

# **The Fall and Rise of Sémillon in South Africa**

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Assignment submitted in partial requirement for the Diploma of Cape Wine Master

## DECLARATION

I, Eftyhia Vardas, declare that this assignment is my own, unaided work. It is submitted in partial fulfilment of the requirements for the Diploma of Cape Wine Master to the Cape Wine Academy. It has not been submitted before for qualification of examination in this or any other educational organisation.

Signed:

A handwritten signature in black ink, appearing to read 'Eftyhia Vardas', is written on a light-colored rectangular background.

Date: 14 May 2009

## **ACKNOWLEDGEMENTS AND DEDICATION**

I am grateful for the support received from my CWM mentor Heidi Rosenthal Duminy.

Sincere thanks to the winemakers, viticultural experts and farm owners that enthusiastically provided informative and considered responses to the questionnaires that formed part of this work.

Duane, thank you for another part of our wonderful journey together.

This document is dedicated to Zabaglione and Bombadil, my beloved cats and constant study companions, that I am missing terribly.

**ABSTRACT**

Sémillon is a white grape varietal that originated in south west France. Sémillon, either alone or in a blend with Sauvignon blanc produces some of the world's most important and age-worthy wines including white Graves, Sauternes and Hunter Valley Sémillon. Sémillon is easy to cultivate and is resistant to many diseases, which led to its widespread planting in previous times. Sémillon was also a popular choice in the early vineyards of the Cape, most likely because it was easy to grow and produced high fruit yields. Early records indicated that plantings of this varietal constituted more than 90% of Cape vineyards during the nineteenth century. However, globally at present, Sémillon is not a popular varietal and its reputation has suffered as it has become associated with the production of large volumes of unexceptional wines. Sémillon vineyards have shrunk in many parts of the world and currently Sémillon accounts for only 1% of South African vineyards.

This assignment summarises current information on the vineyard status of Sémillon in the world and in South Africa to highlight the change in prominence of this varietal. The growth of Sémillon around the world is examined to emphasize the capabilities of this varietal and indicate its deficiencies under certain growing conditions. Factors that may have contributed to Sémillon's worldwide decline are also explored. The basic viticulture and vinification of Sémillon are outlined emphasising its potential to produce a range of different wines under various growing conditions and its handling in the cellar. Sémillon's fame is closely associated with its susceptibility to infection with the noble form of *Botrytis cinerea* which is responsible for the production of the famous sweet wines from Sauternes in France. Therefore, the changes in chemical composition and resultant aromas and flavours produced in sweet wines from botrytised Sémillon grapes are also discussed.

It is argued that there has been some revival in the status of Sémillon in South Africa in recent years. The reasons for this include the growing popularity of white blends, the attention that Sémillon has received from a few elite winemakers producing wines of high quality, and a new image that promotes Sémillon as exclusive, unique and a good match for food. The rise of this varietal in South Africa is examined in further detail in a survey of a sample of premium South African Sémillon producers. Their opinions about the change in Sémillon's quality and importance in South Africa are reviewed.

Although there appears to be increasing support for Sémillon in South Africa, this has not yet translated into significant plantings. Further study over time will be required to monitor the changing status of Sémillon in South Africa.

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## **ACRONYMS AND ABBREVIATIONS**

AVA	American Viticultural Area
° C	Degrees Centigrade
CPV	Cape Point Vineyards
g/L	Grammes per litre
ha	Hectares
KWV	Ko-öperatiewe Wijnbouwers Vereniging van Zuid Afrika
L	Litres
LDL	Low Density Lipoproteins
LRV	Leaf Roll Virus
Km	Kilometers
M	Metre
mm	Millimetres
NLH	Noble Late Harvest
NSW	New South Wales
R99	Richter 99
R110	Richter 110
SAWIS	South African Wine Industry Information Systems
SO <sub>2</sub>	Sulphur dioxide
SSB	Sémillon/Sauvignon blanc blend
USA	United States of America
WA	Western Australia

## **SECTION I**

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## CHAPTER 1: INTRODUCTION

Sémillon, a classical white wine varietal (Simon, 1995) has been praised as the “unsung hero” of white wine (Robinson, 2006). For some, it represents “wine royalty” (Mullins, 2007) because of its special qualities of producing wines that are rich, concentrated and long-lived (Robinson, 2007b). Sémillon’s special character appears to be revealed under specific climatic conditions. In Australia’s Hunter Valley it is the harsh dry weather (Clarke and Rand, 2003) whereas the distinctive climatic conditions in the Sauternes region in south-west France with alternating foggy mornings and sunny afternoons predisposes Sémillon grapes to *Botrytis cinerea* infection in the noble form (Spurrier, 2008; Robinson, 2006; McInerney, 2007; Johnson, 2007; Clarke and Rand, 2003).

In spite of these illustrious varietal wines, Sémillon is sometimes dismissed as not being able to produce a good dry wine (Brook, 1992). It has been described as a “poor substitute for Chardonnay” when wooded (Schuster, 2005). Detractors claim that the only use for this varietal as a dry wine is for blending. Sémillon is most commonly used in classical Bordeaux white blends to temper the aromatic characteristics of Sauvignon blanc. But it is also sometimes used to provide a bland wine base to increase volumes of everyday drinking wines, in particular Chardonnay. This serves to fulfil the ongoing market demand for Chardonnay (Schuster, 2005; Robinson, 2006). The generally negative response of consumers to Sémillon is likely attributable to the large quantities of indifferent, commercial and sometimes poor quality wines that can be made from high yielding Sémillon vineyards (Brook, 1992; Clarke and Rand, 2003).

The ambivalence towards Sémillon is also sometimes reflected in the professional wine literature. The British wine expert, Jancis Robinson, famously and vividly describes Sémillon (Mullins, 2007; Ryan, 1992) as;

“.....a very odd grape indeed. It is grown, often extensively, all over the world. In most vineyards it sits around sullenly like an overweight schoolgirl, showing awkward fatness or just plain dullness in the wines it produces. In odd places though, as if under a spell of a fairy godmother, it can be transformed into a raving beauty. Great white Bordeaux and mature Hunter Valley Sémillons prove that the grape can provide some of the world’s finest wines”

Fellow countryman and wine writer Oz Clarke, similarly describes Sémillon (Clarke and Rand, 2003) as;

“.....a grape that doesn't like to do it the easy way. Give it a nice normal vineyard in a nice warm climate to ripen its grapes – and Semillon blows it. Give it reliable springtime to bud in, a warm dry summer to fruit and ripen and a dry autumn to gather in the harvest – and Semillon says thank you by filling your vats with dull, tasteless juice that is as good for distilling into brandy as it is for anything else.”

Clarke maintains that Sémillon's greatest wines are produced when the vines suffer under “woeful conditions” and “quirks of nature” (Clarke and Rand, 2003) in Sauternes to produce sweet wines and in Australia's Hunter Valley to produce dry wines that develop character with bottle age.

Sémillon continues to be regarded globally (Clarke and Rand, 2003) and specifically in South Africa (McDonald, 2004b) as unfashionable. It is not commonly known as a single varietal wine by the general public. Consumers tend to avoid Sémillon-containing wines because these wines are unfamiliar and may be made in a diversity of styles (wooded or unwooded, dry or botrytised) by various producers. Although Sémillon is often blended with Sauvignon blanc in a classical Bordeaux white blend, it may also be blended with other white varietals, most commonly Chardonnay. In South Africa, the recent increase in premium single varietal dry and sweet Sémillon wines as well as classical white blends of Sémillon with Sauvignon blanc have started to dispel the image of “awkward and dull” wines allowing Sémillon to develop its rightful place as a quality variety.

### **1.1 Scope of the Assignment**

The main objective of this assignment is to review the status of Sémillon as a varietal both globally and in South Africa and to describe the changes that have occurred with this varietal in the world and in the Cape vineyards from the nineteenth century to the present day. The assignment focuses on the characteristics of Sémillon that have allowed this varietal to achieve prominence under certain conditions or have contributed to its negative image under others. The factors that have contributed to Sémillon's reputation including its basic viticulture, vinification, taste profile and suitability with food are reviewed. The effects of *Botrytis cinerea* infection are examined, specifically the changes in chemical composition of

infected berries and the flavour compounds that are responsible for making the distinguished Sémillon-containing sweet wines of Sauternes.

The primary focus of this assignment is to examine the historical events that have led to the decline (“fall”) in the number of Sémillon vines planted in the Cape and to examine the reasons for the more recent renewed interest (“rise”) in this varietal. Although there is limited data available, a review of all publications and data to assess the main factors that have negatively influenced the reputation of Sémillon in South Africa leading to the decimation of varietal vineyards are examined. The evidence suggesting a change in the negative perception of Sémillon is examined including the change in the number of Sémillon producers in South Africa from (1994-2009) and Sémillon’s performance as a single varietal or white blend with Sauvignon blanc. The growing reputation of this varietal is evaluated further by a survey representing the opinions of leading South African winemakers and producers that are already involved in producing premium Sémillon-containing wines.

## **1.2 Contribution of the Assignment**

The purpose of this assignment is to provide a review of the past and present status of Sémillon in South Africa. There is relatively little published data and analysis on the decline of Sémillon in South Africa. The available historical texts are summarised. Similarly evidence in favour of a renewed interest in this varietal is scattered in the lay and academic literature. This assignment attempts to comprehensively review all published information on this topic and provide a synopsis for easy reference.

A summary of award winning South African Sémillon and Sémillon/Sauvignon blanc blends during the last five years (2004-2008) is presented to demonstrate the potential quality that these wines can achieve. An analysis of the number of Sémillon producers from 1994-2009 and the changing quality of single varietal Sémillon containing wines from 1999-2009 was done to evaluate the rising status of this varietal in South Africa. A survey of a sample of premium Sémillon producers conducted for this assignment presents new qualitative and quantitative information about Sémillon in South Africa from knowledgeable professionals in the trade that is not freely available in the public domain. Recommendations for future studies are also made.

### 1.3 Outline of the Assignment

The assignment is divided into four Sections.

**Section I** is the introductory section that includes Chapters 1-3. Chapter 1 outlines the structure and content of the assignment, Chapter 2 summarises the global and South African context of Sémillon as a grape varietal and Chapter 3 outlines the characteristics of Sémillon that contribute to its value (taste and food matches).

**Section II** contains Chapters 4-5. Chapters 4 and 5 contextualise the characteristics of Sémillon in the vineyard and in the cellar. Although some of these characteristics may not necessarily be unique to Sémillon they are considered here because of the significant impact they have on the quality of wine that is produced from Sémillon grapes. *Botrytis cinerea* and its interaction with Sémillon to produce botrytised sweet wines, one of the most successful wine styles associated with this varietal, is also examined.

**Section III** contains Chapters 7-9. Chapter 7 reviews the production and status of Sémillon wines around the world while Chapter 8 focuses on Sémillon in South Africa. Chapter 8 outlines the factors, mainly historical, which led to the “fall” of Sémillon in South Africa. This chapter also addresses the recent “rise” of this varietal by attempting to evaluate current trends in South Africa. As part of this renewed interest in Sémillon, this chapter also outlines the factors that need to be taken into account by producers who are considering planting a new Sémillon vineyard. Chapter 9 presents the results of a survey of premium Sémillon producers to provide further evidence of the renewed interest or “rise” of Sémillon as a varietal in South Africa.

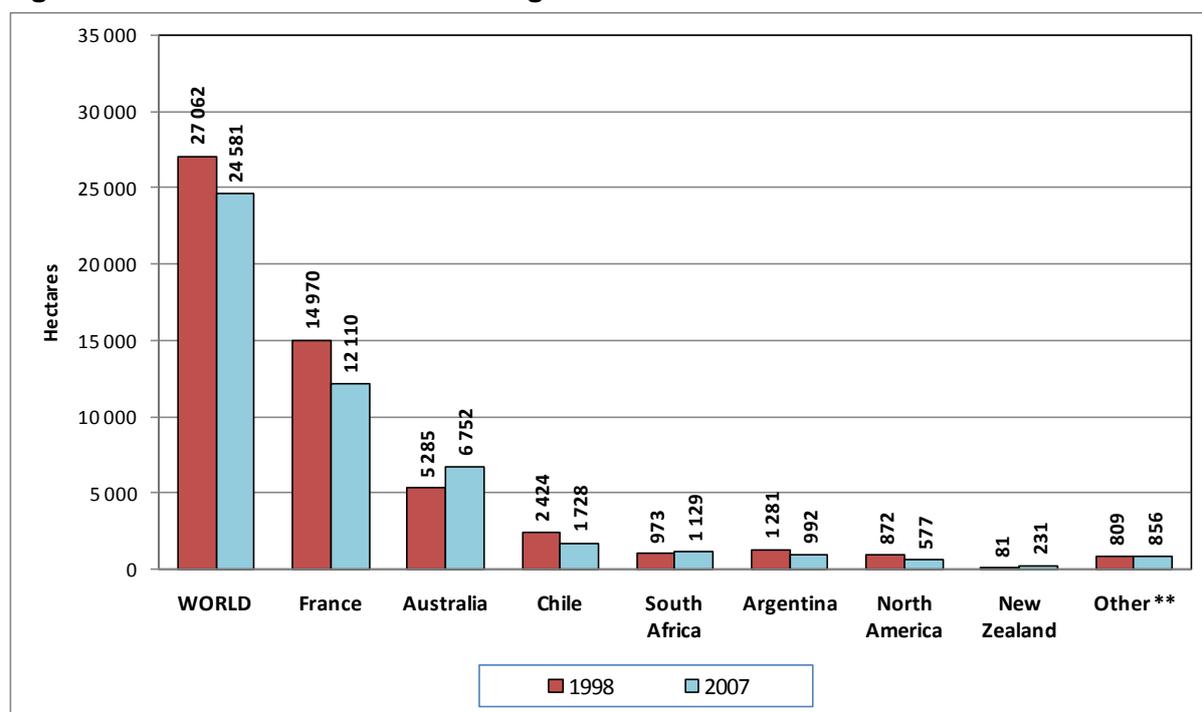
**Section IV**, the final section, attempts to draw together the information presented in Sections I-III and provide a summary of the conclusions that can be drawn from this assignment.

## CHAPTER 2: SÉMILLON IN CONTEXT

### 2.1 Global Statistics

During the nineteenth century Sémillon was planted widely around the world. It is clear that the global Sémillon vineyard has decreased dramatically in the last 100 years but accurate figures and statistics are only available for the more recent past. The change in global Sémillon plantings over the ten year period from 1998 to 2007 is illustrated in Figure 2-1 (Fegan, 2008).

**Figure 2-1 Global Sémillon Plantings 1998 to 2007**



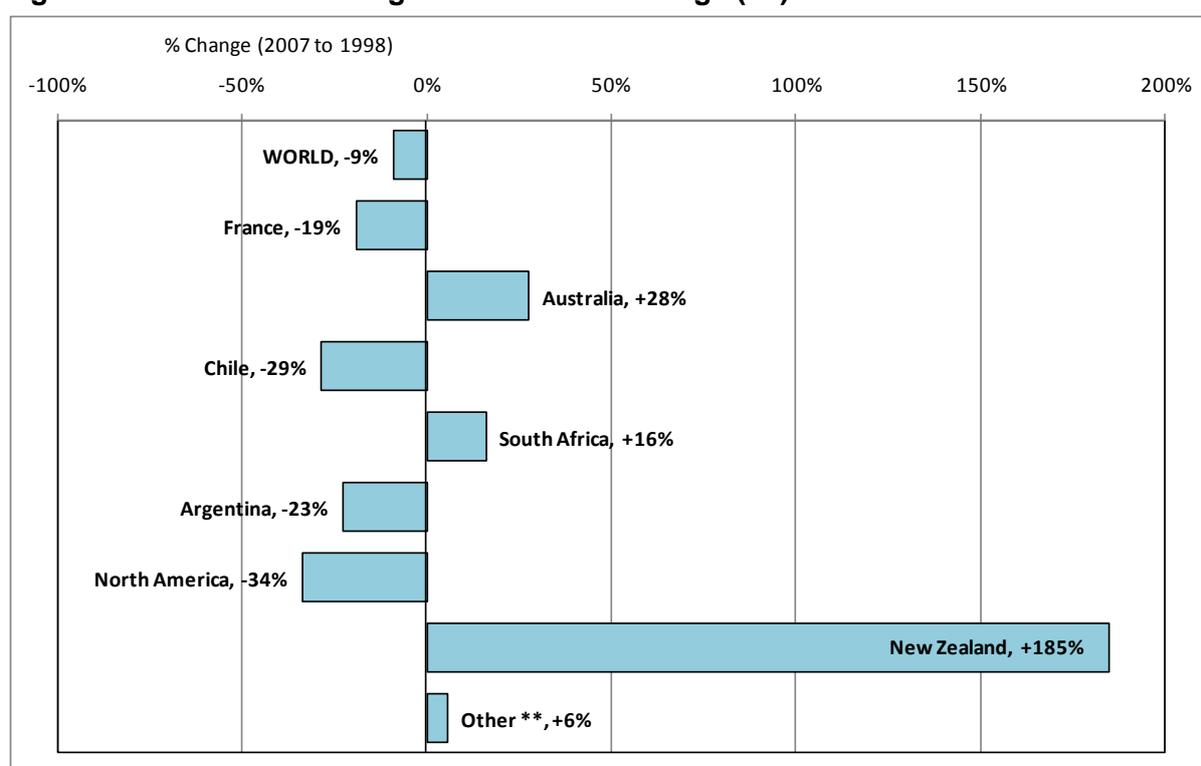
\*\* Other = Hungary, Russia, Italy, Switzerland, Israel, Cyprus and Turkey

Source: (Fegan, 2008)

Overall, Sémillon vineyards are small, and decreased even further from 27 062 ha in 1998 to 24 581 ha in total in 2007. The highest national plantings are found in France. However, even here Sémillon decreased, falling from 14 970 ha in 1998 to 12 110 ha in 2007. A similar trend downwards is demonstrated in Chile, Argentina and North America. Sémillon plantings in South America are significant but declined from 2 424 to 1 728 ha in Chile and 1 281 to 992 ha in Argentina during the last decade. The statistics for North America are difficult to interpret because they combine diverse wine growing regions such as California, New York State and Mexico. But, clearly there is a very low level of Sémillon in North America suggesting that this varietal is not a significant contributor to the wine industry there.

Three New World countries (Australia, South Africa and New Zealand) showed a reversal of the global declining trend. All demonstrated an increase in the amount of Sémillon planted from 1998 to 2007. However, the total amount of Sémillon in two of these three countries is relatively small, with South Africa contributing only 3.6-4.6% and New Zealand 0.3-0.9% compared to Australia's 19.5-27.5% of the total global Sémillon vineyard from 1998-2007. Nevertheless, New Zealand's overall increase in Sémillon plantings from 81 to 231 ha in this ten year period constituted a significant increase. The countries included in the "Other" category (Russia, Switzerland, Cyprus, Turkey, Italy and Israel) have also marginally increased their Sémillon vineyard from 809 ha in 1998 to 856 ha in 2007.

**Figure 2-2 Percent Change in Sémillon Plantings (ha) In Selected Countries**



\*\* Other = Hungary, Russia, Italy, Switzerland, Israel, Cyprus and Turkey

Source: (Fegan, 2008)

The same data expressed as a percent difference over time is shown in Figure 2-2. This gives a clearer indication of the magnitude of the changes in Sémillon vineyards within each region over the ten year period from 1998 to 2007. Globally there has been a 9% decline in Sémillon plantings with the most significant decreases occurring in North America (34%), Chile (29%), Argentina (23%) and France (19%). The greatest increase or change occurred in New Zealand where Sémillon plantings increased by 185%. But this must be interpreted in the context of the extremely small quantities of Sémillon in that country. There are also significant increases in Sémillon plantings in Australia (28%) and South Africa (16%).

However, it is not possible to distinguish whether these increases are associated with the production of bulk or premium Sémillon wines.

## **2.2 South African Statistics**

The South African Wine Industry Information Systems (SAWIS) annually provides national wine grape statistics which are compiled from returns submitted by registered wine growers. These statistics provide a general overview of the South African wine industry, including the status of wine grapes per region, wine varieties, the status of red versus white wines, the age of vines and the mean prices paid for varietal grapes or wines. These statistics are relatively comprehensive and can be used to examine how Sémillon is performing in comparison to other white varieties. The following discussion is based on statistics up to and including 30 November 2006 (SAWIS, 2007a).

