

The cost of grape production and producer profitability: Top performers in difficult times (2010)



National Agricultural Marketing Council

Strategic positioning of South African Agriculture in dynamic global markets

By:



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The cost of grape production and producer profitability

The 2010 vintage clearly shows that the average primary wine grape producer's profit margins have not improved since 2009. Due to the relatively small crop (except for the Orange River and the Olifants River), producers still find themselves in a cost-price squeeze. Total production cost increased by 7.5 % from 2009 to R28 585/ha in the 2010 harvest year – once again exceeding inflation for the same period. Despite the negative trends, some producers still manage to produce wine grapes in an economically sustainable fashion.

1. Introduction and survey

During the second half of 2010, VinPro's agricultural economics division – in conjunction with Winetech, Standard Bank, First National Bank, Landbank, Nedbank, Absa and the National Agricultural Marketing Council (NAMC) – compiled a financial analyses for the seventh consecutive year among primary wine grape producers in the nine VinPro districts. The primary objective of the analysis is to calculate both the profitability and the production cost of primary wine grape producers.

Participation in the 2010 production plan increased by 9 % and, consequently, the total number of voluntary participants now stands at 251 farming units. Altogether, 652 producers and role players in the industry attended the 46 study group sessions, where the participants received economic information in support of long-term sustainable wine grape production. The sample currently comprises 19 829 ha (20 % of the total South African area planted for vines in 2009), producing 289 841 tons (23 % of the total South African crop in 2010). White grapes constituted 66 % and red grapes 34 % of the tonnage, with mechanical harvesting accounting for 51 %.

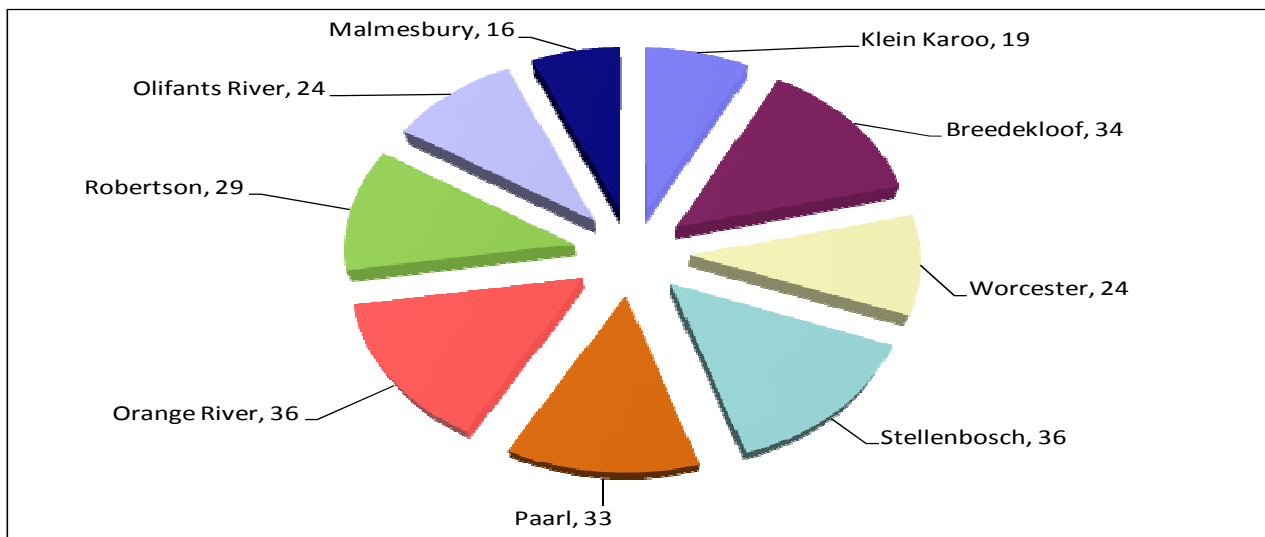


Figure 1: Distribution of the 251 participants in the respective wine districts

2. Profitability

The profitability referred to in this report is specific to the 2010 harvest year (i.e. no time value of money is taken into account). It is therefore possible to calculate the impact of a bigger or smaller crop more accurately, in view of the fact that producers receive their returns at different stages.

The profitability, or net farming income (NFI), is calculated as total income minus production cost. The latter consists of cash expenditure and provision for replacement (depreciation), but excludes entrepreneur's remuneration, interest obligations and tax. Table 1 shows that although the net income – which is determined by price and production – has increased, enormous cost increases have caused the NFI to decrease by 70 % between 2004 and 2010 to an NFI of R3 696/ha in the 2010 harvest year.

Table 1: Statement of income and expenditure over the past seven years (industry average)

INCOME AND EXPENDITURE STATEMENT	2004	2005	2006	2007	2008	2009	2010
Average price per ton (Rand)	2 383	1 916	1 763	1 766	1 807	2 113	2 192
Average yield per hectare (ton)	13.11	13.79	15.34	15.58	16.31	15.55	14.73
PRODUCER INCOME (R / ha)	31 236	26 424	27 043	27 513	29 479	32 857	32 281
minus							
Direct cost (R/ha)	2 459	2 426	2 391	2 482	2 855	3 463	3 920
Labour (R/ha)	6 317	6 590	6 878	6 949	6 956	7 905	8 477
Mechanisation (R/ha)	2 667	2 852	3 004	3 219	3 533	4 022	4 142
Other general expenditure (R/ha)	2 778	3 142	3 326	3 367	3 357	3 649	4 108
ANNUAL CASH EXPENDITURES	14 221	15 010	15 599	16 017	16 702	19 039	20 648
GROSS MARGIN (R/ha)	17 015	11 414	11 444	11 496	12 777	13 818	11 633
minus							
Provision for replacement (R/ha)	4 779	5 633	5 733	6 108	6 876	7 541	7 937
NET FARM INCOME (R/ha)	12 236	5 781	5 711	5 388	5 901	6 277	3 696

When representing the total production cost per ha, income per ha and NFI per ha and income per ton as an index (2004 = 100), it is clear that producer income has not kept up with the enormous increase in production cost, particularly since 2008 (see Figure 2).

