

# “We Are Both Hosts”\*: U.C. Davis, Napa and Wine Quality

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WELCOME to this world famous  
wine growing region

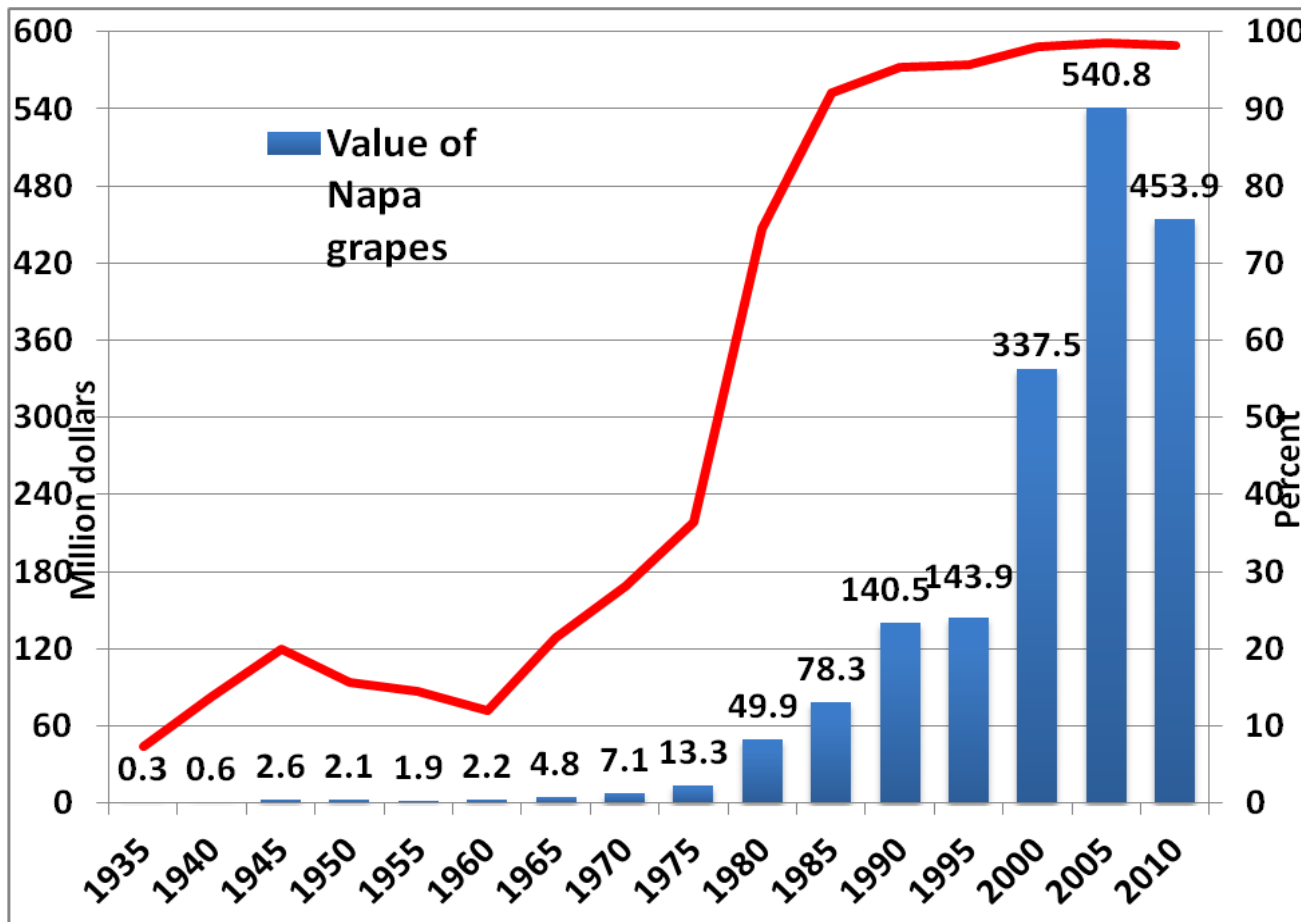


NAPA VALLEY

...and  
the wine  
is bottled  
poetry...

Visit Local Business

Napa grapes represent 98% of Napa's agricultural revenue. Although only 4% of California's grape crush, they represent 25% of all revenue. Napa wine sales are estimated at \$4.4 billion, and Napa tourism is estimated at \$1 billion.



