

Tech Apps For Wineries

Fine-Tuning Solar Power 24

Niner Winery's New Tools 28

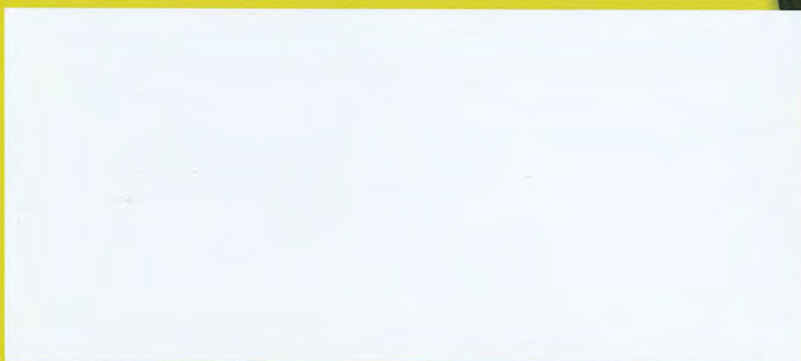
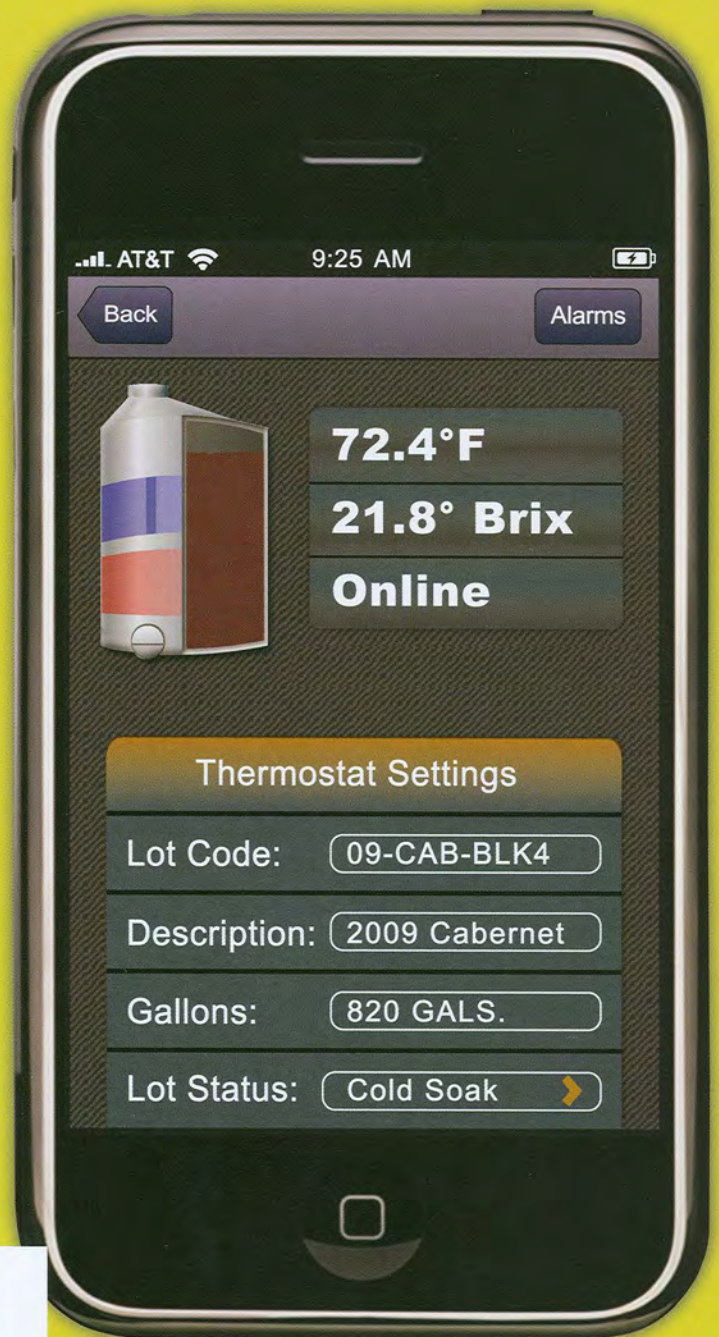
**Web Model for
Pesticide Risk 60**

