

An Introduction to California Wine

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Purpose

- Introduce California's wine producing regions
- Review role of University research
- Consider the difference between wine and grape **qualities** (attributes) as a result of climate and human effort versus wine and grape **quality**, meaning degree of excellence

California Grapes and Wine

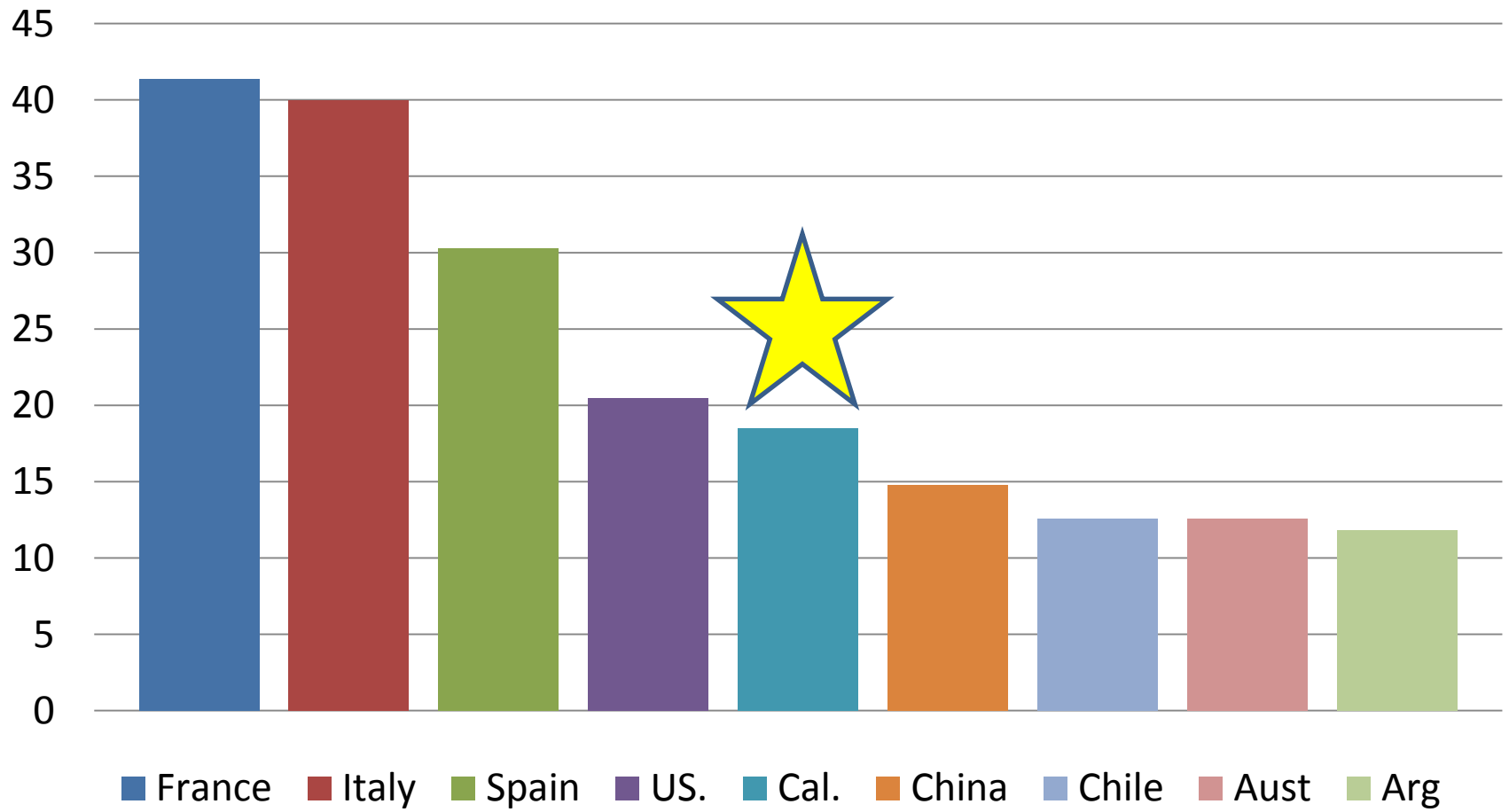
Grapes

- 546,000 acres (218,000 hectares) of winegrapes
- Approximately 5000 growers
- Grape value \$3.1 billion in 2012

