Foothill Grape Day
23 April 2009
Characteristics of ‘New’ Varieties of Local Interest - ABCCM

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San Joaquin County
University of California
Cooperative Extension
The Right Variety

Red wine makes them live longer, but they get to be a real pain.

It has a timid nose with the usual notes of oak and vanilla.

I can't believe you're drinking Merlot.
Old Vine Zinfandel
Primitivo 03

- The Holy Grail?
World Wide Selections

9,000,000 ha 14,000 varieties

Major Commercial Varieties

239 25%
20 30%
259 55%

1998
## Variety Acreage

<table>
<thead>
<tr>
<th>1985</th>
<th>2007</th>
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<tbody>
<tr>
<td>Colombard</td>
<td>Chardonnay</td>
</tr>
<tr>
<td>73,241</td>
<td>94,282</td>
</tr>
<tr>
<td>Chenin blanc</td>
<td>Cabernet Sauvignon</td>
</tr>
<tr>
<td>41,462</td>
<td></td>
</tr>
<tr>
<td>Chardonnay</td>
<td>Zinfandel</td>
</tr>
<tr>
<td>27,424</td>
<td>51,649</td>
</tr>
<tr>
<td>Zinfandel</td>
<td>Merlot</td>
</tr>
<tr>
<td>25,367</td>
<td>49,781</td>
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<tr>
<td>Cabernet Sauvignon</td>
<td>Pinot noir</td>
</tr>
<tr>
<td>22,61</td>
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<tr>
<td>Carignane</td>
<td>Colombar</td>
</tr>
<tr>
<td>16,381</td>
<td>28,649</td>
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<tr>
<td>Sauvignon blanc</td>
<td>Syrah</td>
</tr>
<tr>
<td>15,383</td>
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</tr>
<tr>
<td>Ruby Cabernet</td>
<td>Sauvignon blanc</td>
</tr>
<tr>
<td>10,577</td>
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</tr>
<tr>
<td>White Riesling</td>
<td>Rubired</td>
</tr>
<tr>
<td>10,046</td>
<td>Chenin blanc</td>
</tr>
<tr>
<td>Barbera</td>
<td>9,598</td>
</tr>
<tr>
<td>4,825</td>
<td>Pinot gris</td>
</tr>
<tr>
<td></td>
<td>9,389</td>
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# Variety Acreage

<table>
<thead>
<tr>
<th>Variety</th>
<th>Acreage 2007</th>
<th>Acreage 2005</th>
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<tbody>
<tr>
<td>Chardonnay</td>
<td>94,282</td>
<td>95,021</td>
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<tr>
<td>Cabernet Sauvignon</td>
<td>75,662</td>
<td>76,756</td>
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<tr>
<td>Zinfandel</td>
<td>51,649</td>
<td>51,425</td>
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<tr>
<td>Merlot</td>
<td>49,781</td>
<td>54,288</td>
</tr>
<tr>
<td><strong>Pinot noir</strong></td>
<td>29,191</td>
<td>24,442</td>
</tr>
<tr>
<td>Colombard</td>
<td>28,649</td>
<td>29,455</td>
</tr>
<tr>
<td>Syrah</td>
<td>18,749</td>
<td>18,257</td>
</tr>
<tr>
<td>Sauvignon blanc</td>
<td>15,367</td>
<td>15,462</td>
</tr>
<tr>
<td>Rubired</td>
<td>11,109</td>
<td>11,100</td>
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<tr>
<td>Chenin blanc</td>
<td>9,598</td>
<td>10,695</td>
</tr>
<tr>
<td><strong>Pinot gris</strong></td>
<td>9,389</td>
<td>7,999</td>
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</table>
The Big Six

Chardonnay
Cabernet Sauvignon
Zinfandel
Merlot
Sauvignon blanc
Syrah
### Varieties With 50,000 Tons Crushed in 2005

