

2015 Viticulture Gross Margin Report – Hawke's Bay

KEY PARAMETERS AND FINANCIAL RESULTS FOR HAWKE'S BAY VINEYARD GROSS MARGINS

Year ended 30 June 2015	Sauvignon Blanc	Chardonnay	Merlot
Total production¹ (t/ha)	9.3	6.6	9.1
Average return (\$/t)	1 500	1 915	1 925
Grape income (\$/ha)	13 945	12 685	16 870
Vineyard direct expenses (\$/ha)	7 305	7 325	7 260
Gross Margin (\$/ha)	6 640	5 360	9 610
Gross Margin (\$/tonne)	715	815	1 060

Notes: Figures may not add to totals due to rounding.

BACKGROUND

- The MPI viticulture monitoring programme was reviewed in 2013. The review assessed MPI's information needs, alternative data sources, the relevancy of existing viticulture models and options for co-funding. The decision to partner with New Zealand Winegrowers is a direct outcome of this review. It was also decided to develop gross margins of dominant grape varieties in Hawke's Bay rather than a vineyard model. This is the first year of trialling the use of gross margins, so changes to the approach are still likely.
- The gross margin calculates the revenue less direct expenses for growing, harvesting and marketing the crop. It does not take account of overheads such as administration, debt-servicing, tax, drawings or development and capital spending.

KEY POINTS

- Merlot achieved a gross margin in 2015 of \$9610 per hectare, eclipsing gross margins for Chardonnay and Sauvignon Blanc by \$3-4,000 per hectare. This favourable outcome is attributed to good yields and prices.
- The growing season started with a cooler spring than the long term average and bud burst was later than last season. Bud-break was more uneven than usual, most likely a consequence of some very high yields in 2014. Cool weather and some untimely rainfall continued through flowering (November/December), compared with both last season and the long term average. January was dry with no rainfall and lower growing degree days (GDD) than normal, contributing to a delayed veraison. The dry January contributed to high powdery mildew pressure across the region.
- Despite predictions, Cyclone Pam in mid-March had minimal effect on the grape harvest and subsequent fruit quality. A settled warm autumn followed and allowed the later red varieties to be left to ripen. An early frost event in April damaged the leaf canopy and brought harvest to an abrupt end.
- Yields in 2015 across all varieties¹, were down 19 percent from 2014 due to reduced carbohydrate reserves lowering bunch numbers as a result of high 2014 yields and cool wet weather over flowering reducing pollination.

¹ New Zealand Winegrowers 2015 Vintage Survey

- The drier conditions in Hawke's Bay were not as extreme as other East Coast regions and did not impact unduly on yields. Powdery Mildew, particularly the sexual stage (*Chasmothecia*), was evident for the second year in a row. However growers managed their way through this with canopy/crop management and increased spraying.
- Lower yields and generally dry ripening conditions contributed to very good quality fruit, with some growers reporting it as the third top-quality vintage in a row. For the three varieties monitored, yields ranged from 6.6 tonnes per hectare for Chardonnay to 9.3 tonnes per hectare for Sauvignon Blanc.
- Sauvignon Blanc yield was 26 percent lower than the 2014 Hawke's Bay model vineyard yield for this variety while Chardonnay and Merlot were 15 and eight percent lower respectively. Growers suggest the larger decline in Sauvignon Blanc was due to the very high 2014 Sauvignon Blanc yield reducing carbohydrate reserves.
- Prices in 2015 were reportedly up slightly from 2014, with higher returns for Chardonnay and Merlot.
- Despite varietal differences, particularly for pruning and canopy/crop management, overall vineyard direct working expenses were very similar between varieties.

Hawke's Bay weather data

Month	Growing Degree Days ¹			Rainfall (mm)		
	2014 ²	2015	Long Term	2014	2015	Long Term
July	6	11	15	130	55	113
August	27	11	20	126	39	56
September	91	30	53	97	60	46
October	131	58	96	27	35	53
November	168	102	134	81	28	36
December	227	157	211	54	59	53
January	226	206	240	37	0	47
February	205	196	224	32	14	39
March	171	220	198	12	47	47
April	158	131	124	125	57	74
May	50	52	59	16	40	64
June	27	26	20	87	28	76
Total	1 486	1 198	1 393	826	461	705

Note ¹ GDD – growing degree days. GDDs are a temperature index, calculated by taking the average of the daily high and low temperatures compared with a baseline (usually 10°C). They help predict the date that a flower will bloom or a crop reach maturity. Source NIWA (Whakatu).

