



NEW ZEALAND WINE
PURE DISCOVERY

Vineyard **Benchmarking** **Report**

Marlborough 2017

Vineyard Benchmarking Report

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New Zealand Winegrowers and the Ministry for Primary Industries would like to express our thanks to contract and winery growers in May for their on-going participation in our vineyard benchmarking programme. Also special thanks to Spy Valley who kindly provide a venue and to those that attend the meeting in June to validate the preliminary findings

In collaboration with

Ministry for Primary Industries
Manatū Ahu Matua



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Cover image courtesy of Destination Marlborough

Marlborough Model - 2017 Viticulture Benchmarking

Key Performance Indicators

Ministry for Primary Industries
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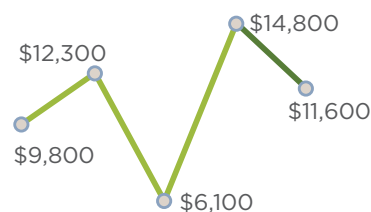


NEW ZEALAND WINE
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Profit Before Tax

\$11,600 per hectare

↓ 22% to June 2017



Profit \$ Per Ha
Last 5 years

Income

Per Hectare

\$26,055 to June 2017



↓ 10%

Working Expenses

Per Hectare

\$10,770 to June 2017



↑ 3%

EBIT¹ total capital, for the Model



6.0%

↓ 31%

¹Earnings before interest and tax reflects vineyard profit before tax and interest payments, then relate this figure to total capital employed.

Production

Average Yield

14.0 tonnes per hectare



↓ 7%

Production

S Blanc Yield

15.6 tonnes per hectare



↓ 6%

Price

S Blanc Price

\$1,755 dollars per tonne



↓ 3%

Vintage 2018 Outlook grape grower view as at May 2017

Growers are cautiously optimistic regarding the year ahead with growers forecasting a sizable crop although down 6 percent on the outturn achieved in 2017. Growers also anticipate an increase in grape prices, driven largely by better quality fruit. Underlying industry confidence is showing itself in predicted new grape plantings in Marlborough, especially by the larger wineries and some contract growers seeking to improve economies of scale.

*figures are rounded for ease of reading

MARLBOROUGH VINEYARD MODEL The Marlborough model remains at 30 producing hectares and for 2017 data was sourced from 47 vineyards. Ten vineyards are located in the Awatere Valley and 37 vineyards in the Wairau Valley. There are 35 contract growers and 12 winery-operated vineyards in the survey group. Eleven of the vineyards are 0-10 hectares 10 are 10-20 hectares, 15 are 20-50 hectares and 11 are 50 hectares or larger. Sauvignon Blanc is the dominant grape variety in the model representing 77 percent of the producing area, followed by Pinot Noir, Chardonnay, Pinot Gris and Riesling. Four vineyards are Bio-Gro certified.

Key points

Winemakers expect some excellent 2017 wines despite winery logistical challenges arising from the November 2016 earthquake and some untimely rain events in April causing significant harvesting challenges.

The average yield of 14 tonnes per hectare for 2017 was the third highest recorded for the model and only 7 percent down on the highest model yield of 15.1 tonnes recorded in 2016.

Price per tonne for 2017 was down 3 percent compared with last year due to price penalties for quality not meeting contract requirements and fruit over winery limits (caps) sold at a lower price rather than a reduction in contracted prices.

Profit before tax for 2017 was \$11 600 per hectare, 22 percent down on last year but still 25 percent higher than the average over the last five years.

The 2017 model yield was 12 percent higher than the five-year average, 2012-16.

Sauvignon Blanc yielded an average of 15.6 tonnes per hectare, down 6 percent on 2016 but still 14 percent higher than the five-year average (2012-16). Pinot Noir produced 7 tonnes per hectare compared with the 2016 record of 8.6, still 10 percent higher than the five-year average.

Weather conditions in Marlborough were less than favourable at critical stages in the growing season. The region received regular rain events with **433 mm** for the period **October to April** compared with 186 mm in 2015/16. Low sunshine hours in March and the first two weeks of April 2017 slowed down ripening. Sauvignon Blanc harvesting was compressed after two large rain events in early April led to fruit being harvested as quickly as possible and on condition rather than to brix and acid targets.

Sauvignon Blanc **brix levels** in the model group were **significantly lower** than in most seasons with an average of 19.5 compared with 21.6 in 2016.

Vineyard working **expenses increased 3 percent** compared with 2016 and are 19 percent higher than the five-year average.

The major **November 2016 earthquake** caused relatively minor damage to vineyards with dams and irrigation infrastructure being the main casualties. **Wineries received a greater level of damage**, mostly to tanks and pipework.

Growers continue to be cautiously optimistic about the future. They forecast reduced yields in 2018 but marginally increased prices back to 2016 levels based on contracted prices.

Key parameters, financial results for the Marlborough vineyard model¹

Year ended 30 June	2007-16	2012-16	2016	2017 ³
	10 year average	5 year average		
Producing area (ha)	30	30	30	30
Total production ² (t)	353	374	452	419
Average production (t/ha)	11.8	12.5	15.1	14.0
Average return (\$/t)	1795	1815	1900	1840
Sauvignon Blanc return (\$/t)	1710	1615	1805	1755
Net cash income (\$)	642 900	651 780	868 800	781 700
Vineyard working expenses (\$)	272 220	272 240	313 300	323 100
Vineyard profit before tax (\$)	249 580	278 100	444 700	348 800
Vineyard surplus for reinvestment ³ (\$)	180 280	183 120	413 900	77 500
EBIT ⁴ /Total Capital	5.1%	6.5%	8.7%	6.0%

Notes:

The vineyard model is based on an owner-operator business structure and from 2014 is representative of both contract and winery growers.

Figures may not add to totals due to rounding.

¹ The sample of vineyards used to compile this model has changed in each of the past four years (2014 – 2017 harvests). Caution is advised if comparing data between these years.

² Grapes are harvested in the autumn, so the 2017 year refers to fruit harvested in autumn 2017.

³ Vineyard surplus for reinvestment is the cash available for investment on the vineyard or for principal payments, after meeting living costs, it is calculated as the vineyard profit after tax plus depreciation less drawings/living expenses.

⁴ Earnings before interest and tax.

