

# Input cost monitor:

## The cost of grape production and producer profitability 2009

By



Supported by:



## **The cost of grape production and producer profitability**

Over the past five years up until 2009, wine producers' income has by no means kept up with production cost, resulting in a further decrease in net farming income. Although wine grape prices improved in 2008, the 2009 harvest was one of producers' most expensive years to date, with total production cost rising by more than 15 % in some districts. Since 2005, producers have been forced to increase production per hectare in order to compensate for the decrease in income. This entails producing wine grapes at the lowest possible cost and obtaining optimal production in line with a specific price point, while still maintaining quality. Up until 2008, some producers managed to achieve this to a certain extent, with the support of viticulturists' advice, as well as favourable natural and climate conditions. However, a smaller 2009 harvest, as well as a dramatic hike in input costs resulted in an increase in production cost of R263 per ton, i.e. up from R1 446/ton in 2008 to R1 709/ton in 2009.

### **1. Introduction and survey**

In collaboration with Winetech – and with the financial support of the National Agricultural Marketing Council, Absa, Nedbank, FNB and Standard Bank – VinPro's agricultural economic division again carried out financial surveys in all nine wine regions during the second half of 2009 in order to calculate production cost, as well as the profitability of primary wine producers. The objective of the project was furthermore to provide participants and other role players in the industry with an agricultural economic support service and by so doing to contribute to the long term economic sustainability of wine grape cultivation.

The report is based on the 2009 harvest year and the results represent the weighted average figures of the participating farming enterprises, who voluntarily made their data available. The evaluations are neither cultivar nor block specific – wine grapes are evaluated in their totality as an industry branch. All participating farming enterprises differed i.r.o. the products produced, cultivar composition, diversification with regard to other industry branches, production levels, quality, producer expectations for a realistic return on their input, price points, management expertise, etc.

The Production Plan Project currently consists of 239 participants distributed across 23 study groups in all nine wine districts – the weighted average farm size evaluated comprised 79 ha of wine grapes. The sample represents 20 164 ha of wine grapes ( $\pm 20$  % of the total surface planted to wine grapes in South Africa in 2008) and  $\pm 22$  % of the total 2009 grape harvest (36 % red and 64 % white wine grapes, of which almost 50 % were harvested mechanically).

Most of the farming enterprises participating in the survey are diversified into other agricultural branches, benefit from economies-of-scale and are producers with good to above-average managerial ability.

### **2. Profitability**

When calculating profitability of wine grape production, two approaches are possible, namely:

- The profitability of a specific production year;
- The profitability of a specific harvest year.

The results and findings of this report refer to the profitability of a specific harvest year. The impact of time value of money and deferred payments to producers was not taken into account, since participants realise their income at different stages.

During the 2005 survey it was found that participating producers realised an alarmingly low net farming income (NFI) and that the said profit margin had decreased by more than 50 % since the 2004 harvest year. Profit, in other words Net Farming Income (NFI), is calculated as the difference between the total income and total production cost, i.e.:

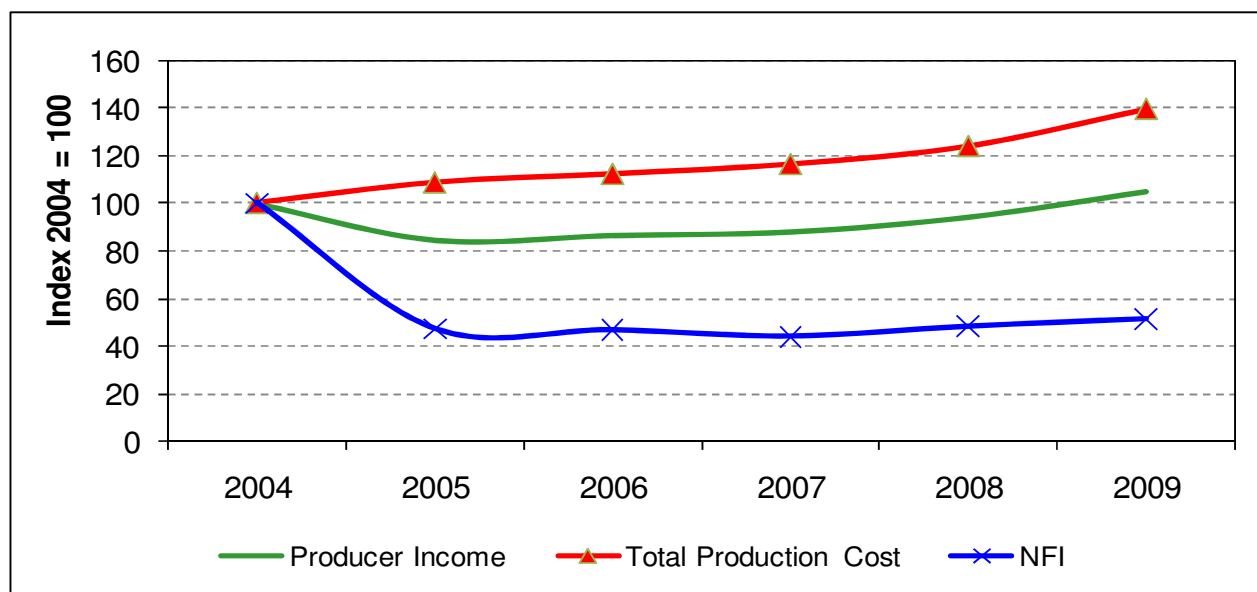
$$\text{PROFIT (NFI)} = \text{TOTAL INCOME} - \text{TOTAL EXPENDITURE (before interest, tax and entrepreneur's remuneration)}$$