² Year refers to year of harvest.

Source HortPlus (Whakatu).

VARIETY GROSS MARGINS

SAUVIGNON BLANC GROSS MARGIN

KEY POINTS

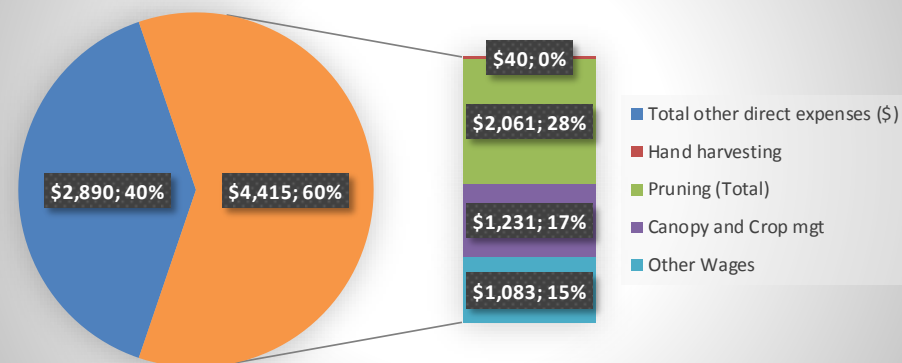
- The Hawke's Bay 2015 Sauvignon Blanc gross margin was \$6640 per producing hectare, equal to \$715 per tonne. Gross margin per tonne was almost identical for winery and contract growers. Of the three varieties, the gross margin for Sauvignon Blanc was well below Merlot and slightly higher than Chardonnay.
- 2015 yields averaged 9.3 tonnes per producing hectare which was down 26 percent compared to the 2014 Viticulture Monitoring Model yields and slightly lower than the 10 tonnes per hectare average of the previous five years. Lower yield in 2015 is thought to have been caused by the heavy previous season's crop and subsequent carbohydrate deficit and then the cool, damp flowering. Some growers reported slight crop losses to powdery mildew.
- The average price for Sauvignon Blanc was \$1500 per tonne, an increase of \$280 per tonne when compared with the five year Hawkes Bay average. Sauvignon Blanc prices have generally been increasing since 2010/11. There was little variation in the range of prices paid this year. Growers attributed the increase in price to lower than expected nationwide volume and subsequent increased demand. Winery growers generally reported higher prices for all varieties compared with contract growers.
- There was negligible difference between the three varieties in total labour expenses, total other direct working expenses and consequently total direct operating expenses per hectare.
- Canopy and crop management costs of Sauvignon Blanc were the lowest of the three varieties. Sauvignon Blanc's upright growth habit and more flexible fruit quality specification reduced the need for shoot or crop thinning and general vine management. However its three or four cane pruning style resulted in Sauvignon Blanc having the highest pruning costs of the three varieties.
- Winery growers on average had higher vine density than contract growers. This contributes to their slightly higher pruning and weed and pest control costs and likely contributes to slightly higher average yields.

Vineyard Gross Margin Benchmarking

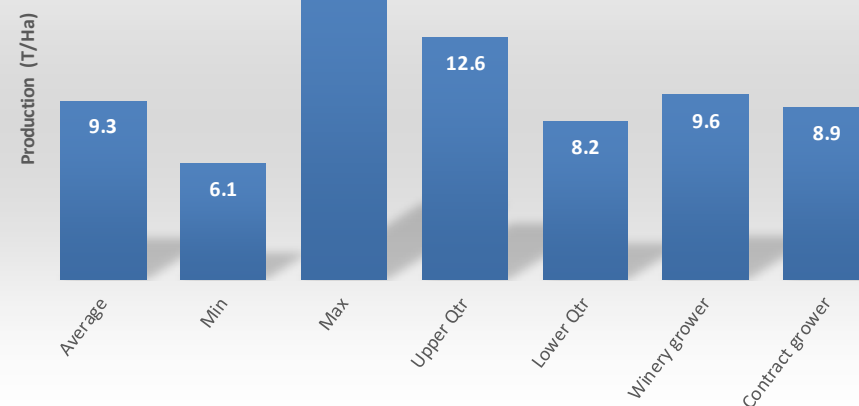
Region **Hawkes Bay**
 Year **2015**
 Variety **Sauvignon Blanc**