### **2.2.1 Total White and Red Wine Production**

South Africa currently produces 450,670 million litres (L) of white wine and only 259,047 million L of red wine. Of the 576 wine cellars that crush grapes, the vast majority (494, 86%) are private cellars and the remainder are producer cellars (66, 11%) and producing wholesalers (17, 3%). Vineyards in South Africa in this report are mainly in five main regions Worcester (20,200 ha), Paarl (17,733 ha), Stellenbosch (17,358 ha), Malmesbury (15,200 ha) and Robertson (13,603 ha). The vineyard distribution in the remaining regions of Olifants River (9,890 ha), Orange River (5,160 ha) and Little Karoo (3,002 ha) are relatively small.

The SAWIS data clearly demonstrates that overall, South Africa is still producing more white than red wine. But white wine production is decreasing as a percentage of the total from 84.8% in 1998 to 63.5% in 2006. This decline in white wine production is matched by an increase in red wine production during this same period from 15.2% to 36.5%.

As a percentage of the total number of grapes crushed, white wine grapes make up 67% of the total and red 33%. The vast majority of white grapes are crushed in producer cellars (73%), with 50% in private cellars and 33 % by producing wholesalers. The proportion of red grapes crushed is different with 67.3% of the grapes being crushed at producing wholesalers and 49% in private cellars with the remaining 27% in producer cellars. Of the grapes crushed, Sémillon only contributes to 0.9% of the total, of which the majority (1.6%) is crushed in private cellars and more or less equivalent proportions being processed in producer cellars and producing wholesalers.

### 2.2.2 Trends in the Total Extent of Sémillon in South Africa

The extremely small impact that Sémillon has in South African vineyards is outlined in Table 2-1 which shows the percentage of the total national vineyard currently dedicated to Sémillon in the Cape. According to SAWIS, a total of 1 085 ha were planted with Sémillon in 2006 which is 1.1% of the total national vineyard (but 1.9% of the area dedicated to white grape varieties).

**Table 2-1 Grape Wine Varieties as a Percentage of the Total Area 1999-2006**

VARIETY	1999	2000	2001	2002	2003	2004	2005	2006
Chenin blanc	26.8	24.1	22.3	20.6	19.6	19.1	18.8	18.7
Colombar(d)	12.6	12.2	11.8	11.4	11.2	11.2	11.3	11.4
Chardonnay	6.4	6.4	6.3	6.4	6.8	7.3	7.8	8.0
Sauvignon blanc	5.7	5.7	6.1	6.7	6.9	6.9	7.5	8.2
Hanepoot *	4.8	4.3	3.8	3.4	3.1	2.8	2.6	2.5
Cape Riesling	3.0	2.3	1.9	1.6	1.4	1.2	1.1	1.0
<b>Sémillon</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>1.1</b>
Weisser Riesling	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.2
Other white varieties	9.5	7.1	5.5	4.7	4.3	4.1	3.9	3.9
<b>Total white varieties</b>	<b>70.7</b>	<b>63.8</b>	<b>59.4</b>	<b>56.2</b>	<b>54.6</b>	<b>54.0</b>	<b>54.3</b>	<b>55.1</b>
Cabernet sauvignon	7.5	9.5	11.0	12.4	13.0	13.5	13.4	13.1
Shiraz	3.7	6.0	7.5	8.4	8.6	9.4	9.6	9.6
Merlot	4.1	5.2	6.0	6.6	6.7	7.0	6.8	6.7
Pinotage	6.2	7.0	7.3	7.2	6.8	6.7	6.4	6.2
Cinsaut	4.1	3.7	3.6	3.3	3.1	3.0	2.8	2.5
Ruby Cabernet	1.7	2.1	2.4	2.5	2.5	2.6	2.6	2.5
Cabernet franc	0.3	0.6	0.6	0.8	0.9	0.9	1.0	1.0
Pinot noir	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.6
Other red varieties	1.5	1.5	1.7	2.0	3.2	2.4	2.6	2.7
<b>Total red varieties</b>	<b>29.5</b>	<b>36.1</b>	<b>40.6</b>	<b>43.7</b>	<b>45.3</b>	<b>46.0</b>	<b>45.7</b>	<b>44.9</b>
<b>Total white and red</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Total hectares</b>	<b>92 601</b>	<b>93 656</b>	<b>94 412</b>	<b>96 233</b>	<b>98 605</b>	<b>100 207</b>	<b>101 607</b>	<b>102 146</b>

Source: (SAWIS, 2007b)

Data from 1999 to 2006 are also indicated in Table 2-1, showing there has been little change over the past eight years, with Sémillon plantings remaining static at around 1% of the total vineyard.

### 2.2.3 Regional Distribution of Sémillon Production

Of the total 1,085 ha planted with Sémillon in 2006, 43 ha were in Worcester, 16 ha in Paarl, 15 ha in Stellenbosch, 11 ha in Malmesbury, 8 ha in Robertson and 7 ha in the Olifants River region.

Table 2-2 details the total amount of Sémillon used for winemaking and what proportion each region contributes to this total. It is interesting to note that Worcester contributes more than half (54.1%) of the total wine produced from Sémillon. The nature of this production is not specified in the national statistics, but Worcester has never been recognised as contributing to quality Sémillon production. Therefore, most of this production is probably at the lower end of the market for blending with other white varieties, bulk wine or distillation.

**Table 2-2 Grapes Used for Total Winemaking Purposes Per Wine Region**

VARIETY	TOTAL TONS	WINE REGION AS % OF VARIETAL TOTAL							
		ORANGE RIVER	OLIFANTS RIVER	MALMESBURY	LITTLE KAROO	PAARL	ROBERTSON	STELLENBOSCH	WORCESTER
Chenin blanc	259 443	9.7	21.5	10.1	3.0	11.1	9.7	5.0	30.0
Colombar(d)	247 488	29.8	25.0	1.9	5.7	2.9	14.1	0.4	20.3
Hanepoot	45 432	11.3	30.4	0.9	4.4	2.0	5.0	0.3	45.7
Sauvignon blanc	60 227	0.1	11.4	10.1	0.6	12.2	21.8	26.1	17.8
Cape Riesling	11 565	0.9	0.9	2.7	0.8	20.3	6.8	5.7	61.9
Chardonnay	61 903	0.5	9.1	8.3	3.0	13.1	30.7	10.4	25.0
Weisser Riesling	1 686		1.4	9.9	0.6	12.6	34.2	20.9	20.5
Sémillon	12 285		8.0	6.0	0.1	13.9	7.6	10.3	54.1
Other white varieties	108 194	47.3	8.1	6.7	2.5	4.2	14.6	2.6	14.0
Table grapes	64 226	48.7	2.6	17.4	0.8	5.3	0.8	-	24.5
<b>Total white varieties</b>	<b>872 451</b>	<b>21.4</b>	<b>17.8</b>	<b>7.1</b>	<b>3.4</b>	<b>7.4</b>	<b>13.0</b>	<b>4.7</b>	<b>25.2</b>

Source: (SAWIS, 2007b)

Although not shown here, the trend in percentage of total vineyard per wine region is similar with most regions contributing an insignificant percentage of less than 1% except for Worcester that contributes 2% to the total Sémillon.

### 2.2.4 New Sémillon Plantings

Table 2-3 shows the quantity and distribution of new Sémillon vineyards planted in South Africa in 2006 compared to other white varieties. Only 44 ha of new Sémillon vineyards were planted during the period 1 December 2005 to the 30 November 2006, of which most were in Worcester (28ha), then equally split between Stellenbosch (8ha) and Malmesbury (6 ha) and one new hectare in Robertson. Compared to the total new plantings of Chenin blanc (817

ha), Sauvignon blanc (606 ha) and Chardonnay (352 ha), this increase in Sémillon vineyard plantings is insignificant. Furthermore, during the same period 41 ha of Sémillon vines were uprooted in the regions of Worcester, Paarl and Stellenbosch. The reasons for uprooting these vineyards are not provided in these statistics and it is impossible to make assumptions on the quality of the vines that were uprooted based on the area of origin. But the overall net gain of 3 ha of Sémillon during this period is inconsequential.

**Table 2-3 New Wine Grape Plantings per Region (2006)**

VARIETY PLANTED	HECTARES								
	TOTAL	ORANGE RIVER	OLIFANTS RIVER	MALMES BURY	LITTLE KAROO	PAARL	ROBERT-SON	STELLEN BOSCH	WORCES-TER
Chenin blanc	817	59	151	66	30	66	127	30	287
Sauvignon blanc	606	0	52	42	8	29	162	102	210
Colombar(d)	460	110	52	2	37	13	91	-	155
Chardonnay	352	2	13	50	5	39	85	36	121
Viognier	68	-	3	13	1	7	6	11	27
<b>Sémillon</b>	<b>44</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>8</b>	<b>28</b>
Hanepoot	21	4	6	-	-	-	2	1	8
Other white	153	5	8	7	1	19	54	14	44
<b>Total white varieties</b>	<b>2 520</b>	<b>180</b>	<b>284</b>	<b>186</b>	<b>83</b>	<b>173</b>	<b>529</b>	<b>203</b>	<b>881</b>
Shiraz	132	3	13	-	-	20	37	18	40
Cabernet sauvignon	92	-	-	2	-	19	28	29	14
Pinotage	52	-	1	10	-	12	3	6	21
Pinot noir	40	1	2	3	-	5	1	10	17
Merlot	37	4	1	3	-	3	0	22	4
Cabernet franc	37	-	-	23	1	1	-	8	4
Cinsaut	25	-	-	2	-	1	2	-	21
Ruby Cabernet	5	2	-	-	-	-	-	-	3
Roobernet	5	-	-	-	-	2	-	1	2
Other red varieties	110	2	8	22	8	21	12	18	20
<b>Total red varieties</b>	<b>536</b>	<b>12</b>	<b>24</b>	<b>64</b>	<b>9</b>	<b>84</b>	<b>83</b>	<b>113</b>	<b>146</b>
<b>Total white and red</b>	<b>3 056</b>	<b>193</b>	<b>308</b>	<b>250</b>	<b>93</b>	<b>257</b>	<b>612</b>	<b>316</b>	<b>1 027</b>

Source: (SAWIS, 2007b)

### 2.2.5 Age of Vines

The age of vines appears to be an important factor in the production of quality Sémillon. General data regarding the age of the vines per region is provided in the SAWIS report (SAWIS, 2007b). This data is divided broadly according to white and red varieties and varietal specific information is not provided. Overall, there are a higher proportion of older white grape vines than red grape vines. More white grape vineyards are clustered in the category of 11 years to > 20 years of age and more red grape varieties are in the 4-10 year

age group confirming that many new plantings of red grape varieties are younger and still need to reach optimal maturity to produce quality fruit and wine.

### 2.2.6 Average Prices of Sémillon Wines

Economically Sémillon does not appear to be the most profitable grape variety. This is demonstrated by comparing the average price of wine sold in bulk and the average price of grapes sold for wine from this variety to the more popular varieties like Sauvignon blanc and Chardonnay. The trend in prices obtained (cents per litre) for selected wine varieties from 2001 to 2006 are shown in Table 2-4.

**Table 2-4 Average Prices of White Wine Sold in Bulk 2001-2006**

TYPE	CENTs PER LITRE					
	2001	2002	2003	2004	2005	2006
CHARDONNAY	327.59	396.06	470.17	485.06	494.22	495.11
<b>TREND</b>		<b>120.90</b>	<b>118.71</b>	<b>103.17</b>	<b>101.89</b>	<b>100.18</b>
SAUVIGNON BLANC	316.95	409.20	481.06	497.24	522.11	547.53
<b>TREND</b>		<b>129.11</b>	<b>117.56</b>	<b>103.36</b>	<b>105.00</b>	<b>104.87</b>
COLOMBAR	143.19	203.17	273.69	264.20	277.70	293.68
<b>TREND</b>		<b>141.89</b>	<b>134.71</b>	<b>96.53</b>	<b>105.11</b>	<b>105.75</b>
RIESLING	151.38	203.81	281.41	281.96	313.12	323.79
<b>TREND</b>		<b>134.63</b>	<b>138.07</b>	<b>100.20</b>	<b>111.05</b>	<b>103.41</b>
SEMILLON	198.69	240.91	330.08	336.02	332.64	339.03
<b>TREND</b>		<b>121.25</b>	<b>137.01</b>	<b>101.80</b>	<b>98.99</b>	<b>101.92</b>
CHENIN BLANC	159.46	215.21	302.90	290.08	304.43	317.27
<b>TREND</b>		<b>134.96</b>	<b>140.75</b>	<b>95.77</b>	<b>104.95</b>	<b>104.22</b>
OTHER WHITE AND BLENDS	131.93	187.79	253.83	250.99	254.85	274.39
<b>TREND</b>		<b>142.34</b>	<b>135.17</b>	<b>98.88</b>	<b>101.54</b>	<b>107.67</b>

Source: (SAWIS, 2007b)

The prices paid for Sémillon wines are well below premium varieties such as Sauvignon blanc and Chardonnay but are currently higher than other important grapes such as Chenin blanc or Riesling. The prices obtained for bulk white blends as shown in Table 2-4 are extremely low, but once again it is difficult to ascertain the quality of these wines. In the period from 2001 to 2006 the increase in prices for bulk Sémillon has effectively kept pace with other white varieties (Table 2-4).

### 2.2.7 Average Prices of Sémillon Grapes

The price for grapes may be a better indicator of quality than bulk wine prices. The average prices for grapes sold for the production of wine from 1999 to 2006 are shown in Table 2-5. Sauvignon blanc and Chardonnay lead the white varieties in the average price that will be paid for a ton of grapes used for winemaking. Sémillon is third highest. Interestingly, Sémillon is also able to attract higher prices for grapes than Chenin blanc. The trend in Sémillon grape prices is equivalent to that of other premium white grapes.

**Table 2-5 Average Prices of White Grapes Sold For Production 1999-2006**

VARIETY	AVERAGE PRICES (R/TON)							
	1999	2000	2001	2002	2003	2004	2005	2006
Chenin blanc	745	682	725	930	1 240	1 217	1 236	1 207
<b>TREND</b>	<b>100</b>	<b>92</b>	<b>97</b>	<b>125</b>	<b>166</b>	<b>163</b>	<b>166</b>	<b>162</b>
Sauvignon blanc	1 695	1 828	1 713	1 880	2 214	2 577	2 649	2 590
<b>TREND</b>	<b>100</b>	<b>108</b>	<b>101</b>	<b>111</b>	<b>131</b>	<b>152</b>	<b>156</b>	<b>153</b>
Chardonnay	1 603	1 461	1 732	2 014	2 309	2 478	2 380	2 252
<b>TREND</b>	<b>100</b>	<b>91</b>	<b>108</b>	<b>126</b>	<b>144</b>	<b>155</b>	<b>148</b>	<b>140</b>
Cape Riesling	713	626	611	888	1 283	1 308	1 385	1 469
<b>TREND</b>	<b>100</b>	<b>88</b>	<b>86</b>	<b>125</b>	<b>180</b>	<b>183</b>	<b>194</b>	<b>206</b>
Colombar	694	585	639	801	1 089	1 045	1 092	1 021
<b>TREND</b>	<b>100</b>	<b>84</b>	<b>92</b>	<b>115</b>	<b>157</b>	<b>151</b>	<b>157</b>	<b>147</b>
Hanepoot White	694	518	585	790	1 069	1 135	1 080	1 176
<b>TREND</b>	<b>100</b>	<b>75</b>	<b>84</b>	<b>114</b>	<b>154</b>	<b>164</b>	<b>156</b>	<b>169</b>
Sémillon	998	830	970	1 215	1 595	1 711	1 614	1 728
<b>TREND</b>	<b>100</b>	<b>83</b>	<b>97</b>	<b>122</b>	<b>160</b>	<b>171</b>	<b>162</b>	<b>173</b>
Other white	598	395	491	648	884	867	869	720
<b>TREND</b>	<b>100</b>	<b>66</b>	<b>82</b>	<b>108</b>	<b>148</b>	<b>145</b>	<b>145</b>	<b>120</b>

Source: (SAWIS, 2007b)

## CHAPTER 3: ENJOYING SÉMILLON

### 3.1 The Taste of Sémillon

The primary flavours of Sémillon derive from the Sémillon grape. Viticultural factors and methods of vinification will also influence the taste of Sémillon wines. These factors are discussed in more detail in Chapter 4 and Chapter 5 respectively. Other factors that are important in producing the tasting profile of Sémillon include; style and blending, wine age, and infection with noble rot (Schuster, 2005; Simon, 1995; Robinson, 2000).

#### 3.1.1 Sémillon Aroma and Taste Descriptors

Table 3-1 summarises the aroma and taste descriptors usually applied to the main styles of Sémillon containing wines.

**Table 3-1 Common Sémillon Wine Aroma and Taste Descriptors**

<b>Factor</b>	<b>Aroma and Taste Characteristics</b>
<b>Climate</b>	
<i>Warm Climate</i>	Apple, grapefruit, nectarine, guava, lanolin, wax, oily
<i>Cool Climate</i>	Green pea, asparagus, snow peas, passionfruit, gooseberry, nettles, lemons
<b>Age</b>	
<i>Young</i>	Green herbs, tomato leaf, capsicum, grapefruit, citrus zest, green apple, lemon, lime
<i>Old</i>	Wet wool, wax, honey, apricots, toast, toasted nuts, vanilla, lemon curd
<b>Oak Maturation</b>	
<i>Wooded</i>	Flinty, smoky, spicy, nuttiness, tropical, creamy, dusty, custard, lemons, dry peaches, crème brûlée
<i>Unwooded</i>	Limes, sherbet, herbs, grass,
<b>Blends</b>	
<i>Sémillon/Sauvignon</i>	Rock melon, grass, passionfruit, mineral,
<b>Botrytised</b>	
	Raisins, marmalade, barley sugar, honey, musk, caramel

For ease of reference, these descriptors have been divided into broad categories to encompass the groups of factors that may influence the taste of these wines. The categories are: Climate (warm/cool); Age (young/old); Oak maturation (wooded/unwooded); Blends (Sémillon and Sauvignon blanc); and wines made from Botrytised grapes. However, these flavour descriptors are not unique to each style and may also apply across categories.

### 3.1.2 Style and Blending

Sémillon has been referred to as a “chameleon” variety because of its ability to assume many different tasting profiles (Green, 2008; McDonald, 2004b). Sémillon-containing wines cover a range of styles; dry single variety Sémillon, classical Bordeaux white blends with Sauvignon blanc, non classical blends with other white varietals, and sweet wines made from grapes that are infected by *Botrytis cinerea* in the noble form. But many Sémillon wines tend to be indistinct. This blandness can be extreme and sometimes even the classical dry white wines of Bordeaux are described as “neutral” or “delicately” flavoured with no overt fruit and aromatic characteristics (Spence, 2003).

Sémillon’s success in white Bordeaux blends with Sauvignon blanc is due to the complimentary characteristics of these two varietals. Sémillon is rounder, more neutral, lower in acidity and provides structure and longevity whereas Sauvignon blanc is sharper, tart and fruity providing fragrance and lift (Edwards, 2007; Brook, 1992). The proportions of Sémillon to Sauvignon blanc in these blends are variable and depend on the vintage and the producer. Generally, Sauvignon blanc predominates in Graves Bordeaux white blends (Robinson, 2006; McInerney, 2007). In the New World, there is significant variability with Australian and South African producers using different proportions of Sémillon to Sauvignon blanc in white blends depending on the type of wine they are aiming to make and the area of production (Bulleid, 2007; Eedes, 2005b; Eedes, 2007a; Eedes, 2007d; Simon, 2006).

### 3.1.3 Wine Age

Wines kept in the bottle for any period of time will change. These changes include the loss of primary fruit and oak flavours and the development of the complexity and depth that is referred to as “bottle age”. These changes are “reductive” changes that occur due to the small amounts of dissolved oxygen closed in with the wine on sealing (Halliday and Johnson, 2003). Reductive changes are more subtle in white wines compared to red wines because white wines have no anthocyanins and lower phenol concentrations. With age white wines generally develop a deeper golden hue. This colour change may be influenced by the grape varietal or the presence of botrytis. But the darkening colour has primarily been attributed to the presence of very small amounts of glycosidic phenolic compounds derived from grape skins known as “flavones” (Halliday and Johnson, 2003). Wines that have prolonged skin contact have higher phenolic levels and will develop a deeper golden yellow colour faster than wines that are made with no skin contact. Wines made with high levels of sulphur dioxide (SO<sub>2</sub>) will retain a youthful colour longer. Browning in white wines may occur

when wines are oxidised or due to insufficient SO<sub>2</sub> levels resulting in changes in the catechin component of flavones in white wines (Halliday and Johnson, 2003).

Aroma and taste changes also occur with aging. These changes are also subject to the varietal and winemaking techniques, specifically the concentration of SO<sub>2</sub> used during fermentation and exposure to oxygen. Both of these factors can dramatically diminish secondary fermentation characteristics. Tertiary aromas that occur with bottle aging generally produce softer, honey, nutty bouquets which may be mistakenly assumed to be derived from oak maturation (Halliday and Johnson, 2003). Changes in wine structure and mouth-feel that occur with bottle age are also attributable to the slow leakage of oxygen through the cork leading to polymerisation and esterification (Halliday and Johnson, 2003).