The subsequent four years until 2009 (Table 1 & Figure 1) clearly showed that producer income did not keep up with total production cost and that in real terms the NFI decreased even further. Although better prices have been offered for wine grapes since 2008, the 2009 harvest year was one of the most expensive so far for producers, with total production cost increasing by more than 15 % in some districts.

**Table 1: Statement of Income and Expenditure over the past six years (industry average).**

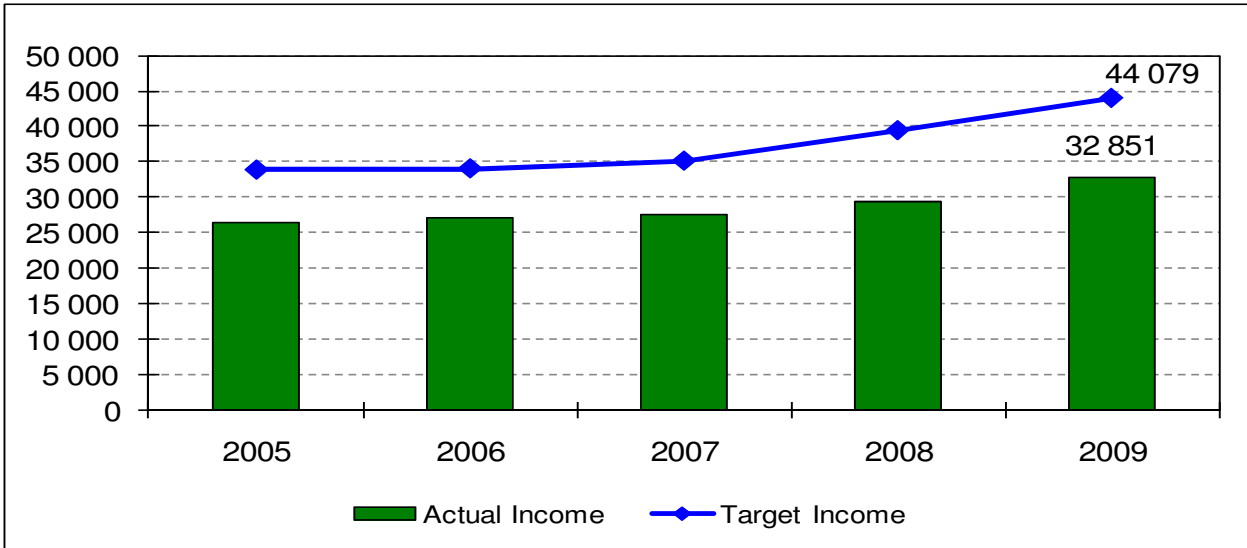
INCOME & EXPENDITURE STATEMENT	2004	2005	2006	2007	2008	2009
Average price per ton (Rand)	2,383	1,916	1,763	1,766	1,807	2,113
Average yield per hectare (tons)	13.11	13.79	15.34	15.58	16.31	15.55
<b>PRODUCER INCOME (R / ha)</b>	<b>31,236</b>	<b>26,424</b>	<b>27,043</b>	<b>27,513</b>	29,479	<b>32,857</b>
Direct costs (R / ha)	2,459	2,426	2,391	2,482	2,855	3,463
Labour (R / ha)	6,317	6,590	6,878	6,949	6,956	7,905
Mechanisation (R / ha)	2,667	2,852	3,004	3,219	3,533	4,022
Other overheads (R / ha)	2,778	3,142	3,326	3,367	3,357	3,649
<b>ANNUAL CASH EXPENDITURES (R / ha)</b>	<b>14,221</b>	<b>15,010</b>	<b>15,599</b>	<b>16,017</b>	<b>16,702</b>	<b>19,039</b>
<b>GROSS MARGIN (R / ha)</b>	<b>17,015</b>	<b>11,414</b>	<b>11,444</b>	<b>11,496</b>	<b>12,777</b>	<b>13,818</b>
Provision for replacement (R / ha)	4,779	5,633	5,733	6,108	6,876	7,541
<b>NET FARMING INCOME (R / ha)</b>	<b>12,236</b>	<b>5,781</b>	<b>5,711</b>	<b>5,388</b>	<b>5,901</b>	<b>6,277</b>

*NB: Net Farming Income calculated before interest, tax and remuneration.  
Oranjerivier excluded with the 2004 evaluation.*