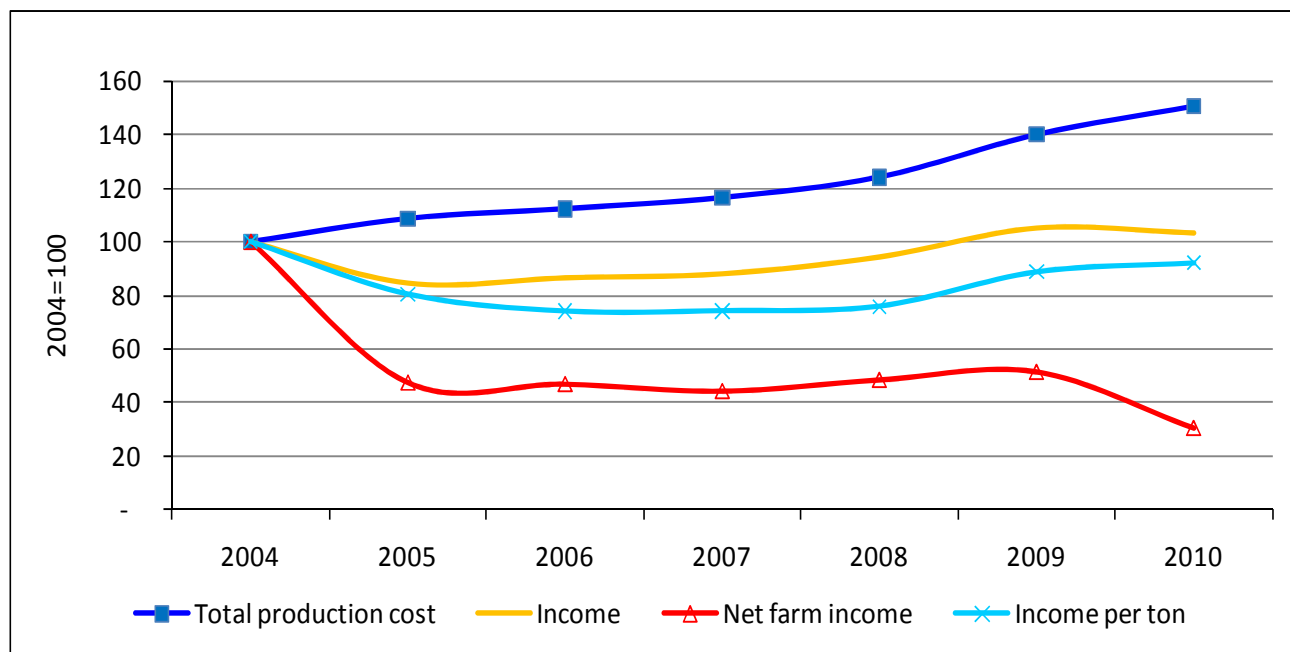


Figure 2: Index showing producer income versus total production cost and NFI (industry average)

Figure 3 shows producer income, production cost and NFI in the respective districts in 2010. Although Malmesbury practices mostly dryland production and has a lower cost structure, production cost per hectare does not differ much among the other districts in question. There are considerable differences,

however, between income and NFI. None of the districts was able to achieve the VinPro target income guideline set for each district (industry average amounts to R45 485/ha), and the same applies to the target NFI of R16 900/ha set for each district.

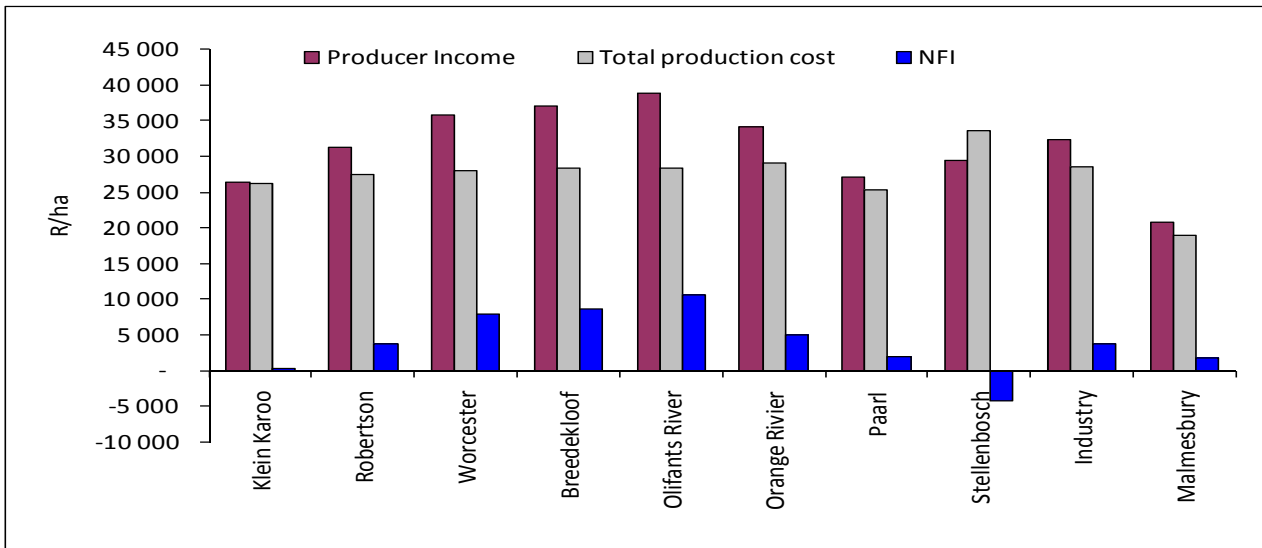


Figure 3: Producer income, production cost and NFI in the respective districts (2010)

3. Production structure

The average farm size for the study groups' included in this survey amounted to 79 ha planted to wine grapes (other branches of grapes grown are not taken into account). The average yield – bearing and non-bearing hectares – amounted to 14.73 ton/ha (see Figure 4).