<table>
<thead>
<tr>
<th>Red</th>
<th>White</th>
<th>Others</th>
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<tbody>
<tr>
<td>Rubired</td>
<td>Barbera</td>
<td>Thompson seedless</td>
</tr>
<tr>
<td>Colombard</td>
<td>Grenache</td>
<td></td>
</tr>
<tr>
<td>Pinot noir</td>
<td>Pinot grigio (gris)</td>
<td></td>
</tr>
<tr>
<td>Chenin blanc</td>
<td>Burger</td>
<td></td>
</tr>
<tr>
<td>Ruby Cabernet</td>
<td>Muscat of Alexandria</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>42</td>
<td>16 Varieties of Wine Grapes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,488,785 tons (92.9%) vs 267,606 tons of 111 Others</td>
</tr>
</tbody>
</table>
Variety Composition of Crush
2007

- **Big Six**: 51%
- **Next Ten**: 27%
- **Other**: 6%
- **Table**: 3%
- **Raisin**: 13%

Total Tons:
- 3,665,929
- 1,953,725
- 1,040,581
- 253,198
- 117,099
The Big Six 2008

1,953,725 tons of 3,247,504 (60%) Wine Grapes
3,665,929 (53%) Total Grapes

<table>
<thead>
<tr>
<th>Grape Type</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Chardonnay</td>
<td>28%</td>
</tr>
<tr>
<td>Cabernet Sauvignon</td>
<td>17%</td>
</tr>
<tr>
<td>Zinfandel</td>
<td>16%</td>
</tr>
<tr>
<td>Merlot</td>
<td>6%</td>
</tr>
<tr>
<td>Syrah</td>
<td>5%</td>
</tr>
<tr>
<td>Sauvignon blanc</td>
<td>7%</td>
</tr>
<tr>
<td>Pinot noir/gris</td>
<td>5%</td>
</tr>
</tbody>
</table>
Variety Selection

- Quality
- Demand
- Yield
- Soils
- Climate
- Production Goals
- Personal Commitment
Selection Factors

World
• Resistance
  – Disease
  – Pests
• Tradition
• Regulations
• Growing Conditions
  – Winter Cold
  – Water
  – Soils

California
Marketability
Quality
Yield
Resistance
Consumer Demand vs Management/Input
Graciano (Morrastel)
President Calvin Coolidge is the source of this widely quoted insight:

“Nothing in the world can take the place of persistence. Talent will not; nothing is more common than unsuccessful people with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent. The slogan "press on" has solved and always will solve the problems of the human race.”
Clones

- Pinot noir
- Chardonnay
- Cabernet Sauvignon
- Merlot
- Cabernet franc
- Sangiovese
- Sauvignon blanc
- Syrah
- Zinfandel *

* More selections of Mission
Clones

146
152
FPS 01

Pinot gris
Climate/Site Conditions

- Rainfall
- Winter Cold
- Growing Season
  - Frost
  - Heat
  - Wind
  - Hail
Global “Warming” Considerations

- Hottest July 1988
- Coolest September 2005
- Winter 2007 January with 25 days of minimum < 30°F

- 2006 Hurricane Prediction of 6 to 9 Severe; actual was 3 severe, with 0 making landfall.
- Polar Ice Caps also shrinking on Mars
- Average Global Temperature decreased since 2002

Bottom Line: Variety selection not at risk.

www.realclimate.org
www.junkscience.com
www.co2science.org
www.WattsUpWithThat.com
www.CarbonDioxide.com
Tendencies & Sensitivities

Petite Sirah
Nebbiolo
Chardonnay
Malbec
Symphony
Symphony
Cinsaut
Tinta Amarella
Petit Verdot
Dolcetto
Cinsaut
Symphony
Grenache
### Newcomers in 1997