Australian Hunter Valley Sémillon wines demonstrate the characteristic changes of aging white wines. Young Hunter Valley Sémillon wines are generally pale and watery in colour, crisply acidic (pH < 3) and titratable acidity around 7 grammes per litre, g/L), have low alcohols levels (10-11%) (Thompson, 2004), are unoaked, and their taste is reminiscent of fresh lemons and limes (Halliday, 2007). Because of these characteristics they are generally refreshingly pleasant to drink young but not extraordinary. Their remarkable characteristics are only revealed after prolonged bottle aging of between 10-20 years. Aged Hunter Valley Sémillon wines develop a rich, golden honey flavoured toastiness and complexity. These unique aged wines are made by many producers from the Hunter Valley, however it is economically difficult for some producers to hold back the release of their wines for such long periods of time and so there is a growing trend for producers in the Hunter Valley to make multiple types of Sémillon, some single varietal for early consumption and some for aging (Halliday, 2007). The aged wines are then periodically released by some producers anytime between 5-10 years after bottling (Thompson, 2004).

#### 3.1.4 Aroma and Flavours of Botrytised Sémillon

Due to the unusual composition of botrytised grapes, sweet wines made with these grapes are characterised by an exceptional range of aromas; citrus, dried and crystallised fruits as well as honey and nuts. Important compounds that may influence the taste of these wines include methoxypyrazines which are key flavour compounds found in both Sémillon and Sauvignon blanc (Sala *et al.* 2008). Other key flavour compounds that contribute to the flavour of botrytised Sémillon are developed during the process of fermentation. Fermentation alters the aroma composition of these wines by the formation of various alcohols, esters and acid compounds. Important esters formed in this way are ethyl esters

and unreduced carbonyls like  $\beta$ -damascenone. Maturation of botrytised Sémillon in oak further modifies the aroma profile (Bailly *et al.* 2006). An important component of oak derived flavours is sotolon. Sotolon has a characteristic caramel flavour and is an important metabolite formed by the oxidation of sugars in solution. Sotolon is responsible for the sweet baked flavour of botrytised Sémillon wines (Ribéreau-Gayon *et al.* 2006). Polyfunctional thiols have also been shown to play a very important role in sweet wines. But the role of these compounds in botrytised Sémillon is uncertain with some publications noting that polyfunctional thiols were definitely not important (Bailly *et al.* 2006) in these sweet wines. Subsequent publications have shown that there are indeed low levels of new thiol compounds in wines made from Sémillon and Sauvignon blanc in Sauternes. The aroma characteristics of these thiols are citrus and raw onion. In spite of their low levels, sensory tests have shown an additive effect of the compounds contributing to the overall pleasant aroma of botrytised wines (Sarrazin *et al.* 2007).

## 3.2 Sémillon Food Matches

### 3.2.1 General Principles of Food and Wine Matching

Well established guidelines are usually followed when matching wines with food; the traditional “red wine with meat” and “white with fish” formula; matching wines from a specific region with food from that area, and conventional matches that work well with classics (for example caviar with Champagne and Sauternes with foie gras) (Halliday, 2007). Following these guidelines is usually safe and reliable. However other broad guidelines that require an assessment of the main characteristics of the food and the wine in question should also be considered as these can be useful indicators for successful food and wine pairing.

The food characteristics that should be considered include the weight, acidity and sugar content of the food. Light wines should be matched with light food and heavy wines with heavy food. The acidity of the food should not be greater than the acids in the wine as this would make the wine taste “flabby”. Lastly, the sugar in sweet wines should be higher than the dessert that they are accompanying (Simon, 1995).

Heavily oaked wines can often be paired successfully with smoked meat or fish and if sauces are strongly flavoured, wines should be paired with the sauce and not the meat or fish in the sauce (Robinson, 2000; Schuster, 2005). Also, clearly at the outset, it should be decided whether the food or the wine is more important and the match made accordingly (Robinson, 2000). Increasingly with more complex combinations of flavours in one dish, like

for example in the cooking style of “molecular gastronomy”, each dish has multiple ingredients and flavours making it very difficult to pair with one particular wine.

Sometimes accepted practice does not apply and some unexpected food and wine matches are successful, for example the matching of light-bodied, low tannin and high acid red wines like Pinot Noir with fish, especially tuna, salmon, sea bass and trout (Godden *et al.* 2001) or full bodied white wines like Sémillon and Chardonnay being successful with meat dishes (Godden *et al.* 2001). Although most accepted guidelines are usually appropriate, some should not be generalised, for example the matching of red wines with certain cheeses which are unsuccessful (Ainsworth and Woods, 2002).

Consumers should not always depend on traditional matches and following guidelines. New combinations can only be discovered with continued experimentation of different combinations that may suit particular personal tastes (Robinson, 2000). This innovative approach is the only way that new and interesting food and wine combinations can be discovered (Robinson, 2000; Schuster, 2005). Guidelines should never be restrictive and inflexible (Simon, 1995) (Ainsworth and Woods, 2002).

### 3.2.2 Matching Sémillon with Food

Sémillon is regarded as a full bodied white wine that matches well with many foods. It is particularly well matched with rich seafood dishes (crayfish, lobster, oysters) (Mullins, 2007) and is capable of unusual matches with meat dishes (duck, quail, pheasant, rabbit, veal, pork) (Anonymous, 2008). Sémillon is also commonly a good match for spicy food (Simon, 1995; Mullins, 2007), especially for foods that are not overtly hot (Beckett, 2007).

A more specific approach is to match different Sémillon styles to particular dishes and to approach food in a seasonal manner, giving rise to particularly interesting and innovative food pairings (Halliday, 2007). Using this system, a spring dish of antipasto or a vegetarian terrine would match well with a young Sémillon from Australia, a 2-3 year old Sémillon would work well with Gazpacho and a young barrel fermented wine and a Sémillon/Sauvignon blanc blend with seafood and tempura as summer dishes (Halliday, 2007). Older more mature Sémillon wines, either a 10 year old Sémillon or a mature Sémillon/Sauvignon blanc blend would work with braised pork neck or seafood pasta as hearty winter dishes (Halliday, 2007).

Table 3-2 Ideal Food Matches with Sémillon Wines

Food Category	Dishes
<b>Starters</b>	Antipasto, baked goats cheese, escargots, smoked fish, shellfish, vegetable pâte
<b>Soups</b>	Bouillabaisse, chicken soup, New England clam chowder, oyster stew, vichyssoise
<b>Salads</b>	Chicken, shrimp, endives, trout, lobster, potato, Waldorf
<b>Sandwiches</b>	“BLT”, vegetarian wraps
<b>Fish</b>	Fried calamari, grilled halibut, roasted monkfish, sea bass, paella, sole amandine, sole in butter/lemon, baked swordfish, tuna, sashimi, abalone, clams in cream, crab, lobster, oysters Rockefeller, scallops
<b>Poultry</b>	Chicken in butter/cream/wine sauce, turkey, Cornish hen
<b>Meat</b>	Baked ham, pork chops, pork roast, sweetbreads in cream, veal scallopine, veal roast
<b>Vegetables</b>	Avocado, carrots glazed or sautéed, mushrooms, baked potatoes, creamed spinach, butternut, sweet potatoes, tofu
<b>Pasta/Pizza</b>	Ricotta cannelloni, savoury crêpes, gnocchi (with butter, sage, cheese, pesto), vegetable lasagne, macaroni and cheese, seafood pizza
<b>Ethnic</b>	Biryani, cerviche, curry (prawns, chicken), chicken gumbo, blackened fish, tajines, tempura, tandoori
<b>Desserts</b>	Almond tart, angel food cake, poached apples/pears, bread pudding, cheesecake, crème brûlée, baked figs, baked peaches, baked apricots, vanilla soufflé, lemon pies, rice pudding

Source: (Anonymous, 2008)

## **SECTION II**

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## CHAPTER 4: VITICULTURE

Various viticultural factors that impact on Sémillon quality will be considered in this chapter including characteristics of the variety, clones, rootstocks and *terroir*, encompassing climate, topography and soil.

### 4.1 Identification and Growth Characteristics of Sémillon

Ampelographic techniques use up to 150 traits to identify varieties by their appearance (Galet, 1979). A comprehensive, formal description of the ampelographic features of Sémillon are outlined in Table 4-1 (Office International de la Vigne et du Vin, 2000). The main descriptive features that are commonly used to describe and distinguish between grape varieties refer to the characteristics of the bunch, berry and leaves. Sémillon bunches are compact, medium to large and change shape at harvest to become flat (Teubes, 2006). The berries are medium to large, not uniform in shape and green-yellow in colour. The skin is medium in thickness with a medium to strong bloom. The berries do not have a characteristic flavour and are soft and juicy. The leaves are wedge shaped to circular medium-large in size with a striking large “U” shaped pedicle sinus, there are 3-5 other lobes with shallow sinuses (Galet, 1979; Teubes, 2006). The growing tip is copper coloured and the shoots are a characteristic brown red in winter. Sémillon grows vigorously, it buds on spurs resulting in a dense canopy, and is well suited to bush vines. The shoots are very wind sensitive. Sémillon is also very sensitive to drought and botrytis infection on high potential soils and sites. In South Africa it is usually harvested as a mid-season grape, just after Chenin blanc (Teubes, 2006).

But it is still possible to confuse varieties and in some cases vines need to be grown for years before identification of the varietal can be made with any certainty. New molecular biological techniques have been developed to distinguish grape vines and construct their pedigree using genetic microsatellite markers to define the genetic relationship between various European varieties (Sefc *et al.* 1998; Sefc *et al.* 2000). Microsatellites are short repeated genetic sequences with a high variation in individual vines (polymorphism) and are inherited in a co-dominant form allowing tracking between generations to be done easily (Sefc *et al.* 2000). Other techniques have been developed to identify grape varietal juice by assessing the array of proteins in the juice, which are specific for a particular varietal in fresh unfermented juice (Hayasaka *et al.* 2003). But in spite of these techniques, the parental lineage for Sémillon has yet to be defined and varietal identification still depends mainly on ampelography.

**Table 4-1 Official OIV Ampelographic Description of Sémillon**

Category	OIV No	Characteristic	Descriptor
<b>Inflorescence</b>	151	Sex of flower	Hermaphroditic
	153	Number per shoot	1 to 2
<b>Bunch</b>	202	Size	Medium to large
	204	Compactness	Compact
	206	Length of peduncle	Short to medium
	207	Lignification of peduncle	Weak
<b>Berry</b>	220	Size	Medium to large
	222	Uniformity of size	Not uniform
	223	Shape	Round
	224	Cross-section	Circular
	225	Colour of skin	Green-yellow
	226	Uniformity of skin colour	Uniform
	227	Bloom	Medium to strong
	228	Skin thickness	Medium
	229	Hilum	Little visible
	230	Colour of flesh	Colourless
	232	Juiciness of flesh	Juicy
	234	Firmness of flesh	Soft
	236	Particular flavour	None
	238	Length of pedicel	Medium
	239	Separation from pedicel	Difficult
241	Presence of seeds	Present	
242	Length of seeds	Long	
<b>Phenology</b>	301	Bud burst	Early to mid
	302	Full bloom	Mid to late
	303	Véraison	Early
	304	Maturity	Mid
<b>Grape Must</b>	505	Sugar content	Medium to high
	506	Total acid content	Low
<b>Woody Shoot</b>	101	Cross-section	Elliptical
	102	Surface	Striated
	103	Main colour	Dark brown
	104	Lenticels	Absent

Category	OIV No	Characteristic	Descriptor
<b>Young Shoot</b>	001	Tip form	Open
	002	Distribution of red tip colouration	Lines
	003	Intensity of red tip colouration	Medium
<b>Shoot</b>	006	Attitude	Semi-erect
	007	Colour of dorsal side of internodes	Green
	008	Colour of ventral side of internodes	Green
	009	Colour of dorsal side of nodes	Green
	010	Colour of ventral side of nodes	Green or green with red stripes
	015	Red colouration of buds	Weak
	351	Vigour of shoot growth	Medium
<b>Tendrils</b>	016	Distribution on the shoot	Discontinuous (2 or less)
	017	Length	Medium
<b>Young Leaf</b>	051	Colour of the upper side	Green with bronze spots
	052	Intensity of red colouration of 6 distal leaves	None or very weak
<b>Mature Leaf</b>	065	Size	Medium
	067	Shape	Wedge-shaped to circular
	068	Number of lobes	Five
	069	Colour of upper side	Pale green
	070	Red colouration of main veins on upper side	Absent to weak
	071	Red colouration of main veins on lower side	Absent to very weak
	072	Depressions between main veins	Absent
	073	Undulation between main and lateral veins	Absent
	074	Profile of leaf in transverse section	Revolute to twisted
	075	Blistering of upper side	Medium
	076	Shape of teeth	Both sides rectilinear to convex
	077	Length of teeth	Short
	078	Length of teeth compared to width at base	Short
	079	General shape of petiolar sinus	Wide open to open
	080	Shape of base of petiolar sinus	U-shaped
	081	Particularities of petiolar sinus	None
	082	Shape of upper leaf sinuses	Lobes slightly overlapping
083	Shape of base of upper leaf sinuses	U-shaped	
093	Length of petiole compared to middle vein	Equal	

Source: (Office International de la Vigne et du Vin, 2000)

## 4.2 Rootstocks for Sémillon

The grafting of the fruit bearing portion (scion) of the *Vitis vinifera* vines to nematode and *Phylloxera* resistant rootstocks derived from American hybrid vine species became widespread in France in 1880 to protect initially against *Phylloxera* infection (Robinson, 2006). The impact of grafting on wine quality is mainly due to the effect of the rootstocks on vigour, subsequent canopy density and ultimate fruit quality (Dry and Coombe, 2005). Rootstock selection for a particular vineyard depends on the vine varietal, presence of soil pests (nematodes and *Phylloxera*), soil lime content, fertility and water availability.

Combinations of various American hybrid species eventually developed to include other desirable characteristics such as tolerance of dry conditions or soil salinity and lime content (Dry and Coombe, 2005). The early successful combination rootstocks include Richter 99 (R99) and Richter 110 (R110) which are both hybrids of *Vitis rupestris* and *Vitis berlandieri* and 101-14 Millardet et de Grasset (101-14 Mgt) which is a hybrid of *Vitis riparia* and *Vitis berlandieri* (Dry and Coombe, 2005).

The advantages of R99 are that it is drought resistant, can tolerate high lime content and is highly resistant to nematodes. This latter characteristic is particularly important for Sémillon as this varietal is susceptible to rootknot nematode infection (Dry and Coombe, 2005; Robinson, 2006). R99 should not be used in cool climates as it can delay ripening (Robinson, 2006). R110 is less drought resistant than R99 and does not tolerate sandy soils and excessive irrigation. R110 is also only moderately resistant to nematode infections but it is still considered as a suitable rootstock for Sémillon because it is a moderate vigour rootstock. Sémillon is a high vigour vine and produces better quality grapes with root stocks that have a moderate vigour, like R110.

The 101-14 Mgt rootstock hybrid has been used in many high quality French vineyards (Dry and Coombe, 2005; Robinson, 2006). This rootstock is also often used with Sémillon because it is highly resistant to nematode infections and has a moderate vigour. 101-14 Mgt is also resistant to excessive wetness and moderately resistant to salinity. 101-14 Mgt has some limitations though as it is not adaptable to stony soils and prefers cool climates and high potential soils.

### 4.3 Clones of Sémillon

Clones refer to a single vine or vine population that is derived from cuttings or buds (Robinson, 2006). These vines are therefore genetically identical. Clones of the various varieties have different attributes and characteristics and are usually systematically named and numbered.

Only virus free clones from certified nurseries should be used. Clones are chosen either for traditional reasons, their vigour or to select particular characteristics of the resulting wine that will be produced. Sémillon clones range in being able to produce wines with green grassy character or less overt flavour characteristics. The most cultivated clone in France is the less overt GD 315 which is typical of Bordeaux Sémillon (WineLand, 2006). Some clones developed in New Zealand (GD14 A and GD14 C) are resistant to rot and produce wines with grassy, green characters (WineLand, 2006).

Sémillon clones currently available in South Africa are shown in Table 4-2. Based on information from a viticulture expert at a leading nursery in Wellington (Barnes, 2009), GD121 is the oldest clone available and was selected in 1972 from local "Groendruif". All available clones are certified virus free and only GD1 and GD14 are currently available at this major nursery. GD1 is viewed as producing "more flavour than the rest" in particular strong green grassy herbaceous and green fig aromas compared to other clones of Sémillon (Barnes, 2009). GD14 was imported from California in 1982 and most likely originated from France. The berries with the GD14 clone are smaller than those obtained with GD1, however this does not appear to adversely affect wine quality with GD1 which is consistently associated with award winning wines (WineLand, 2006).

**Table 4-2 Sémillon Clones Available in South Africa**

Clone	Year Selected or Imported	Virus Status	Quality	Source	Viticulture and Characteristics
GD1 D	1983	Free	Experimental Excellent	Local	Average production and vigour Strong green, green fig
GD1 E	1983	Free	Commercial Excellent	Foreign	Average production and vigour Award winning wines Grassy
GD 9 A	1995	Pending	Experimental Good	Unknown	Average production and vigour Grass, green fig
GD14 A	1982	Free	Experimental Excellent	Local	Average production and vigour Good, balanced
GD 14C	1982	Free	Experimental Excellent	Foreign	Rot resistant (New Zealand)
GD 121 A	1972	Free	Experimental Excellent	Local	Strong grass and figs Good, balanced
GD 315 A	1981	Free	Experimental Good	Local	Good, balanced
				Foreign	Average production and vigour

Source: Adapted from (WineLand, 2006)

#### 4.4 Terroir

*Terroir* is a complex term that encompasses the interaction of multiple factors including climate (regional, site and vine), soils, aspect, slopes and altitude on vine growth (Goode, 2005). Sémillon is one of the most “impressionable” varieties and is said to strongly reflect its *terroir* including the soil characteristics and mineral content. The site where Sémillon is planted can determine the character of the wine to a large extent (Brook, 1992). Planting Sémillon on alluvial soils is usually avoided because it is a high vigour vine that will grow well on high potential soil producing high yields of bland fruit (Teubes, 2006).

Soil structure also has a distinct impact on flavour, especially the limestone content of the soil (Ryman, 1992). In Bordeaux, varietal characters vary and are neutral on sandy soils, medium intense lime and honey on clay silt, and intense green and exotic flavours on clay limestone soils (Ryman, 1992). In Sauternes specifically the soil is sandy gravel with varying levels of calcareous clay which can sometimes lead to drainage problems, whereas the soils of Barsac are mainly clay with some decalcified rock mixed with red sand, and Graves soils are mainly gravel and clay mixtures (Fanet, 2004).

The soils most suited to Sémillon in South Africa are deep, red, well drained soils found in Stellenbosch, yellow granite sands in Constantia, decomposed granites in Cape Point and shallow duplex soils with some salinity in Elim (Teubes, 2006). In the Hunter Valley, the

usual soils for growing Sémillon vines are light and sandy because clay soils tend to become excessively water logged after rain (Dry and Coombe, 2005).

The influence of temperature on Sémillon is widely accepted with warmer moderate areas producing fat, flabby wines with high alcohols and low acidity that can usually only be used for bulk wine production or blending (Schuster, 2005). Cool climate Sémillon grapes are also generally more herbaceous and grassy in flavour compared to grapes grown in warmer areas which have a fuller and more honeyed flavour (Mullins, 2007).

#### **4.5 Viticultural Processes: Canopy Management, Trellis Systems, Yields and Harvesting**

Vineyard management techniques are designed to ensure that bunches and grapes are exposed to light to assist with the process of ripening and to prevent infection with the common fungal diseases of vineyards. Most Old World vineyards are considered to be marginally fertile “low potential sites” and close vine spacing and repeated trimming of vine growth is generally sufficient to control the canopy (Halliday and Johnson, 2003). Conversely, many New World vineyards are considered “high potential sites” and pruning alone does not control the canopy and can in fact serve to increase lateral growth and compound the problem of shading of fruit and leaves.

Canopy management and trellising of Sémillon is particularly important because of its susceptible to *Botrytis cinerea* infection due to its tight conical bunches, and because its tendency to produce poor wines with no acidity or flavour under high vigour conditions. Basic trellis designs (single and double Guyot) and the use of bush vines, are common for Sémillon around the world.