PLUS:

Bottle Quality 36

Concrete Tanks 50

New Filtrations 54



July's Contributors



Jeff Cohn

Accclaimed Oakland, Calif., winemaker Jeff Cohn (JC Cellars and formerly Rosenblum) is well known for a bold, take-no-prisoners winemaking style that suits him and a legion of customers. On page 32, he shares sage advice to help less seasoned vintners make wise decisions about their barrel programs. Due diligence with these pricey tools includes sampling even wines you don't wish to emulate, keeping your goal in mind and not getting overwhelmed by the complex choices you'll face.



Laurie Daniel

Imagine working for a winery owner who's eager and able to incorporate your best ideas into a new, energy-efficient, easy-to-operate winemaking facility. On page 28, Daniel talks with Amanda Cramer, winemaker at Niner Wine Estates in Paso Robles, Calif., who was able to do just that. During the 2009 crush, she and her crew put to use many innovations that made their jobs easier, helped produce better wines and reduced energy use at the soon-to-be LEED-certified facility.



Chris Stamp

Stamp has spent his entire career as an enologist and winemaker in the Midwest and Eastern U.S., and on page 45, he shares essential tips for blending hybrid winegrapes to create wines as palate-pleasing as the *vinifera* varieties with which most of us are more familiar. This slice of real-life winemaking, with specific, step-by-step advice for establishing a blending protocol, will interest both novice and experienced winemakers.



Cliff Ohmart

Every farmer is a steward of the land; these days, as more grapegrowers set their sights on sustainable practices and certifications, most are wary of polluting their vineyards with expensive, potentially hazardous inputs that could put themselves and their habitats at risk. In this month's Vineyard View, page 60, Dr. Ohmart introduces a publicly funded online tool that will simplify risk-assessments for pesticides. Arm yourself with real information to make these important decisions.

July's Cover

This issue is all about technology: What could be more techie than tracking wine production on a smart phone? Niner Wine Estates was built to take advantage of tools like the TankNET fermentation management system. Learn how they simplify winemaking on page 28. Photo courtesy Acrolon.



EDITORIAL

Editor

Jim Gordon

News & Copy Editor

Jane Firstenfeld

Production Editor

Kate Lavin

Senior Correspondent

Paul Franson

Northwest Correspondent

Peter Mitham

Columnists

Winemaking: Tim Patterson, Clark Smith

Grapegrowing: Cliff Ohmart, Glenn T. McGourty

Wine East

Editors: Hudson Cattell, Linda Jones McKee; Writer: Richard Carey

Contributing Writers

Laurie Daniel, Suzanne Gannon, Jamie Goode,

Mike Lynch, Thomas Ulrich

PUBLISHING

President & Publisher

Chet Klingensmith

Chairman

Hugh Tietjen

Publishing Consultant

Ken Koppel

ADVERTISING

WEST: Jacques Brix, Vice President & Director of Sales
(707) 473-0244, jbrix@winesandvines.com

MIDWEST: Hooper Jones Associates Inc.
(847) 486-1021, hooperhja@aol.com

EAST: Marsha Tabb

(215) 794-3442, marshatabb@comcast.net

INTERNATIONAL: Dave Bayard

(973) 822-9275, dave@bayard.com

Advertising Coordinator & Office Manager

Christina Ballinger

ADMINISTRATION & CIRCULATION

Database Manager

Lynne Skinner

Circulation Manager

Emilee Schumer

OMS Client Support, Database Assistant

Valarie Welte

OMS Product Support, Research Assistant

Andrea Hatfield

Office Assistant

Tanya Powell

Administrative Coordinator

Stephanie Papadakis

DESIGN & PRODUCTION

Design & Production Manager

Bridget Williams

Ad Prepress

Deborah Roberti

Publishing Information

Volume 91, Number 7

Wines & Vines, ISSN 043-583X, a member of Wine Communications Group, Sonoma, CA, is published monthly. Periodicals postage paid at San Rafael and at additional mailing offices.