<table>
<thead>
<tr>
<th>Wine Type</th>
<th>Newcomers 1997</th>
<th>Previous Year</th>
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<tbody>
<tr>
<td>Syrah</td>
<td>6,987 (18, 257)</td>
<td></td>
</tr>
<tr>
<td>Viognier</td>
<td>1,222 (2,217)</td>
<td></td>
</tr>
<tr>
<td>Roussanne</td>
<td>166 (177)</td>
<td></td>
</tr>
<tr>
<td>Malbec</td>
<td>369 (1,174)</td>
<td></td>
</tr>
<tr>
<td>Petit Verdot</td>
<td>367 (1,479)</td>
<td></td>
</tr>
<tr>
<td>Sauvignon musqué</td>
<td>81 (165)</td>
<td></td>
</tr>
<tr>
<td>Pinot gris</td>
<td>890 (7,245)</td>
<td></td>
</tr>
<tr>
<td>Symphony</td>
<td>538 (911)</td>
<td></td>
</tr>
<tr>
<td>Muscat Orange</td>
<td>135 (239)</td>
<td></td>
</tr>
<tr>
<td>Dolcetto</td>
<td>98 (92)</td>
<td></td>
</tr>
<tr>
<td>Lambrusco</td>
<td>103 (103)</td>
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</tr>
<tr>
<td>Tocai Friuliano</td>
<td>124 (131)</td>
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</table>
## Newcomers in 2007

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<tr>
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<tbody>
<tr>
<td>Tempranillo</td>
<td>6,987 (18,257)</td>
<td>Touriga</td>
<td>890 (7,245)</td>
</tr>
<tr>
<td>Tannat</td>
<td>1,222 (2,217)</td>
<td>Souzá</td>
<td></td>
</tr>
<tr>
<td>Graciano</td>
<td></td>
<td>Tinta Barroca</td>
<td>38 (911)</td>
</tr>
<tr>
<td>Malbec</td>
<td>369 (1,174)</td>
<td>Trincadeira</td>
<td>135 (239)</td>
</tr>
<tr>
<td>Lagrein</td>
<td>98 (92)</td>
<td>Petit Verdot</td>
<td>367</td>
</tr>
<tr>
<td>Teroldego</td>
<td>(1,479)</td>
<td>Carmenère</td>
<td>103 (103)</td>
</tr>
<tr>
<td>Marzemina</td>
<td>81 (165)</td>
<td>Nero d’Avola</td>
<td>124 (131)</td>
</tr>
<tr>
<td>Negroamaro</td>
<td></td>
<td>Refosco</td>
<td></td>
</tr>
<tr>
<td>Aleatico</td>
<td></td>
<td>Dornfelder (Complex vinifera)</td>
<td></td>
</tr>
<tr>
<td>Dolcetto</td>
<td></td>
<td>Pinotage (Pinot noir x Cinsaut)</td>
<td></td>
</tr>
<tr>
<td>Aglianico</td>
<td></td>
<td>Albariño</td>
<td></td>
</tr>
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</table>
Comeback Contenders

- Petite Sirah
- Barbera
- Semillon
- Muscat blanc
- Mourvedre
- Carignane
- White Riesling
- Grenache
- Rubired?
Liberty Gallo

Soil: Tokay fine sandy loam
Rootstock: Freedom (V. champinii x 1613C)
Spacing: 7 x 10 feet (2.3 m x 3.1m)
Irrigation: drip 2 x 0.5 gph
Planted: 1992
Region: High III to Low IV
(Average GDD 3,464)
Vine Measurements
Growth

- Budbreak
- Bloom
- Maturity
- Pruning Weight
  - Crop:Pruning Ratio
Yield

• Weight per Vine
• Cluster Number
• Cluster Weight
• Berry Weight
Juice

- °Brix
- Titratable Acidity g/L
- pH
- Malic Acid
- Potassium
- Phenolics
  - Anthocyanins
  - Tannins
Potential Problems

• Viruses
• Canker Diseases
• Foliar Pests
• Sensitivities
Symphony and Spring Rains  1998
Montepulciano
2006
Eutypa vs Virus

