



Ohio State HCS News

HORTICULTURE & CROP SCIENCE IN VIRTUAL PERSPECTIVE - THE OHIO STATE UNIVERSITY

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OSU Helps Turn Ohio Brownfield into Unique Vineyard



The Lakeview Bluffs vineyard and winery is transforming an industrial brownfield site into a natural, green growing environment.

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In 2005, Lakeview Bluffs delivered its first harvest of Cabernet franc.

It did, indeed. The greenhouse experiments Ferree conducted four years ago yielded healthy clusters of grapes, and chemical analyses of the leaves and juice revealed the vines did not absorb any type of contaminants from the setting pond soil, which was a major concern. Thus the experiment moved to the (brown) field, where four varieties of grapes - Riesling, Cabernet Franc, Chambourcin and Traminette - were planted. Last fall, the quarter-acre research plot yielded its first vintage of Riesling and Cabernet Franc. And out of that came to life the first wines to ever originate from abandoned industrial land in the United States.



OSU viticulturist Imed Dami supports increasing Ohio's wine-grape acreage to serve the needs of local wineries.

In the meantime, Dami is conducting more tests to determine which grape varieties and rootstocks perform better in the challenging brownfield "soil" and what management practices will need to be implemented in the future vineyard.

"This medium is very high in calcium and has a really high pH level between 8.5 and 10," Dami explained. "Grapes prefer a neutral pH to better absorb nutrients. However, prime growing areas in the Mediterranean experience high pH, and growers there have found this can be adjusted by amending the soil with fertilizers. We are also using grafted rootstocks imported from Europe that can tolerate high pH levels."

Dami will continue studying different combinations of varieties and rootstocks, all along recording differences in nutrient uptake, yields, vine size, canopy, and fruit composition. "I think it will take another 3 to 4 years of study before we can make a more objective conclusion," he said.

When all is said and done, Lakeview Bluffs' vineyard and winery will join a long list of amenities that will have transformed the once desolate Diamond site into an unparalleled resort and recreation community, including 2,300 housing units, a boutique resort hotel, golf courses, a spa, corporate meeting facilities, a culinary academy, a trout club, and a health and fitness campus. The crown jewel of the development, however, is the IMG Resort Academies, which will provide world-class instruction in all major sports, including golf, tennis, soccer, baseball and basketball.

Cleveland brownfield developer **Todd Davis** had a problem. A sizable area of his most ambitious project to date - turning the 1,100-acre, contaminated former site of Lake County's Diamond Shamrock Painesville Works into the nation's first sports-oriented resort community - was not stable enough to support the weight of structures, limiting development options.

Davis consulted with **Bill Rish**, a risk-assessment expert working with him in the ambitious "Lakeview Bluffs" revitalization project, which sprawls from the Lake Erie shoreline some 30 miles northeast of Cleveland to the outskirts of the city of Painesville, split in the middle by the Grand River. Rish began pondering what to do with the 300-acre settling lake left to nature in 1976 when the Diamond factory closed after 64 years of producing chromate compounds and soda ash, a chemical used in the glass industry. A wine enthusiast, he had read that some of the best French wine grapes are grown in high-lime soils. That sparked an idea.

"The soils in this area are comprised mainly of limestone chalk and salts settled in a large basin from water coming out of a process to make soda ash, called the 'solvay process,'" said Rish, who works with Columbus-based environmental engineering and consulting company Hull and Associates. "Over time, plant growth has formed a layer of organic topsoil, which has mixed with the solvay in the top layers. I wondered if grapes could grow there."

Rish knew the location of the brownfield was prime wine real estate. After all, it lies within the Grand River viticultural district, which stretches along the southern Lake Erie shoreline in Lake and Ashtabula counties and produces some of the best Ohio wines. He told Davis his idea. Davis loved it. "If the Europeans grow award-winning wine grapes in pure chalk, why can't we do it here in pure baking soda?" he thought.

The next step was to find out who knew enough about growing grapes for wine in Ohio to help assess the viticultural potential of the site. Rish inquired. The name that came up was **Dave Ferree**, a now-retired pomologist with Ohio State University's [Horticulture & Crop Science Department](#) and the [Ohio Agricultural Research and Development Center](#) (OARDC) in Wooster. Ferree - whose decades-long work at OARDC has been a key factor in the revival of Ohio's once moribund wine industry - agreed to meet with Davis and Rish.

"We told (Ferree) about what we wanted to do, and the project intrigued him," Davis recalled. "He took samples, evaluated the soil material, conducted experiments in Wooster, and told us this might just work."

It was in the middle of this research adventure when **Imed Dami** came to Ohio State. He joined the Horticulture & Crop Science Department in 2003 as the state viticulturist, and one of the projects that fell on his plate was Lakeview Bluffs.

"When I came on board, I thought this was a really interesting project and wanted to continue it," Dami said. "There's a real need for more wine-grape acreage in Ohio, as local wineries increasingly have to import fruit from other parts of the country to satisfy their needs. We continue losing some of the best grape-producing land along Lake Erie to commercial development. This project is very important in that regard, because if we can prove that it's successful to grow grapes commercially there, a good portion of this prime land will be devoted to growing grapes and expanding the industry."

Odds are Dami's wishes will come true. Davis said his plan at this point is to create a 100-acre vineyard (this would make it one of the largest in the state) and an accompanying winery, both integrated within the overall Lakeview Bluffs complex, which is expected to open in 2008.

The sports complex - a partnership between Hemisphere Development, Davis' company, and IMG, the world's largest sports marketing and management agency - will resemble the IMG Academies located in Bradenton, Florida, a top-notch multi-sport training institute for elite athletes. The northeast Ohio facility, however, will focus on recreational sports enthusiasts and families.

But among all this multimillion-dollar luxury and state-of-the-art facilities, Davis said, the vineyard project plays a unique role and carries a special meaning in this brownfield rebirth. "What the vineyard does that's so important is that it provides a link between the former industrial site and something natural, something green growing where there was nothing but waste before."

Davis added that making this link would have never been possible had he not sought OARDC's expertise.

"As a Michigan graduate, I was hesitant to work with Ohio State," Davis joked. "But working with these Ohio State experts has been great. They are knowledgeable and practical. They saw the big picture from the start. This project shows that our scientific knowledge can make significant contributions to redevelopment and revitalization in Ohio."

Ohio has quickly become one of the top wine-producing states in the country, boasting 3,000 acres of grapes, a yearly production of over 500,000 gallons, and more than 80 wineries - growing from 37 just nine years ago - that bring in an estimated \$70 million a year. The success of the grape industry here has a lot to do with the work put forth by OARDC researchers and OSU Extension specialists: a unique team of viticulturists, enologists, plant pathologists and entomologists who conduct research and develop programs and techniques aimed at boosting grape production, controlling insects and diseases, and improving wine quality.

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