Marlborough Model

Marlborough Vineyard Profit Drivers

	2017	2018 budget	Comment
Weather	Wet start to season and a very wet harvest. High disease pressure.	Typical	Following two dry years, the 2017 season will be remembered for rainfall events. 145 mm for October/November 2016 compared with 9 mm in 2015. 129 mm rain then fell in the first two weeks of April, seriously disrupting harvesting operations. Sunshine hours in March and early April were significantly lower than average which slowed down ripening ¹ .
Yields	↓	↓	7 percent decrease in 2017 compared with 2016 but still third highest for the model. In 2018 a reduced but higher than average yield is budgeted.
Prices	→	→	3 percent decrease in 2017 compared with 2016 due to quality and over production penalties. Actual contracted prices were similar to 2016 and budgeted to stay about the same in 2018.
Expenditure	↑	→	3 percent increase compared with 2016 and a continuing trend with expenses 19 percent higher compared with the 2012–16 average. Contributing factors are increased botrytis control costs and a general increase in the cost of combatting powdery mildew plus rising general labour costs. Forecast broadly similar in 2018.
Profit before tax	↓	↓	22 percent down compared with 2016 but still 25 percent higher than the 2012–16 average. Forecast lower yields, assuming prices remain stable, would reduce profit in 2018.
Morale	→		Cautiously optimistic. Despite lower yields and static prices profit before tax was the 4th highest in the past 10 years.

¹ Rob Agnew, Plant and Food Research, Winepress April/May 2017.

Financial Performance of the Marlborough Viticulture Model in 2017



Weather

Month	Growing degree days ¹ (GDD)			Rainfall (mm)		
	2016 ²	2017	Long Term Average	2016	2017	Long Term Average
October	116	125	102	6	59	71
November	152	167	143	3	86	48
December	184	207	215	17	20	51
January	272	265	246	69	27	44
February	291	224	221	18	62	34
March	217	196	194	47	47	34
April	110	120	110	26	131	53
Total	1343	1304	1231	186	433	335

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

² Year refers to year of harvest.

The 2016/17 growing season began with significant rain events in October and November with a combined Blenheim total of 145 mm compared with nine mm for the same period the previous year.

Regular rain events were a feature of the season with four out of the seven months recording above average rainfall and in total the 2017 season recorded 433 mm rain compared with 186 mm in 2016.

Despite the increased rainfall, growing degree days were still above average and only slightly less compared with 2015/16. It

is important to note that this was due to the mean minimum temperature being higher than average. With an increase in cloudy days the range in daily temperature became narrower.

Sunshine hours in March were 87 percent of long term average and in the first two weeks of April only 51 percent which caused a significant slowing down in ripening at the critical time.

Flowering conditions in the first two weeks of December 2016 were fairly poor and reduced the fruit set of some blocks of

Pinot Noir and Chardonnay resulting in lower yields for these varieties in 2017 compared with 2016. Flowering conditions in the second half of December improved and with higher than average inflorescence counts¹ being recorded a good fruit set on Sauvignon Blanc occurred leading to many growers using crop moderation practices to reduce potential over cropping.

January 2017 was very windy with 123 percent² of long term average wind run which reduced spraying opportunities, spray efficacy and had a negative effect on vine growth.



Yields

The model vineyard returned a good yield in 2017 albeit 7 percent down on the record 2016 year. The average yield was 14 tonnes per hectare, a 12 percent increase compared with the 2012-16 average.

The Sauvignon Blanc yield of 15.6 tonnes per hectare, while down 6 percent on 2016, compares well with the 16.5 tonne model record yield set in both 2014 and 2016 vintages.

The Pinot Noir yield of seven tonnes per hectare decreased 18 percent compared with 2016 but still 10 percent above the 2012-16 average.

The Pinot Gris yield was up compared with the 2012-16 average whereas Chardonnay and Riesling yields were below long-term averages.

There was a low incidence of frost damage in 2016/17 with few frost events recorded.

129 mm of rain (Blenheim) in the first two weeks of April caused challenges for harvest management, accelerated disease development and diluted sugar levels. Decisions on when to harvest Sauvignon Blanc became based more on weather and grape conditions rather than on brix and acid targets and the harvest was compressed to get fruit in to the winery in the best possible condition.

Many growers report that yield caps have remained similar to the high levels experienced in the previous two seasons as wine companies worked to secure supply and meet demand. In 2017 several growers in the model sold excess fruit over yield caps at discounted prices.

Production

Average Yield

**14.0 tonnes per
hectare**



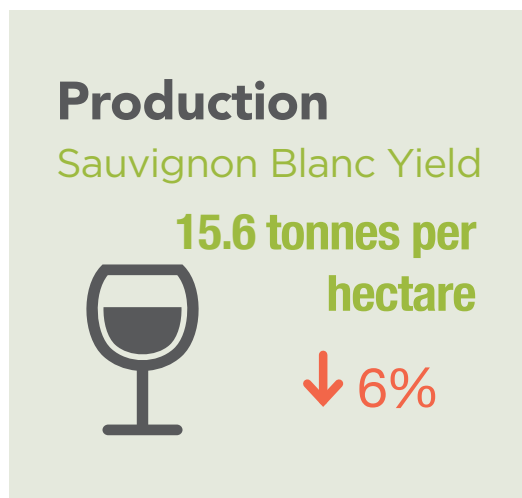
↓ 7%

¹ Plant and Food Research, WinePress, December 2016

² Plant and Food Research, WinePress, June 2017

In 2017 only 130 tonnes of Sauvignon Blanc were harvested to ground in the model group compared with 460 tonnes in 2016 indicating successful crop moderation to keep to winery limits and the slightly lower average yield.

A few growers in the model have lower yield limits imposed by their receiving winery for Sauvignon Blanc i.e. 11 to 14 tonnes per hectare compared with 15 to 20 tonnes for most receivers. Although there is some price compensation for the lower limits, it is clear that the highest yielding vineyards are currently producing the best cash surplus.



Quality

Winemakers have reported that early harvested fruit and Pinot Noir in particular, was of excellent quality and met target quality parameters. The main season and later Sauvignon Blanc blocks were generally harvested on condition rather than target brix due to the extreme rain events and the

average brix for the model growers was 19.5 compared with 21.6 in 2016.

The industry made huge efforts to harvest the fruit in the best condition possible given the weather conditions and winemakers are confident that there will be excellent wines from vintage 2017.

Prices

Model average price at \$1840 per tonne was down 3 percent compared with 2016 but up 3 percent compared with the 5 year average. Average contracted prices were virtually the same as in 2016 but the reduction in price was due largely to some fruit penalised for being below contracted quality standards.