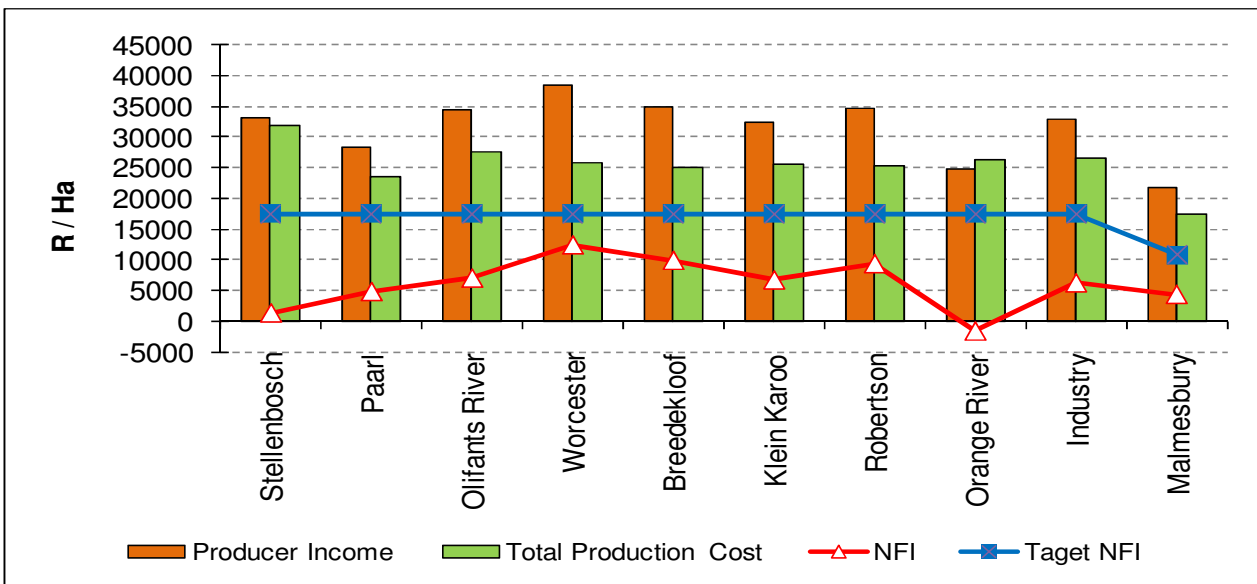
**Figure 1: Index showing Producer Income vs. Total Production Cost and NFI (industry average)**

As a guideline for economically sustainable production for the 2009 harvest year, producers would have had to realise an average producer income and NFI of R44 079/ha and R17 500/ha, respectively. Over the past five years producer income was consistently lower than the target income (Figure 2).



**Figure 2: Actual Producer Income vis-à-vis Target Income Guidelines over the past five years (industry average)**

Although income and expenditure will always differ among districts, and even more so among individuals, no district managed to realise an economically sustainable NFI in the 2009 harvest year. This trend has prevailed since 2005. This is clearly evident from Figure 3.



**Figure 3: Profitability per district in the 2009 harvest year. Note: Orange River district realised an abnormally small harvest in 2009, resulting directly in a potentially negative NFI**

### 3. The cost of grape production

Total production cost – excluding interest, tax and entrepreneur’s remuneration – consists of two components, namely annual cash expenditure and provision for replacement. Since 2008 the total production cost, an average, has increased by almost 13 % to R26 580/ha in 2009 (See Figure 4).

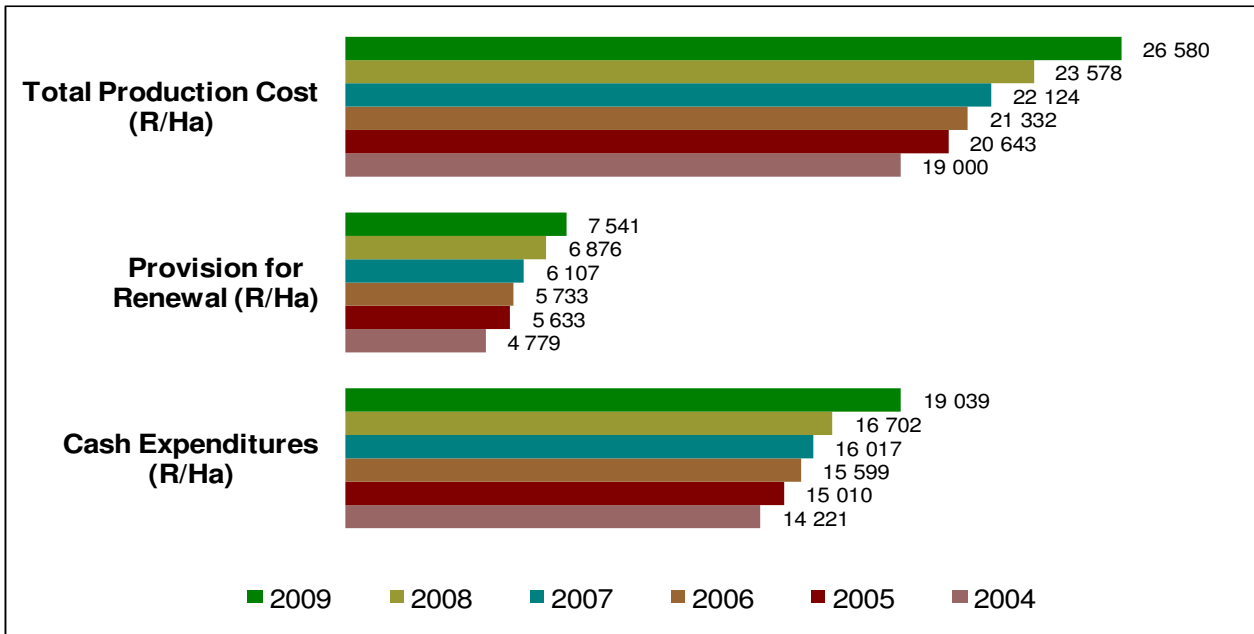


Figure 4: Total Production Cost from 2004 – 2009 (industry average)

