2015 Viticulture Monitoring Report - Marlborough

KEY POINTS

- The 2014/15 season was characterised by a cool flowering and dry summer. This, combined with carry over effects from large 2014 yields and increased disease pressure from powdery mildew, resulted in a 26 percent drop in yield for the model vineyard. Sauvignon Blanc was especially affected, with yields down by 29 percent on 2014.
- While prices were up slightly in 2015 the reduced yield significantly impacted the Marlborough model with profit before tax reducing 50 percent to $183 200.
- Growers are cautiously optimistic for the year ahead with growers forecasting both a slight yield lift and, due to reduced 2015 supply, a slight increase in grape prices. This optimism is leading to some additional grape planting, especially by the larger wineries and some contract growers seeking to improve economies of scale.
- Water issues such as scarcity, allocation and supply, were highlighted as a significant issue for Marlborough grape growers especially following this drought-affected season. Both growers and Marlborough District Council are working through proposals to address these water issues.

KEY PARAMETERS, FINANCIAL RESULTS FOR THE MARLBOROUGH VINEYARD MODEL

Year ended 30 June	2005-14	2010-14		2014	2015[3]
	10 year average	5 year average			
Producing area (ha)	30	30		30	30
Total production[1] (t)	329	348		439	324
Average production (t/ha)	11.0	11.6		14.6	10.8
Average return ($/t)	1 865	1 535		1 730	1 810
Sauvignon Blanc ($/t)	1 815	1 420		1 640	1 710
Net cash income ($)	619 300	541 100		763 100	587 300
Vineyard working expenses ($)	262 600	248 800		289 300	291 600
Vineyard profit before tax ($)	230 600	196 500		368 800	183 200
Vineyard surplus for reinvestment[2] ($)	165 000	133 100		189 100	36 600
EBIT/Total Capital (%)	4.8%	5.1%		8.7%	4.9%

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. Grapes are harvested in the autumn, so the 2015 year refers to fruit harvested in autumn 2015.
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 plus depreciation less drawings/living expenses.
3. The sample of vineyards used to compile this model changed between 2013 and 2014 and again between 2014 and 2015. Caution is advised if comparing data between these years.

MARLBOROUGH MODEL

MARLBOROUGH PROFIT DRIVERS

	2015	2016 budget	Comment
Weather	Cooler spring, dry	Typical	Cooler flowering conditions, high disease pressure and summer drought in 2015.
Yields	↓	↑	Significant decrease in 2015 compared with 2014. In 2016 a return to average yields is expected.
Prices	↑	↑	Slight increase in 2015 and then expected to slightly increase again in 2016.
Expenditure	→	→	Lower yields in 2015 reduced crop moderation expenses but disease pressure increased control costs. Overall expenses in 2015 remained the same compared with 2014 and are forecast broadly similar in 2016.
Profit before tax	↓	↑	Driven by significantly reduced yields in 2015 and forecast higher yields and prices in 2016.
Morale	→		Cautiously optimistic

FINANCIAL PERFORMANCE OF THE MARLBOROUGH VITICULTURE MODEL IN 2015

Weather

- Generally cooler weather conditions during flowering, compared to the 2014 season, adversely affected fruit set which caused a significant negative impact on yield.
- July to June rainfall was the lowest in Marlborough since records began 86 years ago. The drought reduced yield and impacted on quality particularly in some areas and soil types.
- Significant powdery mildew pressure was experienced throughout the region leading to increased control costs and in some cases reduced yield.
- Bunch weights were greatly reduced due to poor pollination. Berry size in some areas was reduced due to the drought. Bunch numbers were also noticeably down in some vineyards, especially those where the vines had been over cropped in the 2014 season or where crop moderation was carried out too late.
- Frost events during flowering also had an impact on fruit set and yield in a number of vineyards.
- Generally grapes were harvested in good condition.

Yields

- The Model average yield decreased by 26 percent compared with the large 2014 yields and by seven percent compared with the model average for the five years from 2010-14.The main driver of the lower overall yield was the cooler flowering conditions, but there was also some effect of the drought and large 2014 crops. Sauvignon Blanc yield was 11.7 tonnes per ha, down by 29 percent compared with 2014 and eight percent lower than the model average for 2010–14.
- Chardonnay yield was slightly increased compared with 2014
- Pinot Noir, Pinot Gris and Riesling were all down in yield compared with 2014, but close to long term averages.

Prices

- As the impact of the cool flowering became evident, prices firmed slightly as wineries responded to reduced supply forecasts. Model price per tonne was up five percent compared with 2014, averaging $1810 across all varieties.
- Sauvignon Blanc, Pinot Noir (Table) and Riesling prices rose between four and six percent compared with 2014, averaging $1710, $3220 and $1785 per tonne respectively in 2015.
- Chardonnay and Pinot Gris prices were similar to 2014.

Expenditure

- Model vineyard working expenses increased marginally in 2015 after a significant increase in 2014.
- Vineyard working expenses are 17 percent higher than the model average 2010-2014, largely due to constrained spending in 2010 and 2011 in response to yield caps and depressed prices in those years.
- Total labour expenses also increased marginally compared with 2014.
- The smaller crop required little crop moderation work which helped reduce canopy management expenses by 17 percent compared with 2014.
- Other wages were up by 13 percent, influenced by the requirement for more spray rounds due to the increased powdery mildew pressure in 2015.
- Irrigation costs (electricity and water) were significantly increased due to the very dry season. Industry data shows Marlborough vineyard irrigation volume increased 44 percent in 2015 compared with the average of 2005-14.
- Frost protection costs were also up, with a significant number of frost events in the spring of 2014.
- Levies were driven down by the lower yields and a 10 percent reduction in the levy rate, reducing Grape Grower Levy payments by 29 percent compared with 2014.