The Sauvignon Blanc price is the main driver of the model price and at \$1755 per tonne also decreased by 3 percent compared with 2016, still 3 percent up on the 2007-16 average. Figure 1 shows the relationship between price and brix levels. Seven of the model growers had penalty clauses activated, primarily due to low brix

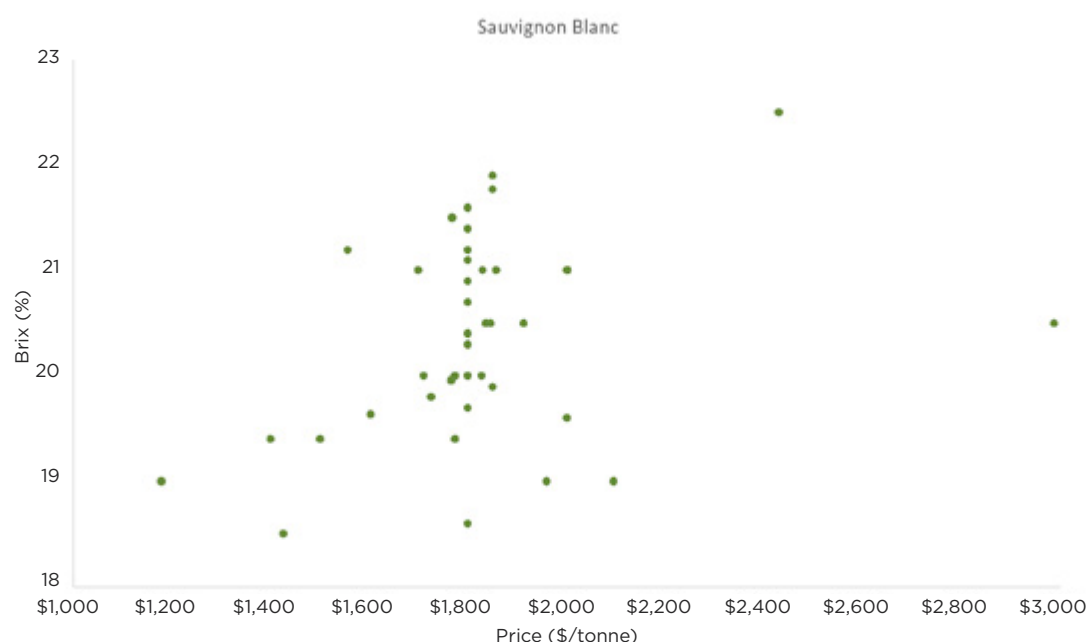


Figure 1 Relationship between Brix and price paid for Sauvignon Blanc in 2017.

levels but also disease issues. The penalties varied between \$100 and \$300 per tonne and are the main reason for the reduction in the average price.

In 2016, 5 percent of the survey groups Sauvignon Blanc was surplus to winery yield limits and was sold at lower prices which caused a \$50 per tonne reduction

to the model average price. In 2017 there was 2.5 percent of fruit sold at lower prices, consequently this had only a negligible effect on the model average price.

Pinot Noir prices have stayed virtually the same since 2013 and in 2017 were \$3040 per tonne compared with \$3060 for the previous 10-year average.



Expenditure

Model vineyard working expenses increased 3 percent compared with 2016 and at \$10 770 per hectare are now just above their previous peak of \$10 690 per hectare in 2008. Vineyard working expenses have climbed steadily since the low point of \$7650 per hectare in 2012 and have increased 19 percent compared with the average of 2012-16.

Growers report that the drivers for increased expenses over the past four seasons have been the requirement to maintain yields at the current high levels and combat the increased incidence of powdery mildew and mealy bug.

Labour costs have increased significantly over the past two seasons, a proportion of which is due to increased wage rates.



Expenditure Continued

Labour expenses at \$5815 per hectare were up by 2 per cent compared with 2016 and 12 percent over the 2015 season.

Pruning is up by 3 percent over 2016 and 9 percent compared with 2015 but the biggest increase is in canopy and crop management, up by 12 percent compared with 2016 and by 33 percent compared with 2015. Most of this increase is due to seasonal influences requiring a high degree of crop moderation (both years) and removing diseased fruit prior to harvest in 2017. Powdery mildew control is becoming more difficult and requires a higher level of canopy management to reduce conditions favourable to spread. High fruit set in both years required thinning. Growers are using machine thinning to reduce crop load and is proving increasingly popular for trash removal to help botrytis control.

Weed and pest control chemicals have increased by 9 percent compared with 2016 in addition to an increase of 9 percent the year before. This reflects the need for more spray rounds to manage powdery mildew as well as the use of more expensive chemistry and control products for mealy bug.

Fertiliser and lime costs continue to rise, 30 percent up compared with 2016 and 40 percent up compared with 2015. Growers are more aware of the importance of nutritional inputs for the vineyard, particularly when producing high yields. Fertigation is becoming more widely used.

Irrigation costs (electricity and water) decreased by 26 percent compared with 2016 due to the significantly higher rainfall throughout the season resulting in a lower irrigation requirement.

Overhead costs were up marginally compared with 2016. Grape grower levies were down in line with the decreased yield.

Working Expenses Per Hectare



\$10,770

to June 2017

↑ 3%



Financial Result

The good yield and stable price per tonne gave a vineyard profit before tax of \$348 800 which is a 22 percent decrease compared with 2016 but still 25 percent up

on the 5 year average. The 2017 vineyard profit before tax equates to \$11 600 per hectare compared with the 10-year average 2007-16 of \$8320.



Financial Result Continued

Vineyard profit after tax is \$105 000 compared with \$444 700 in 2016 as tax was calculated to be zero in 2016 based on a poor result in 2015. Conversely 2017 shows a large tax bill of \$243 800 to pay on the back of a large profit in 2016. Although tax is modelled for the survey it demonstrates the tax planning challenges for growers caused by variations in annual results.

Capital expenditure for the model remained relatively static at \$19 500 and mostly included investment in tractors, machinery,

and vineyard buildings. Several growers in the survey group were also investing significant amounts on dams (three of 47) and wind machines (three of 47) but this has not been reflected in the model vineyard.

There was a significant increase in development expenditure within the model group compared with 2016 with 11 growers carrying out new or re-development in 2017. It is also evident that a number of large vineyard developments were undertaken in 2017 by companies outside of the model group.



Vineyard Property Values

The survey group considered that vineyard property values have increased 16 percent compared with 2016 and 34 percent compared with 2015. The average vineyard value in the model is now \$220 800 per planted hectare. Grower interviews indicate that for high performing vineyards in prime areas of the Wairau plain, values

currently are in the region of \$250 000 per planted hectare.

Tim Gifford, Colliers International produces an independent valuation for the model vineyard and currently assesses the model vineyard similarly at \$232 000 per planted hectare.