- Annual cash expenditure (All cash or running costs incurred in the year under review)

Since 2008 the annual industry average cash expenditure for the 2009 harvest year has increased by 14 % to R19 039/ha. This has been the biggest increase since 2004 and it is in all probability one of the most expensive production years ever. Figure 5 shows the increase in annual cash expenditure since 2004. Exceptionally high increases in the prices of fertiliser, pesticides, insecticides and herbicides caused the direct cost to escalate by more than 20 % since 2008, while labour and mechanisation costs for the same period increased by more than 13 %. General expenses overall increased by 8 % – largely driven by more expensive electricity tariffs and administration costs.

The composition of the annual cash expenditure (Figure 6) has changed minimally since 2004 – a further indication that the price increases have occurred throughout the cost structure. In some districts, it was apparent that mechanisation is becoming an increasingly bigger cost component, at the expense of labour cost. Labour currently represents 42 % of the annual industry cash expenditure, mechanisation 21 %, direct costs 18 %, general expenses 15 %, and running costs to fixed improvements only 4 %.

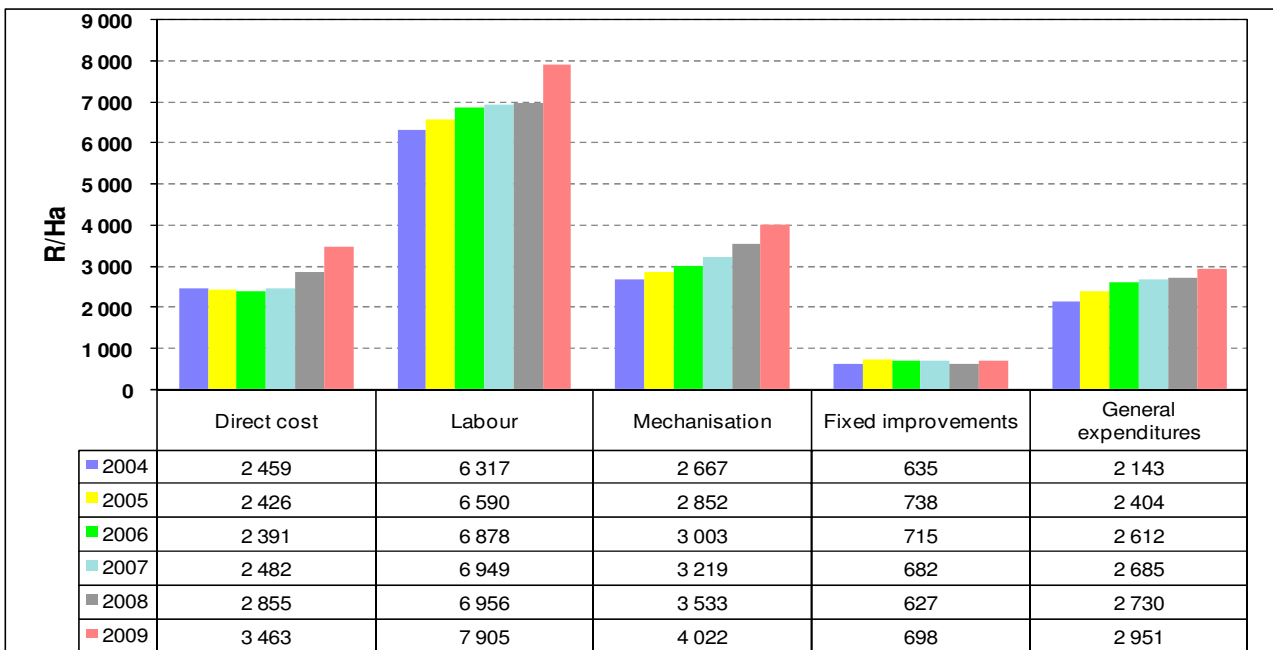


Figure 5: Movement of Annual Cash Expenditure from 2004 – 2009 (industry average).

