

# California Agriculture

Wine grapes go **green**

*The Sustainable Viticulture Issue*





**Cover:** The grape-growing industry, in partnership with UC scientists, has aggressively promoted sustainable viticulture practices that are environmentally friendly, economically viable and socially responsible. In the Carmel Valley, a wine-grape vineyard shows its fall colors. *Photo: David Gubernick/AGStockUSA*

# SUSTAINABLE VITICULTURE

## Wine grapes go **green**

### Research and review articles

#### [ Encouraging best practices ]

#### **133** Agro-environmental partnerships facilitate sustainable wine-grape production and assessment

*Broome and Warner*

Innovative collaborative approaches have extended sustainable practices across California vineyards, including reduced pesticide use.

#### **138** Interest in organic viticulture is increasing

*McGourty*

#### **142** Innovative outreach increases adoption of sustainable winegrowing practices in Lodi region

*Ohmart*

Growers representing two-thirds of Lodi wine-grape acreage participated in a unique self-assessment program to improve their sustainable wine-growing.

#### **148** Decision support tool seeks to aid stream-flow recovery and enhance water security

*Merenlender, Deitch, Feirer*

Watershed mapping of modeled stream-flow data can help growers and regulators decide where to place small storage reservoirs for irrigation, offsetting impacts to salmon habitat.

#### **152** Collaborative conservation helps achieve regional water-quantity goals

*Merenlender*

#### [ Dealing with disease ]

#### **156** Leafroll disease is spreading rapidly in a Napa Valley vineyard

*Golino et al.*

Possible causes include ecological changes in vectors, use of less-virus-tolerant rootstocks and new virus strains that are more efficiently transmitted by pests.

#### **161** *Botryosphaeria*-related dieback and control investigated in noncoastal grapevines

*Epstein, Kaur, VanderGheynst*

Pycnidia on deadwood apparently are a major source of inoculum for new *B. obtusa* infections; latex paint may protect wounds from the fungus.

#### **164** Vine surgery tested as management strategy for *Botryosphaeria*

*Huffsmith et al.*

### News departments

#### Editorial overview

#### **125** Wine grapes go green: The sustainable viticulture story

#### Research news

#### **127** Research fuels sustainable viticulture revolution

#### **131** Nest boxes can attract wildlife to vineyards



## [ Controlling pests ]

### **167 Vineyard managers and researchers seek sustainable solutions for mealybugs, a changing pest complex**

*Daane et al.*

Parasitoids, natural predators, ant control and pheromones can help control a persistent vineyard pest.

### **172 Pomace management reduces spread of vine mealybugs**

*Smith and Varela*

### **174 Studies needed of vectors spreading leafroll disease in California vineyards**

*Golino and Almeida*

### **177 Liquid baits control Argentine ants sustainably in coastal vineyards**

*Cooper et al.*

Foraging ants bring toxicants to their nests, an approach that targets the ant colony and spares beneficial insects killed by broadcast insecticides.

## [ Managing vineyard floors ]

### **184 Vineyard floor management affects soil, plant nutrition, and grape yield and quality**

*Smith et al.*

A 5-year study of cover crops and weed control strategies in a Monterey County vineyard found differences in water use, microbial activity and other important soil parameters.

### **191 Self-reseeding annual legumes evaluated as cover crops for untilled vineyards**

*McGourty et al.*

All 22 cover crops assessed in a high-elevation Lake County vineyard were low-statured and fit well in row middles.

## [ Studying soils and plant nutrition ]

### **195 Soil-landscape model helps predict potassium supply in vineyards**

*O'Geen et al.*

Based on soil properties that affect potassium supply, the Lodi Winegrape District has five nutrient management regions.

### **202 Vineyard nutrient needs vary with rootstocks and soils**

*Lambert, Anderson, Wolpert*

Tailoring fertilization to vineyards will cut both costs and nutrient-polluted runoff, making the grape industry more sustainable.

### **Editor's note**

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