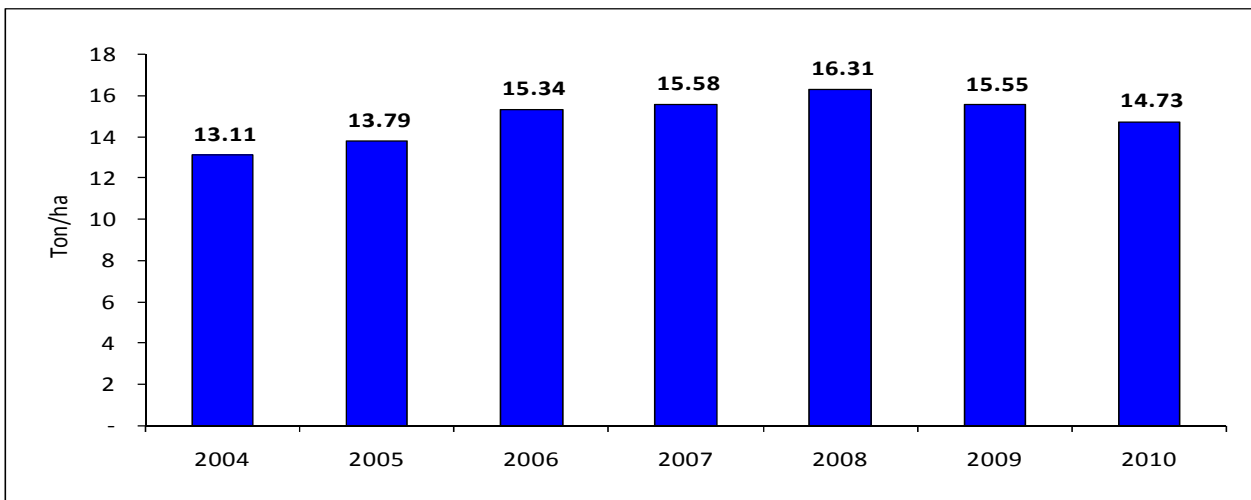


Figure 4: Industry average wine grape production

The influence of yield on the breakeven price of total production cost in rand/ton is enormous and is illustrated in Figure 5. Although costs have only increased by 7.5 % since 2009, the breakeven in terms of rand/ton have increased by 13.5 % from R1 709/ton to R1 941/ton. In other words, the first R1 941 received by the producer for a ton of grapes is applied for total production cost – no entrepreneur's remuneration,

interest or tax is taken into account. This steep increase is mainly ascribed to the smaller crop in 2010 in certain regions.

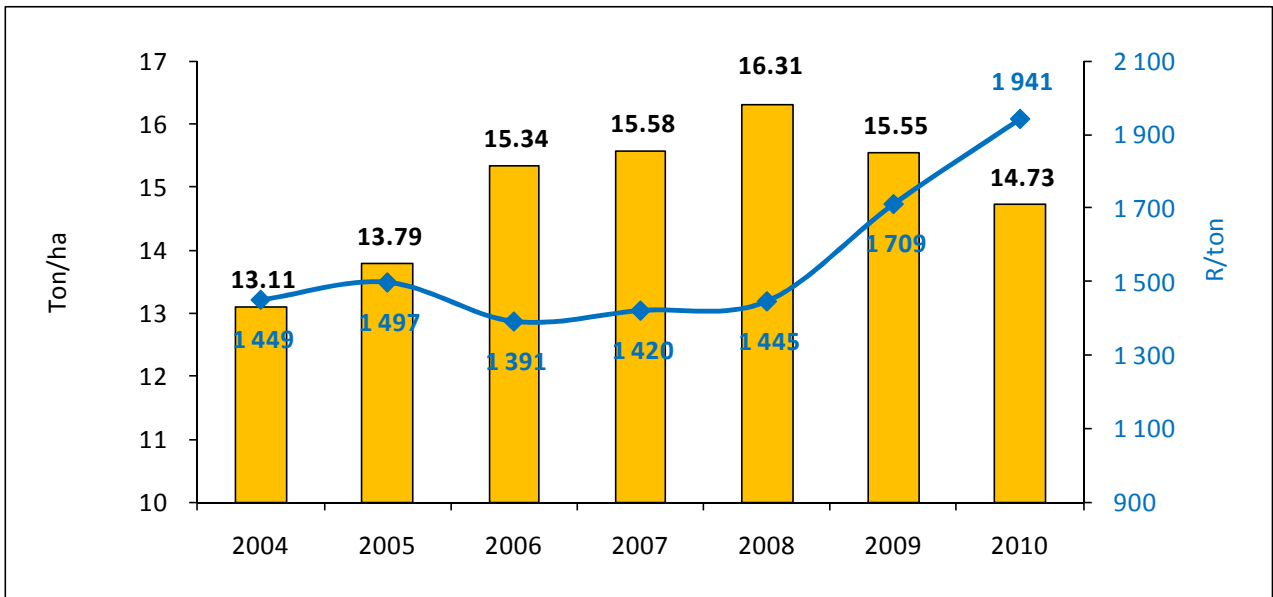


Figure 5: The influence of industry average yield on the breakeven in rand/ton

Although average yield differs enormously between different districts, the total production cost in rand/ha does not differ much. This causes the breakeven price in respect of total production cost to differ enormously between the different districts as reflected in Figure 6.

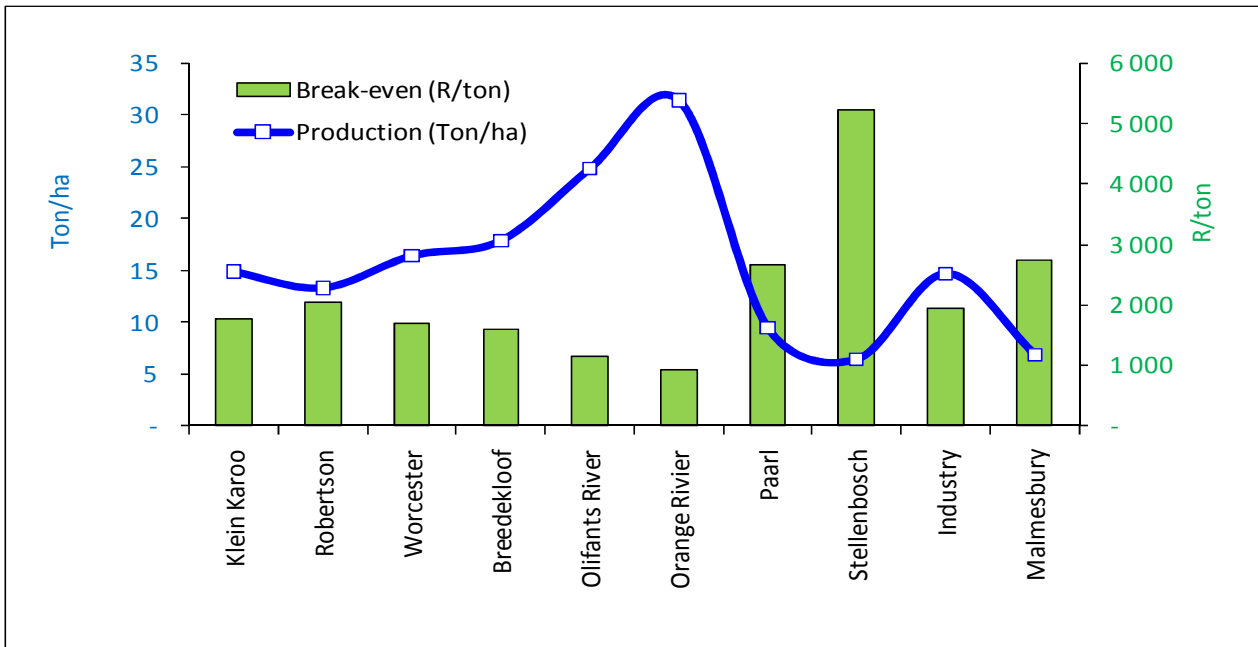


Figure 6: Yield and breakeven in rand/ton for the various districts (2010)

The age composition of participants' vineyards has weakened since 2004. More than 14 % of the vineyard surface is older than 20 years and only 11 % of the vineyards in the sample is three years and younger. Figure 7 clearly indicates the weakening of the age composition over time – an unambiguous indication that

producers are neglecting capital maintenance in an attempt to survive financially. This will undoubtedly have repercussions for the future in terms of production.