Sémillon wines can taste dilute unless yields are restricted. Commercial yields are in the range of 20-26 tons/ha and higher. However, these high yielding vines produce fruit that lack varietal character and are high in alcohol (Ryan, 1992). Yields can be influenced by a number of factors including (Rahman *et al.* 2001):

- the fertility of the vineyard soils;
- the age of the vines with older vines yielding less;
- the distance between vines with close planting being inhibitory to high yields;
- green harvesting; and
- infection with nematodes or Leaf Roll Virus (LRV) and other infestations.

Regulations are imposed in specific appellations in France to restrict yields for quality Sémillon production (Brook, 1992). Yield restrictions are severely imposed in Sauternes where yields are officially restricted to 0.5-1.5 tons/ha (equivalent to 8 hl/ha) but can be even lower resulting in the production of only one glass of wine per vine (Brook, 1992). Sémillon yields in Graves at the best producers are between 6-7 tons/ha, in Entre-Deux-Mers yields are 11 tons/ha on average and Bordeaux Sec is slightly higher at 12 tons/ha (Brook, 1992). In the Hunter Valley yields are generally at 10 tons/ha (Ryan, 1992). In South Africa yield are kept lower at around 5-7 tons/ha by most quality producers such as Cape Point Vineyards (McDonald, 2006a). Some producers ensure that they have even lower yields at 1-1.5 tons/ha in Franschhoek (McNaught, 2008).

Mechanical harvesting of Sémillon is controversial. Although it is used extensively in countries such as New Zealand and is convenient, cheap and fast, it is not usually a technique used by quality Sémillon producers. It is particularly unsuitable for grapes infected with botrytis, and these grapes need to be handled in a very careful manner. The harvesting of Sémillon by premium producers, to ensure that grapes are picked at exactly the correct moment is called “trriage” and is used for the harvesting of grapes for both sweet and dry Sémillon wine production. This methodology attempts to take into account the biological process that grapes will ripen unevenly or in the case of botrytised sweet Sémillon wines are not equally infected with botrytis. Repeated “tries” or rounds of picking occur with the triage technique to identify only the ripe or botrytis infected berries. This methodology is costly as it requires a skilled and available labour force during harvest (Brook, 1992).

#### 4.6 Noble Rot

*Botrytis cinerea* is a ubiquitous, saprophytic fungal pathogen responsible for significant decreases in grape crop quality and yields. It requires surface moisture and an optimal temperature of 18 °C for survival (Ribéreau-Gayon *et al.* 2006). Environmental factors that aid *Botrytis cinerea* infection are: poor soil drainage, dense canopy, grape varietal, and bunch structure (Robinson, 2006; Clarke and Rand, 2003). Alternating conditions of humidity and warmth induce the growth of *Botrytis cinerea* in the noble form (Brook, 1992; Robinson, 2006; Fanet, 2004). An excess of either humidity or moisture will lead to the development of the destructive form known as grey rot. Too much sunshine inhibits fungal growth altogether.

Sémillon grapes occur in compact bunches which are more predisposed to botrytis infection. The skin of the Sémillon berry is officially classified as medium thickness (Table 4-1), with the combined thickness of the epidermis and hypodermis equal to 175 µm (Office

International de la Vigne et du Vin, 2000). However, there are conflicting reports in the literature about the thickness of Sémillon grape skins and how this predisposes the varietal to infection with *Botrytis cinerea*. Some reports suggest Sémillon berries have thin skins (Wikipedia, 2007; Coombe and Dry, 2006) while others maintain that Sémillon berries are thick skinned (Clarke and Rand, 2003). Regardless of grape skin thickness, once *Botrytis cinerea* infection of the grape has occurred the fungus grows mainly in the grape's superficial walls because phenolic compounds released from tannin vacuoles of cells of the grape skin exert a fungicidal effect by inhibiting fungal enzyme (endopolygalacturonase and chitinase) activity. Sémillon wines made from *Botrytis cinerea* infected grapes uniquely are the only white varietal wines from which the stilbene viniferin has been identified (Landrault *et al.* 2002). Viniferin has a similar anti-oxidant and cardio-protective properties to resveratrol in that it inhibits platelet aggregation and modifies LDL metabolism but is even more effective.

After prolonged *Botrytis* infection, the integrity and essential functions of the cell wall are lost resulting in berry desiccation and a decrease in berry volume and weight. The shrivelled, brown berry stage is known as "pourri rôti" and is ideal for making sweet wines. Depending on environmental conditions, it takes on average between 5-15 days to transform a healthy grape to the "pourri rôti" stage.

#### 4.6.1 Changes in the Chemical Composition of Infected Grapes

The chemical composition of the berry juice changes as a result of the *Botrytis* infection. The sugar concentration increases dramatically (Clarke and Rand, 2003) due to the release of solutes into the berry from dead epithelial cells. The overall acidity of the juice remains the same but the tartaric acid concentration is progressively decreased resulting in an increase in pH from 3.5 to 4.0. Malic acid is preserved and only lost towards the end of the botrytis infection (Ribéreau-Gayon *et al.* 2006). New compounds not usually found in healthy grape juice such as glycerol and gluconic acid are found in botrytised must. Glycerol is released under conditions of oxidative stress when the fungus stops growing resulting in the complete oxidation of glucose. The concentration ratio between glycerol and gluconic acid is used as a quality indicator of noble rot - in favourable years with rapid grape desiccation there is a high glycerol:gluconic acid ratio. Fungicidal and microbicidal compounds (botrytidial, botrycene, botrylactone) that can cause fermentation difficulties of must because of the inhibition of yeast metabolism are also found in the must of botrytised grapes (Robinson, 2006; Ribéreau-Gayon *et al.* 2006).

#### 4.7 Grey Rot

The development of grey rot by *Botrytis cinerea* is identical to the process described in Section 4.6 but a thick layer of fungus known as a mycelial felt develops on the external surface of the grapes and infects neighbouring grapes. The climatic conditions required for this are wet weather followed by cool weather for 10 days with little sun light. Grey rot is enhanced by compact bunches and overgrown canopies that restrict the entry of sunlight into the vine (Ribéreau-Gayon *et al.* 2006). Grey rot is also enhanced by physical damage to the berries allowing invasion of the fungal hyphae quickly through these breaches.

The rich aromas achieved in wines made from grapes infected with the noble form of *Botrytis cinerea* do not occur with grey rot which gives rise to a faulty aroma characteristic of mould and an undergrowth smell due to the production of a various compounds including fatty acids and a terpenic compound from the maceration of the mycelium.

## CHAPTER 5: VINIFICATION

White wine production follows a series of steps that are similar regardless of the varieties used and the making of Sémillon wine is no exception. Grapes are picked either by hand or mechanically. Usually high quality wines demand hand picking and sorting of grapes to maintain the character and flavours of the grapes. Once the grapes are at the cellar they may be de-stemmed or pressed with stems. Gentle pressing with pneumatic presses ensure that crushing of the seeds is prevented. The must is then drained into vats and allowed to settle. The clean juice is racked into separate vats. A critical innovation in white winemaking is the ability to delay fermentation by cooling the must during these processes. The must is then allowed to ferment in either stainless steel or oak, depending on the style or type of wine being made. Fermentation is facilitated by wild yeasts that occur naturally or different types of added cultivated yeasts. Long fermentations at cool temperatures preserve the primary characteristics of the wine. Sometimes, after fermentation the wine is left on the lees (yeast sediment) which adds to the flavour and complexity of the wines. Some white wines are then allowed to undergo a second bacterial or malolactic fermentation process that converts harsh malic acid to lactic acid to modify the taste profile of the wine. After filtration, centrifugation and fining, the wine undergoes tartrate stabilisation by cooling. The wines may then be bottled immediately or matured in oak barrels. Maturing white wine in oak adds depth and complexity to certain types of wines, however too much new oak exposure can overpower subtle wines.

### 5.1 Sémillon in the Cellar

The method of vinification typical of many top Graves producers (Brook, 1992) is typical of quality Sémillon production and will be briefly described here. Winemakers determined to make premium quality Sémillon wines ensure careful temperature-controlled handling of the grapes from the vineyard, pick by hand, and ensure gentle de-stemming. Grapes are usually pressed immediately. Maceration, allowing the grapes to soak before being pressing to encourage the extraction of chemical compounds from the skins, is practised by a few winemakers (Brook, 1992; Robinson, 2006). Fermentation is generally carried out at cool temperatures (11-12°C) in stainless steel or in small oak barrels or combinations of both depending on the style of wine that is required (Brook, 1992; Clarke and Rand, 2003). Some producers opt for higher fermentation temperatures to avoid the uniform taste which is sometimes found with cold fermentation. Wild yeasts may be supplemented or replaced by cultured yeasts to prevent stuck fermentations with the addition of nutrients and assistors.

### 5.1.1 Innovations with Sémillon

Over the last ten years there have been a number of innovations and changes in the traditional methods of handling Sémillon in the cellar. One of the main innovators in Bordeaux is Denis Dubourdieu, professor of Oenology at Bordeaux University and owner of Châteaux Doisy-Daëne, Reynon and a small property in Graves called Clos Floridène. He has been repeatedly recognised for his contribution to the white wines of Bordeaux (Woodward, 2007) and consults extensively in Bordeaux and other wine regions in France (Brook, 1992).

Dubourdieu's innovations were: to insist on healthy, mature grapes; decreasing the use of sulphur dioxide giving the wines fresher and cleaner flavours (Halliday and Johnson, 2003); and promoting longer periods of maceration and extraction. The maceration process is done under a blanket of inert gas to decrease the risk of oxidation (Brook, 1992). Maceration was previously avoided for Sémillon because of the risk of oxidation. In Dubourdieu's methodology the grapes are always destalked and the process must be meticulously clean since maceration will increase all flavours associated with longer contact – both the good and the bad (Brook, 1992). After maceration the must is allowed to settle so that heavy solids can be removed as gently as possible.

Dubourdieu also insists on lees contact at this stage to increase the complexity of the wine and to further extract other aromatic compounds. This is possible because enzymes present in the lees will continue to extract aromas and increase the wine's texture. He also believes that lees contact in some way decreases the woodiness of the flavour imparted by oak (Brook, 1992). Barrel fermentation however is not universally accepted because it is expensive and so only ultra-premium producers that can afford this method will use it. Many producers continue to ferment in temperature-controlled stainless steel tanks.

Malolactic fermentation (MLF) is generally avoided in Sémillon wines because the varietal is usually low in acidity and, if MLF occurs, the wines may become flabby (Brook, 1992). Fining, filtration and bottling are also dependant on the individual winemaker. However since it is essential that the appearance of a white wine is clear and non-turbid many winemakers practise some degree of fining and filtration. Filtration also has the added advantage of preventing secondary MLF by removing the relevant bacterial components necessary to initiate MLF.

Exposure of Sémillon wine to wood will also obviously influence the taste significantly. Specific factors that need to be taken into account include the type of wood used (size of

barrels, origin of the oak, new or used barrels, degree of toasting) and the duration of exposure (Robinson, 2006). Sémillon can be successfully fermented in barrels with lees contact to increase its complexity. Excessive lees contact must be avoided as the wine can develop an unfavourable oily, buttery taste (Brook, 1992). Sémillon should probably not be matured in oak barrels after stainless steel fermentation because of its great affinity for wood resulting in the wine becoming overwhelmed by the character of the oak (Clarke and Rand, 2003; Brook, 1992).

## 5.2 Cellar Handling of Botrytised Sémillon

After picking, selection of grapes is done to ensure only grapes of the highest quality are used. Vinification methods differ significantly from the production of dry Sémillon wines. Because botrytised grapes are picked in “tries”, each lot may be pressed and fermented separately. The grapes are usually crushed before pressing, and the must is fermented in stainless steel tanks or barriques. The cellar temperatures are naturally cool in autumn and fermentation is usually long, up to six weeks. Most producers wait for fermentation to stop naturally as alcohol levels reach more than 15%. Sometimes fermentation may be stopped by centrifugation or chilling. Previously large quantities of sulphur dioxide (SO<sub>2</sub>) were used to stop fermentation and a combination of chilling and SO<sub>2</sub> is also sometimes used. Capitalisation of these wines in France is allowed, especially in years when the grapes have been harvested early because of the threat of rain, but this technique is avoided by most premium producers. After fermentation the wines are racked and will begin their élevage, usually in 100% new oak for premium wines over 18-36 months. The wine is then fined, filtered and bottled in the usual fashion.

Cryopreservation, has been used to save grapes that have been subjected to rain at the critical time close to harvest. The wet grapes are subjected to cold temperatures in a chamber for up to 20 hours, the excess water is frozen and then removed. Producers like Châteaux d'Yquem and Guiraud both use this technique to save grapes that would otherwise be sacrificed (Brook, 1992). Cryopreservation during normal harvests as a technique to concentrate musts has also been suggested but this remains relatively controversial (Brook, 1992).

## **SECTION III**

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## CHAPTER 6: SÉMILLON AROUND THE WORLD

### 6.1 Synonyms

Sémillon is known by many different names around the world. This can be confusing for the consumer and can also create uncertainty when reviewing the literature as there is an inconsistent use of names in different sources.

The known synonyms for Sémillon are listed in Table 6-1 below. In Australia it is clearly known when the various terms used to describe Sémillon have been in use. This is unfortunately not the case in South Africa where there is no accurate documentation of when the terminology shifted from one term to another. In South Africa there is also a temporal overlap in the use of terminology used, particularly in older sources, which creates difficulties in distinguishing with certainty that it is Sémillon that is being discussed.

**Table 6-1 Synonyms of Sémillon**

Country	Synonym
France	Sémillon blanc, Sémillon Muscat, Sémillon Roux, Chevier, Colombier, Malaga, Blanc Doux
South Africa	Green Grape, Groendruif, Wine Grape, Wyndruif
Romania	St Emilion
Australia	Shepherd's Riesling, Hunter Valley Riesling, Wines: "Hock", "Burgundy", "Chablis"

### 6.2 France

#### 6.2.1 Dry White Bordeaux

Documentary and ampelographic evidence suggest that Sémillon originated in the Sauternes area, and spread to the rest of the Gironde from here (Galet, 1979; Ryan, 1992; Clarke and Rand, 2003; Robinson, 2006; Dominé, 2004). Information about how this varietal spread globally from Bordeaux is sparse, but it was clearly isolated to Bordeaux during the 1700's.

Until the nineteenth century Bordeaux's white wine production was based mainly on Sauvignon blanc and Folle blanche with the introduction of Sémillon only after the destruction of the vineyards by *Phylloxera* which first appeared in France in 1863 (Thompson, 2004). The popularity of Sémillon increased due to its resistance to oidium, its ease of cultivation, its high yields and its susceptibility to *Botrytis cinerea* facilitating sweet

wine production (Ryman, 1992). These factors encouraged massive plantings of this variety in Bordeaux. Fifty years ago white grapes in the Gironde exceeded red plantings (Spurrier, 2008) and France still has the highest number of hectares under Sémillon in the world (See Section 2.1). Approximately 95% of those Sémillon vines are planted in the Bordeaux region around the Gironde river (Spurrier, 2008). Some Sémillon vineyards are also found in the South-West and South of France (Brook, 1992).

Interestingly, not that long ago, the reputation of dry white Bordeaux was extremely poor due to poor viticultural and vinicultural practices, the overuse of sulphur, generally poor cellar hygiene, and limited marketing (Brook, 1992; McInerney, 2007). The demand for these wines consequently decreased and producers replaced their white grape vines with Bordeaux red varieties, in particular Merlot (Spurrier, 2008). However, more recently, the dry white wines of Bordeaux have undergone a renaissance (Spurrier, 2008; McInerney, 2007) and have regained their popularity by offering wines of good quality at generally reasonable prices. Innovations in general viticultural and cellar techniques here are discussed in detail in Chapter 5. These innovations, led by a respected winemakers and academics such as Denis Dubourdieu (Ainsworth and Woods, 2002; Brook, 1992; Woodward, 2007), have dramatically improved the status of these wines. White Bordeaux is no longer produced as an oxidised and over-sulphured wine that is unpalatable to consumers. Unfortunately markets have responded slowly to these changes, and white Bordeaux wines have not yet attained the popularity of red Bordeaux.

The three main appellations in decreasing order of quality for white Bordeaux are Pessac-Léognan, Graves and Entre-Deux-Mers. The Graves appellation includes the southern suburbs of Bordeaux city and follows the Garonne river ending near Langon (Ainsworth and Woods, 2002; Brook, 1992). The separate appellation of Pessac-Léognan was introduced in 1987 for the best *terroirs* around the city of Bordeaux. However, this resulted in some producers prioritising red wine production rather than white. Fortunately a few producers have persevered with white Bordeaux and have made the necessary changes to produce fresher, cleaner wines with less oak exposure (Ainsworth and Woods, 2002).

Pessac-Léognan includes all of the classed growths included in the Graves classification of 1953, with revisions in 1959 and 1960 (Brook, 1992). The wines from Pessac-Léognan are opulent, restrained in style with a smoky, oak influence that reflects their barrel fermentation and barrel maturation. The standard of these wines has been compared to grand cru Burgundy (Brook, 1992). If Sémillon predominates, these wines are generally rounder and fuller, but if Sauvignon blanc predominates they are more pungent (Ainsworth and Woods,

2002). The third permitted varietal in the appellation Muscadelle is often left out of the blend or present in only very small proportions. The blends and proportions of these varietals depend on the producer concerned.

Entre-Deux-Mers wines are exclusively white dry wines. Their quality has improved in recent years due to the introduction of specific cellar techniques such as temperature-controlled fermentation (Ainsworth and Woods, 2002) but many are still not very good. For example, a significant quantity of wine from this appellation is exported in bulk to Germany to be made into sparkling sekt (Spurrier, 2008). Entre-Deux-Mers wines are unpretentious and easy drinking wines with apple and grass flavours. As they are usually made with a higher proportion of Sémillon, this will allow for some aging and development of the wines over 2-3 years.

Some producers in Sauternes also produce small quantities of dry white wines. The grapes for these wines are usually from one of three sources: vines that are too young for making botrytised wines; grapes picked before botrytis infection has appeared; or wine rejected from the final blend of sweet wines (Brook, 1992). Sauternes producers also make these wines for economic reasons during years when the conditions for botrytis infection are unsuitable.

### 6.2.2 Sweet White Bordeaux

Sémillon is the dominant variety (80-90%) in the sweet wines of Bordeaux including those from the appellations of Sauternes, Monbazillac, Cadillac, Ste-Croix-du-Mont, Loupiac and Cérons. As for dry white Bordeaux, the remaining permitted varietals are also Sauvignon blanc and Muscadelle which add lightness and aroma respectively. Some Sauternes producers make a 100% Sémillon wine which is intensely rich; these include Châteaux Doisy-Daëne, Guiraud and Siglas-Rabaud. Because Sémillon is viewed as an unfashionable variety very few clones are propagated routinely in nurseries in France. This has led to a shortage of good quality Sémillon vines in Bordeaux (Anson, 2008). Seventeen premium producers in Bordeaux, including Châteaux D'Yquem, Olivier, Suduiraut, La Tour Blanche and Giraud, have formed an association to ensure that Sémillon clones are maintained (Anson, 2008; Spurrier, 2008). Clones are selected to ensure the diversity of plantings, protect against diseases, and increase the range of aroma and flavour profiles (Anson, 2008).

The Sauternes appellation has five communes; Barsac, Preignac, Bonnes, Fargues and Sauternes. The unique climatic conditions that allow noble rot infection of the grapes in

these areas are discussed in detail in section 4.6. The unpredictability and difficulties of the harvesting using the “triage” technique are also discussed in section 4.5. One of the most prestigious producers of Sauternes, Château d’ Yquem, has a permanent team of skilled pickers. During harvest, pickers are constantly told which type of grapes (more or less botrytised) are needed during the multiple “tries” or rounds of picking in the vineyards (Clarke and Rand, 2003).

Sauternes and other sweet wines made in a similar way have relatively difficult markets. There was an initial slump in the sweet wine market immediately after World War II due to economic reasons, with many people being unable to afford the luxury of dessert wines. A subsequent revival of these wines occurred in the 1980’s when the industry was stable and growers felt confident of getting adequate return on their investments (Brook, 1992). However, the surge in the production of quality wines was short-lived and demand for sweet wines has again declined. This decrease has been attributed to current meal patterns with an emphasis on lighter foods and less frequent dessert. Bad publicity surrounding foie gras, a classical food match with Sauternes, and increasing competition from good quality cheaper sweet wines from other countries (Germany, Hungary, Austria and some new world countries) have also had a negative impact on Sauternes sales (Simon, 2008).

Recommendations for the future have emphasised that Sauternes needs to be marketed more aggressively, especially the recent series of excellent vintages from 2001-2007. Although the style of wine may be too rich and expensive for many consumers, Russian and Asian markets are increasingly an important outlet for these wines (Simon, 2008). Other marketing techniques that have been suggested to increase the popularity of these wines is to change to smaller (500 ml versus 750 ml) bottles and to promote sweet wines in new food pairings, with Asian dishes for example (Simon, 2008). The quality of new world sweet wines has also improved which is helpful in ensuring that local markets are kept interested and informed about this wine style (Bortoli, 1992).