Wine

- 18.5 Million hectoliters of wine
- Approximately 3800 wineries
- Estimated \$22 billion retail value
- 330,000 jobs (grapes, wine, retail) in California

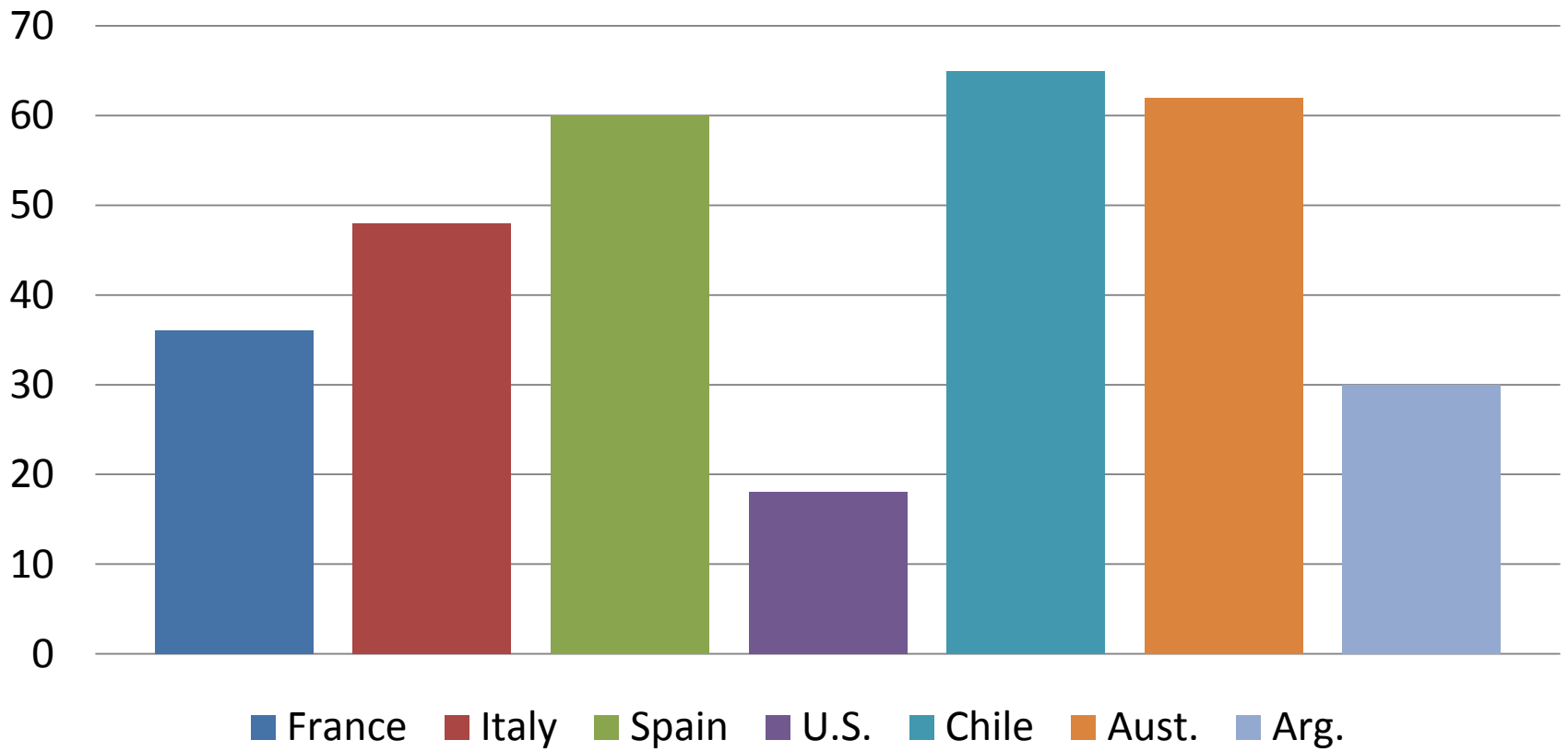
2012 Wine Production in Millions of hectoliters