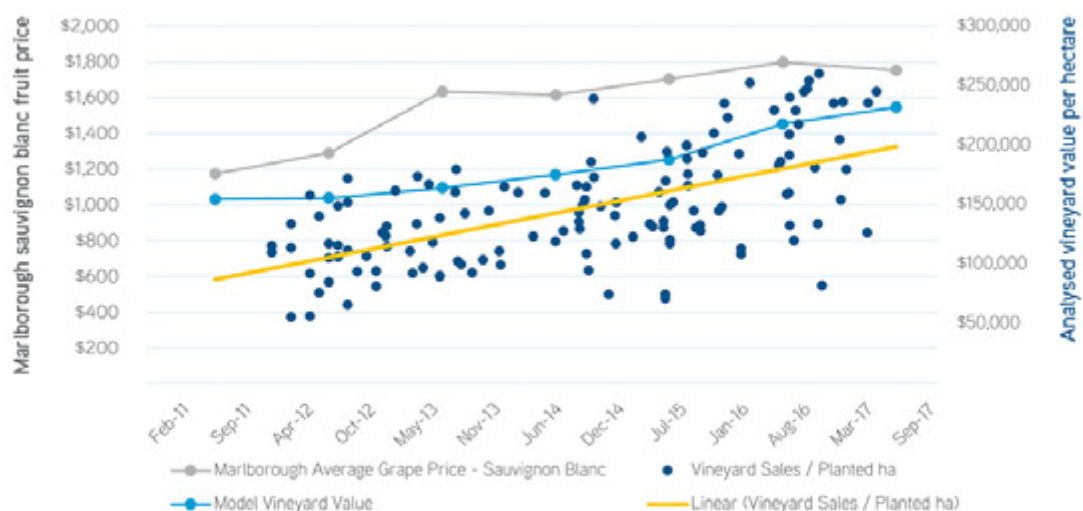


Figure 2 Analysed vineyard value per planted hectare – Marlborough, (Tim Gifford, Colliers International).



Vineyard Property Values Continued

Figure 2 analyses vineyard sales in Marlborough since February 2011. It shows a steadily increasing trend in land value and

aligns well with both the Model vineyard estimated value and the Sauvignon Blanc grape price.

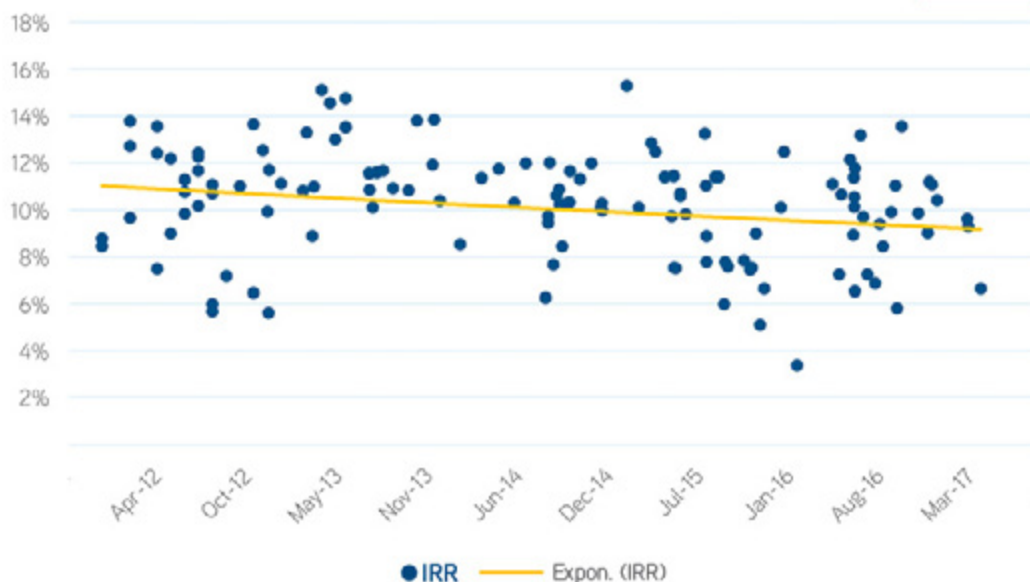


Figure 3. Sale analysed using Internal Rate of Return, (Tim Gifford, Colliers International).

Internal rate of return (IRR) based on cash operating surplus as a relative measure of investment return, however, is showing a slow decline since 2011 (Figure 3). This is primarily caused by the increase in land value but also occurs in an environment

of a slowly declining official cash rate.

The current internal rate of return of approximately 9 percent still compares very favourably with acceptable market parameters.



Quartile Analysis

Quartile analysis is compiled by sorting individual vineyard results from highest to lowest based on their respective operating surpluses to identify the features of the higher and lower performing vineyards.

The best performing vineyards are those with the highest yields. Sauvignon Blanc as a variety naturally produces the highest yields, resulting in the vineyards with the higher percentage of Sauvignon Blanc by area tending to be the most profitable.

The higher prices per tonne being paid to produce a lower yield and higher quality are not compensating the growers adequately when compared with growers producing a higher yield at a lower price. The average price of the upper quartile for the past four seasons is \$1805 per tonne compared with \$2045 per tonne for the lower quartile whereas the cash operating surplus is \$22 670 compared with \$7540 per hectare.



Quartile Analysis Continued

Vineyard expenses for the lower quartile vineyards are higher at \$12 150 compared with \$8620 per hectare for the higher quartile. This reflects the increased area of other varieties such as Pinot Noir which require more labour inputs on average. Increased crop moderation costs may also be required to achieve lower yield caps and remove disease. Some of the smaller vineyards in the survey group, primarily using contractors, did experience higher expenses and lower yields, in 2017.

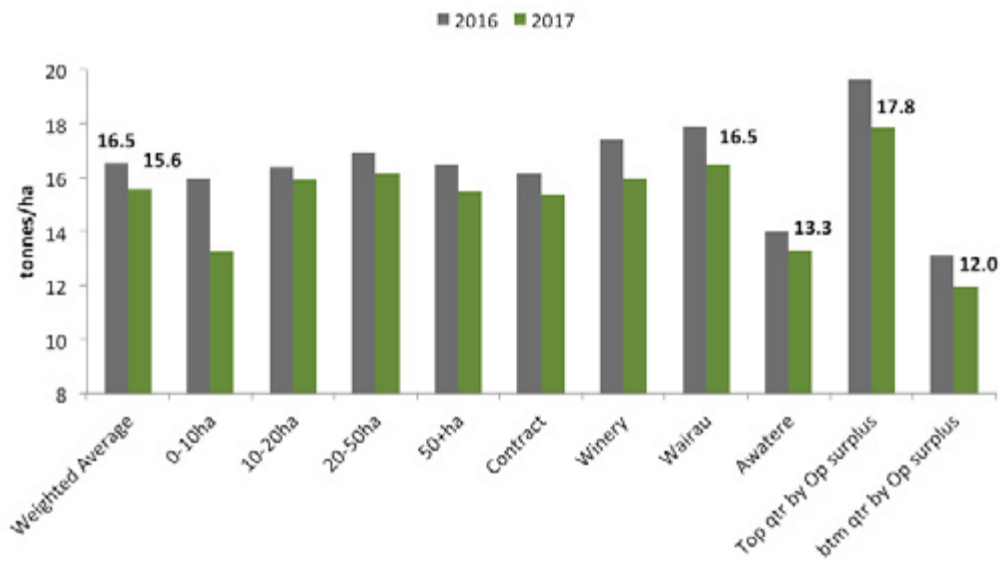
Vineyard expense differences between upper and lower quartiles have a smaller influence on profitability compared to yield.