### **6.3 Australia**

Sémillon was first introduced to Australia from South Africa during the late 1700’s or early 1800’s (Clarke and Rand, 2003; Ryan, 1992). Although it is not known for certain, it is thought that the first grape vine planted in Australia in 1791 at Castle Hill was probably Sémillon (Ryan, 1992). During the nineteenth century, this varietal lost its varietal name and became known first as “Shepard’s Riesling”, after Thomas Shepard who developed the Darling nursery and propagated vines for the new colony. It was first introduced to the

Hunter Valley in 1830 where it became known as Hunter Valley Riesling (Ryan, 1992; Clarke and Rand, 2003). During the early 1960's with the development of a local table wine culture and sudden increase in local wine sales, Australia increased their production dramatically to meet local demand (Ryan, 1992). At this time large volumes of generic Sémillon wines were produced and were marketed under nonspecific names like "Hock" and "Chablis". Producers avoided using the real name of Sémillon on wines allegedly to prevent confusing the consumer (Ryan, 1992).

### 6.3.1 Hunter Valley

Sémillon is regarded as the greatest achievement for Australian winemaking but still comes second to Riesling as the most important white variety in the country (Hooke, 2008; Halliday, 2007). The Hunter Valley wine area is about 160 km north of Sydney and most probably developed as a wine region because of its proximity to Sydney (Clarke, 2004). The Hunter Valley is divided into the Upper Hunter Valley and the Lower Hunter Valley. The Upper Hunter Valley was initially planted with vines in the nineteenth century and achieved prominence in the 1970's. The vineyards here are on rich alluvial soils but due to the heat and significant summer rainfall this area is not considered a premium wine producing area.

The Lower Hunter Valley is where more of the attention is focussed and where Sémillon is the undisputed champion varietal (Hooke, 2008). There are many small wineries in the Lower Hunter Valley planted on sandy soils and near creeks for water. Water and heat are constant problems in the Lower Hunter Valley. Generally there is too much rain during ripening and harvest and not enough rain during winter and spring. Therefore, irrigation is widely practised. Some relief from the heat is provided for by cooling sea breezes and cloud cover (Clarke, 2004). Most producers in the Lower Hunter Valley concentrate on two varietals, Shiraz and Sémillon. Due to the high yields with Sémillon under normal growing conditions it is difficult to always make quality wines so there are large gaps between premium producers and other commercial producers.

Lower Hunter Valley Sémillon is considered by critics as one of the greatest white wines in the world (Clarke, 2004; Halliday and Johnson, 2003; Halliday, 2007; Robinson, 2006). In spite of these accolades and winning significant awards at local wine shows there is a lack of local Australian support for this type of wine style (Jukes, 2006). Traditionally Lower Hunter Valley Sémillon developed as a style because of the ability of this wine to age for long periods of time. The longevity of these wines has been extended even further because of modern white winemaking techniques including cold fermentation (Jukes, 2006). Significant

bottle maturation only usually starts at around 3-4 years after bottling depending on the vintage. The colour darkens to a deep gold, with rich butterscotch aromas and a nutty, honey-like palate (Jukes, 2006; Clarke, 2004). If the vintage is hot and dry, the aging characteristics develop faster (Jukes, 2006). Acid is not added to these wines, and yet they retain acidity due to the early picking of the grapes (Jukes, 2006). The success of these wines are also attributable to the careful management of the grapes in the vineyard ensuring low yields, careful canopy control and hand harvesting. Improved cellar techniques such as must chilling, minimised SO<sub>2</sub> use and avoiding MLF are also important.

### 6.3.2 Western Australia (WA)

Western Australian (WA) is a large state covering one third of the Australian landmass, with scattered and isolated vineyards throughout the south-west. The best areas for quality wine production are Margaret River, Great Southern and Pemberton. Bordeaux red and white varieties are most successful in this area in particular Cabernet sauvignon/Merlot and Sauvignon blanc/Sémillon blends in Margaret River (Clarke, 2004). Margaret River also has a reputation for producing excellent Chardonnays with different characteristics depending on climate and temperature - ranging from rich and fat from warm regions to elegant and nutty from cool regions (Clarke, 2004).

The vineyards that are found further south in WA are the coolest. The coastal regions enjoying a maritime climate and the inland areas have a more continental climate. The vineyards here are generally concentrated on valley floors or gentle slopes. There are very few large companies (except for Houghton in the Swan Valley) in WA and the rest of the industry is dominated by small boutique producers started in the 1970's by a number of doctors and other businessmen (Clarke, 2004). At this time, a report was issued likening the Margaret River area of WA to Bordeaux in most viticultural indicators (Gladstones, 2002) except that it appeared that Margaret River would have less risk of spring frosts, hail or excessive rain damage but may require irrigation. This report suggested that Margaret River was similar to Bordeaux because of the maritime influence of the Indian Ocean. Although the beneficial cooling effects of the sea breezes were welcomed, these breezes were detrimental because they carried salt off the ocean which contaminated the vines (Gladstones, 2002).

The origin and success of Australian Sémillon/Sauvignon blanc (SSB) blends is largely attributed to WA (Cleary, 2007). Sémillon in Margaret River is herbaceous, with capsicum and snow pea characteristics which blends well with Sauvignon blanc especially if the latter

varietal is picked late and expresses tropical and melon characteristics (Bulleid, 2005). The demand for SSB wines in Australia continues to grow with consumers being prepared to pay high prices for quality wines (Cleary, 2007). SSB blends combine the characteristics of the two included varieties and provide a recognisable alternative to the single varietal wines that consumers have begun to tire of (Charters, 2004).

### 6.3.3 Other Australian Areas

Riverina (previously known as Murrumbidgee Irrigation Area) is in New South Wales (NSW) with vineyards around the town of Griffith. Vineyards in this area get their water supply from the Murrumbidgee, a tributary of the Murray River. Riverina produces vast quantities of grapes per year on flat, featureless land. In 1982, De Bertoli Wines created a botrytis Sémillon wine using a technique of inoculating selected grapes with the fungus and incubating under specific conditions (Bortoli, 1992). The production of these exceptional wines from this commercial area using the controversial technique of fungal inoculation was unusual and unexpected. However, the continued success of these wines at various wine shows and their popularity with consumers has demonstrated that this was not a chance occurrence (Bortoli, 1992). The benchmark of these wines is known as “Noble One” produced by De Bertoli. More recently, modifications to the technique pioneered by De Bertoli have occurred to achieve higher levels of noble rot. This includes allowing the grapes to stay on the vines for longer, usually up to a 90% infection rate (Thompson, 2004). Typically fresh berries are also added to the wine.

Sémillon wines are produced in various parts of Southern Australia, with quality production being centred around Clare Valley and more commercial wines being produced in the Barossa Valley where blending with other varieties like Chardonnay, Chenin blanc and Verdelho is common (Clarke, 2004). The styles of these wines are more conventional, including barrel fermentation. Although these wines are suitable for aging, unlike the Lower Hunter Sémillon’s there is no need to wait prolonged periods of time for the character of these wines to develop fully.

## **6.4 New Zealand**

### 6.4.1 Marlborough

Sauvignon blanc has become the New Zealand “brand varietal” and it is recognised internationally as a quality producer of this wine. Sauvignon blanc was planted in Marlborough only since 1973 (Thompson, 2004). The emergence of Sauvignon blanc occurred during the 1980’s with realisation that this varietal was extremely successful and

had an unique pungency derived from the combination of sunshine ensuring full ripeness, fertile soils, and a long growing season similar to the Loire (Brook, 1992; Thompson, 2004). Marlborough on the South Island is the premier area for Sauvignon blanc. Most Sauvignon blanc produced here is not oaked or minimally oaked to maintain its freshness. New Zealand Sauvignon blanc wines are made for early consumption and not for aging for prolonged periods of time (Brook, 1992).

New Zealand's dependence on a single varietal has obvious advantages regarding the marketing of their wine and its global image. But this single wine dependency can also be detrimental, especially as some consumers and wine experts find the qualities of New Zealand Sauvignon blanc too overwhelming (Charters, 2004). Recently New Zealand producers have been looking at Sémillon to assist them in producing SSB wines. The intention is to include Sémillon in the blend to control the overt flavours of the Sauvignon blanc (Brook, 1992). But since the climate in Marlborough is very cool, the Sémillon that is being produced has similar herbaceous and grassy characteristics to Sauvignon blanc losing the anticipated advantage of richness and fatness gained from Sémillon grown in warmer areas (Brook, 1992).

#### 6.4.2 Hawke's Bay

Hawke's Bay on the North Island was previously the centre for premium wine production before Sauvignon blanc revolutionised the wine industry in New Zealand and shifted the focus to Marlborough on the South Island (Thompson, 2004). Most wineries on the North Island are situated in the warmer areas around Hastings where the famous Gimblett Road granites are found. This area favours Bordeaux red varietals (Cabernet sauvignon and Merlot) and Chardonnay (Thompson, 2004). Sémillon was planted here as a versatile variety and because of the perceived similarity of *terroir* to Bordeaux (Galloway and Thompson, 2005). The clone used here is UCD2 which has loose clusters, similar to the clones from California but dissimilar to the tight clusters of Sémillon from Bordeaux. Therefore, botrytis infection is less common in New Zealand (Clarke and Rand, 2003).

Sémillon produced in New Zealand is generally used for SSB blends. Unlike the Australian market though, SSB blends are not fully appreciated by the New Zealand local market. Other Sémillon blends have also been made in New Zealand including a more commercial Sémillon/Chardonnay blend made with high residual sugars (Brook, 1992). Single varietal, barrel fermented and botrytised wines have been identified as potential growth areas for developing future New Zealand markets for Sémillon (Galloway and Thompson, 2005).

## 6.5 North America

### 6.5.1 California

California has been hailed as a “viticultural paradise” (Thompson, 2004) with a rich, varied *terroir*. California is associated with famous producers ranging in size from the vast empires of Ernest & Julio Gallo to many small boutique wineries. The successful wines produced in California have been mainly Chardonnay or Cabernet sauvignon (Brook, 1992). However due to the diverse *terroirs* available in California there have also been successful plantings of other varietals including: Pinot Noir in Caneros, Russian River and Sonoma Coast; Syrah and Grenache in Santa Barbara; and Riesling in Monterey (Thompson, 2004).

But California has failed with Sauvignon blanc and Sémillon, most probably due to the lack of site selection (Brook, 1992). Cuttings of these varietals were bought to the United States of America (USA) from Château d'Yquem in 1878 and planted at the Wente vineyards in San Francisco Bay in Southern California (Brook, 1992). Young vines were transferred to many producers in California and planted on rich soils in warm microclimates, leading to large yields of poor quality fruit. The fruit from the Sauvignon blanc vines had a particular vegetal aroma which was difficult to attribute to one factor alone and was probably due to clonal selection but poor canopy management techniques may also have contributed (Brook, 1992). These vegetal flavours were not marketable - consumers disliked them and alternative ways of masking these characteristics were explored. Robert Mondavi decided to handle these vegetal aromas by exposing these wines to wood, thereby creating a uniquely Californian style of Fumé blanc, a wooded Sauvignon blanc (Brook, 1992).

Other ways to hide the vegetal aromas were explored including blending with Sémillon. But SSB blends also proved to be unpopular commercially in the USA since many producers did not invest much time and effort in their making these wines (Brook, 1992). The continued decline in Sauvignon blanc and Sémillon in California can not only be attributed to poor clones and poor site selection (Clarke and Rand, 2003) but also to the commercial image of dull wines with no varietal character and high alcohols (Brook, 1992). In addition, inappropriate vinification techniques further contributed to the bad image of these wines. These techniques included (Brook, 1992):

- the exclusive use of one cultured yeast in all wineries leading to similar confection tones in all wines;
- tank fermentation for Sémillon followed by prolonged barrel maturation leading to over-wooded and unpalatable wines; and

- leaving some residual sugar in wines with no acid structure leading to flabby and cloyingly sweet wines.

The only success with Sémillon in California has been with botrytised wines (Clarke and Rand, 2003) and with the shift to cooler vineyard sites allowing relatively good SSB blends to be made in the “Graves style” (Brook, 1992).

### 6.5.2 Washington State

Compared to California, Washington State vineyards are ideal for growing Sémillon (Brook, 1992). Grapes were first planted in Fort Vancouver in 1825 and were maintained by European immigrants in and around Seattle. Real growth in the industry here occurred with the move to viticultural sites beyond the Cascade Mountains. This move was into a semi-desert area and only made possible due to large scale irrigation projects and the use of snow run off from the surrounding mountains (Thompson, 2004). Due to the critical water situation, vineyards were also established mainly around major rivers. There are six major American Viticultural Areas (AVA's) of significance in Washington State; Columbia Valley, Yakima Valley, Walla Walla, Puget Sound, Red Mountain and Columbia Gorge (Brook, 1992). The endless sunshine, northern latitude and long growing season allow a number of different varieties to be grown in these areas. There are more than 20 different white varieties planted led by Chardonnay and Riesling but followed in third place by Sémillon (Thompson, 2004).

Washington State is a well known area for Sémillon and produces wines that are restrained and herbaceous, with concentrated flavours that develop over time in the bottle similar to Hunter Valley Sémillons (Brook, 1992). Most high quality Washington State Sémillon-containing wines are made as single varietal wines that are barrel fermented. SSB blends have not been a major direction for Washington State even though Sauvignon blanc is also successful in the area. Botrytis-infected Sémillon wines are also made in some appellations, notably Red Mountain (Robinson, 2006).

## 6.6 **South America**

### 6.6.1 Chile

Quality wine production became popular in Chile during the nineteenth century, at which time there was a national enthusiasm for France and its products (Thompson, 2004). French winemakers and cultivars were imported to establish and work in Chilean vineyards. Because of its relative isolation Chile was protected from the devastation of *Phylloxera* and

so the vines planted here are of original ungrafted European stock, including Sémillon vines from pre-*Phylloxera* Bordeaux (Thompson, 2004).

Although there is little data regarding the exact quantity of Sémillon originally planted in Chile, estimates were that it accounted for the vast majority of white wines planted in the area (Clarke and Rand, 2003). However, Sémillon was generally not used to produce premium wines, and its high yield characteristics were exploited to produce large quantities of commercial and bulk wines.

The popularity of Sauvignon blanc globally has led to Chile concentrating more on this varietal and to ensure that the quality of their wines continually improves. This has been done by identifying cooler vineyard sites and the active replacement of the low-quality Sauvignonasse which is found in many vineyards in Chile (Clarke and Rand, 2003). The future for Sémillon in Chile will probably have to lie in the increased popularity of SSB blends because it seems unlikely that Sémillon will develop into a premium single varietal wine here.

## CHAPTER 7: SÉMILLON IN SOUTH AFRICA

### 7.1 The “Fall” of Sémillon

#### 7.1.1 Historical Background

The information in this section has been divided into various time periods to clearly indicate how Sémillon was introduced into the Cape, why it became such a popular varietal with wine growers, and the factors that led to its poor reputation and eventual “fall” from a position of prominence. The reputation of the wine produced in the Cape during these periods of time are examined from an historical perspective to provide the necessary context to clearly understand the critical events and decisions that ultimately impacted on the popularity of Sémillon as a varietal in the Cape eventually leading to its “fall”.

##### *7.1.1.1 Seventeenth Century: The Introduction of Sémillon to the Cape*

Detailed information about early viticulture at the Colony of the Cape of Good Hope does not exist (van Zyl, 1975; Leipoldt, 1974). The Colony at the Cape was established by the Dutch East India Company as a provisions station for sailors (fresh water, meat and “herbs” to prevent scurvy) on ships travelling to the East (Hands and Hughes, 1997). Jan Van Riebeeck led the expedition to the Cape which arrived in April 1652. As Commander, he had no viticultural expertise but decided that wine would be a good supplemental source of food to prevent scurvy and provide an alternative beverage for sailors given that the water supply on ships travelling to the East was often tainted (Leipoldt, 1974). Although Van Riebeeck did not receive much support for this idea from the directors of the Company in Amsterdam, the first vine cuttings were sent to the Cape from Holland at the end of 1654. Due to these plants not being transported carefully enough and not being planted correctly on arrival they did not survive (Leipoldt, 1974). A second shipment of vines was then sent to the Colony in February 1655. The exact varieties that were sent and the provenance of this second shipment of vines are unknown. It is known that the cuttings were from Europe, most likely France, Germany and Spain (Leipoldt, 1974). Historical records also exist noting how this second shipment of vines flourished. Later analysis established that the varieties planted were; Green Grape (Sémillon), French Grape (Palomino) and Muscat (or Muscadel). Wine was first made from the vines of the second shipment 350 years ago on 2 February 1659. About fifteen litres of wine from “French or Muscadel Grapes” was made as the “Hanepoot Spanish” was not ripe yet (Leipoldt, 1974; Hands and Hughes, 1997).

After this first success, an experimental vineyard was first planted in the Cape at Green Point. This vineyard was unsuccessful due to brackish soil and flooding from the lake that

existed in the area at the time. A second attempt for a larger vineyard was made near the source of the Liesbeek River, but this also failed due to its exposure to the Cape south-easter wind. The first commercial Cape vineyard was finally established in the Wynberg area and called “Bosheuval”. Although the ownership of this vineyard changed many times, in 1842 it was sold to the Colonial Bishopric and was renamed “Bishopscourt” (Leipoldt, 1974). Vine growing continued in the Cape but it was not encouraged by the Dutch East India Company or the resident administrations. Poor quality wines and spirits continued to be imported into the colony from Europe, primarily from the Médoc (Leipoldt, 1974).

In October 1679, Simon Van der Stel, became the Commander in the Cape and the circumstances for wine growing improved dramatically. Van der Stel enjoyed good wine and food and had bought an assistant with him to the Cape called Jean Marieau. Marieau was from the South of France and had some wine growing experience which would prove very helpful for the Commander. In 1685, Van der Stel persuaded the Dutch East India Company to allow him to establish his own farm which he named “Constantia”. Approximately 100,000 vines were planted on Constantia from cuttings obtained from the Company gardens. The varieties planted at Constantia were; Green Grape (Sémillon), Muscadel, French White (Palomino) and Pontac (Leipoldt, 1974). There is some speculation that Van der Stel also planted Shiraz, Pinot Noir and Cabernet sauvignon (Leipoldt, 1974), but no explanation offered as to where these varieties were obtained from and there is no historical evidence to suggest that these varieties had been imported into the Colony at this time.

With the assistance of expertise from the Company gardeners and labour from the Company slaves, Van der Stel established a well tended farm with a strict regime of pruning, trellising and irrigation (Leipoldt, 1974). He personally supervised the winemaking and a variety of wines were made including a dry wine from Green Grape (Sémillon), White French (Palomino), Hanepoot (Muscat of Alexandria) and Pontac (Leipoldt, 1974). The “Governor’s wine” earned a reputation of being of the highest quality and was generally sold to passing ships and occasionally to important locals in the Colony.

The good reputation of Constantia wine though was entirely based on the “liqueur” or sweet wines that were made in the style of “Lunel and Frontignac” and not the dry wines produced on the farm (Leipoldt, 1974; van Zyl, 1975; Hands and Hughes, 1997). Constantia sweet wine was made from red and white Muscadel grapes blended with “Frontignac” (Muscat de Frontignac), the white wine was described as “oily and smooth with a Muscat bouquet” and was thought to be a blend of Muscadel and Green Grape (Leipoldt, 1974). The red wine was

more graceful and less aromatic. The actual varieties used for these sweet wines are not certain, but the wine was probably a blend with other Muscat grapes.

#### *7.1.1.2 Eighteenth Century: Early Winemaking Challenges and the Reputation of Cape Wines*

There are more accurate accounts and records of viticulture in the Colony during the eighteenth century. Harvests were noted to occur at the end of February or at the beginning of March. The challenges faced by wine growers at the time which adversely affected the vines included the strong south-east wind; infestations with “sucker” insects which destroyed bearing shoots and birds and dogs that ate the grapes (van Zyl, 1975). Cape wines generally did not last long before becoming sour and grape growers were accused of being “slovenly” and not maintaining cleanliness in their vineyards or cellars. Since barrels were a scarce commodity and winemakers stored wine in teak containers, the wine was also tainted in colour and taste by this wood (Leipoldt, 1974).