Source: OIV 2013

Most California wine is consumed in the United States

Percent of wine exported 2012



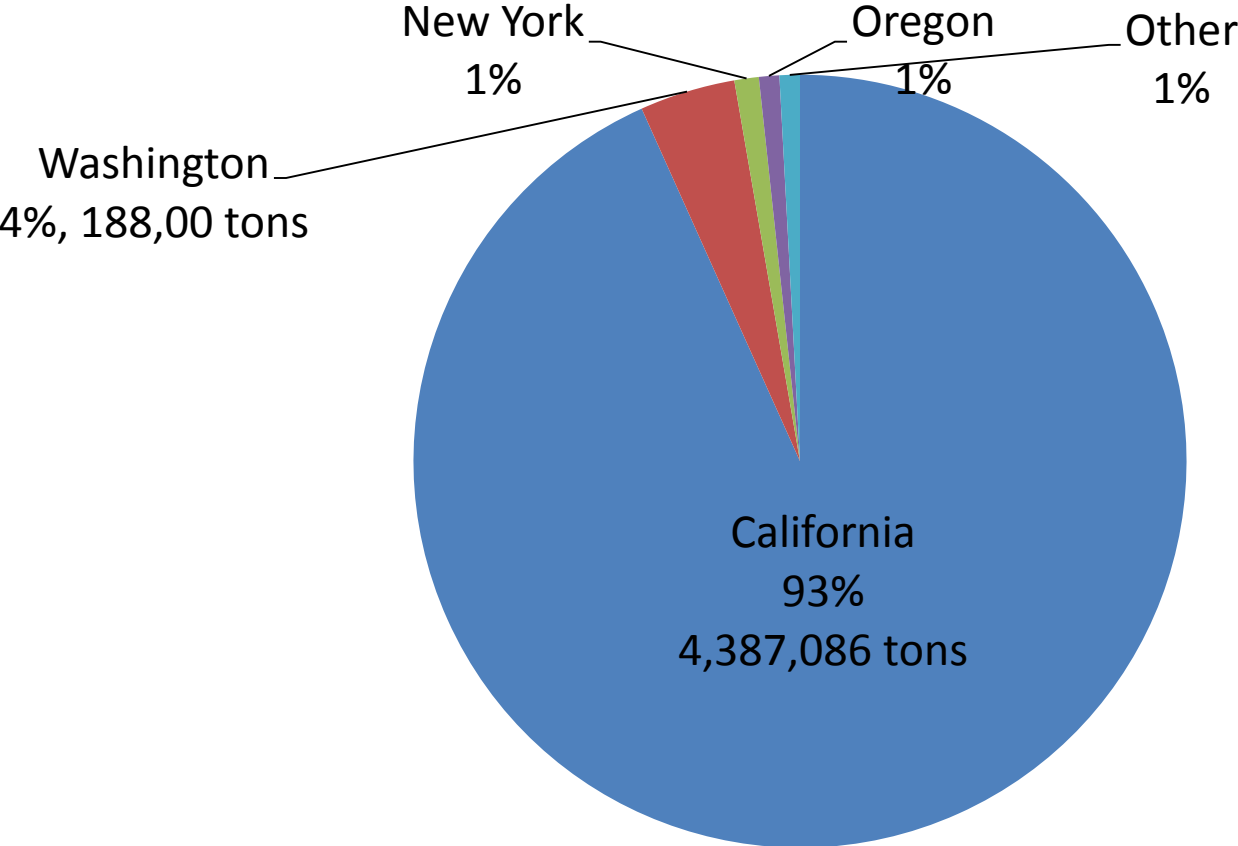
Wine Quality Factors

- Where grapes are grown (environment)
- How grapes are grown (human decisions)
 - Variety and clone selection? Vine density? Trellis systems? Pruning (yield)? Irrigation and fertilization? Harvest decision?
- How wine is produced (human decisions)
 - Grape processing? Sanitation? Temperature control? Extraction of color and tannin? Aging systems?