# 3 reasons for Napa's leadership

- Environment
  - Where grapes are grown effects grape and wine characteristics. Napa is an excellent location.
- Owners
  - Napa owners are committed to excellence and willing to spend what it takes
- Adoption of science
  - Napa growers encourage research and are early adopters of new ideas

# This Case Study

- Demonstrate the reciprocal and symbiotic interaction between UC Davis and the Napa wine and grape industry in
  - Teaching
  - Research
  - Extension
- Using viticultural research (“Canopy Management”) in the 1980s as the context.

# What Happened

- During the 1980s Davis researchers working in Napa Valley vineyards discovered how manipulating canopy and irrigation could change grape characteristics.
- Cooperative and University Extension(s) disseminated the information—primarily to UCD graduates
- The collapse of AxR rootstock in the late 1980s necessitated replanting—which allowed Napa growers to adopt the new ideas within a short period of time

# Why Napa?

- Closest coastal wine region to Davis—1 hour driving time
- Long history of collaboration
- Oakville Experimental Vineyard—40 acres
  - 1947 “South Vineyard
  - 1954 “Federal Vineyard”



# The Kliever Trial at Oakville

- 5 acres of Cabernet Sauvignon in the South Vineyard
- 2 trellis systems (light penetration)
- 3 row spacings (density)
- 5 pruning levels (yield)



Carlos Tizio (Argentina) and Dr. Mark Kliever



# Light Penetration Into Canopy

## “California Sprawl” Trellis



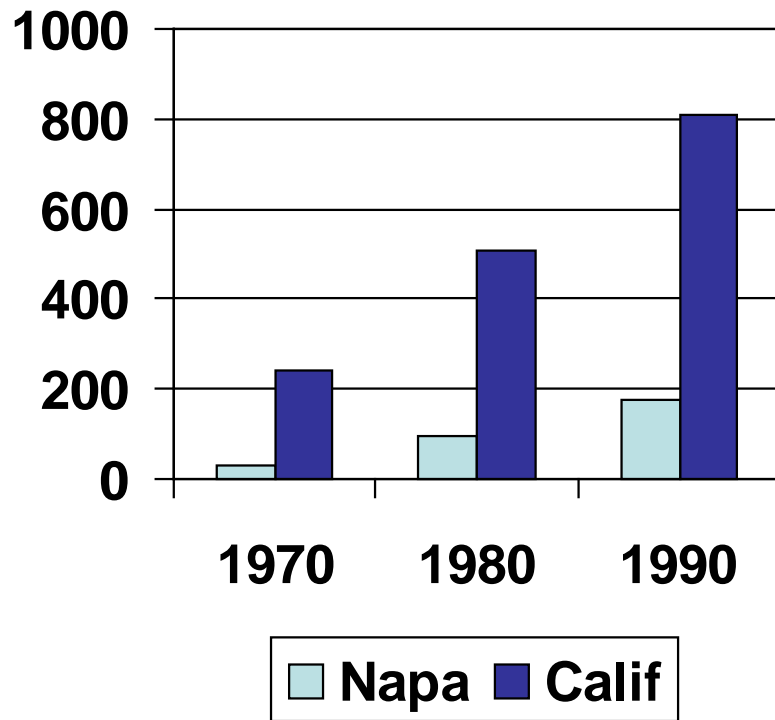
- Increases berry color
- Earlier ripening
- Lowers pH
- Reduces vegetal aroma (“green bean”)
- Higher tannin levels
- Reduces rot