At this time Cape wines were mainly consumed locally or used as a ration provision for ships going to the East. Some Cape wine was also exported to Amsterdam especially between 1751-1754 (Leipoldt, 1974; van Zyl, 1975). Many of these exported wines did not survive the journey to Europe and were undrinkable on arrival. Reasons that have been suggested for this include; the poor quality of these wines before they left the Cape; interference by local merchants with the addition of alcohol to increase the volumes that were exported and malicious interference during the journey to Europe by international competitors to damage the reputation of Cape wines (Leipoldt, 1974). There is insufficient historical evidence to support any of these theories, but eventually the poor reputation of dry Cape wines ensured that there was no market for them in Europe. Dry Cape wines therefore had to depend on local consumption, distillation and occasional export to Java as an alternative market.

#### *7.1.1.3 Nineteenth Century: Early Wine Industry in Crisis*

In the early nineteenth century the Dutch eventually surrendered the Cape to the British. The British initially favoured and encouraged the export of wine and brandy from the Cape to Europe and Britain primarily because of the inaccessibility of French markets at the time due to political upheaval (Leipoldt, 1974). The state of the South African vineyards in 1822 is shown in Table 7-1. This data clearly demonstrates that Green Grape (Sémillon) accounted for the vast majority of the vineyards planted (van Zyl, 1975). During this period, wine growers continued to make large quantities of poor quality wine with Sémillon. Grapes were harvested too early, the fruit was crushed by foot and was contaminated with leaves, insects and other foreign material giving the wine an unacceptable earthy taint. Husks were added

to the fermentation vessel which also gave the wine a harsh and unusual flavour. Not surprisingly these wines did not maintain their colour and could not be stored for very long (Leipoldt, 1974).

Eventually the British increased the export taxes for Cape wine making it difficult for local producers to sustain exports overseas. British markets also rejected poor quality Cape wines and sought other wine sources from Spain and the USA leaving Cape producers few options and markets for their wine (Leipoldt, 1974). Concurrently, there were also accounts of severe infestations of Cape vineyards with a variety of pests and diseases including “snoutbeetles” (“snuikewer” or “winger-kalanders”), *Phylloxera* and oidium. Snoutbeetles attack leaves, young shoots and bunches early in the growing season creating holes in the leaves and destroying bunches of grapes (Ferreira and Venter, 1996). *Phylloxera* infection killed many vines during the 1880’s (Leipoldt, 1974; Bortoli, 1992) and oidium was first reported in the Cape in 1859 (Leipoldt, 1974).

**Table 7-1 Wine Grapes and Number of Vines, 1822**

Varietal	Number of Vines	Percentage
Green Grape	21,000,000	93.7
Muscadel	525,000	2.4
Hanepoot	275,000	1.2
Pontac	270,000	1.2
Steen	180,000	0.8
Other	150,000	0.7
<b>Total</b>	<b>22,400,000</b>	<b>100</b>

Adapted from (van Zyl, 1975)

#### 7.1.1.4 Twentieth and Twenty-First Century: Periods of Dramatic Change

By the end of the nineteenth century, the wine industry in South Africa was in economic difficulties and in general disarray with farmers making independent decisions about varieties and pricing of grapes and wine. The government attempted to organise the industry at the producer level by providing grants to farmers working within a cooperative. Many cooperatives developed, but these did not provide a solution. In 1918 the Ko-öperatieve Wijnbouwers Vereniging van Zuid Afrika (KWV) was formed to “control the sale and disposal of products” to always ensure a profit (Leipoldt, 1974; Hands and Hughes, 1997). By 1924, the KWV was officially recognized by the government and its powers were increased so that it could set prices of wine, control interactions between producers and merchants and fix the percentage of wine that could be distilled (Hands and Hughes, 1997). In 1957, the KWV was

also given the power to impose a quota system which dictated what new plant material could be planted and where. These quotas were relaxed and finally abolished in 1992, with a move to a free market situation and the KWV was dissolved by 1996 (Hands and Hughes, 1997).

The South African wine industry opened to international markets after 1994, with 45% of local production being exported (Swart and Smit, 2006). Initially, wine exports were not always of good quality and South African wines were not branded sufficiently in the overseas markets resulting in a decline in exports in 2006 by 11% compared to those of 2005 (Spurrier, 2007). With the global increased interest in red wines due to their supposed health contributions (Frankel *et al.* 1993; Varache-Lembége *et al.* 2000), South African wine growers increased new plantings of red varieties at the expense of established white varieties (van Zyl, 2008; Spurrier, 2007). This resulted in the quality of many South African red wines being poor as the vines were too young to produce grapes of sufficient quality and the vineyard sites chosen were generally not ideally suited to those particular red varieties. In comparison South African white wines were generally of better quality as they were made from older vines and the vines are planted in established areas (Spurrier, 2007). It has been suggested that the Cape wine industry suffers internationally because of questionable branding campaigns resulting in Cape wines not being sufficiently obvious and recognizable to overseas consumers (Spurrier, 2007). Cape producers have also been accused of blindly following market trends and not concentrating sufficiently on exploiting the available *terroir* and resources in the form of established white vineyards (Robinson, 2007a; Rose, 2007).

## 7.2 The Rise of Sémillon

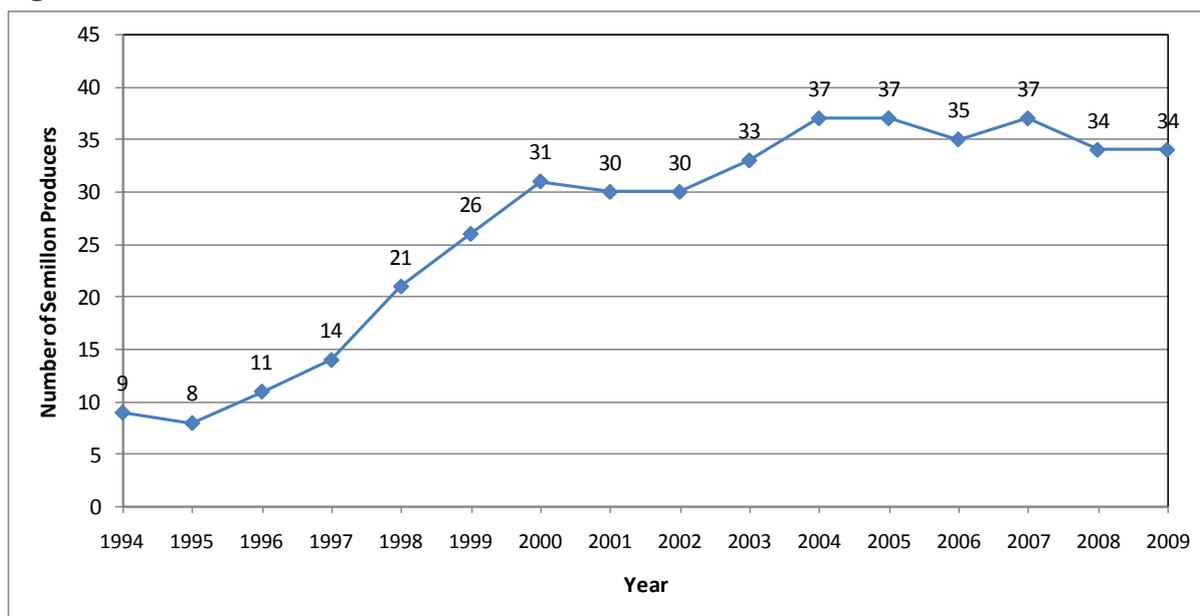
Very little objective quantitative data currently exists to support the argument that there has been a change in the status, perception and quality of Sémillon wines.

The vineyard status of Sémillon has remained small and has not changed significantly since 1999 (SAWIS, 2007b) as discussed in section 2.2.2. These vineyard statistics are therefore not helpful in providing support to the perceived increased popularity of Sémillon. Indicators that support the published and anecdotal evidence that there has been a change in popularity of Sémillon need to be developed or derived.

An indicator to reflect the increase in interest in Sémillon was derived by examining the total number of producers with a Sémillon wine listing in the Platter's South African Wine Guide from 1994 to 2009. Over this sixteen year period there has been a dramatic increase in Sémillon producers in South Africa from nine producers in 1994 to thirty four producers in

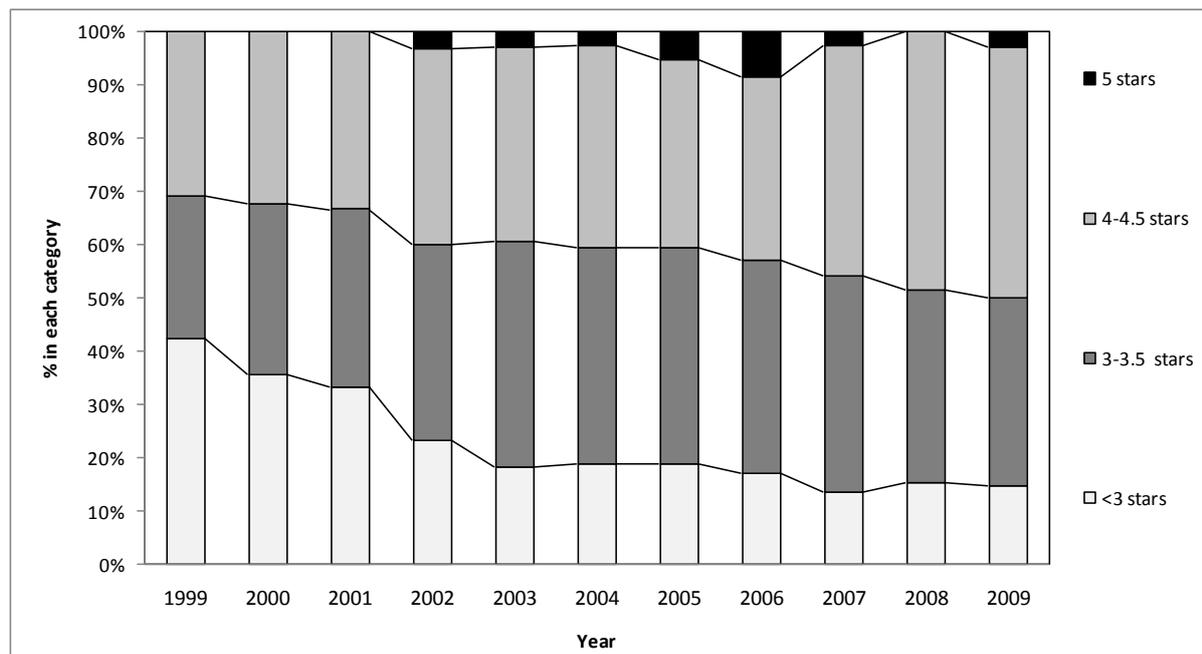
2009. This trend is shown in Figure 7-1 and quantitatively demonstrates the increased support that this varietal has received from South African producers. The interest from producers reached a peak in 2004-2005 and has subsequently reached a plateau. The drawback of this indicator however, is that it does not indicate the quality level of these Sémillon wines.

**Figure 7-1 Number of Sémillon Producers in South Africa 1994-2009**



Source: Platter's South African Wine Guide 1994-2009

In an attempt to provide a quantitative determinant of the quality of the Sémillon wines being produced the ratings of all Sémillon wines listed in Platter's South African Wine Guide during a similar period (1999-2009) was examined. The result of this analysis is shown in Figure 7-2 which clearly shows that there has been a positive change in quality of these Sémillon wines over time. The improvement in the quality of Sémillon is demonstrated in the increase of the two highest categories of wine with both the 5 and 4.5-4 star rated wines increasing from 2002. There is a concurrent decrease in mid-level 3.5-3 star wines and an even more significant steep decline in lower quality wines scoring less than 3 stars from around 2001 supporting the gradual change in better quality wines.

**Figure 7-2 Quality of South African Sémillon 1999-2009**

Source: Platter's South African Wine Guide 1999-2009

However, this indicator of quality is limited as it only reflects the changes in quality for wines that are submitted for tasting by the Platter's South African Wine Guide. To extend the quality indicator the performance of Sémillon in national and international competitions either as a single varietal or a classical white blend with Sauvignon blanc was examined over a five year period (2004-2008). Only the top scoring and trophy wines were included for each of these competitions in the Sémillon and Sémillon/Sauvignon blanc categories. The results, which include the Platter's South African Wine Guide 5 star wines, are shown in Table 7-2 and Table 7-3 respectively. Overall there appears to be an increase in the number of awards in both categories over this five year period. Many producers are consistently represented, for example Vergelegen has received a 5 star award for its Bordeaux white blend since 2004 and Cape Point Vineyards has also been consistently represented in awards for its single varietal Sémillon from 2005. New producers are not very numerous but some are starting to gain recognition for their quality Sémillon wines including Zonnebloem, David Nieuwoudt for his Ghost Corner Sémillon, and Tokara for their white blend.

**Table 7-2 Award Winning Sémillon in South Africa (2004-2009)**

	2004	2005	2006	2007	2008
<b>Platter's Guide:</b> 5 Stars	<ul style="list-style-type: none"> <li>Steenberg Sémillon 2003</li> </ul>	<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2003</li> <li>Vergelegen CWG Auction Reserve Sémillon 2003</li> </ul>	<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2003</li> <li>Steenberg Sémillon 2005</li> <li>Vergelegen CWG Auction Reserve Sémillon 2003</li> </ul>		<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2006</li> </ul>
<b>Wine Magazine:</b> 5 Stars					<ul style="list-style-type: none"> <li>Cederberg CWG Sémillon 2007</li> </ul>
<b>Veritas:</b> Gold & Double Gold		<ul style="list-style-type: none"> <li>Fleur du Cap Sémillon unfiltered 2003 [Gold]</li> <li>Steenberg Sémillon 2005 [Gold]</li> </ul>		<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2006 [Gold]</li> <li>Zonnebloem Sémillon 2007 [Gold]</li> </ul>	
<b>Old Mutual Awards:</b> Gold & Trophy	<ul style="list-style-type: none"> <li>Rijk's Sémillon 2002 [Best Sémillon]</li> <li>Vergelegen Sémillon 1999 [Best Museum Class Sémillon]</li> </ul>	<ul style="list-style-type: none"> <li>Hildenbrand Sémillon 2004 [Best Sémillon]</li> </ul>	<ul style="list-style-type: none"> <li>Landau du Val Sémillon 2004 [Best Sémillon]</li> <li>Buitenverwachting Sémillon 2003 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2005 [Best Sémillon]</li> <li>Cape Point Vineyards Sémillon 2003 [Best Museum Class Sémillon]</li> </ul>	<ul style="list-style-type: none"> <li>Stellenzicht Reserve Sémillon 2004 [Gold]</li> <li>Zonnebloem Limited Edition Sémillon 2007 [Best Sémillon / Best White Wine overall]</li> </ul>
<b>Michelangelo Awards:</b> Gold & Grand d'Or			<ul style="list-style-type: none"> <li>Cape Point Vineyards Sémillon 2005 [Grand d'Or]</li> <li>Deetleefs Wine Estate Sémillon 2005 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Ntida Sémillon 2006 [Grand d'Or]</li> <li>Stellenzicht Sémillon Reserve 2004 [Gold]</li> </ul>	
<b>SA Terroir Awards:</b> National Certificate Winners	<ul style="list-style-type: none"> <li>Ntida Sémillon 2006</li> </ul>				<ul style="list-style-type: none"> <li>David Nieuwoudt Ghost Corner Sémillon 2007</li> </ul>
<b>Decanter World Wine Awards:</b> Gold, Regional & International Winners				<ul style="list-style-type: none"> <li>Stellenzicht Sémillon Reserve 2003 [Regional South Africa White Single Varietal over £10 Trophy]</li> </ul>	
<b>Diners Club Winemaker of the Year</b>	<ul style="list-style-type: none"> <li>2003 Award for Sémillon to John Loubser for Constantia Uitsig Reserve Sémillon 2002</li> </ul>				

Source: Platter's South African Wine Guide 2004-2009

**Table 7-3 Award Winning Sémillon Blends in South Africa (2004-2009)**

	2004	2005	2006	2007	2008
<b>Platter's Guide:</b> 5 Stars	<ul style="list-style-type: none"> <li>Vergelegen White 2002</li> </ul>	<ul style="list-style-type: none"> <li>Vergelegen White 2003</li> </ul>	<ul style="list-style-type: none"> <li>Vergelegen White 2004</li> </ul>	<ul style="list-style-type: none"> <li>Vergelegen White 2005 [Wine of the Year]</li> <li>Cape Point Vineyards Isliedh 2005</li> </ul>	<ul style="list-style-type: none"> <li>Cape Point Vineyards Isliedh 2006</li> <li>Steenberg Vineyards Magna Carta 2007</li> <li>Vergelegen White 2006</li> </ul>
<b>Wine Magazine:</b> 5 Stars					
<b>Veritas:</b> Gold & Double Gold	<ul style="list-style-type: none"> <li>Thandi Sauvignon blanc/Sémillon 2004 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Groot Constantia Sémillon/Sauvignon blanc 2005 [Gold]</li> <li>Thandi Sauvignon blanc/Sémillon 2005 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Groot Constantia Sémillon/Sauvignon blanc 2006 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Flagstone CWG The Weather Girl 2006 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Tokara White 2006 [Gold]</li> </ul>
<b>Old Mutual Awards:</b> Gold & Trophy	<ul style="list-style-type: none"> <li>Vergelegen White 2003 [Best White Blend / Best White Wine overall]</li> </ul>	<ul style="list-style-type: none"> <li>Vergelegen White 2004 [Best White Blend]</li> </ul>	<ul style="list-style-type: none"> <li>Cape Point Vineyards Isliedh 2005 [Best White Blend]</li> <li>Vergelegen White 2001 [Best Museum Class White Blend]</li> <li>Vergelegen Sauvignon blanc Sémillon Blend 2005 [Best Unwooded White Blend]</li> </ul>	<ul style="list-style-type: none"> <li>Vergelegen White 2006 [Best White Blend]</li> <li>Vergelegen White 2005 [Gold]</li> </ul>	<ul style="list-style-type: none"> <li>Tokara White 2006 [Best White Blend]</li> </ul>
<b>Michelangelo Awards:</b> Gold & Grand d'Or					
<b>SA Terroir Awards:</b> National Certificate Winners					<ul style="list-style-type: none"> <li>Strandveld Vineyards Adamastor 2007</li> </ul>
<b>Decanter World Wine Awards:</b> Gold, Regional & International Winners					<ul style="list-style-type: none"> <li>Tokara White 2006 [International White Blend over £10 Trophy]</li> <li>Cape Point Vineyards Isliedh [Gold]</li> </ul>
<b>Diners Club Winemaker of the Year</b>					<ul style="list-style-type: none"> <li>2008 Award for White Blends to Duncan Savage for Cape Point Vineyards Isliedh 2006 (but subsequently annulled)</li> </ul>

Source: Platter's South African Wine Guide 2004-2009

## 7.2.1 South African Sémillon

### 7.2.1.1 *Warm Climate*

The classical warm style Sémillon comes from Franschhoek. The Franschhoek valley stretches in a north-west to south-east direction for about 5 km, has an elevation of 300m and is enclosed by high mountains which influence the temperature (average February temperature is 23.5 °C) and amount of sunlight available in the valley (Swart and Smit, 2006). The soils are predominantly sandstone, with some alluvial soils around river beds. Vineyards are irrigated and most new vines are trellised with occasional bush vines being used. The unique aspect of Franschhoek is that there are extremely old Sémillon vines still available (up to 109 years old) which allow wines of unique flavours to be made. Franschhoek Sémillon wines are made in a “Pessac-Léognan style”, with barrel fermentation and are regarded as having excellent aging potential (Swart and Smit, 2006; Eedes, 2008).

Another warm area involved in premium Sémillon production is Tulbagh which lies in a north-south facing valley also surrounded on three sides by mountains. Most vineyards concentrated near the Klein Berg River (Swart and Smit, 2006). The average February temperature here is warmer at 24.3 °C but the surrounding mountains modulate this temperature by trapping cool air during the night. Temperature is further modified by south-easterly winds and the mountain shadows in the afternoon (Swart and Smit, 2006). Historically this area was exclusively involved in white wine production, but there is a growing interest in red varieties here especially Shiraz (Swart and Smit, 2006).

### 7.2.1.2 *Cool Climate*

Cape Point is a new cool district of the Cape situated behind the mountains of Constantia. It has an annual rainfall of 1,000 mm, is exposed to sea mists and cold winds from the Atlantic ocean and has an average February temperature of 20.6 °C. It is surrounded by mountains and their associated cloud cover further assists to keep the climate cool (Swart and Smit, 2006). The soils are weathered granite of variable fertility. This area has developed a reputation as an area ideally suited to Sémillon and Sauvignon blanc (Eedes, 2005a; Eedes, 2006b; McDonald, 2006b; McDonald, 2008b) as single varieties but also in classical white Bordeaux blends of Sémillon and Sauvignon blanc (Eedes, 2005b; Eedes, 2006a; Eedes, 2007d).

