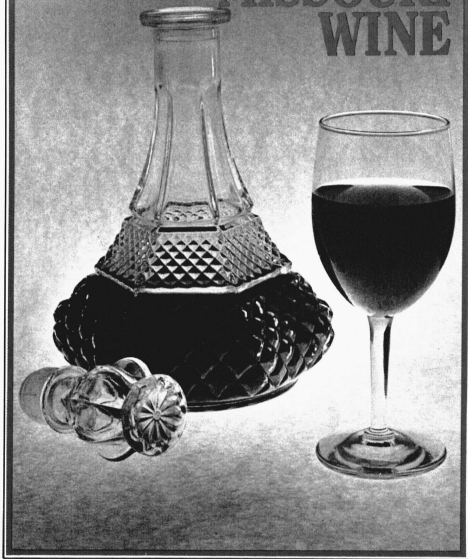


# COMEBACK FOR MISSOURI WINE



By Joe Marks

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A drain tank designed by  
Bruce Zoecklein boosts the  
yield of low-alcohol white  
wine, a staple for this state's  
vintners.



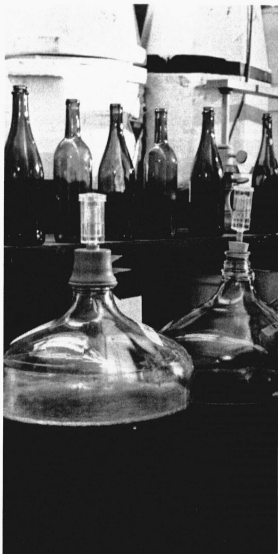
Photo by Duane Gallery

**MISSOURI GRAPE GROWERS** are making a big surge in production and quality of table grapes and juice—fresh, frozen and fermented.

Credit progressive vintners, new technology and a solid research and extension effort at the University of Missouri-Columbia—an effort supported in large part by sales of the fermented stuff.

It's a David-and-Goliath story that's been unfolding for more than 100 years.

In the mid-19th century, Missouri was the nation's second leading wine producing state. Missouri wines won gold medals for wine excellence in world competition. The vines that grew here were especially vigorous and tolerant to disease and insects—so tolerant that well-known viticulturists George Hussman, then on the University's faculty, and Herman Jaeger of Neosho, Mo., sent boxcar loads of Mis-



souri vine cuttings to France and other European countries. There, Missouri rootstocks were grafted onto French vines and literally kept Europe's grape and wine industries alive.

At that time, as now, most French grapes were varieties of a single species, *Vitis vinifera*, whose roots were highly susceptible to a louse common in the United States. Missouri roots could withstand the louse, though, and when grafted onto the European varieties, gave growers there the best of two worlds: tolerance/resistance and top quality.

Meanwhile, Missouri vintners started to go into a slump that was to last a century. In 1879, Hussman left Missouri for California where support for grapes and wine rapidly was building toward today's \$3 billion-a-year business. About the same time, diseases were taking a toll on Missouri grapes and wine. Prohibition finished the job. By 1920, Missouri

grape and grape product industries had hit rock bottom—and they stayed there for a long time.

Then, in the 1960s, Missouri industries started a revival with fine Concord and Catawbas. Business is still relatively small, but good, thanks to smart grape growing, careful winemaking and solid research.

Researchers work with vintners through UMC extension programs. The vintners fund all of the research through a law that sends four cents of every gallon of wine sold in Missouri to the state Department of Agriculture. That money is then divided among research, extension and market promotion for grapes and grape products.

Much of the money for research goes to the efforts of UMC horticulturists Larry Lockshin and Bruce Zoecklein. It pays their salaries and provides funds for some equipment and graduate research help.

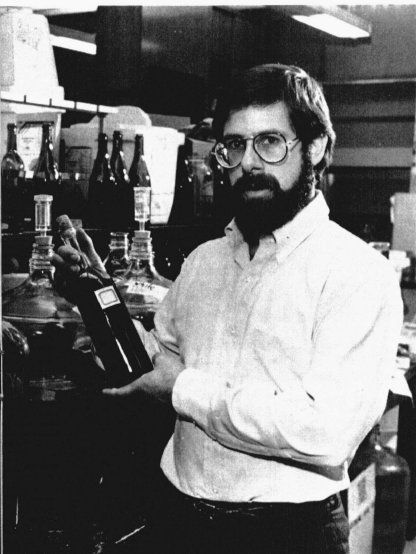
"Our research activity has nothing to do with promoting wine consumption," Zoecklein says. "It is solely designed to help the state's economy by



