TECHNICAL STUDY TOUR TO CALIFORNIA
21 August – 5 September 2010

OVERVIEW OF SOUTH AFRICAN WINE INDUSTRY
UC Davis
23 August 2010

Team members
Hennie Visser - Viticulturist
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Marco Ventrella - Viticulturist
Gert Van Wyk – Agro Economist
Index!

- Structure and definition of South African wine industry
- Features, practices & trends of South African Viticulture
- Total area under wine grape vineyards and trends
- Grape & wine prices
- Stock levels – oversupply or in balance
- Wine sales – local & export
- Cost of wine grape production & producer profitability
SOUTH AFRICAN WINE INDUSTRY STRUCTURE

3667 PRIMARY GRAPE PRODUCERS

<table>
<thead>
<tr>
<th>Tons produced</th>
<th>% of producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-100</td>
<td>41%</td>
</tr>
<tr>
<td>100-500</td>
<td>36%</td>
</tr>
<tr>
<td>500-1000</td>
<td>13%</td>
</tr>
<tr>
<td>&gt;1000</td>
<td>10%</td>
</tr>
</tbody>
</table>

≤40 ha ≤70%

57 Producer Cellars
524 Private Cellars
23 Producing Wholesalers

604 CELLARS

1-100 ton = 281
100-500 ton = 149
500-1000 ton = 55
1000-5000 ton = 64
5000-10000 ton = 13
>10000 ton = 42

PER CAPITA CONSUMPTION

Litre / capita
2000 – 8,21
2001 – 8,20
2002 – 8,04
2003 – 7,00
2004 – 6,73
2005 – 6,43
2006 – 6,24
2007 – 6,52
2008 – 6,43
2009 – 6,05

PER CAPITA CONSUMPTION

Litre / capita
2000 – 8,21
2001 – 8,20
2002 – 8,04
2003 – 7,00
2004 – 6,73
2005 – 6,43
2006 – 6,24
2007 – 6,52
2008 – 6,43
2009 – 6,05
DEFINITION – SA WINE INDUSTRY

- Wine Industry
  - Wine
    - Natural wine
    - Fortified wine
    - Sparkling wine
  - Rebate wine
  - Distilled wine
  - Non-alcoholic
Key features of South African Viticulture

- Ancient soils in an advanced state of weathering (350 mil – 550 mil year old)

- Massive soil variation over short distances (this is mirrored in our biodiversity)

- Over 95% of SA wine is produced within the Cape Floral Kingdom, the smallest and richest in the world, containing over 10 000 plant species, which is more than are found in the whole of the Northern hemisphere

- We have 2 oceans encircling our wine lands
Key features of South African Viticulture

- Our wine growing regions are close together in terms of distance but dramatically different in nature.
- Key challenge is creating a buffer capacity for the vines in the soil.
- Managing the variation in terms of vineyard performance.
- Understanding and expressing the best of the different regions.
General Viticulture Practices

- Spur Pruning by hand with emphasis on bearer spacing and neatness of execution
- V.S.P to greater or lesser degree
- Intensive soil preparation
- Intensive canopy management mostly by hand to greater or lesser degree
- Focus on irrigation strategies to improve quality and control vigour
General Viticulture Practices

- Cover crop in the mid-row and chemical weed control on the burm
- Large reliance on labour up to 42% of annual cash expenditure
- Vineyard classification for price point or wine style - takes historical wine performance into account
Viticulture Trends

- More mechanised harvesting especially in warmer inland areas
- Trend to larger trellis systems with more foliage wires
- More focus on Virus control from plant material to mealybug control
Viticulture Trends

- Greater attention to harvesting decisions for “optimum ripeness” through berry tasting and assessment, phenolic analyses etc. Resulting in riper picking

- More focus on soil variation in block design and layout

- More use of G.I.S. data and multispectral imagery in super premium and higher price point producers
PRODUCTION AREAS of SOUTH AFRICA

WARDS (Northern Cape)

1. Lower Orange
2. Hartswater
3. Rietrivier FS
South African wine grape vineyards
TOTAL SURFACE PLANTED UNDER WINE GRAPE VINEYARDS