The Sémillon wines produced here are planted on different clones compared to Franschhoek (see Chapter 8) that may also influence their grassy and herbaceous character; however different winemaking techniques are also used in this area with an emphasis on reductive winemaking to preserve the freshness of the wines.

Constantia is also a cool climate area that has excelled in Sémillon production (Eedes, 2007c; Eedes, 2004; McDonald, 2003). Constantia is protected by the southern slope of Table Mountain. The mean annual rainfall is 1,050 mm and the mean February temperature is 20.6 °C. Constantia is also only 10 km away from False Bay and so sea breezes moderate day time temperature (Swart and Smit, 2006). This combined with cloud cover, overnight condensation and mountain shadows lead to conditions that are favourable for *Botrytis cinerea* infection in the noble form (Swart and Smit, 2006). The soils are acidic decomposed granite with good water retentions. Both red and white varietals do well in Constantia and Sémillon is produced as either single varietal barrel fermented, botrytis infected or as a premium Sémillon/Sauvignon blanc blend.

Durbanville, another cool area involved in premium Sémillon production area, is sandwiched between two mountain ranges, the Tygerberg and the Kanonkop. The average annual rainfall is 500 mm and this area is considered cool because of the maritime influence directly from the Atlantic Ocean (10 km away) and False Bay (28 km away). So although the mean February temperature is 22.4 °C, the sea breezes modify this down by at least 5 °C (Swart and Smit, 2006). Durbanville produces excellent cool climate white wines, including Sémillon and Sauvignon blanc.

Elim is a promising new area near Cape Agulhus in the southern Cape. There is a strong maritime influence on these vineyards, with strong cool breezes influencing the vineyard orientation and trellising resulting in bush vines being favoured. Some premium single varietal Sémillon wines being produced as well as excellent SSB blends (Eedes, 2005b; Eedes, 2007a; Eedes, 2007d).

### **7.3 Sémillon Sauvignon Blanc Blends**

Until the early 1980's South Africa was focussed mainly on single varietal whites, especially Sauvignon blanc, Chenin blanc and Chardonnay. White blends were viewed as either cheap inferior wines at the bottom end or "ego driven" at the top end of the market (Simon, 2004). But Sémillon may need to depend upon the recent revival and increasing popularity of white blends in South Africa for its continued existence (McDonald, 2008a). This revival of white blends occurred some time in the early 1980's with producers like Vergelegen developing a premium Sémillon/Sauvignon blanc white blend to match their flagship red Bordeaux blend (Fridjhon, 2008). There was also a realisation by winemakers and marketers that these wines had more potential than single varietal wines (Simon, 2006) and that South Africa

shared similar *terroir* to Margaret River in Western Australia renowned for its Sémillon/Sauvignon blanc blends (Fridjhon, 2008).

Although South African white blends still suffer from offering a confusing array of varietal combinations (Eedes, 2006a; Eedes, 2007a; Eedes, 2007d), classical categories in the form of Bordeaux or Rhône style blends are being increasingly embraced (Simon, 2006; Eedes, 2005b; Eedes, 2007b) but with local modifications which make these blends unique. This is especially true for Bordeaux white blends, which unlike the majority of white Graves and quality Pessac-Léognan blends that are usually Sauvignon blanc predominant with some Sémillon added (Robinson, 2006; Ryman, 1992), these proportions are not always respected in South Africa with increased proportions of Sémillon being used creating a uniquely South African interpretation of Bordeaux white blends (Simon, 2006; Simon, 2004; McDonald, 2006b).

#### **7.4 Summary of Sémillon's Fall and Rise**

Table 7-4 provides a summary of the discussion from section 7.1 which has outlined the "Fall" of Sémillon by examining the establishment of Sémillon in Cape vineyards, reasons for its popularity and its subsequent change in status. Table 7-4 also summarises the discussion in section 7.2. which outlines the varying styles of Sémillon produced in South Africa, reviews the changing attitudes to this varietal and demonstrates the increased attention and quality wines that Sémillon wines have attracted.

**Table 7-4 Summary of the Factors Contributing to the "Fall" and "Rise" of Sémillon in South Africa**

“Fall” of Sémillon	“Rise” of Sémillon
<ul style="list-style-type: none"> <li>▪ C17th: Poor quality dry Cape wines due to poor techniques.</li> <li>▪ C18th: Increased challenges to wine growers, poor viticultural and vinicultural techniques and continued production poor quality dry wine.</li> <li>▪ C19th Poor quality dry wines rejected by markets overseas, increased taxation and pests including <i>Phylloxera</i> leading to the destruction of many Cape vineyards.</li> <li>▪ C20th: Economic difficulties of wine trade. Increased taxes and no markets. Many farmers change to other crops. Restrictive quota system of KWV.</li> <li>▪ Bad reputation of Sémillon: used for bulk wines and low price blends and planted on inappropriate sites.</li> <li>▪ Confusing variety of wine styles for consumer.</li> <li>▪ Little marketing of single varietal Sémillon.</li> <li>▪ Low prices of Sémillon grapes and wines.</li> <li>▪ Unattractive economically because wine made with barrel fermentation which is expensive and cannot be released immediately.</li> <li>▪ Prolonged bottle aging problematic for consumers that require more instant gratification.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Good international reputation of South African white wines.</li> <li>▪ Increased recognition of the merits of this varietal with increased number of producers from 1994-2009.</li> <li>▪ Increasing favourable attitudes in the press, wine publications and reviews by critics.</li> <li>▪ Increasing quality of single varietal Sémillon and blends demonstrated by increasing status of these wines in recognised publications and awards.</li> <li>▪ Careful attention and production of premium Sémillon wines by elite winemakers with good reputations.</li> <li>▪ Recognition of the versatility and food pairing of Sémillon wines.</li> <li>▪ Good reputation and increasing appreciation of sweet wines of Sauternes.</li> <li>▪ Increasing global and South African market appreciation of Sémillon/Sauvignon blanc blends.</li> <li>▪ Increasing production of fresh, green Sémillon styles that can be released quickly and provide an alternative to Sauvignon blanc wines.</li> </ul>

## 7.5 Planting Sémillon in South Africa

Various interrelated factors will influence the decision of a producer to plant a particular varietal at a particular site. These factors are summarised in general terms in Table 7-5 to provide an overview of the factors that generally need to be considered. The table is not comprehensive but intended to provide guidance at a glance for a producer considering the advantages and disadvantages for planting Sémillon vines.

**Table 7-5 Factors to Consider in Deciding to Plant Sémillon**

	<b>Advantages</b>	<b>Disadvantages</b>
Viticulture	<ul style="list-style-type: none"> <li>▪ High yields, profitable per tonne</li> <li>▪ Disease resistant</li> <li>▪ Availability of suitable good quality virus free clones (GD1, GD14, GD 121)</li> <li>▪ Availability of suitable nematode resistant rootstocks (R99, 101-14)</li> <li>▪ Reflects <i>terroir</i> and grown successfully on range of <i>terroirs</i> in South Africa already</li> </ul>	<ul style="list-style-type: none"> <li>▪ High yields, poor quality fruit with low acids only for bulk wines and blending</li> <li>▪ Sheltered vineyard needed because susceptible to wind damage</li> <li>▪ Susceptible to <i>Botrytis cinerea</i> infection need appropriate trellising and canopy management which is labour intensive</li> <li>▪ Susceptible to nematode infection, must select appropriate rootstocks (R99, 101-14)</li> </ul>
Vinification	<ul style="list-style-type: none"> <li>▪ Most cellar techniques are standard for white wines</li> <li>▪ Can produce young, fresh green flavoured wines to be sold immediately</li> <li>▪ Can produce wine for blending with Sauvignon blanc in classical blends or other white wines</li> <li>▪ If infected with noble rot can produce good noble late harvest wines</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can produce bland and neutral wine</li> <li>▪ Barrel fermentation is expensive</li> </ul>
Market	<ul style="list-style-type: none"> <li>▪ Increasing number of producers</li> <li>▪ Dedicated premium producers</li> <li>▪ Increasing support from wine press and literature</li> <li>▪ Increase international regard for South African white wines</li> <li>▪ Increased popularity of white Bordeaux blends</li> </ul>	<ul style="list-style-type: none"> <li>▪ Confusing array of wine styles</li> <li>▪ Not well known as a single varietal wine</li> <li>▪ Associated with poor quality, bulk wine</li> <li>▪ Increasing demand for wines for immediate consumption</li> <li>▪ Poor market for sweet wines</li> </ul>
Economics	<ul style="list-style-type: none"> <li>▪ Premium wine prices for single varietal Sémillon and white Bordeaux blends considerable</li> <li>▪ Comparable prices for Sémillon grapes and wines compared to other popular white varietals</li> </ul>	<ul style="list-style-type: none"> <li>▪ Expensive to hold back wines for maturing before release</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ Premium niche market that is prepared to pay for good wines</li> <li>▪ Excellent food matches</li> <li>▪ Good aging potential</li> </ul>	

## **CHAPTER 8: SURVEY OF A SAMPLE OF PREMIUM SOUTH AFRICAN SÉMILLON PRODUCERS**

### **8.1 Outline and Objectives**

Published information on Sémillon in South Africa is scanty and found mainly in the popular press either in magazines, newspapers or on websites (Eedes, 2005a; Eedes, 2006b; McDonald, 2007; McDonald, 2003; McDonald, 2004b; Robinson, 2007b; Mullins, 2007). These articles are primarily aimed at increasing the profile of this varietal for the consumer and only occasionally provide detailed information about premium Sémillon production, in particular specific viticultural and vinicultural practices. Annual statistics available from the South African Wine Industry and Information Systems (SAWIS) discussed above in section 2.2 also provide some general information on the changing status of Sémillon in South Africa but this information is not specific and considers all producers from particular areas together making it difficult to determine which statistics apply to premium Sémillon production.

The objectives of this survey were to assess various viticultural parameters, preferred methods of vinification and opinions of winemakers, and producers involved in making premium Sémillon in South Africa. The key opinions assessed related to the reasons for the decline of Sémillon vineyards, the most successful styles of Sémillon wine and its likely future or “rise” in South Africa.

### **8.2 Methods**

A basic questionnaire of ten questions (5 closed and 5 open ended) was designed to determine; viticultural and vinicultural practices in producing premium Sémillon wines; opinions for Sémillon’s decline and opinions on the current status and likely future of Sémillon in South Africa. The questionnaire required approximately 20 minutes to complete (See **Appendix**).

Fifteen potentially eligible premium Sémillon producers for both wooded or unwooded Sémillon wines scoring 4 stars or more were identified in the 2008 Platter Guide (van Zyl, 2008). Twelve of these producers fulfilling these criteria were included in the survey. Three producers were excluded (Eikendal, Jack & Knox Winecraft and La Bourgogne Farm). Two other producers that scored less than 4 stars in the 2008 Platter Guide (van Zyl, 2008) were included instead either because they exclusively produce Sémillon (Landau du Val) or recently won a trophy for single varietal dry Sémillon (Zonnebloem, Best White Wine Trophy,

Old Mutual Wine Awards, 2008) (Wine Magazine, 2008). Eleven producers of wooded and three producers of unwooded Sémillon were selected in this way giving a total sample of fourteen producers approached.

The questionnaire was sent via email to either the winemaker if their email address was available or to one of the staff responsible for sales and communication. In the introductory email, an offer was made to conduct the interview telephonically if that was preferred and a suitable time and contact number was requested. If no response was obtained a week after the first email, a follow up email was sent and then a phone call was made to enquire about setting up an appointment to discuss the questionnaire. If an appointment could not be obtained, a second phone call was made and details regarding the survey left with the relevant staff. A final third attempt to contact the winemaker or owner was made by telephone and email. After which the producer was excluded as a non-responder.

### **8.3 Results**

Of the fourteen producers invited to assist in completing the questionnaire, thirteen responded (response rate of 93%). One producer (Buitenverwachting) producing unwooded Sémillon did not respond to either email or telephonic follow up. Of those that responded, 66% of the questionnaires were returned with written responses either by email or fax, in two cases further communication with the winemaker or owner occurred telephonically too. The remaining questionnaires were completed telephonically except for one instance where a face-to-face interview was conducted with the winemaker (Vergelegen).

Table 8-1 shows the producers that participated in the survey listed alphabetically, the primary respondent for the survey, the area (region, district, and ward) where the producer sources their Sémillon grapes, if this is generally considered a cool or warm area and whether wooded or unwooded Sémillon is usually produced.

**Table 8-1 Details of the Producers that Participated in the Sémillon Survey**

Producer	Respondent	Area	Climate <sup>a</sup>	Style	Response <sup>b</sup>
Boekenhoutskloof	Rudiger Gretschel	Franschhoek	W	Wooded	T
Cape Point Vineyards	Duncan Savage	Constantia	C	Wooded	E/F
Cederberg	David Nieuwoudt	Cederberg	C	Wooded	T
Constantia Uitsig	Andre Rousseau	Constantia	C	Wooded	E/F
Fairview	Anthony De Jager	Darling	C	Wooded	E/F
Landau du Val	Basil Landau	Franschhoek	W	Wooded	E/F/T
Nitida	Reginald Botha	Durbanville	C	Wooded	E/F
Rijks	Pierre Wahl	Tulbagh	W	Wooded	T
Steenberg	Ruth Penfold	Constantia	C	Wooded	E/F/T
Stellenzicht	Guy Webber	Stellenbosch	C	Unwooded	E/F
Stony Brook	Nigel McNaught	Franschhoek	W	Wooded	T
Vergelegen	André van Rensburg	Stellenbosch	C	Wooded	I
Zonnebloem	Deon Boschoff	Perdeberg	C	Unwooded	E/F

<sup>a</sup> Cool area = C, Warm area = W; <sup>b</sup> Email or fax response = E/F, Telephonic = T, Interview = I

### 8.3.1 Viticulture

The viticultural findings of this survey are summarised in Table 8-2 below.

Overall, the total number of hectares of Sémillon grapes at each of these farms was relatively low, ranging from 1-19 ha and an average of 4 ha currently planted. For the producers that were aware of when Sémillon was first planted on the farm, there was an average of 3.6 ha planted on farms in the 1990's.

**Table 8-2 Summary of Viticultural Results**

Producer	Sémillon First Planted	First Vines (ha)	Current (ha)	Change (%)	Age Vines (Years)	Clones	Rootstock
Boekenhoutskloof	1997	1	1	0	11	Unknown	Unknown
Cape Point Vineyards	1998	1.14	2.04	78.9	1-10	New GD1, Old GD14, GD315	New 101-14, Old R110
Cederberg (Elim)	1998	3	3	0	10	Unknown	Unknown
Constantia Uitsig	1993	1.5	1.5	0	15	GD14	101-14
Fairview	1920	20	4	-80	6	Unknown	R99, R110
Landau du Val	Unknown	Unknown	4.8	-	103	Unknown	Unknown
Nitida	1996	1	2	100	12	GD1	R110
Rijks	1997	1.12	1.12	0	11	GD121	101-14
Steenberg	Unknown	-	4.58	-	15	Unknown	-
Stellenzicht	1988	4.28	2.46	-42.5	14.5	Unknown	R99, R110
Stony Brook	1996	1	1	0	12	New GD1, Old GD 121	101-14, R99/R110
Vergelegen	1988	Unknown	19	-	1-20	Unknown	101-14, R110
Zonnebloem	1997	1.97	5.2	164	9	GD1	R99

Data regarding first plantings of Sémillon was only available from eleven producers, of which only three producers (Cape Point Vineyards (CPV), Nitida and Zonnebloem) showed an increase in Sémillon plantings from the first time that Sémillon was planted to the present. All three are considered cool climate producers and showed a 79.8, 100 and 164 % increase in Sémillon plantings during this period respectively. Although no data exists for the date of the

first plantings of Sémillon at Vergelegen, it is assumed that Sémillon must have been planted here during the time of Willem Adriaan van der Stel. The new era of Sémillon vineyards at Vergelegen began in 1988 and currently consists of a total of 19 ha, of which 13 ha are 20 years old, 2 ha are 4 years old and there is also a 4 ha virus free foundation block. The intention of this foundation block is to supply the industry with virus free stocks. It has been planted on a site that has not been cultivated before, at least for the last 300 years. The quality of the fruit from these vines is currently not known.

For the remaining producers that have data reflecting initial plantings, there was a dramatic decrease by 80% at Fairview and 42.5% at Stellenzicht. But the percent change could not be calculated for producers that did not have data on initial plantings. There was an overall 9.4% decrease in Sémillon plantings across all the producers, with five of the producers (Boekenhoutskloof, Cederberg, Constantia Uitsig, Rijk's and Stony Brook) showing no change in plantings since the varietal was first planted on the farm. The vineyards that Cederberg sourced their grapes from are in the cool area of Elim, near Cape Agulhas. These vineyards are exposed to severe winds to which Sémillon is particularly susceptible. Similarly the Sémillon vineyards at Vergelegen are constantly exposed to wind. According to the winemaker at Vergelegen, the constant wind damage of the canopy releases plant growth regulators ultimately resulting in thick skinned berries which are high in phenols.

The age of the vines were also variable, with some of the grapes being used from extremely old vineyards in Franschhoek ranging in age from 43-109 years old. If these very old vineyards and recent vineyards of one year are excluded from the calculation, the mean age of Sémillon vineyards in this survey was 12.1 years (range 6-20 years). Some of the producers in Franschhoek also sourced grapes from other growers in the area, specifically from vineyards with older Sémillon vines or those planted on alluvial soils with a high proportion of clay. These particular vineyards are not elevated, with the highest being a 43 year old vineyard on east facing slopes at an altitude of only 250 m above sea level. It is known that the vines from these vineyards are also infected with Leaf Roll Virus (LRV) to some degree. However this was viewed by the particular winemaker as a factor that assists in producing premium wines as the yields from the infected vines are extremely low and are thought to be of high quality. The fruit from these older infected vines also does not have any obvious primary fruit characteristics associated with younger Sémillon. The opinion that infection with LRV is advantageous is shared by the other winemakers and producers in Franschhoek included in this survey from Landau du Val and Stony Brook. Stony Brook similarly has 1 ha of vines planted on black alluvial soils on the farm and access to fruit from older Franschhoek vines (12 and 60 years old) may be used for their Reserve Sémillon

depending on the harvest and the quality of the fruit. The yields from the older vineyards are dramatically low in the region of 1.5-2 tons/ha.

The soil and aspect information from the other producers that participated in the survey was varied. The other warm climate producers that were surveyed were La Brie in Franschhoek and Rijk's in Tulbagh. The vines at La Brie farm from which the Landau du Val Sémillon is made from are planted on Clovelly soils and the vineyards are on East facing slopes. The sites chosen for Sémillon at Vergelegen are south facing at an altitude of 220 m, on decomposed granite with some clay and are not irrigated. The Vergelegen Sémillon yields are low, approximately 4-5 tonnes/ha. At Rijk's the soils are vertical Malmesbury shale with topsoil of 300 mm, then a thin layer of clay. The farm is on a series of slopes and row direction and sites are matched to the varietal. The 0.35 ha of Sémillon is an east-west vineyard on a westerly slope and 0.77 ha planted as a north-south slope on an easterly facing slope. The Sémillon vines here are trellised in a double cordon and yields are kept low at 8 tons per ha. The Elim vineyard from which Cederberg sources their Sémillon grapes from is on a yellow slate soil.

In many instances the details of the clones were not known. For those producers that were aware of the clones used, the majority of the older vines were the local GD 121 clone. Red mutations of this clone have apparently occurred in some older Franschhoek vineyards and these unusual grapes were vinified successfully as a sweet red wine at Stony Brook. Many of the newer vineyards have been planted with GD1 which is the best clone for the grassy character of this varietal (WineLand, 2006). GD1 is used exclusively at Nitida, Zonnebloem and in the newer vineyards at Cape Point Vineyards (CPV) and is "prone to pyrazines" as noted by Nigel McNaught of Stony Brook. The GD 355 clone also has enhanced herbaceous characters (WineLand, 2006) and is used at CPV as well.

Rootstock information was also not available for some of the older vines. The choice of rootstocks were mainly dependent on the types of soils in the vineyards but the commonest that were used on most soils with a clay character was 101-14. The other two rootstocks that were used extensively were Richter 99 (R99) and Richter 110 (R110).

Both CPV (McDonald, 2004a) and Steenberg (McDonald, 2003) (Eedes, 2007c) have well established reputations of possessing unique cool climate *terroir* that allows these producers to produce exclusive and expressive wines, especially Sémillon and Sauvignon blanc. At CPV the earlier plantings of Sémillon were on rich sandy soils, not at very high altitudes with a south west aspect. The new vineyards planted at CPV are at higher altitudes, with south

and south westerly aspects planted on rocky decomposed granite and sand stone soils. At Steenberg, the Sémillon vines are planted on decomposed granite with some clay and loam soils like Clovelly and the premium block is on the highest slopes with a south south-east orientation. At Constantia Uitsig there are duplex sandy soils with clay below and the vineyard is planted in a east-west orientation on a low lying part of the farm and irrigated using a neutron probe to ensure water is distributed at the optimal time to ensure vine growth. The growth of the vines is vigorous under these conditions, but the yields are kept low at 7.5 tons/ha.