Postmaster

Send address changes to our publication office:

Wines & Vines, 1800 Lincoln Ave., San Rafael, CA 94901-1298

Customer Service

(866) 453-9704 • subs@winesandvines.com • www.winesandvines.com

Subscription Rates

U.S., \$38.00; Canada/Mexico, \$48.00

All other countries, \$85.00 (for airmail add \$85.00)

Reproduction in whole or part without permission is prohibited. *Wines & Vines* does not assume responsibility for unsolicited manuscripts or materials. Contributors are responsible for the proper release of proprietary and/or classified information. *Wines & Vines* is distributed through an audited circulation.



Mixed Sources
Cert no. SW-COC-001563
© 1996 FSC

Winemaker Interview

AMANDA CRAMER

Technology at a new Paso Robles winery

By Laurie Daniel

Niner Wine Estates opened its new winery in Paso Robles, Calif., in time for the 2009 harvest. Much of the cutting-edge design and high-tech equipment was suggested by winemaker Amanda Cramer, who has been with Niner since 2004. She says she wanted to take the best of what she's seen in wineries around the world, and owner Dick Niner concurred.

Cramer left a career as a high school math teacher to pursue a career in wine. She studied viticulture and enology at the University of California, Davis, worked harvests in the Napa Valley, South Australia and Chile, and spent two years as assistant winemaker at Paradigm in Oakville, Calif., where she worked with accomplished winemaker Heidi Peterson Barrett.

Wines & Vines: Instead of the usual horizontal arrangement of fermentation tanks, Niner has its tanks in circular "pods." What is the advantage of this arrangement?

Amanda Cramer: The basic concept of the winery is to deliver the fruit to the tanks without a must pump or must lines, while maintaining the ability to communicate from the fermentation floor all the way up to the crush level. To accomplish this, the architect (Tim Woodle of Pults and Associates) designed a cement mezzanine level that is not a full floor, yet is still strong enough to forklift out onto.

The mezzanine is actually suspended from the ceiling, so there are no pesky columns below. Below the mezzanine, we decided to put the tanks in circular array to make it easier to convey the fruit to them without pumping. On the mezzanine level, we have four bays where the fruit can be received.

All the receiving and sorting equipment is "plug and play," so it can all be disconnected and rolled over to another bay. After the crusher, the fruit falls through a chute onto a straight, white, food-grade conveyor belt. The rotating must conveyor, custom designed for us by P&L Specialties in Santa Rosa, is on a 360° track mounted on the underside of the mezzanine, so it can be positioned over any tank in that pod.



Winemaker Amanda Cramer calls the laboratory at Niner Wine Estates "medium-tech," having opted to automate some of the analyses.

Each pod is made up of a different-size tank: There are 16 1,000-gallon (3.5 ton) fermentors, 16 2,000-gallon (7 ton) fermentors, 12 4,000-gallon (14 ton) fermentors and then, in the last pod, there are six 4,000s and five 6,000s. I only have a couple vineyard blocks large enough to fill a 6,000 gallon fermentor, so these largest tanks will probably be used mostly for blending.

Beyond the four pods, the white wine tanks are arranged in a more traditional rectangular array, since there is no need to convey must. The white press is on a section of mezzanine that is a full floor, and the juice will go down to the tanks with a flexible hose through a hole in the floor.

Sheesh, this is definitely a case of a picture is worth a thousand words. Not so easy to describe.

W&V: The winery is equipped with the TankNET system to monitor your fermentation tanks. How does the system work, and what advantages does it provide?

Cramer: Basically, TankNET is a programmable thermostat that is connected to temperature sensors in the tank and also to the valve system that controls the chilling and heating of the tanks. I am very lucky to have a completely dual glycol system, which means I can heat tank X and chill tank Y at the same time, any time of year. Unlike some older-generation thermostats, TankNET can be programmed with a target low and a target high. For example, after chilling the must for a couple days, I can set the thermostat to warm the tank to 60°F, but also chill if it gets over 85°, meaning I don't have to reset temps when the warming is done, and I don't have to worry about the tank dipping below 60° after being inoculated.