**To Good Luck—  
a fleeting  
thing, at best. Here's  
hoping it breaks a  
wing when it flies  
near us.**

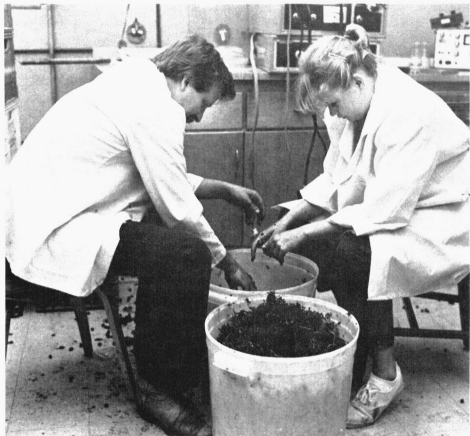
keeping a greater portion of the money spent on grapes and grape products in Missouri. Besides, some of the best grape production occurs on land considered marginal for other forms of agriculture."

Lockshin and Zoecklein have led



Al Marks, horticulture laboratory manager, analyzes the acids and sugars that heighten the sensory qualities of wine and grape juice.

Horticulturist Larry Lockshin wants to squeeze a juice with a grape flavor and extended shelf life.



Keith Patterson and student Amy Gayfield evaluate Norton grapes.

studies to (1) increase grape production by 20 to 25 percent an acre, (2) improve the processing of a more aromatic wine, (3) analyze wine and juice and improve the quality of both, and (4) rejuvenate a grape vine that was once one of the world's premier wine grapes.

Both Lockshin and Zoeklein bring solid backgrounds to their jobs. Lockshin already had been conducting research at the State Fruit Experiment Station at Mountain Grove. There he had measured yield and compared varieties—and he's conducted experiments with growth regulators that promised to have a marked impact on Missouri's grape production. One of these, Alar, increases grape production by slowing

vine growth for a while and increasing fruit set. The result is a 20 to 25 percent increase in yield.

UMC researchers also have been involved in the rejuvenation of the Norton grapevine, which was a premier grape in the 1800s when Missouri was producing its award-winning wines.

"It's much like a wild grape," Lockshin explains. "It produces only small clusters of grapes. Quality is good but yield is poor. We're working on ways to increase yields.

"I like the grape because the wine it produces has a flavor much like that of the European wines. It has the potential of producing a fine wine that would sell for a good price. Besides, this grape is especially suited to Missouri growing conditions."

Meanwhile, Zoeklein, who came to UMC from California wine country, has made a significant contribution to Missouri's grape products industries by developing a special drain tank for making a high percentage of "free run juice." This juice is particularly suited to the production of the popular low-alcohol white wines Missouri vintners can produce so well.

"Free run juice" is not pressed. Zoeklein designed a tall, stainless steel tank with a mesh screen in the middle that causes the grapes' weight to produce a greater amount of free run juice. That juice is used to make lighter, fruitier, more aromatic wine. After the free run juice is removed, the remaining grapes are pressed to produce other wines or wine blends.

Zoeklein says the de-juicing tank will help small producers compete with larger ones while improving wine palatability.

Part of Zoeklein's research is devoted to producing grape juice that tastes more like the grape. "We're looking at the mechanisms that will make grape-juice processing more efficient while taking advantage of variety differences that give us unique juice flavors," he says.

Although Zoeklein and others are looking at the basic winemaking processes to take some of the guesswork out of wine production, it's doubtful that science ever can replace old-fashioned winemaking skill.

"Part of a wine's appeal is its 'personality'—and that comes from the growers' and vintners' own personal touch," Zoeklein says.

To make sure Missouri wines are of good quality, UMC offers Missouri vint-



**To You—may  
you live long  
enough to eat the  
chicken that  
scratches on your  
grave.**

ners free lab analyses of wine and juice. For example, analysis of cloudy wine could indicate a sediment problem or, perhaps, protein instability.

Those who believe Missouri wines will never meet the standards of wines produced in France, California, New York and Michigan will find disagreement. "We can produce some good wines here," Zoeklein says. "Missouri's ability to economically produce quality wines means the state has terrific potential as a wine producer." □



**To  
Prosperity—  
May all of us be rich  
enough to lend but  
too wealthy to have  
to borrow.**