	Average			\$ per producing Ha			
				Quartile by Gross Margin ¹		Winery grower average	Contract grower average
	per Ha	per vine	per row metre	Upper	Lower		
Unpaid FTE - number	0.3					0.2	0.4
Unpaid FTE - hours/ha	30					19	45
Vines/ha	2 034			2 054	1 919	2 159	1 864
Row metres/ha	3 846						
Yield (Tonnes)	9.31	4.6kg	2.4kg	12.62	8.23	9.57	8.95
Income \$/tonne	1 500			1 505	1 505	1 540	1 450
Income (\$)	13 945	6.85	3.63	19 015	12 280	14 665	12 955
Labour expenses (\$)							
Hand harvesting	40	0.02	0.01	4	6	62	8
Pruning (Total)	2 061	1.01	0.54	2 050	2 111	2 137	1 958
Canopy and Crop mgt	1 231	0.60	0.32	1 581	1 949	1 226	1 237
Other Wages	1 083	0.53	0.28	1 200	1 470	1 220	898
Total labour expenses	4 415	2.17	1.15	4 835	5 535	4 645	4 100
Other direct expenses (\$)							
Weed and pest control	812	0.40	0.21	1 283	1 125	965	601
Fertiliser and lime	155	0.08	0.04	89	71	129	190
Electricity	170	0.08	0.04	196	135	206	122
Vehicle	144	0.07	0.04	129	91	197	70
Fuel	228	0.11	0.06	343	322	286	148
Repairs & maintenance	403	0.20	0.10	705	499	414	388
General	116	0.06	0.03	138	290	122	109
Machine harvesting	864	0.42	0.22	914	736	879	842
Total other direct expenses (\$)	2 890	1.42	0.75	3 800	3 270	3 200	2 470
Total direct expenses (\$)	7 305	3.59	1.90	8 635	8 805	7 845	6 570
Gross Margin (\$/ha)	6 640	3.26	1.73	9 090	4 815	6 820	6 385
Gross Margin (\$/T)	715			850	600	710	715
Number in model	15			15	15	8	7

Sauvignon Blanc Expenses



Sauvignon Blanc Production



¹ Quartile analysis is presented in relation to each item for the upper and lower gross margin quartile.

CHARDONNAY GROSS MARGIN

KEY POINTS

- The Hawkes Bay 2015 Chardonnay gross margin is \$5360 per producing hectare, equivalent to \$815 per tonne. Of the three varieties, Chardonnay had the lowest gross margin. This is because its lower yields are not compensated for by commensurately higher prices. Chardonnay is typically cropped at lower levels than other varieties to meet required quality parameters.
- Chardonnay yields were lower than last season but in line with typical yields over the past six years. Quality is reported to be very high this year and many rate Chardonnay as a stand-out variety for the 2015 vintage in Hawkes Bay. Blocks affected by powdery mildew or harvested after the Cyclone Pam rain event may have incurred some crop loss.
- The average price for Chardonnay in 2015 was \$1915 per tonne which is marginally lower than the previous season but similar to the previous two years. Demand for Hawkes Bay Chardonnay appears to be strong and underpinning the price increase that occurred in 2013.
- Chardonnay pruning costs were lower than Sauvignon Blanc largely because Chardonnay is two-cane pruned. Pruning costs were higher for winery growers, while canopy and crop management were lower.

IN CONFIDENCE - DO NOT CIRCULATE

Vineyard Gross Margin Benchmarking

Region **Hawkes Bay**
 Year **2015**
 Variety **Chardonnay**

	\$ per producing Ha						
	Average			Quartile by Gross Margin ¹		Winery grower average	Contract grower average
	per Ha	per vine	per row metre	Upper	Lower		
Unpaid FTE - number	0.3					0.5	0.2
Unpaid FTE - hours/ha	38					44	35
Vines/ha	2 129			2 316	2 049	2 247	2 079
Row metres/ha	3 927						
Yield (Tonnes)	6.59	3.1kg	1.7kg	8.07	5.07	7.09	6.38
Income \$/tonne	1 915			2 405	1 750	2 035	1 870
Income (\$)	12 685	5.96	3.23	19 025	8 830	14 660	11 860

