



WATERS ON WINE

For this Niagara winemaker, the local terroir can stand on its own

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Winemaker Gabriel Demarco has worked with Brock University to isolate six unique yeast strains from Cave Spring Vineyards that allow him to produce unique wines that are pure expressions of the region.

CAVE SPRING VINEYARD/SUPPLIED

Gabriel Demarco strives to produce wines that are pure expressions of grapes grown on Cave Spring's vineyard. The 45-year-old winemaker uses naturally occurring yeasts in the fermentation process, and ages his creations in concrete vessels made with leftovers from a nearby quarry.

"We develop our entire portfolio of wine around what the site gives us. If that wine reminds you of someplace else, we're not doing our job," says Demarco, who joined Cave Spring co-founder Angelo Pavan in the cellar in 2013 and became lead winemaker and viticulturist in 2018.

"I am not interested in creating copycat wines."

A famed Bordeaux chateau breaks with tradition to combat climate change

Demarco, who graduated from Brock University's Oenology and Viticulture program in 2013, uses scientific know-how to eliminate the use of international products. He works closely with the school's researchers to study different aspects of the vineyard, experimenting with cover crops, rootstocks and grapevine clones.

"Those aren't the sorts of things you talk about in the tasting room with visitors," he says lightheartedly.

Still, it's clear he's excited to discuss breakthroughs involving wild yeast strains from the skins of grapes grown in Cave Spring's namesake vineyard in Beamsville, Ont. After years of study, the winery is using six strains isolated from the property to ferment base wines for its sparkling wine program.

"Our goal is to make commercial wine with zero international inputs," Demarco says.



Cave Spring Vineyards is part of an international trend of wineries harnessing indigenous yeasts to boost regional traits in wine.

CAVE SPRING VINEYARD/SUPPLIED

Yeasts that ferment grape juice into wine play a critical role in building flavour and complexity for the finished product. Since the 1970s, the majority of winemakers around the world have purchased strains of dry active yeast that promote fast and reliable fermentations and produce wines with reliable character and desirable aromas, flavours and textures, such as tropical fruit esters in sauvignon blanc. Most of these starter cultures were isolated from European sources.

Demarco didn't like this homogeneous approach, and seven years ago shifted 100 per cent of Cave Spring's table wine production (an average of 50,000 cases a year) to spontaneous, wild fermentation. He continued to rely on cultured yeast for traditional-method sparkling and sweet wine, however, for consistency's sake and to reduce risks of spoilage.

Meet a wine from France named Septembre

Working with native yeasts comes with the risk of creating vinegar-like flavours or other faults. Spontaneous fermentations are difficult to control, and there's generally a lack of awareness about which yeast is active. When it comes to ice wine, the cool fermentation temperatures required and the extreme amount of residual sweetness in the juice make it difficult for yeast to survive and function.

But Demarco says the isolated cultures developed with Brock will be strong enough to thrive even in challenging fermentation environments, meaning he can use them in more varieties. And by working with the propagated local strains, he knows which yeast is controlling the fermentation.



Demarco says the goal is to make commercial wine with zero international inputs.

CAVE SPRING VINEYARD/SUPPLIED

Cave Spring is part of an international trend of wineries harnessing indigenous yeasts to increase regional characteristics. Opus One, which produces red wines in California's Napa Valley that sell for more than US\$500 a bottle, has been using six

strains it isolated in its vineyards. Trinchero Family Estates, another celebrated Napa-based wine company, is also trialling vineyard-specific cultures.

Cave Spring's research wouldn't have been possible without support from various government programs, including the Federal Economic Development Agency for Southern Ontario, the Sustainable Canadian Agricultural Partnership program and the Ontario Research Fund - Research Excellence program.

The first batch of sparkling wine produced with the specific yeasts will be available in 2027. The 2025 table wines, ice wines and late harvest wines that will be fermented with the new cultures are expected to be on store shelves later next year. The Niagara-based yeast will be made available to other local wineries looking for an alternative to international supplies.

A techno DJ makes music with the sounds of Niagara wine country

Another made-in-Niagara project is also ramping up this harvest, Demarco says. Working in collaboration with Liquid Quarry, a Hamilton-based manufacturer, Cave Spring has finalized design on an aggregate vessel made by integrating limestone into concrete. The container, which was created over three years of trial and error, fits on a standard barrel rack and is lightweight enough to move with a standard forklift.

The unlined vessels have proven to be beneficial for fermenting and aging cabernet franc, chardonnay and riesling. Demarco says they give the wines the freshness that comes from stainless-steel tanks and the texture imparted by oak barrels. "There's a dynamic relationship between wine and concrete."

Owned by the Pennachetti family, Cave Spring Vineyard is home to some of Niagara earliest plantings of chardonnay and riesling vines, dating back to 1978.

"The foundation of every decision we make isn't about delivering what you expect, it's about ripening what we grow," Demarco says.

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