# North Coast Viticultural Research Group

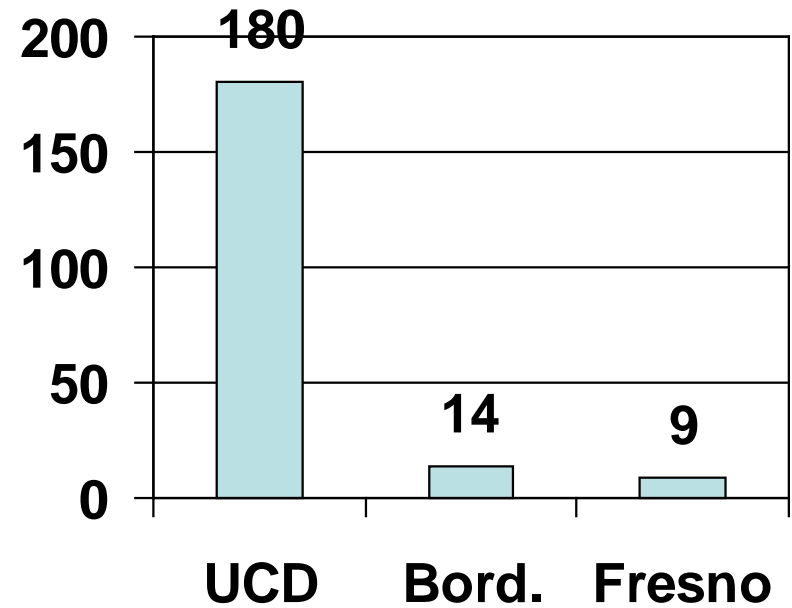
- Phil Freese (Mondavi) Ph.D. UCD
- Rollin Wilkenson (Christian Bros.) B.S. UCD
- Tucker Catlin (Sterling) B.S. UCD
- Bob Steinhauer (Beringer) M.S. Fresno State
- Will Nord (Domaine Chandon) M.S. UCD
- Ed Weber (Joseph Phelps) B.S. and M.S. UCD
- Zelma Long (Simi) B.S. Oregon State
- Rob Davis (Jordan) B.S. UCD

# Davis Trained Managers

## Number of Wineries



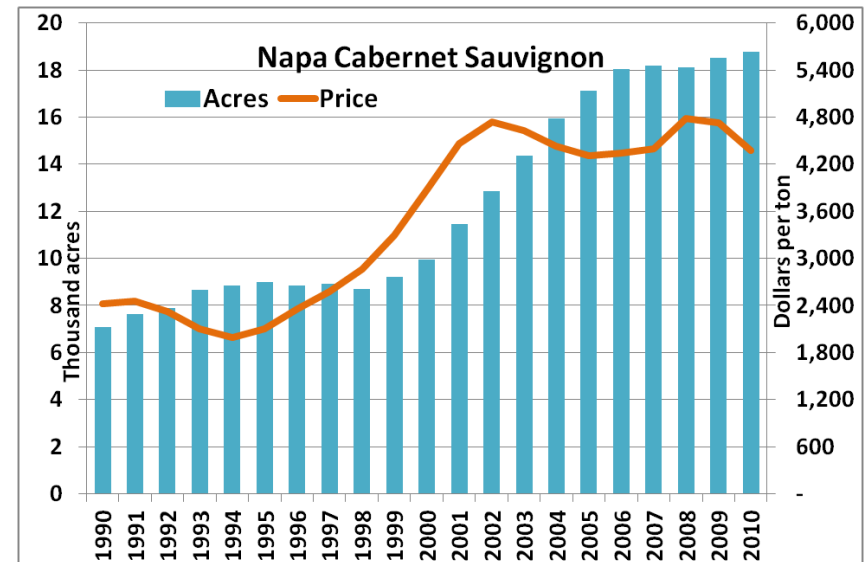
## Napa Winemakers in 2012



Sample of 231 Napa Wineries

# Replanting Napa

- 1983 Phylloxera identified in Napa
- Replanting in late 1980s
- VERY Expensive
- Allowed new vineyards to be planted based on Davis research—better varietal characteristics and earlier ripening
- Allowed switch to Cabernet Sauvignon (7000 acres expand to 19,000)



# Cooperative Extension

- Farm Advisor had long played a key role in research and information transfer
- Jim Lider, Keith Bowers, Ed Weber, Monica Cooper
- Often worked one on one
- Created Napa Valley Vineyard Technical Group. Monthly meeting to share research results

Ed Weber in Vineyard



# University Extension

- Partnered with Viticulture and Enology to offer 20-30 “short courses” each year on viticulture and enology
- About 1000 enrollments each year
- About 20% of enrollments came from Napa



# Conclusion?

- Through teaching, research and extension, UC Davis has had a profound impact on the California and Napa grape and wine industry.
- This review of the impact of canopy management on wine quality is but one example of many.
- Industry's problems, questions and funding meet with U.C.'s research, teaching and extension to create a reciprocal and synergistic relationship.
- In John Williams' words: "We are both hosts"

# “We are both hosts”

UC Davis 1940?



Students in industry funded winery