Hectares


89,935 92,601 93,656 94,412 96,233 98,605 100,207 101,607 102,146 101,957 101,325 101,259
PLANTINGS AND UPROOTINGS (Hectares)

- **Total Plantings**
- **Total Uprootings**
- **Capital maintenance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Plantings</th>
<th>Total Uprootings</th>
<th>Capital maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>5,584</td>
<td>4,069</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4,505</td>
<td>3,969</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>3,765</td>
<td>3,937</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>3,257</td>
<td>4,081</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>3,983</td>
<td>2,564</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>3,334</td>
<td>2,156</td>
<td></td>
</tr>
</tbody>
</table>
Surface i.r.o. most planted white varieties (1998 - 2008)

Industry

- Crouchen
- Chardonnay
- Chenin blanc
- Colombar
- Palomino (French grape)
- Muscat (White Hanepoot)
- Sauvignon blanc

Hectares
Percentage (%) i.r.o. white & red vineyard hectares

Percentage (%) i.r.o. white and red wine grape vineyard hectares

Industry

Red
White

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


Percentage (%) i.r.o. white and red wine grape vineyard hectares
## Surface i.r.o. most planted varieties

The table below summarizes the surface area planted with different grape varieties in 1998 and 2009, along with the change since 1998 (in hectares).

<table>
<thead>
<tr>
<th>Variety</th>
<th>1998 Hectares</th>
<th>% of total</th>
<th>2009 Hectares</th>
<th>% of total</th>
<th>Change since 1998 (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chenin blanc</td>
<td>25,875</td>
<td>28.8%</td>
<td>18,668</td>
<td>18.4%</td>
<td>-7,207</td>
</tr>
<tr>
<td>Cabernet Sauvignon</td>
<td>5,615</td>
<td>6.2%</td>
<td>12,469</td>
<td>12.3%</td>
<td>6,854</td>
</tr>
<tr>
<td>Colombar</td>
<td>11,244</td>
<td>12.5%</td>
<td>11,937</td>
<td>11.8%</td>
<td>693</td>
</tr>
<tr>
<td>Shiraz</td>
<td>1,999</td>
<td>2.2%</td>
<td>10,006</td>
<td>9.9%</td>
<td>8,007</td>
</tr>
<tr>
<td>Sauvignon blanc</td>
<td>4,966</td>
<td>5.5%</td>
<td>9,446</td>
<td>9.3%</td>
<td>4,480</td>
</tr>
<tr>
<td>Chardonnay</td>
<td>5,722</td>
<td>6.4%</td>
<td>8,349</td>
<td>8.2%</td>
<td>2,627</td>
</tr>
<tr>
<td>Merlot</td>
<td>2,625</td>
<td>2.9%</td>
<td>6,588</td>
<td>6.5%</td>
<td>3,963</td>
</tr>
<tr>
<td>Pinotage</td>
<td>4,750</td>
<td>5.3%</td>
<td>6,105</td>
<td>6.0%</td>
<td>1,355</td>
</tr>
<tr>
<td>Ruby Cabernet</td>
<td>1,208</td>
<td>1.3%</td>
<td>2,281</td>
<td>2.3%</td>
<td>1,073</td>
</tr>
<tr>
<td>Muscat d'Alexandrie (White Hanepoot)</td>
<td>4,918</td>
<td>5.5%</td>
<td>2,264</td>
<td>2.2%</td>
<td>-2,654</td>
</tr>
<tr>
<td>Cinsaut</td>
<td>3,955</td>
<td>4.4%</td>
<td>2,136</td>
<td>2.1%</td>
<td>-1,819</td>
</tr>
<tr>
<td>Crouchen (Cape Riesling)</td>
<td>3,139</td>
<td>3.5%</td>
<td>727</td>
<td>0.7%</td>
<td>-2,412</td>
</tr>
<tr>
<td>Palomino (French grape)</td>
<td>3,134</td>
<td>3.5%</td>
<td>330</td>
<td>0.3%</td>
<td>-2,804</td>
</tr>
<tr>
<td>Other</td>
<td>10,786</td>
<td>12.0%</td>
<td>9,953</td>
<td>9.8%</td>
<td>-833</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89,935</strong></td>
<td><strong>100%</strong></td>
<td><strong>101,259</strong></td>
<td><strong>100%</strong></td>
<td><strong>11,324</strong></td>
</tr>
</tbody>
</table>
Age distribution of red varieties

Age distribution (Red)
1998 - 2009
Industry
Age distribution of white varieties

Age distribution (White)
1998 - 2009
Industry
Production vs Area 1998 - 2008

Hectares

Tons

Area | Production

Nothing less.
South African Grape- and Bulk wine Prices

[Diagram showing grape prices for Red grapes, White grapes, and Red & White grapes from 1998 to 2009.]

