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
<table>
<thead>
<tr>
<th>Grapes</th>
<th>Wine</th>
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<tbody>
<tr>
<td>546,000 acres (218,000 hectares) of winegrapes</td>
<td>18.5 Million hectoliters of wine</td>
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<tr>
<td>Approximately 5000 growers</td>
<td>Approximately 3800 wineries</td>
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<td>Grape value $3.1 billion in 2012</td>
<td>Estimated $22 billion retail value</td>
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<td>330,000 jobs (grapes, wine, retail) in California</td>
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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)
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

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Warmer Regions</th>
<th>Cooler Regions</th>
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<tbody>
<tr>
<td>Acidity</td>
<td>Less</td>
<td>More</td>
</tr>
<tr>
<td>Color</td>
<td>Less</td>
<td>More</td>
</tr>
<tr>
<td>Aroma/Flavor</td>
<td>Less</td>
<td>More</td>
</tr>
<tr>
<td>Yield (tons/acre)</td>
<td>Higher (12-15 tons)</td>
<td>Lower (2-6 tons)</td>
</tr>
<tr>
<td>Grape Price per ton</td>
<td>Lower ($300-$600)</td>
<td>Higher ($1000-$5000)</td>
</tr>
</tbody>
</table>
2012 California Winegrapes

% Volume
- Coastal: 28%
- Valley: 72%

% Value
- Coastal: 51%
- Valley: 49%
Four Main Areas
1. North Coast
2. Monterey
3. San Luis Obispo
4. Santa Barbara
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

% Volume

- S. Valley: 51%
- Delta: 21%
- N. Coast: 13%
- C. Coast: 12%
- Other: 3%

% Value

- S. Valley: 29%
- N. Coast: 32%
- C. Coast: 15%
- Delta: 20%
- Other: 4%
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