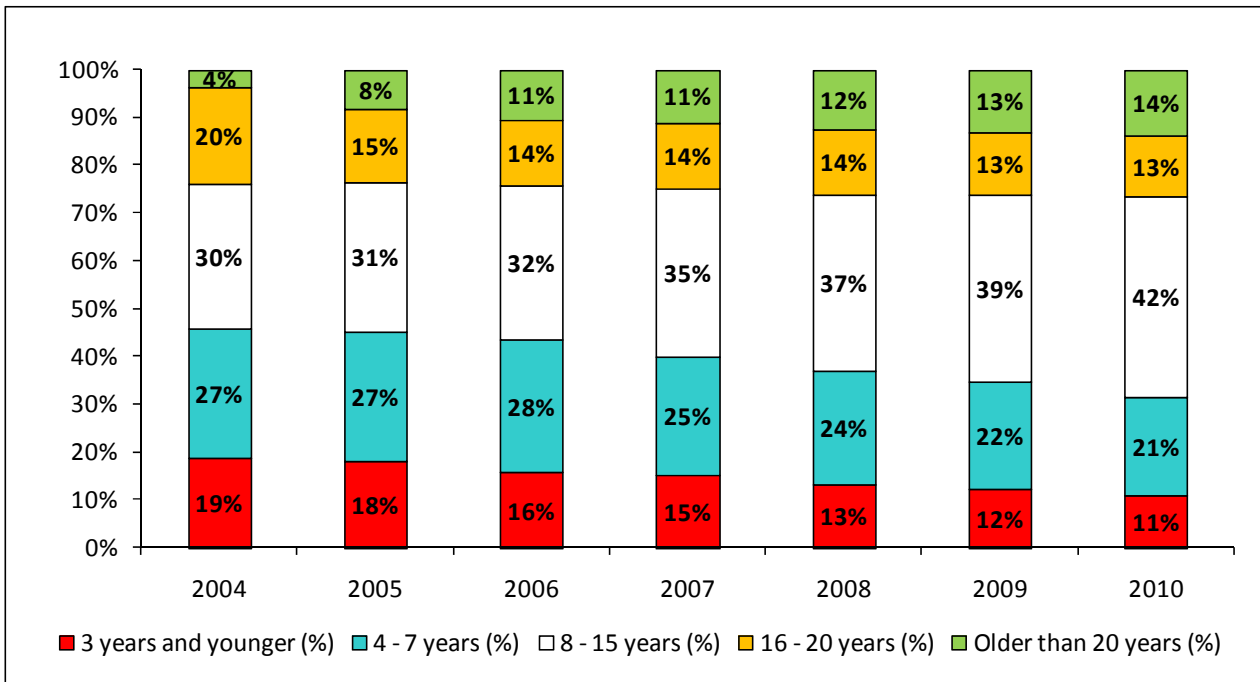


Figure 7: Industry average age composition

4. The cost of grape production

Total production cost – excluding tax, interest and entrepreneur’s remuneration – consists of two components, namely cash expenditure and provision for replacement. From 2009, total production cost increased by 7.5 % to R28 585/ha in the 2010 harvest year.

Cash expenditure

Cash expenditure is categorised as direct cost, labour, mechanisation, fixed improvements and general expenses. Total cash expenditure showed an increase of 8.5 % from 2009 to R20 648/ha in the 2010 harvest year (see Figure 8). The increase may be ascribed to large increases in direct costs (such as fertiliser as well as pest, disease and weed control, which showed an increase of 13.2 %) and general expenses (such as electricity, water, rates, banking and audit fees, which have increased by 14.1 % since 2009). Labour, mechanisation and fixed improvements increased by 7.2 %, 3 % and 6.2 %, respectively.