Other differences in participating grower profile are shown in the following diagrams. Results achieved for Sauvignon Blanc yield and return can be compared based on:

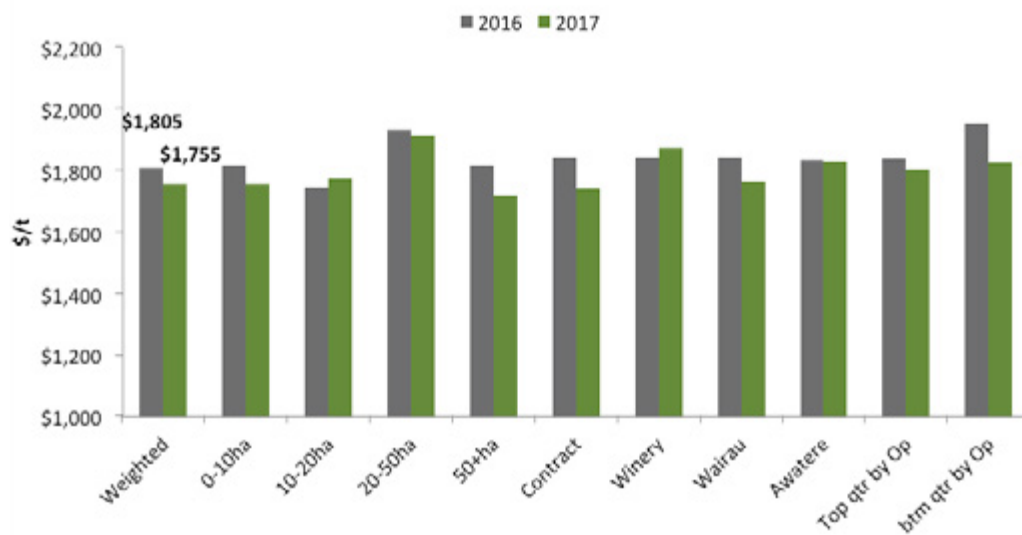
- Location - Wairau Valley versus Awatere Valley
- Scale of operation - small versus large scale
- Contract versus winery grower

	2014	2015	2016	2017	Average
Upper Quartile – % area Sauvignon Blanc	92%	84%	91%	92%	90%
Lower Quartile – % area Sauvignon Blanc	67%	84%	77%	79%	77%
Upper Quartile – Average yield	18.7	12.7	18.8	17.4	16.9
Lower Quartile – Average yield	11.0	7.7	11.1	10.8	10.1
Upper Quartile – Price \$/T	1 695	1 855	1 855	1 820	1 805
Lower Quartile – Price \$/T	1 930	2 170	2 195	1 890	2 045
Upper Quartile – Net cash income (\$/ha)	31 800	23 330	37 440	32 570	31 290
Lower Quartile – Net cash income (\$/ha)	20 640	15 700	22 900	19 500	19 690
Upper Quartile – Vineyard working expenses (\$/ha)	7 970	8 380	8 750	9 370	8 620
Lower Quartile – Vineyard working expenses (\$/ha)	11 620	11 940	12 740	12 300	12 150
Upper Quartile – Cash operating surplus (\$/ha)	23 830	14 950	28 680	23 200	22 670
Lower Quartile – Cash operating surplus (\$/ha)	9 030	3 770	10 160	7 200	7 540
Upper Quartile – EBIT/ Total Capital	15.0%	7.7%	10.8%	7.4%	10.2%
Lower Quartile – EBIT/ Total Capital	3.9%	0.2%	3.7%	1.9%	2.4%

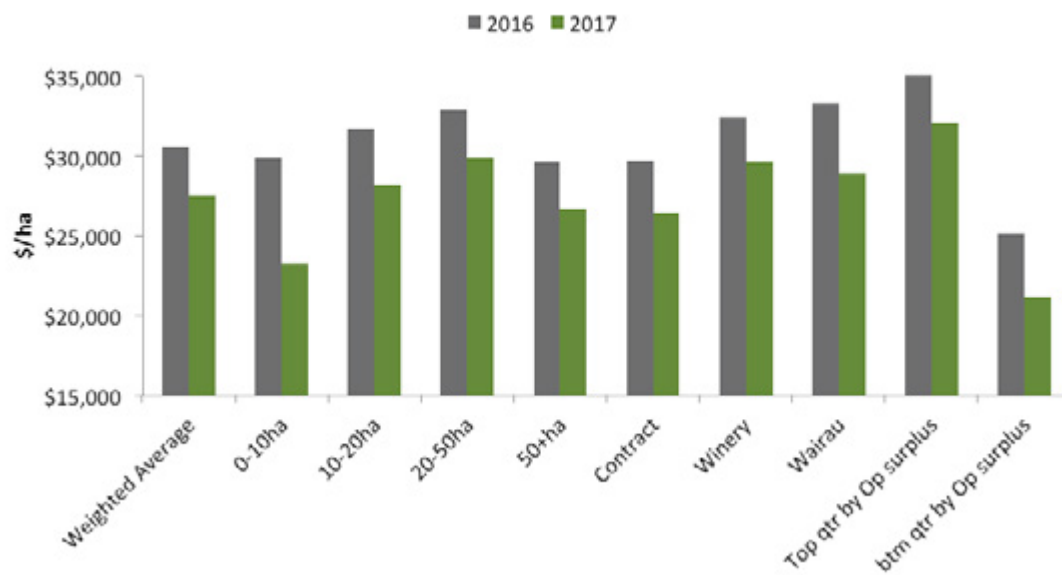
Average Yield - Sauvignon Blanc



Return - Sauvignon Blanc \$/tonne



Revenue - Sauvignon Blanc



Expected Financial Performance of the Marlborough Vineyard Model in 2018

Growers forecast a model average yield of 13.2 tonnes per hectare in 2018, based on an anticipated reduction in the Sauvignon Blanc yield to 14.4 tonnes per hectare. The other varieties are expected to be at the same yields or above 2017 levels. Budgeted yield for the model is a 6 percent decrease compared with 2017 but still 1.0 tonnes per hectare above the 10-year average 2008-17. Plant and Food Research reported at a June 2017 meeting that their prediction model indicates average inflorescence numbers initiated for flowering in spring 2017.

Price per tonne for the average of all varieties is expected to be \$1930 for 2018 which is similar to the 2017 forecast. Making allowance for fruit sold at a lower price due to quality penalties and surplus over yield limits, prices are expected to remain the same and reflect stable contract agreements.

