wine can be made without using conventional farming and winemaking methods shown to be harmful to human health and the environment. For twenty years Summerhill has been at the forefront of the organic movement, receiving major awards for its wines including the International Wine and Spirits Trust, UK, (IWSC) trophy for 'Best Sparkling Wine' (Cipes Gabriel NV) in 2010, and the IWSC trophy for 'Canadian Wine Producer of the Year' in 2009.





Background: Summerhill's Biodynamic and Organic Programs

Organic Glossary

Wildcrafting is the practice of harvesting plants from their natural or wild habitat for food or medicinal purposes. It applies to uncultivated plants wherever they may be found, and is not necessarily limited to wilderness areas. Examples of wildcrafting include picking wild berries or harvesting maple syrup.



Permaculture is an approach to designing human settlements and agricultural systems that mimic the relationships found in natural ecologies. Permaculture is sustainable land-use design. This is based on ecological and biological principles, often using patterns that occur in nature to maximise effect and minimise work. Within a permaculture system, work is minimised, wastes become resources, productivity and yields increase, and environments are restored.

Permaculture aims to create stable, productive systems that provide for human needs, while harmoniously integrating the land with its inhabitants. The ecological processes of plants and animals, their nutrient cycles, climatic factors and weather cycles are all part of the picture. Inhabitants' needs are provided for using proven and ever-improving innovative technologies for

food, energy, shelter, and infrastructure. Elements in a system are viewed in relationship to other elements, where the outputs of one element become the inputs of another. Permaculture principles can be applied to any environment, at any scale, from a farm, to an individual home, to a dense urban settlement.

For example, permaculture design principles in practice are demonstrated when one builds a chicken coop on the north side, and a greenhouse on the south side of the same structure. These two functions work in relationship to each other. The warmth produced by the chickens helps heat the green house, the pecking of the chickens prevents plant pests, and their manure can fertilize the plants.

Biodynamic agriculture is a method of organic farming that treats farms as unified and individual organisms, emphasizing balancing the holistic development and interrelationship of soil, plants, and animals as a self-nourishing system without external inputs insofar as this is possible given the loss of nutrients due to the export of food. By creating a closed system, nothing is additional or wasted.

Compost is made of organic materials derived from plant and animal matter that has been decomposed largely through aerobic decomposition. The process of composting is simple and practiced by individuals in their homes, farmers on their land, and industrially by cities and factories.



SUMMERHILL PYRAMID WINERY

Celebrate Nature's Perfection

Compost teas/Herbal teas are liquid solutions or suspensions made by steeping compost and/or certain herbs in water. Teas are used as both a fertilizer and to prevent plant diseases. The liquid is applied as a spray to nonedible plant parts, as a soil-drench (root dip) for seedlings, or as a surface spray to reduce incidence of harmful phytopathogenic fungi on the surface of the leaves.

Biodynamic preparations aid in fertilization and prevent plant diseases. The prepared substances are numbered 500 through 508. The first two are used for preparing fields and the remaining seven are used for making compost. Biodynamic preparations have influence on soil structure and micro-organisms, enhancing soil fertility and increasing biodiversity.

Field preparations:

- **500** Horn-manure is a humus mixture prepared by filling the horn of a cow with cow manure and burying it in the ground (40–60 cm below the surface) in the autumn. It is left to decompose during the winter and recovered for use the following spring.
- **501** Crushed powdered quartz is stuffed into a cow horn, buried into the ground in spring, and taken out in autumn. A mixture of the powder with water is sprayed under very low pressure over the crop during the wet season to prevent fungal diseases and increase photosynthesis.
- **508** Horsetail – A tea is made for the plant silica that is used as a field spray to prevent fungal diseases and increase photosynthesis.

Compost preparations, used for preparing compost, employ herbs which are frequently used in medicinal remedies:

- **502** Yarrow blossoms
- **503** Chamomile blossoms
- **504** Stinging nettle

- **505** Oak bark
- **506** Dandelion flowers
- **507** Valerian flowers

All preparations are added to compost heaps in homeopathic quantities. Each compost preparation is designed to guide a particular decomposition process in the composting mass.



Demeter International is the largest certification organization for biodynamic agriculture, and is one of three predominant organic certifiers. Demeter biodynamic certification is used in more than 50 countries to verify that biodynamic products meet international standards in production and processing. The Demeter certification program was established in 1928, and as such was the first ecological label for organically produced foods. Demeter's biodynamic certification requires biodiversity and ecosystem preservation, soil husbandry, livestock integration (this requirement is exempt in biodynamic vineyards), prohibition of genetically engineered organisms, and viewing the farm as a living holistic organism. The certification verifies the fulfillment of the standards on behalf of the farmers, which in turn guarantees high-quality food products to the consumers.



The Organic Way

"Grapes are thin skinned and absorb toxic chemicals more than almost any other fruit. Remember, it has only been the last 60 years that we've seen chemical farming. Before that everything was organic."

– Founder, Stephen Cipes

While conventional wineries have seemingly unlimited strategies for dealing with vineyard and winemaking challenges, organic wineries* must rely on a small number of traditional non-harmful solutions. In the production cellar, certified organic wine may not use any genetically engineered ingredients (also known as GMO), but may use non-organic ingredients totalling under 5% of total product by weight or volume, if those ingredients meet certain criteria. The third column below (Summerhill) includes all wine inputs, organic and non-organic ingredients, used in Summerhill's production. Summerhill is even more stringent than the organic regulations, as Summerhill doesn't use organic egg whites or organic milk ingredients, ensuring its wine is vegan.

Organic vs Conventional Winemaking

Method	Conventional	Organic	Summerhill
Potential Wine Additions (ingredients)	Grapes, yeast (genetically modified yeast allowed), yeast nutrient (e.g. diamonium phosphate, thiamin [vit B1]), milk and milk derivatives, malolactic bacteria, tannins, sugar, corn syrup, stabilizing agents (e.g. CMC, gum arabic), enzymes, tartaric acid, malic acid, citric acid, calcium carbonate, fining agents (e.g. egg whites, gelatin, isinglass [fish bladders]), sulphur dioxide in quantities under 350 parts per million, various other adjuncts and additives to make wine taste better. For an example list of what is available to winemakers please see: www.aebusa.com	Organic grapes, natural yeast, natural yeast nutrient (yeast hulls), organic milk and organic milk derivatives, fining agent (bentonite), oak, sulphur dioxide where needed in quantities under 100 parts per million	Organic grapes, natural yeast, natural yeast nutrient (yeast hulls), malolactic bacteria, fining agent (e.g. bentonite, tannins), oak, sugar (for sparkling wine process), calcium carbonate (during vintages when necessary), sulphur dioxide where needed in quantities under 100 parts per million
Facility and Equipment Sanitizers	Caustic soda, quats, phosphoric acid	Ozone, steam, scrub brushes, citric sulphite	Ozone, steam, scrub brushes, citric sulphite
Certification Standards	Adhere to CFIA standards, all other accreditation and inspections voluntary	Mandatory third party inspections, mandatory ISO 65 accreditation, mandatory trace backs on all ingredients and all finished wines, adherence to CFIA standards	Mandatory third party inspections, mandatory ISO 65 accreditation, mandatory trace backs on all ingredients and all finished wines, adherence to CFIA standards



* Organic practices are strongly regulated and come with their own set of terminology. See the appendix the organic glossary.