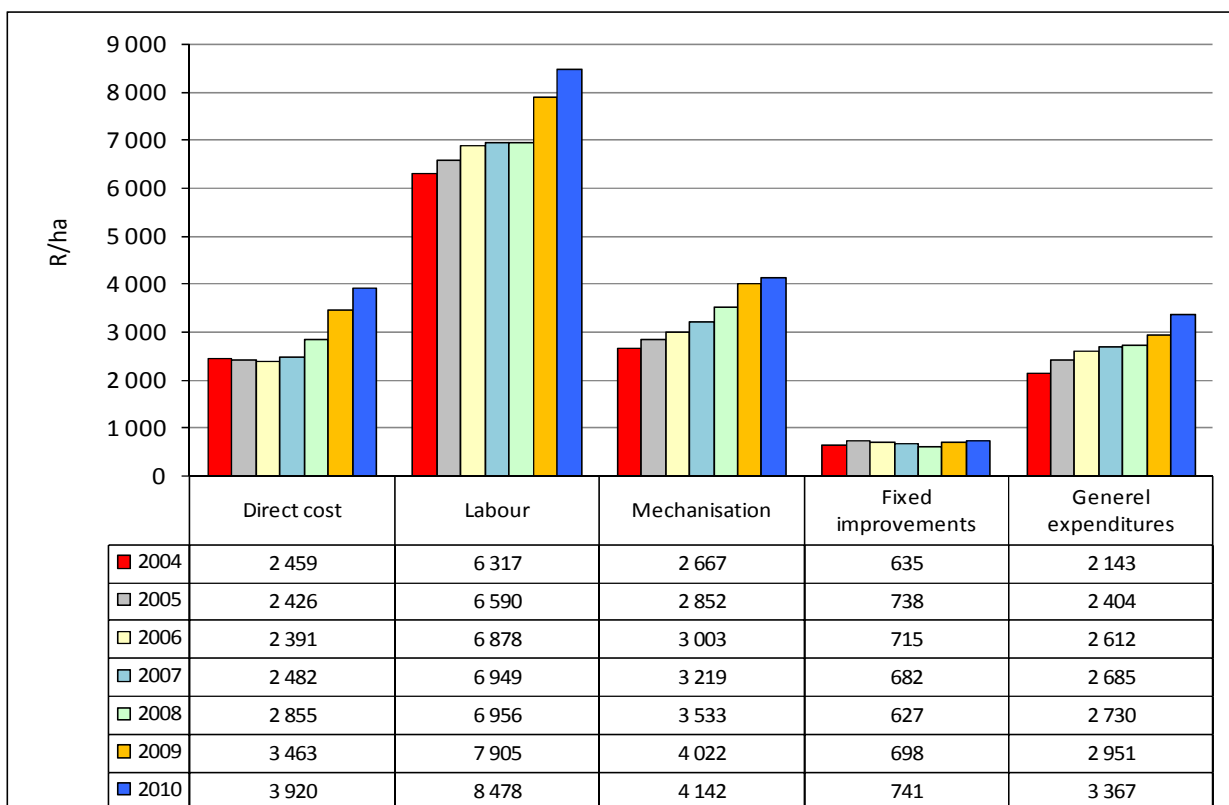


Figure 8: Annual cash expenditure

Figure 9 shows that the composition of cash expenditure has remained largely unchanged since 2004, with labour still representing the biggest component, i.e. 41 % in the 2010 harvest year. Mechanisation, direct cost, general expenses and fixed improvements represented 20 %, 19 %, 16 % and 4 % of cash expenditure respectively.

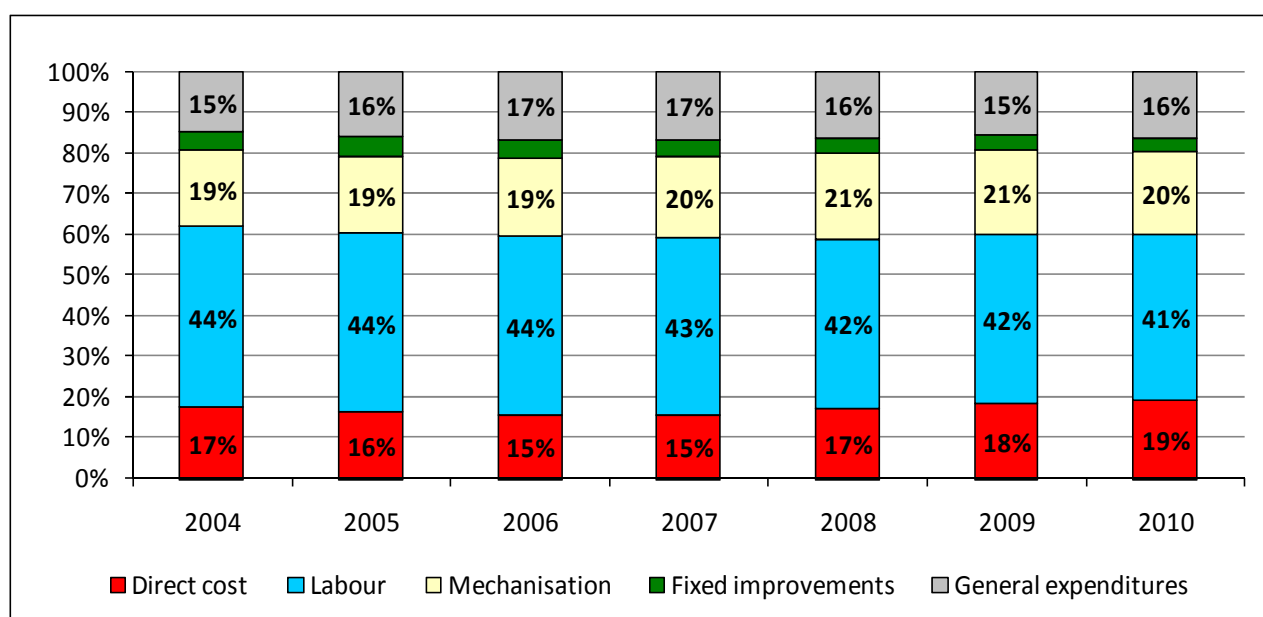


Figure 9: Percentage composition of annual cash expenditure

- *Provision for replacement (Capital maintenance)*

During the production process, capital items get older and require replacement. The realistic replacement value of such capital is written off over a certain term in order to calculate provision for replacement. Vineyards are written off over a period of 20 years; tractors, vehicles and implements range between 5 and 15 years; and buildings over a period of 60 years. Provision for replacement should be taken into account as a cost in order to ensure that the farming enterprise remains economically sustainable over a period of time. Table 10 shows the annual provision for replacement. Total provision for replacement amounted to R7 937/ha in the 2010 harvest year – an increase of 5.3 % since 2009.