The New Zealand Winegrowers Vintage Survey reported that the total vintage for 2017 was around 396,000 tonnes, some 50,000 tonnes short of pre-harvest expectations. This combined with an increase in bulk exports following the November earthquake means that the switch to 2017 product is expected to be earlier than is typical and is likely to lead to shortages against planned sales for some wineries.

Industry Issues and Developments

Seasonal Impacts on Profitability

Adverse climatic conditions in 2017 were reported by growers as having the main impact on profitability:

- cool flowering conditions at critical times led to lower yields in some instances but this was a variable factor with equal numbers reporting good flowering conditions and fruit set. In general, the early flowering varieties like Pinot Noir and Chardonnay were the most adversely affected
- frequent rainfall events provided conditions conducive to disease outbreak, particularly with powdery mildew through the season and botrytis close to harvest.
- higher than average wind run in January reduced spraying windows and in some cases the efficacy of sprays. Several vineyards had to spend a significant amount on trellis repairs caused by wind damage
- lower than average sunshine hours in March and early April delayed ripening and reduced brix levels
- two major rain events in the first two weeks of April required fruit to be harvested on condition and below target quality standards which in some cases led to penalties being implemented

- botrytis rapidly spread after the rain with a number of growers experiencing extra costs like dropping diseased fruit prior to harvest to meet minimum requirements.

Despite the weather, the model experienced the third best yielding year and stable prices had a positive impact on financial results. Contracted prices were reported to be similar to 2016 and are expected to be the same in 2018. Overall yield of Sauvignon Blanc was only 7 percent down on 2016 and still 12 percent up on the average of 2012-16 due to a good fruit set and bunch numbers.

The earthquake in November 2016 caused some additional costs to four vineyards in the survey but not significant when compared with winery infrastructure damage.

The good fruit set in many Sauvignon Blanc vineyards required significant crop moderation expenses including an increase in machine thinning. Machine thinning at

Seasonal Impacts on Profitability Continued

low power application is also being used to remove trash to help combat botrytis.

The increased cost of powdery mildew control continues to have a significant impact on working expenses in

Marlborough with inoculum carried over from previous seasons. Reducing the spray interval, more expensive chemistry and more focus on canopy management are all factors increasing vineyard costs.

Grower Morale and Business Viability

More than three quarters of the growers interviewed reported positive morale and were cautiously optimistic about their business. The more negative responses came from vineyard owners with low yields, poor quality and rejected fruit and who had experienced the worst of the adverse weather conditions.

The majority of contract growers in the group reported reasonable to excellent relationships with their buyer wineries and had received good communication through the difficult conditions of the 2017 harvest. However, some growers felt that relationships had suffered and that a small number of wineries had not dealt with the situation very well.

While cautiously optimistic, growers were still concerned about several risks impacting, or potentially impacting on their business, including:

- weather risks in general, including poor flowering conditions, rain at harvest time, frost events and wind with their potential to reduce yields or even cause complete crop failure
- the ongoing battle combatting powdery mildew. Many growers believe it requires a whole of industry approach to reduce inoculum spreading from poorly controlled vineyards

⁵ The Marlborough Labour Market Survey, Wine Press, May 2016

Grower Morale and Business Viability Continued

- a number of growers expressed concern about large volumes of Marlborough Sauvignon Blanc selling at low prices and potentially indifferent quality from the 2017 vintage and the effect that this would have on 'Brand Marlborough'
- biosecurity breaches leading to new pest or disease incursion
- shortage of labour, particularly skilled machinery operators and future changes to immigration policy or reducing RSE worker allowances
- other risks noted included increased tariffs for wine exported to the USA under the Trump administration, the spread of trunk disease and interest rate increases.

New Zealand Winegrowers report that there has been a significant lift in bulk wine exports for the past year to almost 100 million litres which is approaching 40 percent of total exports, up from 34 percent in the previous year. This increase was partly due to wineries taking action desire to free up tank space for the 2017 vintage following the November 2016 earthquake.

Exporting in bulk, rather than bottled format is still attractive for many, particularly larger, wineries. The key driver behind this is the significant cost savings obtained by bottling and labelling in-market and currency exchange hedging benefits of exporting in bulk.

The current high New Zealand dollar against the British pound and the uncertainties of BREXIT are leading wineries to expand sales in the USA and Asia. In general exporters are spreading risk by increasing the number of markets they supply.

Wineries report a number of challenges to business viability following the November 2016 earthquake, notably:

- repairs of damage to infrastructure
- cost of strengthening work to infrastructure and support infrastructure
- increased insurance premiums and levels of excess
- increased health and safety compliance costs.

The compressed harvest of 2017 tested the intake capacity of wineries. Some were under significant pressure, particularly early in the season, leading to some fruit not able to be harvested in the best condition.

Environmental and Natural Resource Management

Around half the group have existing environmental enhancement projects on their properties including native plantings and wetlands. A quarter of the group expect to implement further projects but this is often limited by the vineyard having little suitable area to use without sacrificing productive land.

Early season rains greatly reduced irrigation requirement and regular and timely amounts throughout the rest of the season resulted in minimal disruption to water scheme supply. Data from Fruition Horticulture shows a 30 percent decrease in irrigation volume across the Marlborough vineyards that they monitor compared with 2015/16.

Water storage dams continue to go in around the region. A third of growers in the model already have some form of alternative water source and three more are considering investing in the near future. The recent dry years have focussed attention on ensuring security of water supply.

Marlborough District Council's Environment Plan which includes future water allocation was notified on 9th June 2016 and closed for submissions on 23rd June 2017. For new and renewed water resource consents monthly limits have now been imposed which some growers are concerned about and have put in opposing submissions.

Five growers in the model had renewed water permits in the previous year and two of those had used a consultant to put together the Resource Consent application. Most had found the process reasonable, but costly. Using a consultant made the process simpler.

There are three existing certified organic or biodynamic vineyards in the model plus one new organic vineyard included in 2017.

⁶ WinePress, April 2016

Hot Topics

The group reported a diverse range of hot topics. Issues around labour were a concern to many growers and included:

- supply and retention of skilled machinery operators and other permanent staff
- labour cost increases and the charge out rates of Contractors
- possible changes to the Recognised Seasonal Employer (RSE) scheme. The group continues to acknowledge the critical importance of this scheme to the wine industry.
- Prosecutions highlighted to growers that vigilance is required after some independent contractors (not in the RSE scheme) were found to be failing to meet minimum employment standards and complaints had also been made by some RSE scheme workers about pay rates and deductions. Grape growers are keen to ensure that employment in Marlborough vineyards is fair and meets all employment standards and contractual obligations.