The Davis Impact on Human Decisions

- Most California winemakers educated at Davis
 - Taught scientific method—not formulaic winemaking
- Research on critical issues
 - Canopy management and vineyard water use
 - Tannin measurement and extraction
- Outreach to industry via Cooperative and University Extension

California Dominates U.S. Production



2012 Grape Production. Source: NASS

California is excellent for *V. Vinifera*

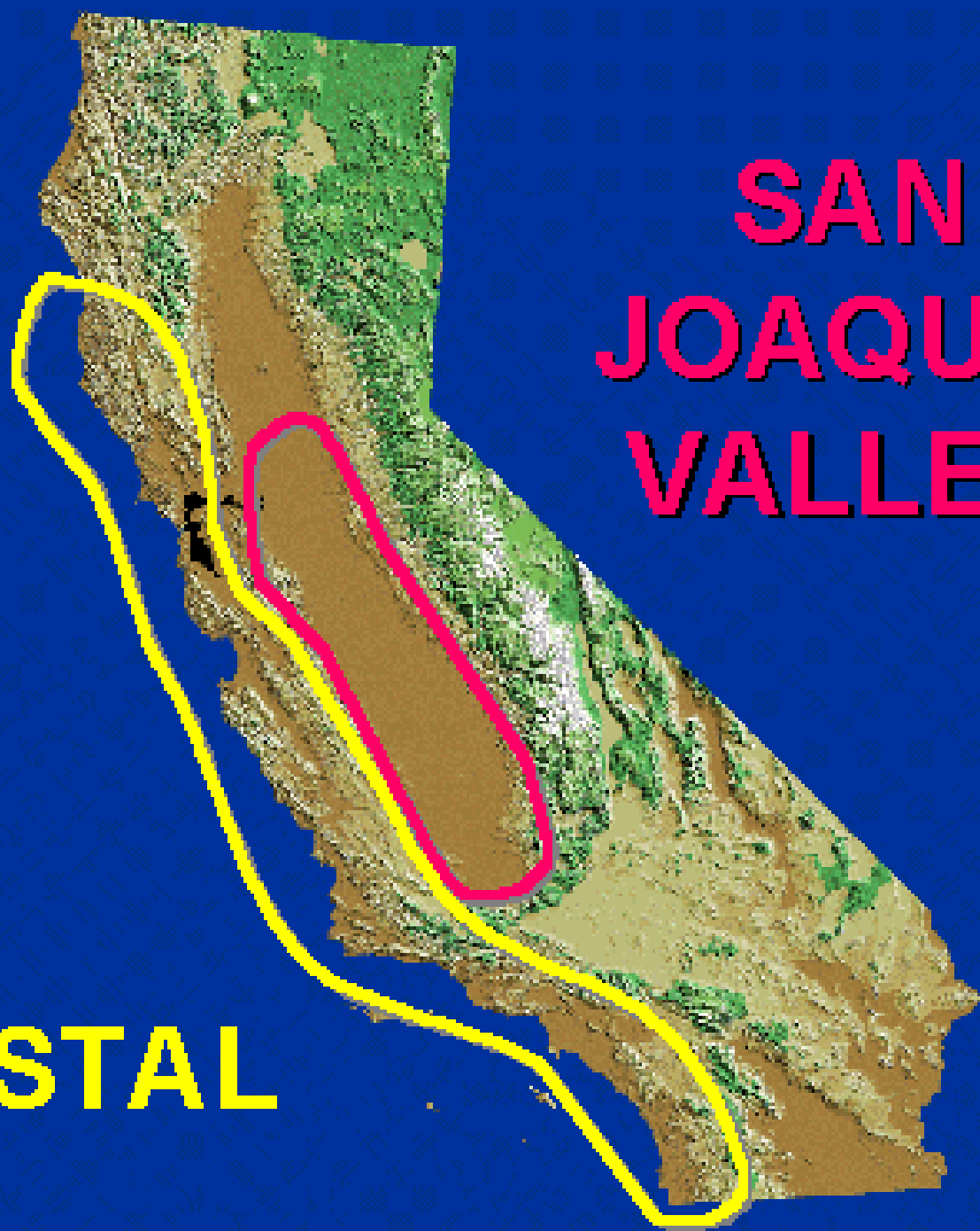
- Mild winters: No winter kill
- Winter rainfall: Recharge reservoirs and groundwater
- Warm and sunny summers: No problems ripening grapes
- Dry summers: Very little humidity and fungal problems
- Multiple growing regions: Allows specialization