Labour expenses (\$)

Hand harvesting	66	0.03	0.02	0	156	148	32
Pruning (Total)	1 784	0.84	0.45	2 026	1 733	2 195	1 612
Canopy and Crop mgt	1 401	0.66	0.36	1 042	1 607	521	1 769
Other Wages	1 094	0.51	0.28	1 043	1 179	846	1 202
Total labour expenses	4 345	2.04	1.11	4 110	4 675	3 710	4 615

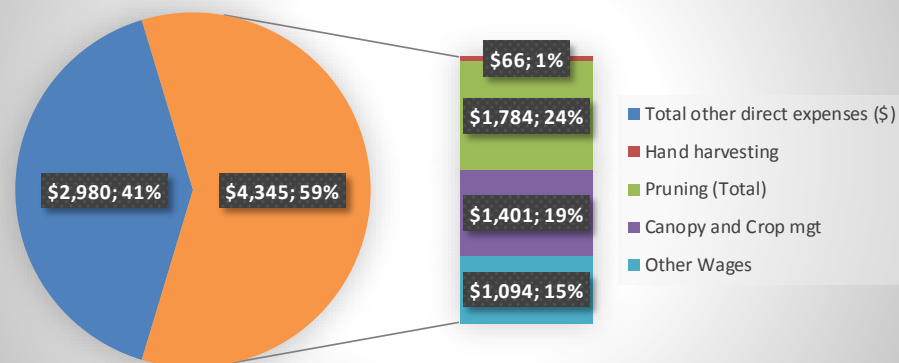
Other direct expenses (\$)

Weed and pest control	774	0.36	0.20	908	671	704	803
Fertiliser and lime	284	0.13	0.07	105	428	131	348
Electricity	185	0.09	0.05	261	152	268	151
Vehicle	167	0.08	0.04	115	225	164	168
Fuel	260	0.12	0.07	218	289	245	267
Repairs & maintenance	440	0.21	0.11	743	260	576	384
General	0	0.00	0.00	0	0	0	1
Machine harvesting	870	0.41	0.22	915	878	928	846

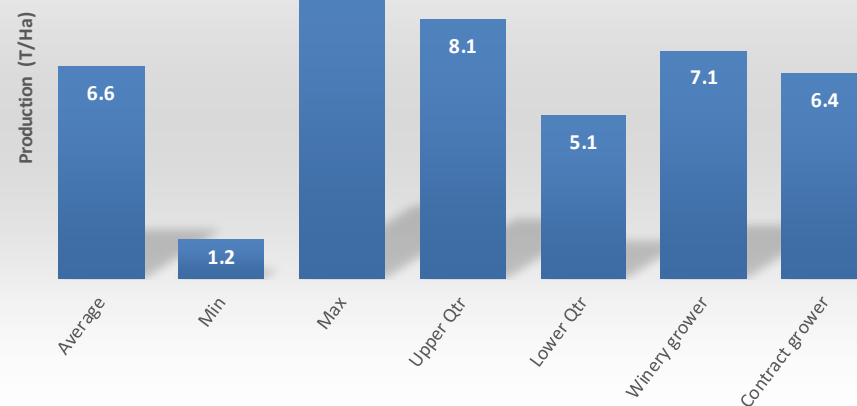
Total other direct expenses (\$)	2 980	1.40	0.76	3 265	2 905	3 015	2 965
Total direct expenses (\$)	7 325	3.44	1.87	7 375	7 580	6 725	7 580
Gross Margin (\$/ha)	5 360	2.52	1.36	8 685	3 135	7 935	4 280
Gross Margin (\$/T)	815			1 210	570	1 120	670

Number in model 14 14 14 4 10

Chardonnay Expenses



Chardonnay Production



¹ Quartile analysis is presented in relation to each item for the upper and lower gross margin quartile.