While no significant changes are currently proposed, a wine industry meeting in June echoed grower concerns around any future changes to the RSE scheme and its vital importance to the Marlborough wine industry. Wine Marlborough confirmed their focus on working with RSE contractors to eradicate any negative employment practices, e.g. ensuring reasonable and visible deductions for accommodation and transport. Wine Marlborough also reported that all RSE Contractors will be encouraged (by government) to ultimately sign up to the New Zealand Master Contractors programme.

There are a number of the model group who are increasingly concerned about the perceived erosion of 'Brand Marlborough' as the trend towards high volume and low-priced wine increases, often shipped off shore in bulk with the difficulties in then maintaining its integrity. Much of this discussion comes back to the yield versus quality balance, the relationship to wine quality and the percentage of actual Marlborough fruit in wine labelled Marlborough. This point of view has recently gelled into the formation of the Incorporated Society

Hot Topics Continued

'Pure Marlborough Wine' reported in the May 2017 Winepress magazine.

However other growers and wineries in the model rely on good yields to keep their business viable and believe that they are simply supplying what the market wants – a good volume of reasonable quality wine at a competitive price.

Several growers were dismayed at the practice of opportunistic buyers purchasing excess fruit. This fruit was either above contracted yield or rejected by the contracted winery. There is a view that the subsequent wine produced will be cheap, poor quality and likely to erode the Marlborough brand in the marketplace. Several growers were proud to have harvested fruit to ground despite being offered a deal by these purchasers.

Growers were upset at the revelation by a recent Fair Go investigation that found some companies were using distinctive New Zealand brand labels, but the wine was in fact Australian with small country of origin labels.

Powdery mildew control has become very challenging for the industry and many in the group are concerned about constant re-infection from poorly controlled neighbouring blocks. There is a feeling that an industry wide approach needs to be taken to combat this disease and a suggestion local grower groups be formed to meet and discuss disease control.

Biosecurity breaches from overseas pests and diseases are an ongoing concern, e.g. the Brown Marmorated Stink Bug is classified as the wine industry's most unwanted pest. New Zealand Winegrowers (NZW) have recently signed up to a Government Industry Agreement (GIA) for biosecurity readiness and response. This agreement sets out the terms of reference for the post border response should a biosecurity incursion occur.

Appendix/tables

Marlborough Weather Data

Month	Growing Degree Days ¹ (GDD)			Rainfall (mm)		
	2016 ²	2017	Long Term Average	2016	2017	Long Term Average
June	20	32	18	87	77	69
July	7	7	10	35	34	68
August	23	8	19	50	39	60
September	31	61	58	54	26	49
October	116	125	102	6	59	71
November	152	167	143	3	86	48
December	184	207	215	17	20	51
January	272	265	246	69	27	44
February	291	224	221	18	62	34
March	217	196	194	47	47	34
April	110	120	110	26	131	53
May	95	28	58	89	57	54
Total	1 498	1 409	1 376	414	590	566

¹ GDD – growing degree days. GDDs are calculated by taking the average of the daily high and low temperatures each day compared with a baseline (10 degrees centigrade). They help to predict the date that a flower will bloom or a crop reach maturity.

² Year refers to year of harvest

Source: NIWA (Blenheim)

Marlborough Vineyard Model Grape Prices

Year ended 30 June	2007-16 (\$/t)	2012-16 (\$/t)	2016 (\$/t)	2017 (\$/t)	2018 budget (\$/t)
Sauvignon Blanc	1 710	1 615	1 805	1 755	1 845
Pinot Noir – Table	3 060	3 020	3 085	3 040	3 065
Pinot Gris	1 820	1 810	1 885	1 865	1 915
Chardonnay – Mendoza and Clone 15	1 970	2 030	2 130	2 260	2 290
Chardonnay – all other clones	1 790	1 835	2 000	2 020	1 985
Riesling	1 690	1 685	1 775	1 750	1 805
Average	1 795	1 715	1 900	1 840	1 930

Marlborough Vineyard Model Production and Income Details for 2017

Grape variety	Area	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix (%)	Return (\$/t)	Revenue (\$)
Sauvignon Blanc	23	15.6	358	86%	19.5	1 755	629 000
Pinot Noir – Table	3	7.0	21	5%	22.4	3 040	64 200
Pinot Gris	1.5	11.5	17	4%	21.4	1 865	32 100
Chardonnay – Mendoza & Clone 15	1.5	9.2	14	3%	22.0	2 260	31 300
Chardonnay – all other clones	0.5	9.6	5	1%	20.1	2 020	9 700
Riesling	0.5	7.3	4	1%	20.3	1 750	6 400
Total/average	30	14.0	419	100%		1 840	772 700

Figures may not add to totals due to rounding. Table is sorted by variety with highest to lowest producing area.

Marlborough Vineyard Model Budget

	2016	2017
Total area	33 ha	33 ha
Planted area	30 ha	30 ha
Producing area	30 ha	30 ha
Total crop (tonne)	452	419
% Change		-7%
avge vines per planted hectare	2 180	2 128

Foot notes for following page

Figures may not add to totals due to rounding.

- ¹ Drawings refers to living expenses. Figures may not match with previous years due to the revision of interpretation of drawings.
- ² Vineyard surplus for reinvestment is the cash available from the vineyard business, after meeting living costs, which is available for investment on the vineyard or for principal repayments. It is calculated as the vineyard profit after tax less depreciation less drawings.
- ³ Land and building asset value includes the value of owned land, vines and supports, other improvements, vineyard buildings and dwellings on the property as at 30th June.

Marlborough Vineyard Model Budget

Year ending 30 June	2016		2017			
Revenue	Whole Vineyard (\$)	% change	Whole Vineyard (\$)	producing hectare (\$)	per tonne gross (\$)	per vine (\$)
Income from grapes	856 100	-10%	772 700	25 755	1 844	12.11
Other direct vineyard income	12 700		9 000	300	21	0.14
Net cash income	868 800	-10%	781 700	26 055	1 865	12.25
Vineyard working expenses	313 300	3%	323 100	10 770	771	5.06
Cash operating surplus	555 500	-17%	458 600	15 285	1 094	7.19
Interest	61 200	-8%	56 100	1 870	134	0.88
Rent &/or leases	8 200	32%	10 800	360	26	0.17
Depreciation	41 400	4%	42 900	1 430	102	0.67
Net nonfruit cash income	0		0	0	0	0.00
Vineyard profit before tax	444 700	-22%	348 800	11 600	832	5.46
Tax	0		243 800	8 125	582	3.82
Vineyard profit after tax	444 700	-76%	105 000	3 500	251	1.65
Allocation of funds						
Add back depreciation	41 400	4%	42 900	1 430	102	0.67
Drawings/living expenses ¹	72 200	-2%	70 400	2 345	168	1.10
Vineyard surplus for reinvestment ²	413 900	-81%	77 500	2 585	185	1.21
Reinvestment						
Net capital purchases	20 400	-4%	19 500	650	47	0.31
Development	8 400	357%	38 400	1 280	92	0.60
Principal repayments	45 500	79%	81 300	2 710	194	1.27
Vineyard cash surplus/deficit	339 600	-118%	-61 700	-2 055	- 147	-0.97
Other cash sources						
Indirect cash income	27 000	0%	27 000	900	64	0.42
New borrowings	0		0	0	0	0.00
Introduced funds	0		0	0	0	0.00
Net cash position	366 600	-109%	-34 700	-1 155	- 83	-0.54
Assets & liabilities						
Land and building ³	5 706 630	16%	6 624 000	220 800	15 806	103.78
Plant and machinery	136 600	0%	136 600	4 555	326	2.14
Total vineyard assets (closing)	5 843 230	16%	6 760 600	225 355	16 132	105.92
Total vineyard liabilities (closing)	1 027 800	-3%	992 000	33 065	2 367	15.54
Total equity	4 815 430	20%	5 768 600	192 290	13 765	90.38