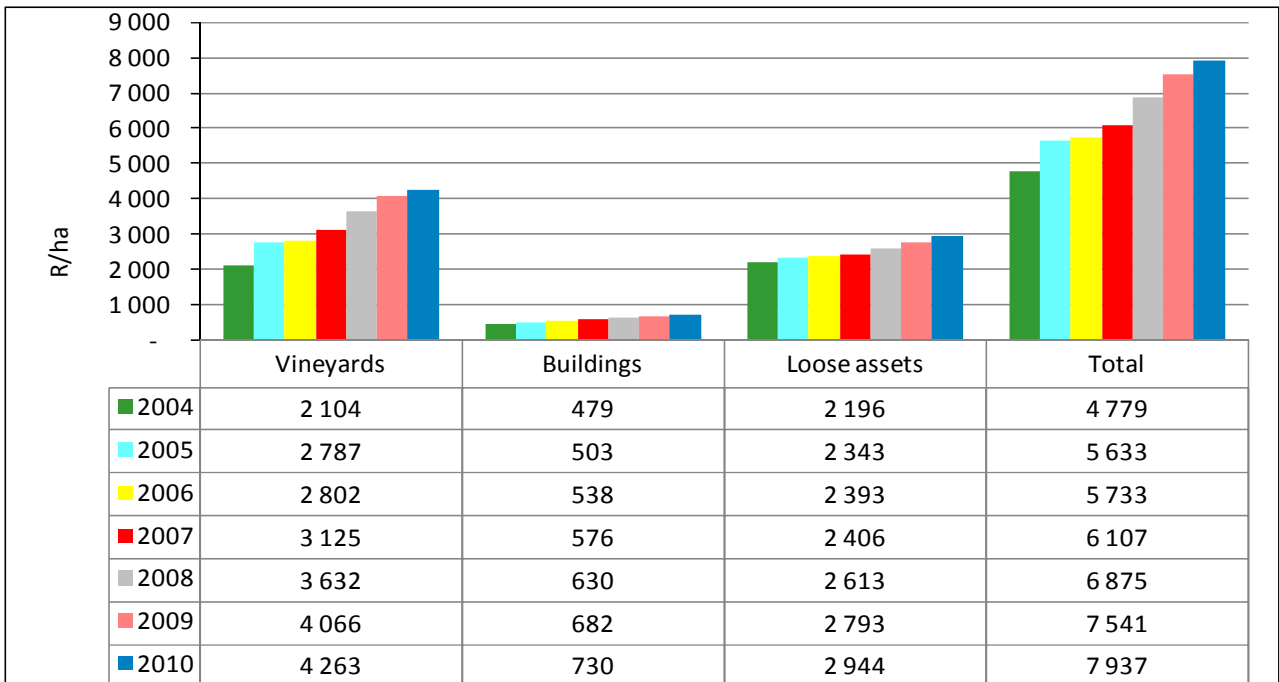


Figure 10: Annual provision for replacement

- *Total production cost*

The total production cost for economically sustainable farming of one hectare of wine grapes – cash expenditure (R20 648/ha) plus provision for replacement (R7 937/ha) – therefore amounted to R28 585/ha during the 2010 harvest year. This represents a total increase of 7.5 % since 2009 (see Figure 11; also see the Appendix for production costs per district).

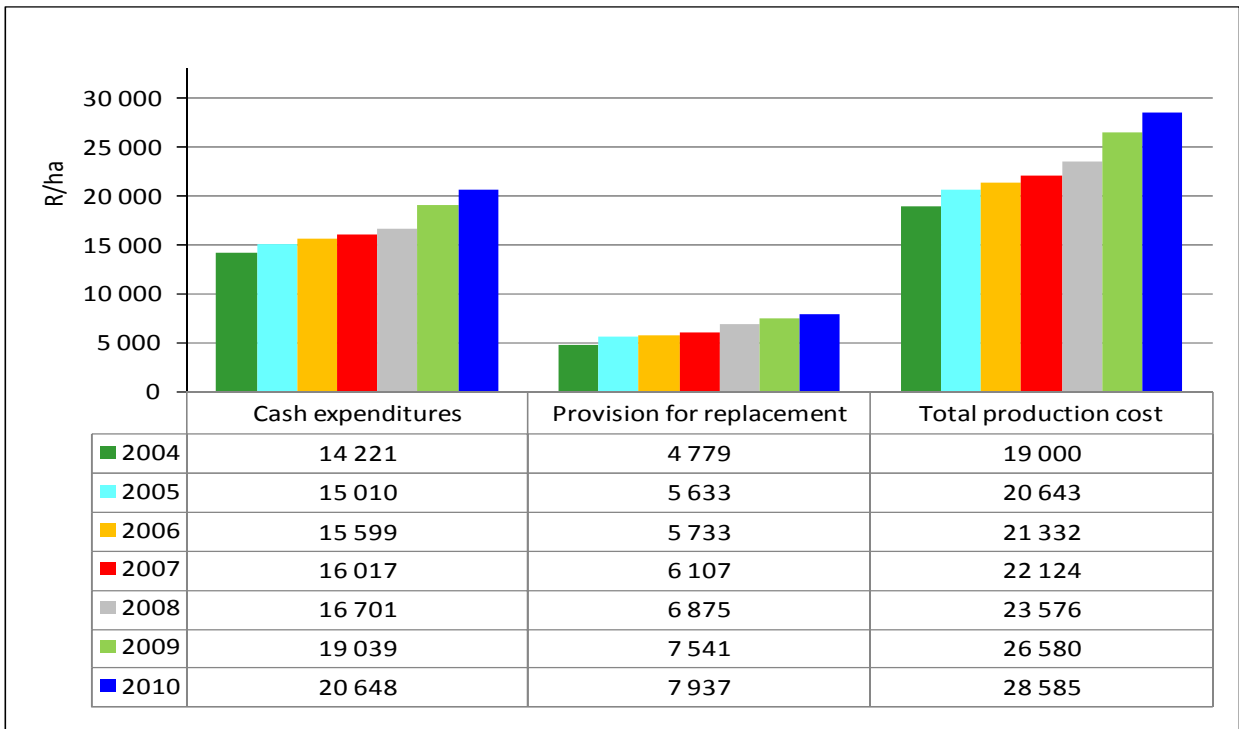


Figure 11: Total production costs

5. Top performers

In the 2010 harvest year, the results of the top 50 participating producers – excluding Malmesbury – were analysed separately in more detail. These participants are spread across the other eight wine districts, although the majority are located in the higher production areas, namely the Olifants River (26 %) and Breedekloof (22 %) areas (see Figure 12).