MERLOT GROSS MARGIN

KEY POINTS

- The 2015 Merlot gross margin is \$9610 per producing hectare which was equivalent to \$1060 per tonne and was the highest of the three varieties. Moderately high yields and firm prices are the main factors giving Merlot the highest gross margin of the three varieties in 2015.
- Average yield was 9.1 tonnes per producing hectare which was slightly down from the past two years but on par with the five year average. A combination of a late and uneven bud burst followed by a cool and damp flowering period has contributed to the reported lower yields. Some vineyards affected by powdery mildew and the Cyclone Pam rain event are reported to have required late thinning of diseased fruit which would have exacerbated their reduced yield.
- The average price for Merlot was \$1925 per tonne which was essentially equal to Chardonnay. Merlot showed the most price variability between growers of all three reported varieties in 2015. Prices for Merlot have followed a steadily increasing trend since the low of 2012. Current prices now marginally exceed those of 2008-10.
- Merlot pruning costs were the lowest because it is predominately spur pruned. However the need for intensive canopy management to keep the fruiting zone open for sunlight and wind penetration raised labour costs for canopy and crop management for this variety. Winery growers reported spending \$380 per hectare more on canopy and crop management than contract growers. They also spent more on hand harvesting and other direct working expense items. In spite of this, their gross margins were higher than contract growers because winery growers reported a higher price for their grapes, reflecting the market targeted for winery grown fruit.

IN CONFIDENCE - DO NOT DISCLOSE

Vineyard Gross Margin Benchmarking

Region Hawkes Bay

Year 2015

Variety Merlot

	Average			\$ per producing Ha			
	per Ha	per vine	per row metre	Quartile by Gross Margin ¹		Winery grower average	Contract grower average
				Upper	Lower		
Unpaid FTE - number	0.1					0.1	0.2
Unpaid FTE - hours/ha	20					8	31
Vines/ha	2 258			2 461	1 795	2 192	2 328
Row metres/ha	4 051						
Yield (Tonnes)	9.07	4.0kg	2.2kg	10.59	7.24	8.91	9.24
Income \$/tonne	1 925			2 085	1 945	2 115	1 720
Income (\$)	16 870	7.47	4.16	21 920	12 285	17 720	15 955

Labour expenses (\$)

Hand harvesting	181	0.08	0.04	10	535	344	7
Pruning (Total)	1 389	0.62	0.34	1 166	1 456	1 442	1 332
Canopy and Crop mgt	1 484	0.66	0.37	1 318	2 119	1 667	1 287
Other Wages	1 126	0.50	0.28	1 417	1 426	1 103	1 158
Total labour expenses	4 180	1.85	1.03	3 910	5 535	4 555	3 785

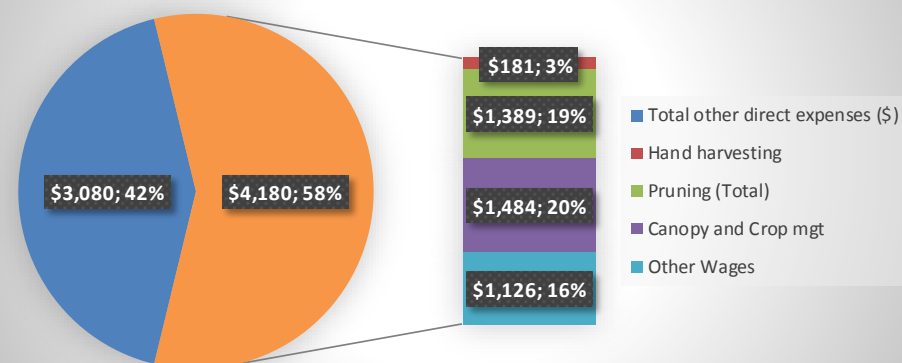
Other direct expenses (\$)

Weed and pest control	843	0.37	0.21	873	835	897	784
Fertiliser and lime	110	0.05	0.03	73	203	71	151
Electricity	235	0.10	0.06	250	143	241	228
Vehicle	143	0.06	0.04	112	256	189	93
Fuel	253	0.11	0.06	172	299	278	226
Repairs & maintenance	584	0.26	0.14	705	400	661	500
General	50	0.02	0.01	35	119	70	29
Machine harvesting	864	0.38	0.21	885	769	826	905