Marlborough Vineyard Model Expenditure

Year ending 30 June	2016		2017			
Vineyard working expenses	Whole Vineyard (\$)	% change	Whole Vineyard (\$)	producing hectare (\$)	per tonne gross (\$)	per vine (\$)
Hand harvesting	7 000	-29%	5 000	167	12	0.08
Pruning (and tying down)	70 700	3%	72 500	2 417	173	1.14
Canopy/Crop management	41 300	12%	46 200	1 540	110	0.72
Other wages	50 600	-1%	50 000	1 667	119	0.78
ACC – employees	800	0%	800	27	2	0.01
Total labour expenses	170 400	2%	174 500	5 815	416	2.73
Weed & pest control	27 900	9%	30 500	1 017	73	0.48
Fertiliser & lime	8 100	30%	10 500	350	25	0.16
Electricity	8 000	-26%	5 900	197	14	0.09
Vehicle	2 000	35%	2 700	90	6	0.04
Fuel	5 500	9%	6 000	200	14	0.09
Repairs & maintenance	24 600	-5%	23 300	777	56	0.37
General	4 400	0%	4 400	147	10	0.07
Frost protection	3 400	3%	3 500	117	8	0.05
Contract machinery work	2 900	24%	3 600	120	9	0.06
Machine harvesting	19 500	4%	20 300	677	48	0.32
Total other working expenses	106 300	4%	110 700	3 690	264	1.73
Rates	7 600	13%	8 600	287	21	0.13
Water rates	3 000	-20%	2 400	80	6	0.04
General insurance	3 900	28%	5 000	167	12	0.08
Crop insurance	0		0	0	0	0.00
ACC – owners	5 400	-11%	4 800	160	11	0.08
Communication	1 600	-6%	1 500	50	4	0.02
Accountancy	4 100	15%	4 700	157	11	0.07
Legal & consultancy	2 500	-16%	2 100	70	5	0.03
Levies & subscriptions	6 300	-6%	5 900	197	14	0.09
Other administration	2 300	26%	2 900	97	7	0.05
Total overhead expenses	36 700	3%	37 900	1 265	90	0.59
Total vineyard working expenses	313 400	3%	323 100	10 770	771	5.06
Wages of management	75 000	0%	75 000	2 500	179	1.18
Interest	61 200	-8%	56 100	1 870	134	0.88
Rent &/or leases	8 200	32%	10 800	360	26	0.17
Depreciation	41 400	4%	42 900	1 430	102	0.67
Other expenses	185 800	-1%	184 800	6 160	441	2.90
Total vineyard operating expenses	499 200	2%	507 900	16 930	1 212	7.96
Calculated ratios						
Economic Vineyard Surplus (EVS) ¹	439 000		340 700	11 355	813	5.34

Calculated ratios

Year ending 30 June	2016	2017			
	Whole Vineyard	Whole Vineyard	per producing hectare (\$)	per tonne gross (\$)	per vine (\$)
Economic Vineyard Surplus (EVS) ¹	439 000	340 700	11 355	813	5.34
Vineyard working expenditure/NCI ²	36%	41%			
EVS/Total vineyard assets	7.5%	5.0%			
EVS less interest & lease/equity	7.7%	4.7%			
Interest+rent+lease/NCI	8.0%	8.6%			
EVS/NCI	50.5%	43.6%			
EBIT ³	505 800	404 900			
EBIT/Total Capital	8.7%	6.0%			
EBIT/Total Equity	10.5%	7.0%			

Figures may not add up to totals due to rounding

¹ Economic Vineyard Surplus (EVS) is calculated as follows: Net cash income less vineyard working expenses less depreciation less wages of management (WOM)

WOM is calculated as \$31 000 for labour input plus 1 percent of opening total vineyard assets to a maximum of \$75 000

² Net cash income.

³ Earnings before interest and tax.

If you have any questions relating to or for further information on the model please contact :

Jeffrey Clarke, acting CEO
jeffrey@nzwine.com | 09 916 1561

Or

Nick Dalgety, Policy & Trade, MPI
nick.dalgety@mpi.govt.nz | 03 545 9472

Disclaimer

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MARLBOROUGH 2017 WHOLE VINEYARD BENCHMARKING REPORT

Ministry for Primary Industries
Manatū Ahu Matua



NEW ZEALAND WINE
PURE DISCOVERY

Income from grapes \$/ha

Includes allowance for unpaid labour

\$ per producing Ha	Your data	Average	20-50ha
Unpaid FTE - number	1.19	0.4	0.2
Income from grapes (\$/ha)	\$23,891	\$26,158	\$27,677
Average yield (T/ha)	12.5	14.3	14.3
Average Return (\$/T)	\$1,914	\$1,829	\$2,064



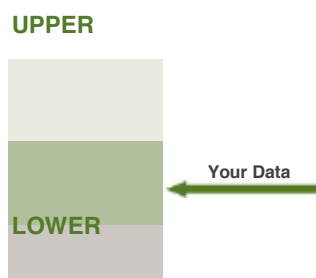
Labour expenses

Pruning (Total)	\$2,510	\$2,451	\$2,404
Canopy and Crop mgt	\$1,954	\$1,615	\$1,521
Weed and Pest Control	\$629	\$712	\$623
Other Wages	\$2,408	\$1,451	\$1,747
Total labour expenses	\$7,542	\$6,250	\$6,315
Total operating expenses	\$13,386	\$10,958	\$11,121
Cash operating surplus	\$12,086	\$15,470	\$16,650

Labour Expenses \$/ha



Cash operating surplus \$/ha



Total operating expenses \$/ha



Yield Analysis