Fairview, sources their grapes from the Durbanville area which is also considered a cool climate and their Sémillon vineyards are planted on deep Oakleaf soils east facing slopes that were not irrigated, with an average rainfall of 450-650 mm per year and average summer temperature of 22-23 °C. Stellenzicht, another well known producer of dry Sémillon owned by Distell, has their Stellenbosch vineyards of this varietal growing on a combination of Tukulú and Oakleaf at an altitude of 260 m above sea level. The Sémillon vineyards for the Zonnebloem Sémillon Limited Edition 2007 that won the Best Sémillon and Best White Wine Overall Trophy at the Old Mutual Wine Show 2008 (Wine Magazine, 2008), are in the cool Perdeberg on westerly slopes on deep shale, granite and sand stone soils with only occasional irrigation. The vines are either trellised or grown as bush vines and fruit from both of these vines are used for this particular wine. The grapes from the bush vines are viewed as superior to those from trellised vines at Zonnebloem.

### 8.3.2 Viniculture

To keep the questionnaire to a manageable 20 minutes duration and not over burden respondents to ensure a good response rate, many of the harvesting (picking date, grape sugar, acidity and pH) as well as early procedures in the cellar (crushing, skin contact, pressing) were not discussed, however, a few winemakers offered more details regarding these methods.

At Boekenhoutskloof, depending on the vintage and the quality of the grapes, whole bunch pressing, with settling overnight in cold temperature controlled tanks is practised. Fermentation is with cultured yeasts and occurs at 13-14 °C in 100% new French oak barrels. Malolactic fermentation (MLF) is not encouraged to retain the natural acidity of the wine and the wine is matured for 13 months on the lees. Before release wines are further matured for 2 years in the bottle. The yeast used for the Boekenhoutskloof NLH wine is a classical yeast strain from Sauternes, ST8. Maturation at the other Franschoek producers

is similar, in the barrel with lees contact for a period of 11 months at Landau du Val and 10 months at Stony Brook with frequent bâtonnage. At Rijk's primary fermentation occurs in combination of barrels; 20% new, 40% second fill French oak and 40% third fill Hungarian barrels for 11 months.

At Vergelegen, the grapes are whole bunch pressed and no SO<sub>2</sub> is added. The wine is made in an oxidative fashion to assist with the control of the high phenol content of the must obtained derived from relatively thick skinned berries that occur due to severe wind exposure. The must is fermented with cultivated yeasts, either Vin 7 or DV10. The latter yeast is chosen because it produces sulphur as a metabolite which suppresses MLF. MLF is discouraged with Sémillon wines because of the low acidity of this varietal. The wine is barrel fermented and matured in new 225 litre barrels for 3-4 years.

In the cool climate vineyards of CPV, wild yeasts (previously the Vin 7 strain of yeast was used) are used for fermentation and maturation on the lees occurs for 10 months in a variety of vessels including barrels, stainless steel tanks and clay amphorae. At Constantia Uitsig cultured yeasts are used (Vin 13 or Vin 7) and the wine is matured in second and third fill French oak barrels for not longer than 7 months. At Steenberg the Sémillon is inoculated in the tank with the Vin 7 strain of yeast with added nutrients and fermentation assistants to ensure complete fermentation and avoid the problem of stuck fermentation which has previously occurred. The wine is moved to new French oak barrels to continue fermentation and is left there for 4-5 weeks on the gross lees with weekly bâtonnage, fined and bottled.

Cederberg is unique among the producers interviewed in that the grapes used for their Sémillon are grown in Elim and transported a considerable distance to the Cederberg for vinification. Harvesting is by hand and grapes are placed in small crates and shipped under refrigeration to the Cederberg cellar. Only free run juice is used and the juice is allowed to macerate for about 8 hours. Then two thirds of the wine is fermented in stainless steel and the remaining third in new French oak for a 4-5 month period on the gross lees at 11-12 °C. The lees from Sauvignon blanc are also added to increase the complexity of the Sémillon. The winemaking process is reductive with as little exposure to oxygen as possible. MLF is not allowed. After the maturation period the wine from the stainless steel tanks and barrels is blended, approximately 5% Sauvignon blanc added and bottles. Fining is not done.

At Nitida there is even less wood contact, the wine is matured in barrels, lees and stainless steel but kept in barrels for only 12 weeks with lees contact. Before bottling it is blended with unwooded wine to preserve the fresh character of this wine. A similar procedure is followed

at Stellenzicht, where free run juice is collected into stainless steel tanks at 5 °C then while still in stainless steel it is inoculated with WE14 yeasts. Two thirds of the wine is barrel fermented in new French oak for 11 months with weekly bâtonnage and one third continues its maturation in stainless steel and blended with the wooded wine before bottling. Zonnebloem ferments in stainless steel tanks with 3 months of lees contact with no wood contact.

Boekenhoutskloof, CPV and Fairview are all well known for producing sweet NLH Sémillon wines, however since noble rot infection is unpredictable and costly these wines are only produced in years that natural infection of the vineyards occurs and there are dry conditions during autumn to allow as full an infection of the vineyards as possible.

### 8.3.3 Opinions

Most winemakers were of the opinion that Sémillon has a bad reputation in South Africa. It is viewed as a bulking wine because of its high yields, used for distillation and to expand volumes of medium to low quality blends for the lower end of the market. Some producers felt that many of the poor wines made from Sémillon in South Africa are due to this varietal being planted on inappropriate sites. A few producers even noted that Sémillon was sometimes not even viewed as one of the classical noble varietals and that the prices paid for Sémillon were too low for farmers to remain economically viable if they continued growing this variety. Therefore, most producers preferred to plant varietals that were easily recognised by the consumer, creating a market for Chardonnay and Sauvignon blanc. Another economic factor noted by the Peter Wahl from Rijk's that influenced the decrease in Sémillon vines was due to the natural acidity of Sémillon being low, some producers are forced to add tartaric acid to achieve balance. This added cost is ultimately not profitable and producers have shifted to other varietals like Sauvignon blanc that do not require acidification.

The poor image of Sémillon has resulted in many producers uprooting their Sémillon vineyards and replaced them with Sauvignon blanc, Chenin blanc and red varietals (Cabernet sauvignon and Shiraz) that have an increasing market demand since the 1990's. The impression most winemakers have is that this uprooting of Sémillon vines was linked to and aided by the elimination of the Ko-öperatieve Wijnbouwers Vereniging van Zuid Afrika (KWV) quota systems, especially in areas that were never viewed by the KWV as quality producing areas like Franschoek.

Andre van Rensburg from Vergelengen indicated that mainly economic factors influenced the success of Sémillon in South Africa. He describes Sémillon as a “white red wine” because Sémillon made as a barrel fermented wine requires prolonged cellar maturation which is costly for producers as they need to purchase quality barrels for this maturation and need to delay release of wines for sale for three to four years. He felt that producing white wines that could not be released quickly due to prolonged maturation led to cash flow problems for many producers.

Some winemakers noted that another factor contributing to the unpopularity of this variety is that consumers are not aware of the wines that are produced by Sémillon since the wine styles are too diverse and too subtle in taste. The styles include single varietal dry wines, white blends and sweet wines. This unpredictability makes consumers uncomfortable and they would rather choose a varietal wine or blend that they recognise and are sure of the taste profile. Since the flavour profile of Sémillon is also subdued, it is difficult to build a convinced consumer base in the mid-range market.

There was some support for single varietal Sémillon wines. Deon Boschhoff from Zonnebloem felt that the new cool climate herbaceous style of Sémillon has been successful in raising the profile of the varietal with South African consumers. The winemaker at Constantia Uitsig supported this noting that there is a perception that nurseries have increased grafting Sémillon vines to meet an up-swing in demand for this varietal. He felt that winemakers are responding to the usefulness of Sémillon in the cellar and also to the awareness that Sémillon is an excellent food wine. Anthony de Jager from Fairview felt that the popularity of Sémillon was cyclical and that currently there is renewed consumer and producer interest in Sémillon. This opinion was shared by Basil Landau from Landau du Val who felt that there is a steady increase in interest in Sémillon as a unique wine offering something different and as a blending partner with Sauvignon blanc. Guy Webber from Stellenzicht supported the rise of Sémillon since this variety suits the South African climate and grows well here, but also because it is “nicer to drink than Chardonnay as it tends to have more of the Sauvignon blanc freshness, which is particularly suited to our climate”.

But many winemakers remained unconvinced and felt that consumers continue to remain resistant to the merits of Sémillon. The winemaker from Vergelegen felt that Sémillon wines were a niche market for discerning consumers and held little hope for these “cult” wines to increase in popularity on their own. This was supported by many of the producers that viewed this category as being unlikely to develop very much in the future except for a small group of dedicated and “knowledgeable” consumers that support these types of wines due to

their food matching capabilities and longevity qualities. Van Rensburg felt that the only way that the average consumers could be persuaded to drink Sémillon would be in commercial blends or classical blends with Sauvignon blanc. This was supported by the majority opinion that indicated Sémillon's survival had to be paired with the more fashionable Sauvignon blanc in white blends.

The three most supported wine styles for Sémillon predominant wines were barrel fermented wooded wines, blends with Sauvignon blanc and NLH sweet wines. Winemakers cautioned that wooding needs to be restrained so as not to overwhelm the character of these wines. There was a general consensus that white blends with Sauvignon blanc were on the rise and showed tremendous potential as the richness of Sémillon balanced the acidity of Sauvignon blanc producing well balanced wines. There was some support for the young and zesty unwooded Sémillon wines made in a young Hunter Valley style especially from Duncan Savage at CPV, Anthony de Jager from Fairview and Deon Boschoff from Zonnebloem. Apart from Deon Boschoff who felt that this type of wine had a very positive future, the other two winemakers shared the opinion that although these young Sémillon wines have the potential to become everyday drinking wines they were not as striking as Sauvignon blanc wines and so many consumers still prefer Sauvignon blanc. Some winemakers also dismissed this unwooded wine style as being "too acidic" with not enough of the herbaceous characteristics of Sauvignon blanc and therefore not appealing to consumers.

#### **8.4 Conclusions**

Success with Sémillon cannot be attributed to one factor and producing premium Sémillon in South Africa depends on multiple factors including *terroir*, age of vines, vine clones, trellising, handling in the cellar as well as personal opinions and enthusiasm for this varietal as a single varietal dry wine, a blend with Sauvignon blanc or as a NLH wine.

This survey has verified that Sémillon vineyards capable of producing premium Sémillon wines exist but are small, ranging in size from 1 to 19 ha, and of variable age with the oldest vineyards (109-43 years) found in Franschhoek. Overall there has been a 9.4% decrease in premium Sémillon vineyards and new plantings are infrequent. The average age of the vineyards was 12.1 years and only Zonnebloem, CPV and Steenberg are currently expanding their Sémillon vineyards. The choice of rootstock was not viewed as a critical determinant of quality Sémillon and the rootstock depended largely on the soils. Many of the soils in the farms surveyed had some clay components, notable exceptions being Zonnebloem, CPV, Vergelegen and Steenberg.

Clones were viewed by the winemakers as important determinants of the fruit produced and ultimately the wine made. Although it is not known for certain it was suggested that the oldest vines in Franschhoek were most probably GD121 clones. This is in all probability correct and is supported by information from an important nursery currently providing Sémillon vines to the industry (Barnes, 2009). The availability and characteristics of the various Sémillon clones available in South Africa are outlined in detail in section 4.3. The respondents in this survey generally used the GD1 clone for new plantings because of its characteristic fruit with herbaceous flavours (WineLand, 2006), reflecting the demand from consumers for fresher and more herbaceous wines. Existing plantings of the GD 315 and GD 14 clones were found in some of the older vineyards. Notably GD 14 is grown exclusively at Zonnebloem. Some winemakers felt that GD14, a French clone (WineLand, 2006), produces large berried fruit which tends to dilute the flavours of the grape and it was not viewed favourably. Although the French origins of the GD14 clone were supported by the viticulture expert that was interviewed, the size of the berry for GD14 does not appear to influence the wine quality since GD14 berries are in fact usually smaller than the more popular GD1 berries (Barnes, 2009).

Diverse vinification techniques were used by the premium Sémillon producers in this survey and there was no consensus regarding the use of cultured or wild yeasts, fining, oxidative or reductive styles and bottle aging. There was some concern about stuck fermentations with wild yeasts and many producers used a variety of cultivated yeasts (Vin 7, Vin 13, WE14, DV10) to assist with fermentation with the occasional addition of nutrients and fermentation assistants (Steenberg). Some producers used wild yeast exclusively (CPV) and others used a combination of wild and cultivated (Stony Brook, Rijk's).

Most of the winemakers agreed on cold fermentation in either barrels or stainless steel and preventing MLF to preserve the natural low acidity of this varietal wine. The barrels used were mainly French with Rijk's also using Hungarian barrels. The proportion of 100% new barrels varied with some producers favouring second and third fill barrels (Constantia Uitsig) or combinations of all three (Rijk's). The duration of barrel fermentation ranged from 5 and 12 weeks at Steenberg and Nitida respectively to 13 months at Boekenhoutskloof, and the average duration at the other producers was 11 months. Lees exposure was universally used to increase the complexity of the wines with various bâtonnage intervals, but usually on a weekly basis. At some producers (Nitida and Stellenzicht) there was blending of the barrel fermented wine with unwooded wine to maintain some freshness in the final product. David Niewoudt from Cederberg expressed his desire to make something different and not to

follow the “general recipe” that South African winemakers use for Sémillon of “11 months barrel fermented one third in new fill and two thirds in second fill barrels”. He emphasised the need for a South African white blend identity to be developed and that this was the obvious future for Sémillon.

Although this survey is relatively small, many of South Africa’s premium Sémillon producers from different wine growing areas responded. These responses demonstrate that there is some agreement among premium Sémillon producers regarding certain viticultural and vinicultural factors contributing to premium wine production, including using fruit from older vines, specific vine clones, bush vines, ensuring relatively low yields and sensitive barrel fermentation. Controversially infection with LRV was viewed by the Franschhoek producers as contributing to increased wine quality, not only because of decreased yields but as expressed by Nigel McNaught from Stony Brook, because it influenced the organoleptic characteristics of the wine made from this fruit with decreased primary fruit flavours and more developed secondary flavours.

Even with this limitation and the fact that there are multiple factors influencing the production of premium Sémillon, there appear to be two broad but distinct types of premium dry Sémillon made in South Africa depending on whether they are produced in warm or cool climates. The first type are wines that are made for prolonged bottle aging and the second those that are accessible sooner, are herbaceous and light but can also age in the bottle (McDonald, 2004a; McDonald, 2006b). Both types of wines are made in a similar fashion by dedicated producers, generally in small quantities with variable durations of barrel fermentation and lees exposure. The cool climate vineyards are generally younger and planted with GD1 clones whereas the fruit from warm climate vineyards in Franschhoek are from very old vines most likely GD121 clones. In spite of these obvious viticultural differences there is a trend for wines from cool regions (Constantia, Durbanville, Cederberg, Pederberg) to be more herbaceous and fresh in style compared to those from warmer areas like Franschhoek and Tulbagh that require prolonged bottle aging to reach their full potential. Many warm climate Sémillon wines although excellent when aged do not score well in competitions when tasted young and are therefore not popular with consumers (Eedes, 2008) since most modern consumers do not have the patience for prolonged cellaring and require wines that are immediately accessible. Cooler climate Sémillon wines from CPV, Steenberg, Nitida and Zonnebloem are more popular with consumers because of their fresh and herbaceous taste but can also equally age for up to 5 years. This latter category is sometimes referred to as “Sauvignon blanc” like (Eedes, 2007c; Eedes, 2008; McDonald, 2007), however this is not an entirely accurate descriptor since these wines may be fresher

and more herbaceous than traditional warm climate Sémillon but do not share the overt herbaceous character and acidity of Sauvignon blanc. Both cool and warm climate wines are made in a similar “Graves style” (barrel fermented on the lees contact) and their main differences therefore appear to be related to age of vines, clones, climate and bottle aging. Zonnebloem Sémillon is uniquely made being fermented in stainless with a only a short three month lees exposure.

Premium single varietal dry Sémillon wines may be destined to remain a niche market (Green, 2008; McDonald, 2004b; McDonald, 2004a) in South Africa and unlikely to attract the commercial attention similar in scale to the continued popularity of Sauvignon blanc which has been even recently suggested as a possible icon wine for South Africa (Robinson, 2007a) (Woods, 2007). Comments made by some of the winemakers in the survey as well as the perception of local wine writers (Eedes, 2005a; McDonald, 2007) support the view that Sémillon is most likely to remain targeted to a dedicated consumer with a particular interest in this varietal and that are prepared to wait 5-10 years for these wines to age in the bottle and realise their potential. This longevity of Sémillon wines, although a feature of a classical variety (Robinson, 2006) plays against Sémillon in markets made up of consumers that are unprepared to cellar wines for prolonged periods of time and require more instant gratification and immediate consumption. However, there is a core group of winemakers that have a more positive view and believe that the newer style, more herbaceous and fresh Sémillon wines have had an impact on the market already with an increasing interest from the consumer for Sémillon, ultimately leading to increased plantings.

## 8.5 Limitations

The most important limitation of this study is the small sample size. It would be useful in future to expand this study and include all producers of premium Sémillon in South Africa to assess if the findings can be generalised to a broader group. An attempt was made to include producers from a diversity of wine areas to reflect the perceptions of premium Sémillon producers that are making wines from a variety of *terroirs* and in different styles. The small sample size also limits the extrapolation of the results obtained in this study. A further difficulty was the interpretation of the qualitative data expressed as opinions. A standardised methodology for this analysis needs to be applied for future surveys to ensure that responses are interpreted in a subjective manner. This survey does not provide comprehensive data from which to make firm conclusions about the future of Sémillon in South Africa and can only indicate the possible directions based on the opinions of those that responded to the survey.



## **SECTION IV**

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## CHAPTER 9: CONCLUSION

Sémillon is a varietal that grows successfully on many *terroirs* but it is still unpopular. Globally, the undisputed centres of excellence for Sémillon production remain Sauternes in France and the Lower Hunter Valley in Australia. Sémillon's initial expansion in early Cape vineyards was due to the ability of this varietal to produce high yields. Sémillon vineyards subsequently began to decline during the nineteenth century due to the poor reputation of Cape wines. Economic reasons with decreasing markets, increased taxation, and the destruction of Cape vineyards by pests like *Phylloxera* were also important factors in the "fall" of Sémillon. Restrictive KWV systems and as well as the association of Sémillon with low quality bulk wines further contributed to the continued decline in Sémillon vineyards in South Africa. A poor marketing profile of Sémillon, especially with the confusing array of various styles of wines that can be produced has led to poor acceptance of this varietal by consumers.

But there has been a recent rise in interest in this varietal in South Africa. This has been assessed by objective indicators that demonstrate an increase in the number of producers making Sémillon wines and a progressive increase in the quality of these wines. The good international reputation of South African white wines and the recognition of the versatility of Sémillon have added to the renewed interest in this varietal. The growing positive reputation of Sémillon in classical white Bordeaux blends and the production of premium Sémillon wines by elite winemakers have added further to the recent change in prominence of Sémillon. In considering the various factors that need to be taken into account to plant a new Sémillon vineyard, it is apparent that there are many advantages of this varietal.

Sémillon is unlikely to become South Africa's much needed "icon wine", however the quality single varietal wines and classical white blends that have been created for the premium market are uniquely South African and merit serious consideration in the future of South African white wines.

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## APPENDIX

### Sémillon Questionnaire

1. When was Sémillon first planted on the farm and what was the total in hectares then?
2. What is the total number of hectares Sémillon now 2008?
3. What is the age of these Sémillon vines?
4. What clones and which rootstocks are used?
5. Describe the *terroir* (soil and aspect) that your quality Sémillon is planted on?
6. Do you use wild or cultured yeasts for your premium Sémillon?
7. What maturation process do you use (barrels, lees contact, duration)?
8. Which styles of Sémillon do you think are the most successful and why/why not?
  - a. Sweet
  - b. Blends with SB
  - c. Wooded
  - d. Un-wooded
  - e. Barrel fermented
  - f. Other
9. Why, in your opinion, have Sémillon plantings declined in South Africa since the 19<sup>th</sup> century?
10. In your opinion, how does Sémillon feature in the future of white wines of South Africa?