The influence of climate on grape qualities

Attribute	Warmer Regions	Cooler Regions
Acidity	Less	More
Color	Less	More
Aroma/Flavor	Less	More
Yield (tons/acre)	Higher (12-15 tons)	Lower (2-6 tons)
Grape Price per ton	Lower (\$300-\$600)	Higher (\$1000-\$5000)

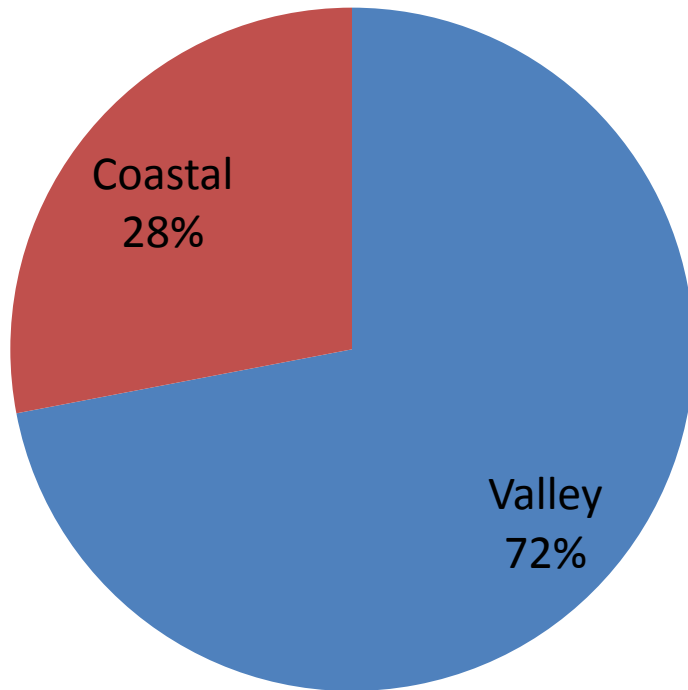
**SAN
JOAQUIN
VALLEY**

COASTAL

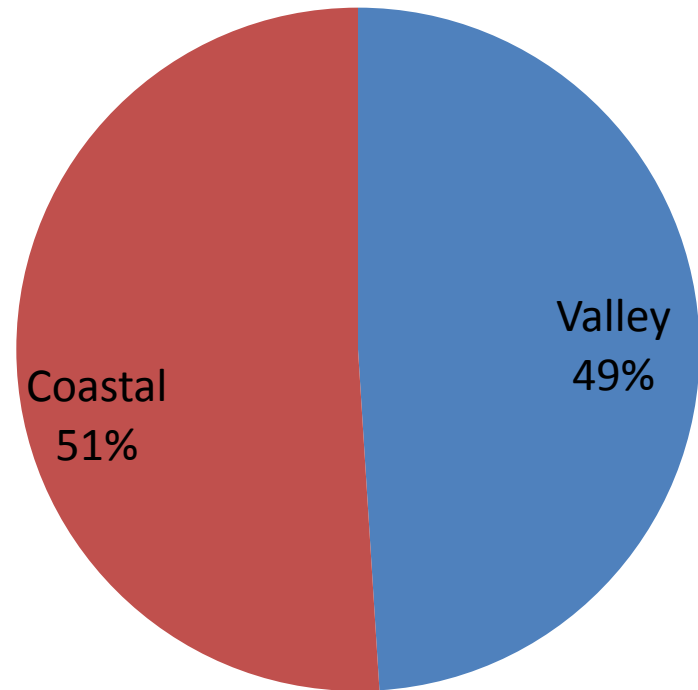


2012 California Winegrapes

% Volume



% Value



Four Main Areas

1. North Coast

2. Monterey

3. San Luis Obispo

4. Santa Barbara



COASTAL



NAPA VALLEY
Summer afternoon



NAPA VALLEY
Summer morning

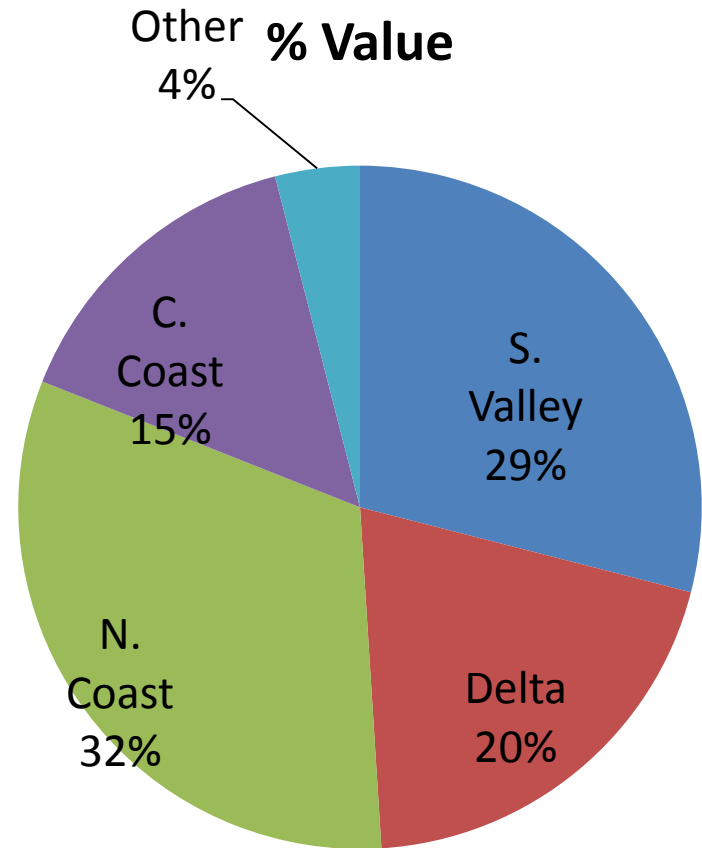
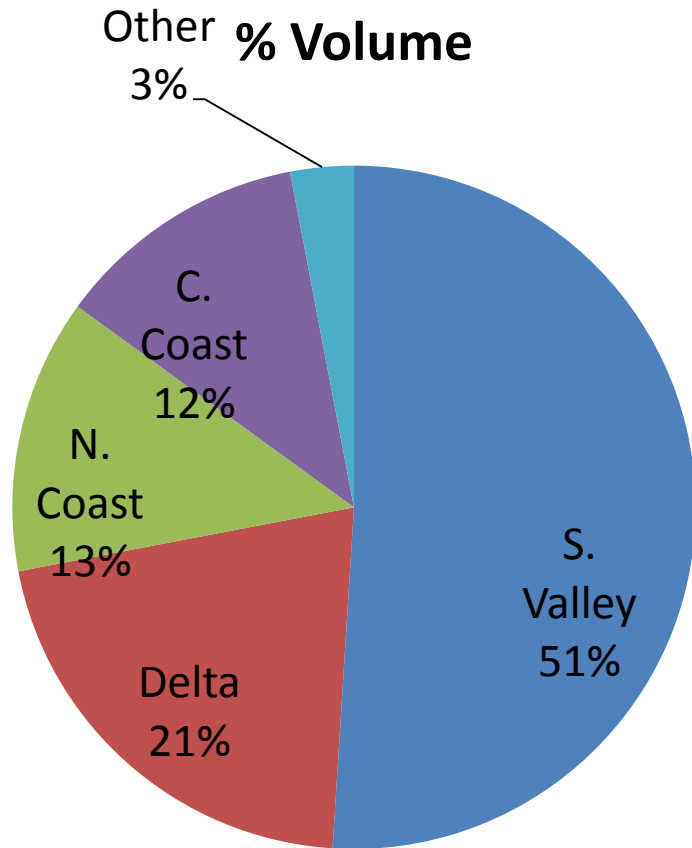
Coastal Regions

- Cooler summers
 - Increased color, acidity, and flavor
- Higher Rainfall
- Higher land costs
 - \$50,000 to \$500,000 an acre
- Smaller units of operation
- Over 3000 wineries

Hand Harvest



2012 Harvest by Region



San Joaquin Valley

- Warm Summers
 - Higher yields
- Large Scale Production
 - Lower costs
 - 50+% of California's production in 20 wineries
- Mechanization
 - Lower costs

Mechanical Grape Harvesting



Conclusion?

- California's diverse environment allows production of excellent wine at all prices
- Human capital—the understanding of how to grow grapes and make wine—builds upon California's natural advantages
- The University of California has played a key role in developing this human capital—through research and teaching
- This natural environment when combined with continued research and education will assure the future of California's wine industry.

Thank you. www.aic.ucdavis.edu