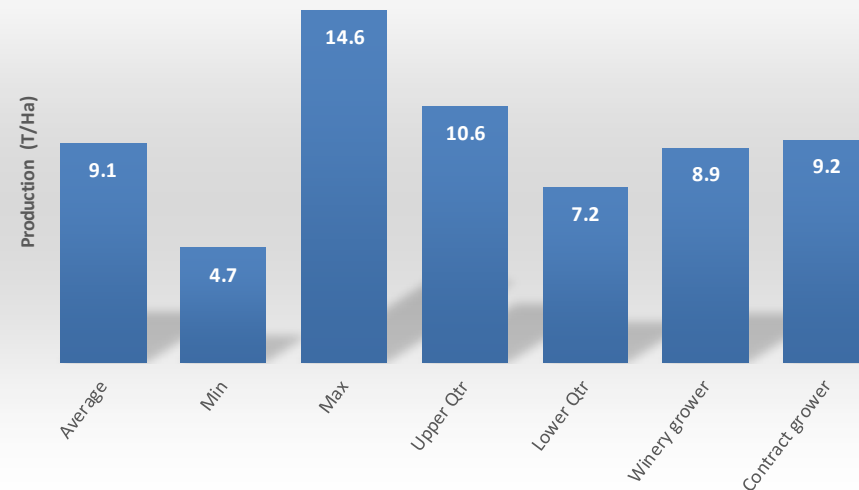
Total other direct expenses (\$)	3 080	1.36	0.76	3 105	3 025	3 235	2 915
Total direct expenses (\$)	7 260	3.22	1.79	7 015	8 560	7 790	6 700
Gross Margin (\$/ha)	9 610	4.26	2.37	11 865	6 335	9 930	9 255
Gross Margin (\$/T)	1 060			1 215	905	1 115	1 000

Number in model	12			12	12	6	6
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Merlot Expenses



Merlot Production



¹ Quartile analysis is presented in relation to each item for the upper and lower gross margin quartile.

INDUSTRY ISSUES AND DEVELOPMENTS

SEASONAL IMPACTS ON PROFITABILITY

- Yields were lower than the previous season in all varieties, particularly for Sauvignon Blanc. This is thought to have been caused by a combination of the heavy previous season's crop and subsequent carbohydrate deficit and cool, damp conditions over flowering.

GROWER MORALE AND BUSINESS VIABILITY

- Growers started pruning immediately after leaf fall to utilise Recognised Seasonal Employer (RSE) workers before they head home and because local skilled labour is short. This early pruning may encourage an early budburst with consequent increased risk of frost damage.
- There was some concern that reduced yields in Marlborough Sauvignon Blanc crop in 2015 may cause wineries to tighten their belts and restrict cash flow which could impact on the 2015/16 season.
- Growers felt the future was looking positive for the New Zealand wine industry as international demand for Marlborough Sauvignon Blanc is high, which can benefit other growing areas and varieties. Nevertheless, there is still work to be done in marketing other regions and varieties offshore.
- Panel participants felt that the reputation of Hawkes Bay Chardonnay and Merlot are improving, with Hawkes Bay Chardonnay in particular having a strong following, which should increase market demand over time. Hawkes Bay's broader variety portfolio and presence in the New Zealand domestic market were seen as regional strengths.

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

- Many resource consents relating to irrigation are coming up for renewal in the near future and there is anxiety over the certainty and increased compliance costs of water supply.
- The unknown effects of Hawkes Bay Regional Council's Plan Change 6 to the Tukituki River catchment and the proposed Ruataniwha dam in Central Hawkes Bay are creating additional uncertainty among growers.

HOT TOPICS

- Seasonal fluctuations in Sauvignon Blanc yield in Marlborough are seen as a risk to the Hawkes Bay wine industry. Growers have voiced their concern that better systems need to be in place to predict yields to ensure all growers and wineries have accurate information to manage production and supply.
- The new sexual stage of powdery mildew (*Chasmothecia*) which was first identified in 2013/14 has increased disease pressure and control costs in vineyards across the region. Last year some growers were caught out with *Chasmothecia* but this year most growers increased monitoring and sprayed more vigilantly to improve disease control.
- Hawkes Bay growers fear that New Zealand's wine reputation is at risk through export of inferior quality bulk wine, particularly Marlborough Sauvignon Blanc. Growers are also concerned that their broader range of varieties are struggling to get market recognition given the dominance of Marlborough Sauvignon Blanc. On the positive side, growth in the Chinese market with its preference for lower acid, more tropical Hawkes Bay style white wines is welcomed.