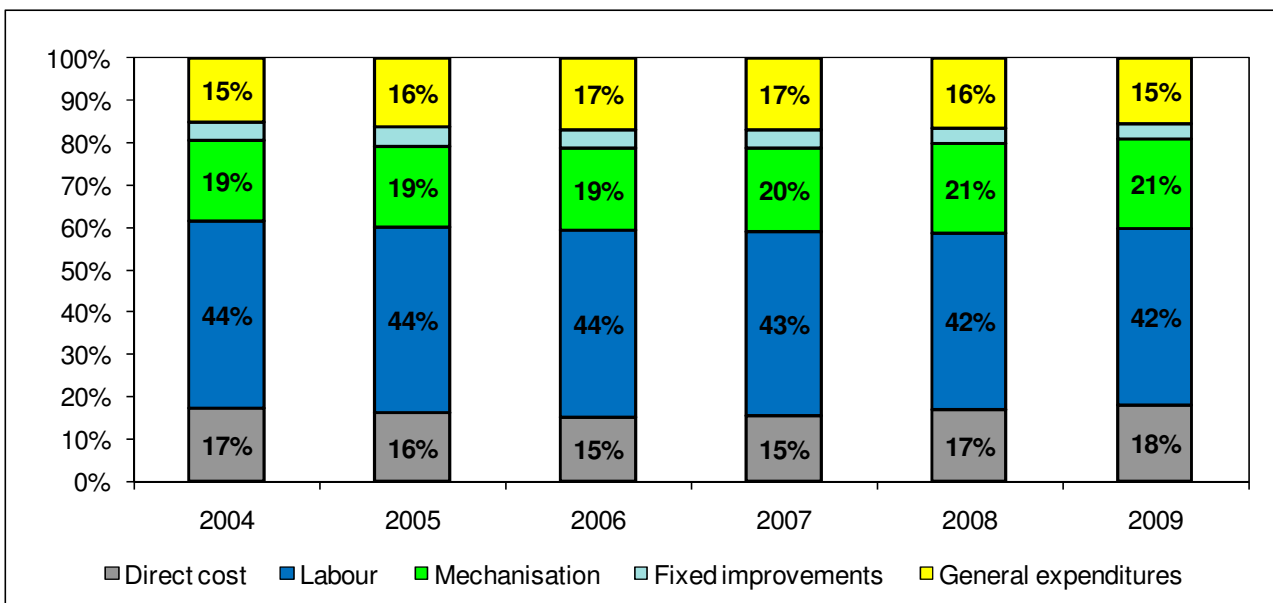


Figure 6: Composition of Annual Cash Expenditure 2004 – 2009 (industry average).

- *Provision for replacement (Capital maintenance)*

During the production process, in addition to what is purchased annually for the production process, other requirements include machinery and implements. Tractors, tools and other means are “consumed” over a period of time. Even vineyards and buildings deteriorate and have to be maintained or replaced. The “deterioration” and “consumption” of these items are included in the costs of the production process.

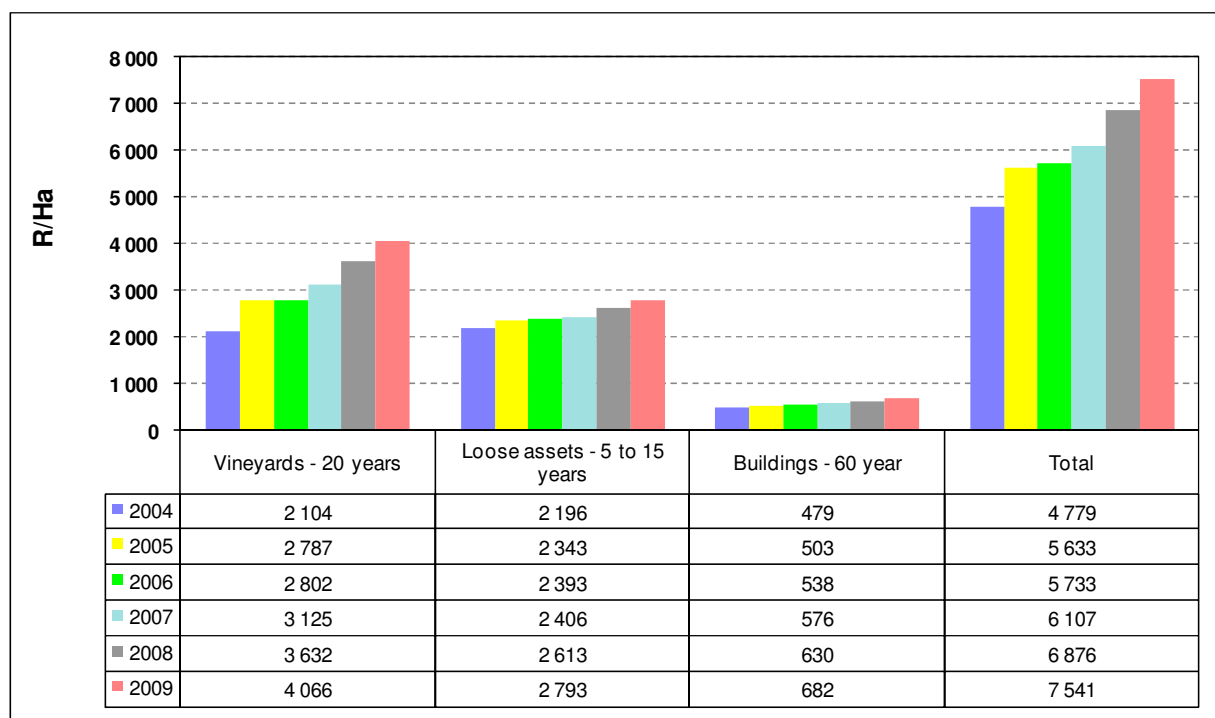
Taking into account the fact that the purchase value of an item must be recovered in its lifetime, as well as the fluctuating nature of inflation, sufficient provision must be made for replacement. By

applying the principle 'provision for replacement', a bigger amount is recovered than in the event of 'depreciation'. To a certain extent this addresses the problem of rectilinear depreciation and ensures that the running concern is maintained.