The TankNET folks are also working on integrating an automatic Brix sensor. TankNET thermostats are physically wired to the temperature sensors and the glycol valve control system, but they speak wirelessly to our server, so we didn't have to wire each and every tank back to some central location, which is really nice. Temperature readings can be viewed and thermostat settings can be changed at the thermostat itself or from the computer.



CALIFORNIA



Movable stainless tanks at Niner Wine Estates are arranged in circular pods that can be accessed from the concrete mezzanine level overhead.

W&V: Your grape-sorting system in the winery has several steps. Please describe how it works.

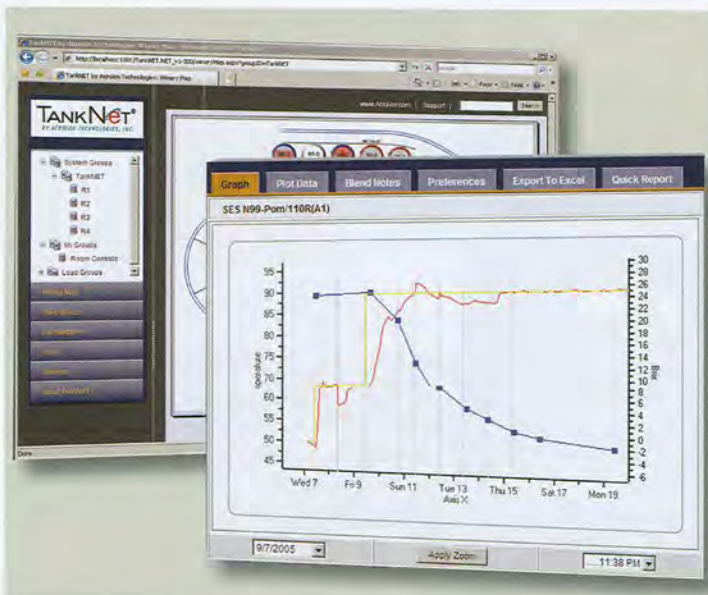
Cramer: I like to call it three levels of sorting. The first takes place in the vineyard, where pickers are instructed to leave the “uglies” behind. We are hand-harvesting all of our fruit at night, so it arrives at the winery cold at 7 a.m. Bins are loaded one by one into a bin dumper, which frees up a forklift; the bin dumper is operated by a foot pedal by a person standing on the catwalk platform for the cluster-sorting table. This is a straight, white, food-grade conveyor belt with a slight incline to feed the hopper for the destemmer. We can put anywhere from one to six people on this platform as needed, depending on the condition of the fruit.

We have a Bucher E2 and an E2S, specifically designed for “selection,” a.k.a. sorting. We got the high-density polyethylene baskets, because they are lighter weight, and we got two different baskets for different size berries. We dial in the destemmer at the beginning of each new lot to get a minimum of sound berries going out with stems and a minimum of jacks ending up on the berry-sorting table. Post-destemmer, we have two different options for berry sorting. (We have two of each piece of equipment for receiving and sorting, because we will eventually need to run two simultaneously. This also came in very handy on the first day of '09 crush, when only one of each item was actually functional.)

For berry sorting, we have one Bucher Vaslin vibratory table and one P&L Le Trieur, combined with a straight white conveyor belt. I really wanted to try out both of these to see whether the results were similar, which was more user-friendly, and whether different fruit conditions might favor one over the other. So far we have found the results to be similar, and the LT/belt combination to be more user-friendly, but we're not quite ready to trade the other one in.



Wire Less TankNET Thermostat



Sensors monitor the temperature inside of stainless steel tanks at Niner Family Estates. Using TankNET's technology, cellar staff can warm one tank while cooling another simultaneously.

After the berry sort, fruit falls into the crush rollers (Bucher F2), which are on wheels and positioned over a hole in the floor containing a stainless steel chute to drop the fruit onto the must conveyor below. We dial in the crusher at the beginning of each new lot to make sure larger berries aren't getting shredded, which results in leaving about 30% of berries whole.

W&V: Your Bucher press is equipped with the Ortal process. What sort of results have you gotten from this technology?