GLRaV

Eutypa dieback
Vine Decline Potential
Escape Plan Status: FAIL
France

Bordeaux
Burgundy
Rhône
Loire

Languedoc
Rosussillon
Cahors
Alsace
<table>
<thead>
<tr>
<th>Grape Variety</th>
<th>Grape Variety</th>
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<tbody>
<tr>
<td>Cabernet Sauvignon</td>
<td>Malbec</td>
</tr>
<tr>
<td>Cabernet franc</td>
<td>Sauvignon blanc</td>
</tr>
<tr>
<td>Merlot</td>
<td>Semillon</td>
</tr>
<tr>
<td>Petit Verdot</td>
<td></td>
</tr>
<tr>
<td>Carmenère</td>
<td>Tannat</td>
</tr>
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</table>
Sauvignon blanc
Cabernet franc
Cabernet Sauvignon
Petit Verdot

Clones FPS 01 vs 02

Malbec

Last Irrigated 2003 - 24 hrs
Malbec

Clones FPS 04, 06, 08 vs 09
Malbec  FPS 09
Tannat

Carmenère
Muscat blanc

Semillon

FPS 2, 3, 6, 7

Muscat blanc
Rhône

Grenache
Viognier
Syrah?
Cinsaut
Mourvedre
Clairette blanche
Carignane
Grenache

Mourvedre
Syrah

Viognier
Cinsaut
Corbeau

Picpoul noir
Italy

Sangiovese 02 vs 03  |  Schioppetino
Nebbiolo          |  Docetto
Marzemino        |  Teroldego
Lagrein           |  Freisa
Aglianico         |  Aleatico
Picpoul noir      |  Arneis
Vernaccia         |  Picolit
Pinot grigio 146, 152, FPS 01 |  Refosco
Montepulciano     |  Corvina
Pignolo           |  Raboso Paive
Cortese           |  Canaiolo nero
Corvina Veronese

Aglianico
Schioppetino

Mondeuse
Arneis

Picolit
Aglianico
Barbera
Southern Italy/Sicily

Nero d’Avola
Negroamaro
Fiano
Aleatico

Primitivo
Piedirosso
Aglianico
Others (21)
<table>
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<th>Spain</th>
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<tr>
<td>Tempranillo</td>
<td>Albariño</td>
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<tr>
<td>Graciano</td>
<td>Xarello</td>
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<tr>
<td>Garnacha</td>
<td>Torrontes</td>
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<tr>
<td>Palomino</td>
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Tempranillo

Tinta Roriz
Valdepeñas

Graciano
Morrastel
Portugal

- Alvarelhão
- Bastardo (Trousseau)
- Souzão
- Tinta Amarella
- Tinta Barroca
- Tinta Cão
- Tinta Roriz
- Touriga Nacional
- Periquita (Trincadeira)
- Verdelho
Alvarelhão

Touriga

Tinta Cão
Verdelho

Bastardo
Germany

White Riesling  Sylvaner
Gewürztraminer  Schereube
Müller-Thurgau  Dornfelder
Kerner  Limberger
South Africa

Pinotage
Hybrids

- Rubired (Alicante Ganzin x Tinta Cão)
- Ruby Cabernet (Carignane x Cabernet Sauvignon)
- Symphony (Grenache gris x Muscat of Alexandria)
- Torrontes (Listan Prieto x Muscat of Alexandria)
- Triplett blanc (Colombard x Vernaccia)
- Arinarnoa (Merlot x Petit Verdot)
- Chardonel
- Traminette
- Noire
- Corot noir
- Valvin Muscat
<table>
<thead>
<tr>
<th>Other Regions</th>
<th>Assyrtiko</th>
<th>Plavac mali</th>
<th>Furmint</th>
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<tr>
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<td>Kékfrankos</td>
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<td>Kékoportó</td>
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<td>Kadarka</td>
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Summary

• Goal
• Variety, Trellis System, Both
• Management vs System Change
  – Vine Balance
• Cash Flow vs Long Term Marketing
• Quality vs Yield
  – Quality finds and keeps a home
Sustainable Farmers

“You been farming long?”
To Those Who Have Served

And

To Those Now In Harms Way