When calculating provision for replacement, items are written off against replacement value over various terms. These are:

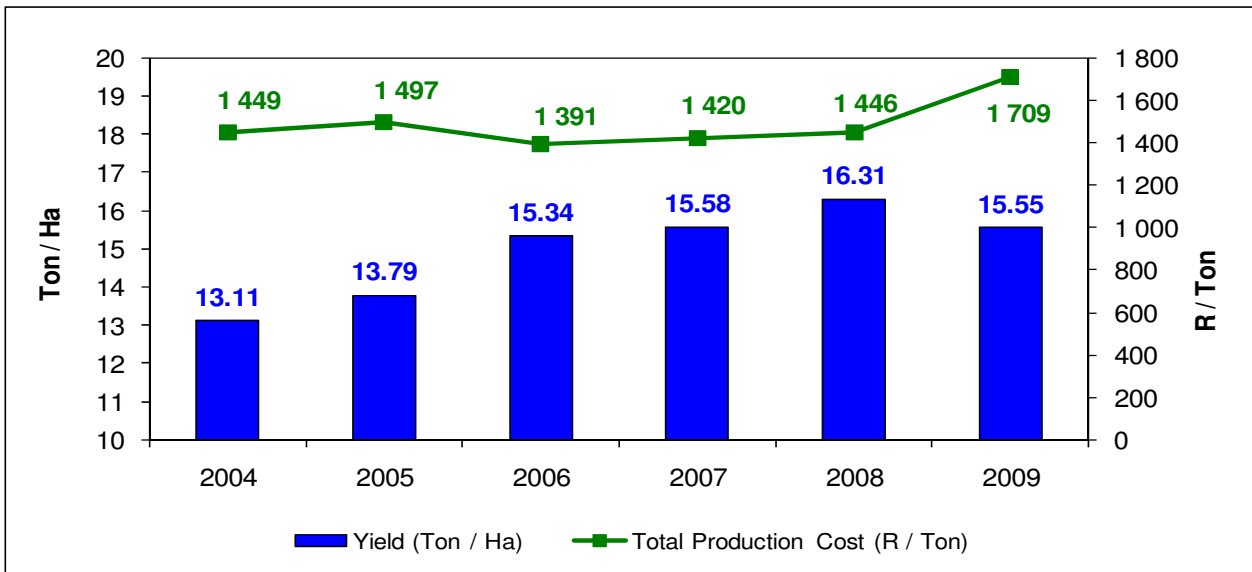
Buildings	60 years
Vineyards	20 years
Movables / means of production	5 -15 years

Since 2008, provision for replacement i.r.o. the running concern has increased by 10 % to R7 541/ha (See Figure 7). The main reasons are deemed to be increases in the cost of vineyard replacement, especially the cost of plant material, chemical adjustment and soil preparation, trellis and irrigation systems, the purchase price of production means, as well as increases in building costs.



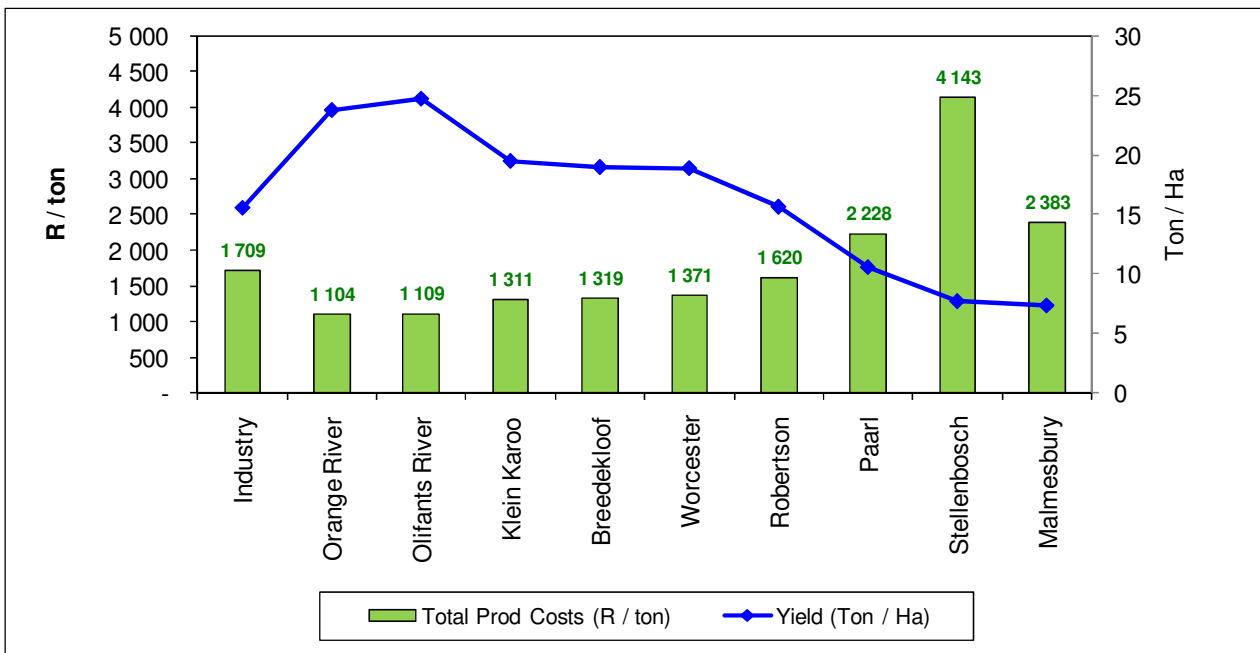
**Figure 7: Provision for Replacement – replacement value of capital structure with rectilinear writing off over different terms**