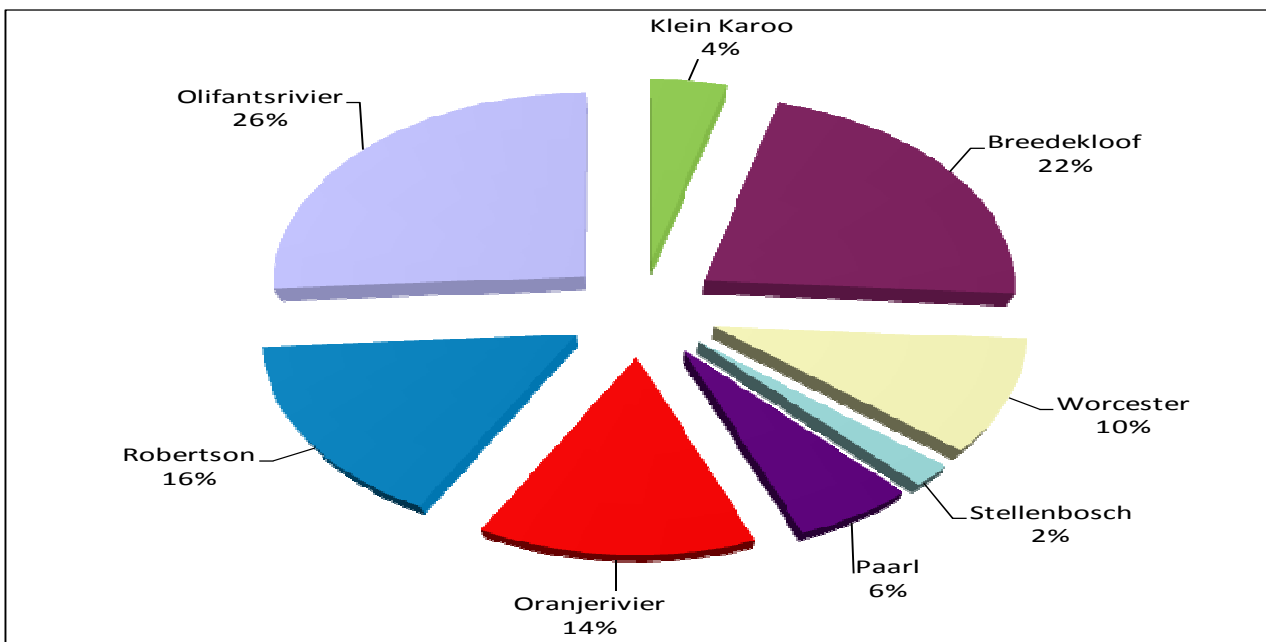


Figure 12: Distribution of top performers in the respective districts

Table 2 shows that the average NFI of these top performers amounted to R16 959/ha compared to the industry average of R3 696/ha. The producer income of R44 601/ha – compared to the industry average of R32 281/ha – may be ascribed mainly to higher yields, namely 21.69 tons/ha compared to the industry average of 14.73 tons/ha. The average price of R2 056/ton realised by top performers is lower than the industry average of R2 192/ton. Both the income and NFI of these top performers are in line with the VinPro targets that have been proposed for long-term economic sustainability.

Table 2: Statement of income and expenditure of top performers (2010)

INCOME AND EXPENDITURE STATEMENT	2010
Average price per ton (Rand)	2 056
Average yield per hectare (ton)	21.69
PRODUCER INCOME (R/ha)	44 601
minus	
Direct cost (R/ha)	4 039
Labour (R/ha)	7 265
Mechanisation (R/ha)	4 193
Other general expenditure (R/ha)	3 876
ANNUAL CASH EXPENDITURES	19 373
GROSS MARGIN (R/ha)	25 228
minus	
Provision for replacement (R/ha)	8 269
NET FARM INCOME (R/ha)	16 959

Top performers' annual cash expenditure (R19 373/ha) was 6.2 % lower than that of the industry average (R20 648/ha), while the provision for replacements of the top performers (R8 269/ha) is 4.2 % higher than the industry average (R7 937/ha). Total production cost of the top performers amounted to R27 642/ha compared to the industry average of R28 585/ha, which was only 3.4 % lower.

Table 3: Percentage composition of cash expenditure – top performers compared to the industry (2010)

Cost structure	Top Performers	Industry Average
Direct cost	21%	19%
Labour	38%	41%
Mechanisation	22%	20%
Fixed improvements	3%	4%
General expenditures	17%	16%

The percentage composition of top performers' cash expenditure also differed from the industry average. Direct expenditure (herbicides, pest and disease control and fertiliser) for top performers (21 %) exceeded that of the industry average (19 %). While the mechanisation component was bigger for the top performers, labour was a smaller component than the industry average. From these figures, the top performers appear to be more mechanised and apparently spend less on labour. The other cost components did not differ much.

Although the cost structure of top performers differed from the industry average in respect of composition and actual rand value, the increase of income per ha was mainly driven by higher production, which increased the NFI significantly.

The age composition of vines is also different for the industry average and top performers. Figure 13 shows that in 2010, the percentage of vines older than 20 years was approximately 9% compared to the industry average of 14%.

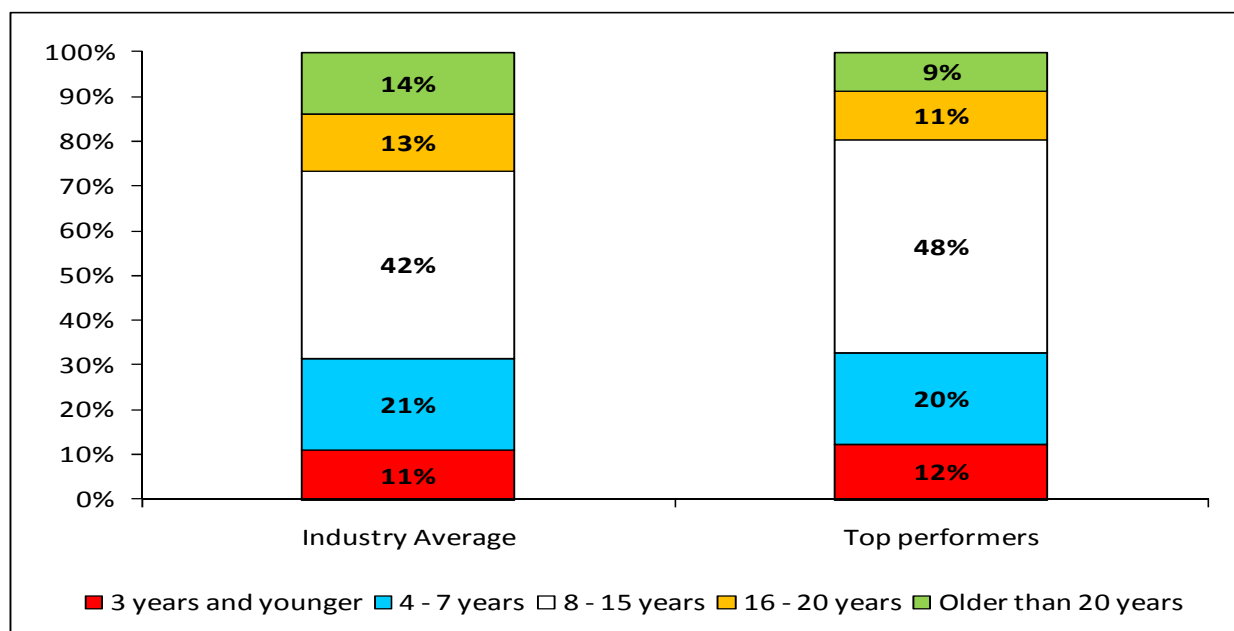


Figure 13: Age composition – top performers compared to the industry (2010)

Therefore, the question remains: how do these top performers act differently from the rest? A few possibilities identified in the course of the study groups include:

- The top performers appear to have diversified more into other branches of the industry in order to optimise labour and reduce ‘down time’ of the capital structure. Diversification also reduces risk and improves cash flow in the farming enterprise.
- Producers on bigger units have economies of scale benefits.
- Non-profitable blocks are phased out by means of gross and net block profit specifications.
- Production practices and expenditure are adjusted depending on each block’s unique price point, without compromising quality. Cost savings apply to labour in particular, and practices such as pruning, suckering and canopy management are in line with a specific price point. The common denominator for success appears to be “high yields” or high prices – preferably both.
- Producers are innovative and investigate alternative trellis systems, irrigation and new technologies.
- The owner plays a prominent role in the day-to-day management of the farming enterprise.
- Good labour management is critical – a properly trained and motivated labour corps is increasingly important.
- Producers have a replacement programme in place for both vines and capital items.
- All long-term practices are meticulously executed (soil preparation, fertilisation, etc.).
- Short-term practices vary depending on different price points – different programmes are followed for irrigation, as well as fertilisation, pest, disease and weed control.
- Record-keeping is critical in these farming units.
- Producers realise that it is a business to be managed and not simply a farm that has to be run on a daily basis. Decisions are therefore based on economic principles.