Private Grape prices

<table>
<thead>
<tr>
<th>Year</th>
<th>White &amp; Red grapes</th>
<th>White grapes</th>
<th>Red grapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td></td>
<td></td>
<td></td>
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<td>2000</td>
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<td>2001</td>
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<td>2002</td>
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<td>2003</td>
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<td>2005</td>
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<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PRICE OF WINE SOLD IN BULK

Total & white


Red

Total

White

Red

Capacity per litre

Jan - May 2010

Nothing less.
South African Wine Stock Levels
# Grape Harvest

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orange River</strong></td>
<td>171,664</td>
<td>115,688</td>
<td>165,434</td>
</tr>
<tr>
<td><strong>Klein Karoo</strong></td>
<td>40,980</td>
<td>43,664</td>
<td>34,931</td>
</tr>
<tr>
<td><strong>Worcester</strong></td>
<td>155,996</td>
<td>155,849</td>
<td>134,030</td>
</tr>
<tr>
<td><strong>Breedekloof</strong></td>
<td>223,241</td>
<td>222,125</td>
<td>199,913</td>
</tr>
<tr>
<td><strong>Robertson</strong></td>
<td>204,619</td>
<td>204,271</td>
<td>175,673</td>
</tr>
<tr>
<td><strong>Olifants River</strong></td>
<td>220,703</td>
<td>212,172</td>
<td>199,442</td>
</tr>
<tr>
<td><strong>Paarl</strong></td>
<td>156,015</td>
<td>146,722</td>
<td>121,779</td>
</tr>
<tr>
<td><strong>Stellenbosch</strong></td>
<td>121,346</td>
<td>125,006</td>
<td>102,505</td>
</tr>
<tr>
<td><strong>Malmesbury</strong></td>
<td>131,049</td>
<td>122,123</td>
<td>97,698</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,425,613</td>
<td>1,347,621</td>
<td>1,231,405</td>
</tr>
<tr>
<td><strong>ℓ per Ton</strong></td>
<td>764</td>
<td>767</td>
<td>763</td>
</tr>
<tr>
<td><strong>Wine Production ml</strong></td>
<td>1,089.0</td>
<td>1,033.4</td>
<td>939.6</td>
</tr>
<tr>
<td>PRODUCTION</td>
<td>Avr % a/v 2009</td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Wine</td>
<td>11.49</td>
<td>86.6</td>
<td>71.4</td>
</tr>
<tr>
<td>Wine for Brandy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-alcoholic</td>
<td>11.04</td>
<td>72.5</td>
<td>34.8</td>
</tr>
<tr>
<td>Distilling wine</td>
<td>9.82</td>
<td>166.6</td>
<td>122.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1 089.0</td>
<td>1 033.4</td>
</tr>
</tbody>
</table>
# HARVEST AND SALES ESTIMATES - ml

<table>
<thead>
<tr>
<th>WINE</th>
<th>2008</th>
<th>2009</th>
<th>Est</th>
<th>% +-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>PRODUCTION</td>
<td>763.3</td>
<td>805.1</td>
<td>721.6</td>
<td>-10.4</td>
</tr>
<tr>
<td>IMPORTS</td>
<td>8.0</td>
<td>3.8</td>
<td>0.0</td>
<td>-</td>
</tr>
<tr>
<td>SALES</td>
<td>810.0</td>
<td>775.9</td>
<td>771.2</td>
<td>-0.6</td>
</tr>
<tr>
<td>TRANSFERS/ LEES DESTROYED</td>
<td>29.7</td>
<td>31.6</td>
<td>30.9</td>
<td></td>
</tr>
<tr>
<td>STOCK LEVEL - 31/12</td>
<td>357.2</td>
<td>361.7</td>
<td>281.2</td>
<td>-22.3</td>
</tr>
</tbody>
</table>
STOCK SITUATION – RED & WHITE - % & ml