The fact that profit margins (NFI) decreased by more than 50 % since 2004, and that no genuine price increases could be foreseen for the subsequent years, necessitated increased yields per hectare in an attempt to compensate for the decrease in income. Consequently, producers have been making an effort to produce at the lowest possible cost, with optimal yield and quality intact, for specific price points. Up until 2008, some producers managed to achieve this to a certain extent, with the support of viticulturists' advice, as well as favourable natural and climate conditions. However, a smaller 2009 harvest, as well as a dramatic hike in input costs, resulted in an increase in production cost of R263 per ton, i.e. up from R1 446/ton in 2008 to R1 709/ton in 2009 (See Figure 8).



**Figure 8: Total Production Cost vis-à-vis Yield (ton/ha) 2004 – 2009 (industry average)**

From Figure 9 and Table 2 it is clear that although the production cost in each wine district differs per hectare, the difference in production cost per ton is even more noteworthy. In the 2009 harvest year, this ranged between the two extremes of R1 104/ton (Orange River) and R4 143/ton (Stellenbosch). The biggest contributing factor was differences in yield (t/ha) between different districts.



**Figure 9: Total Production Cost compared to Yield (ton/ha) per District (2009 harvest year).**



**Table 2: Total production cost per district (2009)**

PRODUCTION COST FOR WINE GRAPES - COST AS RAND PER HECTARE (2009 HARVEST)										
Weight	19.63%	19.41%	11.49%	9.76%	14.21%	3.40%	15.97%	6.08%	100%	
DISTRICT	Stellenbosch	Paarl	Olifants River	Worcester	Breedekloof	Klein Karoo	Robertson	Orange River	Average	Malmesbury
COST STRUCTURE	R / ha	R / ha	R / ha	R / ha	R / ha	R / ha	R / ha	R / ha	R / ha	R / ha
<b>DIRECT COST</b>										
SEED	129	73	29	33	79	111	11	60	67	127
FERTILIZER	485	656	1,705	1,157	792	1,106	854	1,083	884	584
ORGANIC MATERIAL	33	129	173	372	580	250	193	186	221	38
PESTICIDE CONTROL	2,020	1,305	1,213	1,509	1,694	1,389	1,456	796	1,507	1,139
HERBICIDE CONTROL	519	469	335	765	588	314	749	473	549	368
REPAIR & BINDING MATERIAL	307	176	211	310	270	190	233	83	236	89
<b>Subtotal</b>	<b>3,493</b>	<b>2,808</b>	<b>3,666</b>	<b>4,146</b>	<b>4,003</b>	<b>3,360</b>	<b>3,496</b>	<b>2,681</b>	<b>3,463</b>	<b>2,345</b>
<b>LABOUR #</b>										
SUPERVISION	2,094	1,156	640	1,452	1,381	767	1,197	721	1,309	541
PERMANENT LABOUR	5,527	4,148	3,964	4,729	4,396	4,002	4,210	3,544	4,459	2,551
SEASONAL LABOUR & CONTRACT WORK	4,077	2,346	1,235	534	1,062	1,918	1,400	4,034	2,137	2,168
<b>Subtotal</b>	<b>11,698</b>	<b>7,650</b>	<b>5,839</b>	<b>6,715</b>	<b>6,839</b>	<b>6,687</b>	<b>6,807</b>	<b>8,299</b>	<b>7,905</b>	<b>5,260</b>
<b>MECHANISATION</b>										
FUEL	1,737	1,464	1,685	1,863	1,612	1,538	1,385	2,210	1,639	1,304
REPAIR, PARTS & MAINTENANCE	2,178	1,382	2,054	2,012	1,674	1,595	2,080	1,461	1,843	1,164
LISENCES AND INSURANCE	373	260	504	428	384	416	321	321	377	217
TRANSPORT HIRED	118	385	192	54	102	273	49	122	164	714
<b>Subtotal</b>	<b>4,406</b>	<b>3,491</b>	<b>4,435</b>	<b>4,357</b>	<b>3,772</b>	<b>3,822</b>	<b>3,835</b>	<b>4,342</b>	<b>4,022</b>	<b>3,399</b>
<b>FIXED IMPROVEMENTS</b>										
REPAIR AND MAINTENANCE	685	483	280	553	524	360	369	450	488	267
INSURANCE	237	139	215	216	224	184	210	308	210	108
<b>Subtotal</b>	<b>922</b>	<b>622</b>	<b>495</b>	<b>769</b>	<b>748</b>	<b>544</b>	<b>579</b>	<b>758</b>	<b>698</b>	<b>375</b>
<b>GENERAL EXPENDITURES</b>										