6. Summary

From the 2010 production plan results, it is clear that producers remain in a cost-price squeeze. Total production cost increased by 7.5 % from 2009 to R28 585/ha in the 2010 harvest year – once again exceeding inflation for the same period. Although the gross income per hectare – determined by price and production – has increased, enormous cost hikes have resulted in the NFI to weaken by 70 % between 2004 and 2010 to an NFI of R3 696/ha in the 2010 harvest year. Despite the negative trends, some producers still manage to produce wine grapes in an economically sustainable fashion. The average NFI of these top performers amounted to R16 959/ha compared to the industry average of R3 696/ha. The producer income of R44 601/ha – compared to the industry average of R32 281/ha – may be ascribed mainly to higher yields, namely 21.69 tons/ha compared to the industry average of 14.73 tons/ha.

Appendix

Total production cost per district (2010)

PRODUCTION COST FOR WINE GRAPES - COST AS RAND PER HECTARE (2010 HARVEST)										
Weight	19.6%	19.1%	11.4%	9.9%	14.2%	3.3%	16.0%	6.4%	100.0%	
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
DIRECT COST										
SEED	198	48	17	55	82	155	7	63	77	74
FERTILISER	532	611	1 600	1 177	1 111	1 146	1 338	1 343	1 017	547
ORGANIC MATERIAL	29	194	188	301	596	243	168	310	233	69
PESTICIDE CONTROL	1 995	1 637	1 256	1 730	2 160	1 908	1 877	1 054	1 758	1 274
HERBICIDE CONTROL	558	434	298	680	665	285	704	517	544	395
REPAIR & BINDING MATERIAL	410	205	212	365	377	554	175	180	292	70
Subtotal	3 721	3 129	3 570	4 308	4 990	4 292	4 270	3 466	3 920	2 428
LABOUR #										
SUPERVISION	2 575	1 293	674	1 282	1 450	645	1 187	809	1 425	533
PERMANENT LABOUR	5 994	4 729	4 103	5 509	5 037	3 728	4 412	4 371	4 920	2 713
SEASONAL LABOUR & CONTRACT WORK	4 172	2 522	1 200	538	1 223	1 741	1 139	3 574	2 132	2 554
Subtotal	12 741	8 544	5 978	7 329	7 710	6 114	6 738	8 753	8 477	5 800
MECHANISATION										
FUEL	1 501	1 420	1 660	1 589	1 552	1 415	1 365	2 094	1 533	1 142
REPAIR, PARTS & MAINTENANCE	2 274	1 402	2 296	2 158	2 061	1 471	2 200	1 552	1 983	1 334
LISENCES AND INSURANCE	414	288	515	465	439	454	365	650	419	243
TRANSPORT HIRED	123	390	282	162	134	235	57	374	207	705
Subtotal	4 311	3 501	4 753	4 374	4 186	3 575	3 986.54	4 670	4 142	3 425
FIXED IMPROVEMENTS										
REPAIR AND MAINTENANCE	741	362	258	615	660	294	713	276	540	267
INSURANCE	228	140	203	227	211	180	155	363	201	113
Subtotal	968	502	460	842	871	474	868	638	741	379
GENERAL EXPENDITURES										
ELECTRICITY	1 008	1 152	1 583	1 371	1 661	1 181	1 646	1 022	1 339	440
WATER COSTS	648	416	1 602	878	121	1 652	680	983	720	272
LAND-, PROPERTY- & MUN TAXES	272	164	201	115	147	216	144	109	177	89
ADMINISTRATION *	1 809	865	1 016	963	968	1 069	959	1 140	1 131	563
Subtotal	3 736	2 597	4 401	3 327	2 897	4 118	3 429	3 253	3 367	1 365
TOTAL CASH EXPENDITURES	25 478	18 273	19 162	20 180	20 654	18 572	19 292	20 781	20 648	13 397
PROVISION FOR REPLACEMENT	8 132	7 009	9 148	7 798	7 761	7 663	8 117	8 252	7 937	5 603
VINEYARDS	4 179	4 259	4 091	4 349	4 293	4 337	4 353	4 381	4 263	3 493
FIXED IMPROVEMENTS	984	544	807	710	730	468	738	518	730	430
LOOSE ASSETS or PRODUCTION MEANS	2 970	2 206	4 250	2 739	2 738	2 858	3 026	3 353	2 944	1 681
TOTAL EXPENDITURES	33 610	25 281	28 309	27 978	28 415	26 235	27 409	29 033	28 585	19 000
AVERAGE AREA PLANTED (HA)	100	91	50	89	87	26	82	20	79	150
AREA IRRIGATED (%)	83.9%	92.1%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	95.3%	39.4%
AVERAGE AGE COMPOSITION (%)										
3 YEARS & YOUNGER	9.4	10.6	9.4	13.7	10.1	10.7	14.0	10.1	11.0	5.4
BETWEEN 4 & 7 YEARS	16.6	19.8	18.1	23.2	24.6	20.2	24.0	17.9	20.6	31.7
BETWEEN 8 & 15 YEARS	46.0	48.1	40.8	33.3	37.7	44.5	36.0	48.7	41.9	49.3
BETWEEN 16 & 20 YEARS	10.7	9.0	16.0	12.8	14.5	15.5	15.6	10.9	12.7	6.6
OLDER THAN 20 YEARS	17.3	12.4	15.7	17.1	13.0	9.1	10.4	12.6	13.9	7.0
AVERAGE YIELD (TON PER HA)	6.4	9.5	24.9	16.4	17.9	14.9	13.3	31.5	14.7	6.9
CASH EXPENDITURES (RAND PER TON)	3 956	1 930	771	1 227	1 154	1 247	1 447	661	1 402	1 942
TOTAL EXPENDITURES (RAND PER TON)	5 219	2 670	1 139	1 702	1 587	1 762	2 056	923	1 941	2 754

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

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