Cramer: The idea of the Ortal pressing is to simulate the way a winemaker would run the press if she were standing there watching the flow rate and had full manual control. Instead of having a delicate (a.k.a. prone to break and expensive to replace) flowmeter, they designed a basin (of known volume) with a plunger at the edge of the press pan. The press computer can calculate the flow rate based on the length of time it takes the basin to fill and then adjust the pressing parameters accordingly. For example, if flow is still good at a lower pressure, it will stay at that pressure; if flow rate slows, it will bump it up. It worked well initially—we got very high-quality press wine and good yields—but then we ran into some bugs. This is newest generation technology for them. They made some changes to the program, and we are hopeful that it will work again this harvest.

W&V: In the lab, you've automated your analysis of free SO_2 , pH and TA. What sort of equipment are you using?

Cramer: Our lab is currently averaging out to about medium-tech, because we have a mixture of low-tech and high-tech equipment. The analyses that I felt were most important to be as precise and accurate as possible, but also tend to occupy an enologist with mind-numbing titrations, I decided to automate. So we have a Mettler Toledo T50 auto-titrator with sparging option (and autosampler) for pH and TA and a Foss FIAStar 5000 (with autosampler) for free SO_2 .

The auto-titrator sparges each sample with nitrogen, which is supposed to eliminate the need for de-gasing. We have found we get better pH results when we run pHs on undiluted wine, which requires a separate run from the TAs, since TAs are done

Water and energy efficiency at Niner

The new Niner winery was designed to be as water- and energy-efficient as possible, and it is in the process of gaining its LEED certification. The winery is on the west side of Paso Robles, where water availability can be an issue. Winemaker Amanda Cramer says that 100% of winery wastewater is recycled through a three-pond system with a treatment pond, constructed wetland and holding pond. Water from the holding pond is used for vineyard irrigation.

"We are also collecting rainwater from all the non-permeable surfaces, most notably the roof," Cramer says, adding that the roof's catchment system collects 36,000 gallons for each inch of rainfall.

As for energy efficiency, the winery was built on the shadiest spot on the property and was cut into a hillside, so part of it is underground. Cramer says the winery will eventually install solar panels in a sunny spot on the property, but she wants to assess energy usage first.

The walls of the winery, she says, are tilt-up concrete, 14 inches thick with a 3-inch foam core, for an R-value of about 30. Barrel rooms have night-air cooling. The main part of the building has numerous skylights, and all artificial lighting is on daylight sensors and motion sensors.

L.D.



Amanda Cramer overlooks a water treatment pond at Niner Wine Estates, where 100% of winery wastewater is recycled.

on diluted samples. It's not quite as efficient as running them simultaneously, but we think this has to do with the pH of our water and not a fault of the equipment.

The FIAStar is basically the only apparatus I know that can automate the analysis of SO₂ while still analyzing it directly as a primary analyte. I have never been a fan of any analysis of SO₂ related to the Ripper method, because of poor reproducibility when done by hand, and the use of iodine, which is sensitive to light and therefore variable. If we need to do SO₂s on a small number of samples, we use an aeration/oxidation set-up. The FIAStar can also do total SO₂.

W&V: You're using a web-based database system, VINx2, from JX2 Technology in Melbourne, Australia. How does it compare to the more traditional systems that a lot of wineries use?

Cramer: It is extremely user-friendly. The look and feel of it is very much more contemporary, not having been created originally in DOS and later converted. Navigating the system is more intuitive and more flexible. Shortcuts and clickable buttons are convenient and there where you need them. The customer service is excellent and, in some cases, the time difference with Australia actually works in our favor. We can report a problem to them in the afternoon and get back the next morning to find it solved. Because the system is web-based, and because JX2 is young and eager, it is flexible and modifiable, without huge extra costs to the user. **W&V**

A resident of the Santa Cruz Mountains, Laurie Daniel has been a journalist for more than 25 years. She has been writing about wine for publications for nearly 15 years and has been a Wines & Vines contributor since 2006. To contact her or comment on this article, e-mail edit@winesandvines.com.