ELECTRICITY	755	884	1,317	1,188	1,339	832	1,268	514	1,040	357
WATER COSTS	631	411	1,659	657	108	1,659	596	905	681	184
LAND-, PROPERTY- & MUN TAXES	253	128	173	113	161	172	121	67	158	82
ADMINISTRATION *	1,779	849	1,067	762	839	917	902	1,091	1,073	395
<b>Subtotal</b>	<b>3,418</b>	<b>2,272</b>	<b>4,216</b>	<b>2,720</b>	<b>2,447</b>	<b>3,580</b>	<b>2,887</b>	<b>2,577</b>	<b>2,951</b>	<b>1,018</b>
<b>TOTAL CASH EXPENDITURES</b>	<b>23,937</b>	<b>16,843</b>	<b>18,651</b>	<b>18,707</b>	<b>17,809</b>	<b>17,993</b>	<b>17,604</b>	<b>18,657</b>	<b>19,039</b>	<b>12,397</b>
<b>PROVISION FOR RENEWAL</b>										
VINEYARDS	4,028	4,056	3,920	4,165	4,083	4,126	4,059	4,269	4,066	3,104
FIXED IMPROVEMENTS	930	495	772	643	658	534	720	400	682	401
LOOSE ASSETS or PRODUCTION MEANS	2,925	2,109	4,104	2,377	2,492	2,914	2,958	2,935	2,793	1,543
<b>TOTAL EXPENDITURES</b>	<b>31,820</b>	<b>23,503</b>	<b>27,447</b>	<b>25,892</b>	<b>25,042</b>	<b>25,567</b>	<b>25,341</b>	<b>26,261</b>	<b>26,579</b>	<b>17,445</b>
<b>AVERAGE AREA PLANTED (HA)</b>										
	103	88	48	104	92	31	66	20	79	155
<b>AREA IRRIGATED (%)</b>										
	85	91	100	100	100	100	100	100	95	33
<b>AVERAGE AGE COMPOSITION (%)</b>										
3 YEARS & YOUNGER	9.70	13.16	10.84	15.87	11.90	10.15	15.01	9.59	12.27	5.75
BETWEEN 4 & 7 YEARS	24.85	21.51	19.80	20.68	22.52	22.80	24.01	20.45	22.41	31.30
BETWEEN 8 & 15 YEARS	39.40	45.10	40.32	33.68	38.18	48.55	31.46	44.18	39.22	45.44
BETWEEN 16 & 20 YEARS	12.01	8.82	13.77	11.24	14.80	9.94	17.51	15.96	12.96	4.77
OLDER THAN 20 YEARS	14.04	11.40	15.27	18.65	12.60	8.56	11.77	9.82	13.11	12.74
<b>AVERAGE YIELD (TON PER HA)</b>										
	7.68	10.55	24.74	18.89	18.98	19.50	15.69	23.79	15.54	7.32
<b>CASH EXPENDITURES (RAND PER TON)</b>										
	3,117	1,596	754	990	938	923	1,129	784	1,225	1,694
<b>TOTAL EXPENDITURES (RAND PER TON)</b>										
	4,143	2,228	1,109	1,371	1,319	1,311	1,625	1,104	1,710	2,383

# Included: Provident fund, UIF, medical, protected clothes, clothing, bonus, ransom, workman's compensation commission, etc.

\* Included: Banking costs, bookkeeping fees, membership fees, security, computer maintenance, professional fees, training / courses, postage, telephone, stationary, irrigation monitoring and sundries

#### 4. Summary

The low profit margins of the past five years have undoubtedly started to take a heavy toll. Farming businesses generally have more debt and less repayment ability and capital maintenance has been neglected. According to the statistics of SA Wine Industry Information and Systems (Sawis), more grapevines have been uprooted than planted since 2005 and total grapevine plantings are decreasing. An even bigger concern is the fact that since 2005 the industry has not been able to replace 5 % of existing grapevines. The potential increase in electricity tariffs is a huge concern both at farm and cellar level.

More positive is the fact that certain input costs have stabilised and this – together with lower interest rates and increasingly good signals that the economy may be nearing the end of the recession – should be seen in a positive light.

© 2010. Published by the National Agricultural Marketing Council, Republic of South Africa.

**Disclaimer:**

*Although everything has been done to ensure the accuracy of the information in this Input Cost Monitor, the NAMC accept no responsibility for the accuracy of this publication or the opinions contained therein. The NAMC will not be held accountable for the consequences of any actions taken on the basis of this information.*