% of total

- Red wine
- White wine

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>39%</td>
<td>44%</td>
<td>54%</td>
<td>51%</td>
<td>44%</td>
<td>39%</td>
<td>36%</td>
</tr>
<tr>
<td>%</td>
<td>61%</td>
<td>56%</td>
<td>46%</td>
<td>50%</td>
<td>56%</td>
<td>61%</td>
<td>64%</td>
</tr>
</tbody>
</table>

VIR KAAPSE WYNPRODUSENTES FOR CAPE WINE PRODUCERS

Nothing less.
South African Wine Sales – Local and Export
EXPORT OF WINE

million litre

- White packed
- Red packed
- White bulk
- Red bulk
- Total

Nothing less.
Cost of wine grape production & producer profitability
Source

- Evaluate production-, capital- & cost structure, as well as profitability
- With specific reference to the Industry Average
- Not cultivar specific – evaluate wine grapes
- Participants – “above average management skills”
- Bigger units – “Economy of scale advantages”

Profitability:
- Yield
- Price
- Cost

Total Production Cost
- Cash Expenditures
- Provision for Renewal

VinPro
VIR KAAPSE WYNPRODUSENTE
FOR CAPE WINE PRODUCERS

Nothing less.
Annual Cash Expenditures (Short-term Practices)

- Pruning
- Fertilizer
- Herbicide control
- Pesticide control
- Canopy management
- Cost of harvesting
- Mechanisation
- Electricity
- Water tax & levies
Other Cash Expenditures

- Repair and binding material
- Repair / maintenance / insurance of fixed assets
- Repair / maintenance / insurance / licenses of loose assets & transport hired
- Municipal- & property taxes
- Administration and general expenditures – banking cost, bookkeeping fees, prof fees, security, telephone, membership fees, training / courses, …
Provision for Renewal (Depreciation)

- Essential for economically sustainable production
  - **Vineyards – Term of 20 years**
    - Soil preparation
    - Trellising system
    - Irrigation system
    - Vines
    - Fertilizer
Provision for Renewal (Depreciation)

☐ Essential for economically sustainable production
  ☐ Moveables / production means – 5 to 15 years
    ■ Tractors
    ■ Vehicles
    ■ Implements
  ☐ Buildings / Fixed improvements – 60 years
    ■ Farm buildings – sheds, etc
    ■ Labour housing
    ■ Manager housing
Participants & Economy of Scale

**Number of Participants (All 9 districts)**

- 2004: 131
- 2005: 188
- 2006: 208
- 2007: 220
- 2008: 221
- 2009: 239

**Total Ha:** 20,164 Ha
**Sawis Ha:** 101,325 Ha

**Hectares:** 20 %
**Tons:** 22 %

**Grape Varieties**
- Red grapes: 36 %
- White grapes: 64 %

**% harvested mech:** ±50 %
(Orange River excluded)

**Ha planted to Vines**

- 2004: 85
- 2005: 73
- 2006: 75
- 2007: 76
- 2008: 77
- 2009: 79
Cash Expenditures

![Bar chart showing cash expenditures from 2004 to 2009. The expenditures are in Rand per Ha, with values increasing from 2004 to 2009. The chart indicates a +14% increase from 2008 to 2009.](chart.png)
Provision for Renewal

+ 10%

<table>
<thead>
<tr>
<th>Year</th>
<th>Rand / Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>4,779</td>
</tr>
<tr>
<td>2005</td>
<td>5,633</td>
</tr>
<tr>
<td>2006</td>
<td>5,733</td>
</tr>
<tr>
<td>2007</td>
<td>6,107</td>
</tr>
<tr>
<td>2008</td>
<td>6,876</td>
</tr>
<tr>
<td>2009</td>
<td>7,541</td>
</tr>
</tbody>
</table>

Nothing less.
Total Production Cost

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Production Cost (Rand/Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>19,000</td>
</tr>
<tr>
<td>2005</td>
<td>20,643</td>
</tr>
<tr>
<td>2006</td>
<td>21,332</td>
</tr>
<tr>
<td>2007</td>
<td>22,125</td>
</tr>
<tr>
<td>2008</td>
<td>23,578</td>
</tr>
<tr>
<td>2009</td>
<td>26,580</td>
</tr>
</tbody>
</table>

+ 13%
Yield (Ton/ha) versus Production Cost (R/Ton) – Districts – 2009

- Industry: 15.55
- Orange River: 23.79
- Olifants River: 24.74
- Klein Karoo: 19.50
- Breede Kloof: 18.98
- Worcester: 18.89
- Robertson: 15.64
- Paarl: 10.55
- Stellenbosch: 7.68
- Malmesbury: 7.32

Yield (Ton/ha) Total Prod Costs (R/ton)

Nothing less.

VinPro
VIR KAAPSE WYNPRODUSENTE FOR CAPE WINE PRODUCERS
Yield (Ton/ha) versus Production Cost (R/Ton) – Districts – 2009

- Yield (Ton/ha): 4,143
- Total Prod Costs (R/ton): 500.00

Yield (Ton/ha) versus Production Cost (R/Ton) – Districts – 2009

Industry: 1,709
Orange River: 1,104
Olifants River: 1,109
Klein Karoo: 1,311
Breede Kloo: 1,319
Worcester: 1,371
Robertson: 1,620
Paarl: 2,228
Malmesbury: 2,383
Stellenbosch: 4,143

Yield (Ton/ha) versus Production Cost (R/Ton) – Districts – 2009

Yield (Ton/ha) Total Prod Costs (R/ton)
# Profitability 2004 to 2009

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (Ton/Ha)</td>
<td>13.11</td>
<td>13.79</td>
<td>15.34</td>
<td>15.58</td>
<td>16.31</td>
<td>15.55</td>
</tr>
<tr>
<td>Income (R/Ton)</td>
<td>2,383</td>
<td>1,916</td>
<td>1,763</td>
<td>1,766</td>
<td>1,807</td>
<td>2,113</td>
</tr>
<tr>
<td>Prod Income (R/Ha)</td>
<td>31,241</td>
<td>26,422</td>
<td>27,044</td>
<td>27,514</td>
<td>29,472</td>
<td>32,857</td>
</tr>
<tr>
<td>Cash Expenditures (R/Ha)</td>
<td>14,221</td>
<td>15,010</td>
<td>15,599</td>
<td>16,017</td>
<td>16,702</td>
<td>19,039</td>
</tr>
<tr>
<td>Gross Margin (R/Ha)</td>
<td>17,020</td>
<td>11,412</td>
<td>11,445</td>
<td>11,497</td>
<td>12,770</td>
<td>13,818</td>
</tr>
<tr>
<td>Provision for Renewal (R/Ha)</td>
<td>4,779</td>
<td>5,633</td>
<td>5,733</td>
<td>6,107</td>
<td>6,876</td>
<td>7,541</td>
</tr>
<tr>
<td>NFI (R/Ha)</td>
<td>12,241</td>
<td>5,779</td>
<td>5,712</td>
<td>5,390</td>
<td>5,895</td>
<td>6,277</td>
</tr>
</tbody>
</table>

![Graph showing profitability from 2004 to 2009]
Index (Grape prices, production costs & production)

- Total production
- Red & white producer cellar prices
- Cost of producing grapes
- Red & white private grape prices

1998 = 100

VIR KAAPSE WYNPRODUSENTE FOR CAPE WINE PRODUCERS

Nothing less.
ESTABLISHMENT COSTS - Labour included

- **R120 000 / ha** – “average guideline”

  - Vines: 23% (R28 000 / ha)
  - Trellising: 29% (R35 000 / ha)
  - Irrigation: 21% (R25 000 / ha)
  - Fertiliser: 6% (R7 000 / ha)
  - Soil Preparation: 21% (R25 000 / ha)
PRODUCTION AREAS of SOUTH AFRICA

REGIONS

- Klein Karoo
- Breede River Valley
- Bokberg
- Coastal Region
- Olifants River

Nothing less.

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