Financial Result

- The significantly reduced yield led to a drop in profit before tax of 50 percent compared with 2014, but only a seven percent drop compared with the model average 2010-14.
- The drop in profit was significantly more than that budgeted by the group at the end of last season when they forecast a 22 percent drop in vineyard profit before tax in 2015 compared with 2014. This was in recognition of 2014 being an exceptionally good season for growers due to high yields.
- Capital expenditure increased significantly on the back of the good result in the previous year with 16 participant vineyards investing capital in new purchases.
- There was an increase in new development in the model with six vineyards planting new areas, which is representative of some significant new development around the region.
- Vineyard property values were perceived by the group to be similar to the previous year although interview commentary suggests that in the highly sought after areas, prices have increased. Growers perceived Marlborough average vineyard value of $164 300 per planted hectare, up just two percent. However, survey growers with vineyards on the Wairau Plains perceived values were higher at $182 860 per planted hectare.

EXPECTED FINANCIAL PERFORMANCE OF THE MARLBOROUGH VITICULTURE MODEL IN 2016

Plant and Food Grape Yield Model currently predicts 2016 yields 10-15% up on Long term average

- Cool weather conditions around the fruit bud initiation period in early December have growers forecasting yields similar to long term averages, with growers expecting a nine percent increase on 2015 overall.
- Model yield is forecast to increase closer to the 2010-14 average with Sauvignon Blanc yield expected to increase by nine percent compared with 2015.
- Growers surveyed in May were generally conservative with their price expectations for 2016 relatively stable with a two percent increase in the overall price forecast. However, in June at a series of grower meetings New Zealand Winegrowers presented results of the 2015 vintage survey along with expectations of a 36 million litre deficit in 2016. Subsequent grower and industry discussions suggest growers are now more hopeful of a greater price increase, especially for Sauvignon Blanc.
- Growers are budgeting for an average profit for the year with better yields than 2015, averaging 11.7 tonnes per hectare across all varieties. This is well less than the record 2014 yields but above the 10-year average.

INDUSTRY ISSUES AND DEVELOPMENTS

SEASONAL IMPACTS ON PROFITABILITY

- Low yields in Marlborough were reported as having the most significant impact on profitability, driven by:
    - weather - poor conditions at flowering (including frost events) reduced fruit set;
    - weather - drought conditions reduced berry size and quality;
    - powdery mildew – some reports of reduced yield and even crop loss;
    - over cropping in 2014 or moderation of 2014 crop carried out too late – reduced 2015 bunch numbers in certain vineyards.
- Many of the monitored contract growers mentioned that grape prices were still generally flat and they would like an increase. With reduced 2015 yields and a supply deficit forecast, this is possible in 2016.
- Increased costs of powdery mildew prevention and control were cited as having a significant impact on working expenses in Marlborough. The carryover of disease inoculum, especially of the recently identified sexual stage of powdery mildew, *Chasmothecia*, is likely to also increase 2015/16 spraying expenses.

GROWER MORALE AND BUSINESS VIABILITY

- Growers reported positive morale and were generally optimistic about their business. Some were feeling the effect of the low yield in the vintage just past and were concerned about static prices.
- Generally, both winery and contract growers stated that the low yield in 2015, although having a negative impact on results, was also a positive for the New Zealand Wine Industry as a whole. They noted that after the exceptional yields in vintage 2014, the lower yields in 2015 enabled an orderly market for grapes and should avert a potential over supply.
- The majority of the contract growers in the group reported reasonable to excellent relationships with their buyer wineries. There was a sense that terms of trade had improved, yield restrictions relaxed, and some wineries are actively looking to secure further supplies.
- The monitored group indicated a number of changes they plan to implement in the near future to improve business viability. The most significant of these is further new development including purchasing or leasing land or developed vineyards. Nurseries are also reporting strong demand for grape vines, with a total of approximately 2500-3000 additional hectares planted in 2014 or planned for 2015. While a small amount of this is expected to be redevelopment of existing vineyard, it indicates an increase of at least 5% in national vineyard area. For contract growers this improves economies of scale, for wineries it also helps secure volume and quality.

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

- Around two thirds of the group have existing environmental enhancement projects on their properties including native plantings and wetlands. Half the group expect to implement further projects in the near future.
- The majority of growers are keen to conserve natural resources. Many use soil moisture monitoring to ensure efficient water use, while some are investing in more fuel-efficient tractors and three-row sprayers.
- The group identified future security of water supply as the greatest environmental risk that could limit business growth. With the recent drought in mind and the possibility of future revisions to irrigation consent conditions, it is expected it will become more difficult to ensure adequate water supply or expand vineyard area without investing in water storage both privately and publically.
- The Marlborough District Council (MDC) is proposing a system where water can be transferred between parties during the growing season. This would allow free and voluntary transfer on a short term basis to improve the efficiency of water allocation within a catchment. The MDC is also working through longer term options for water allocation to address over-allocation or projected full allocation in some catchments. In early May 2015, MDC conducted a Water Forum where the Council began the process of reporting back to the community on proposals for managing future water allocation and use. The Forum was followed by 14 community meetings that focused on the management proposals for specific water catchments/aquifers.
- Growers are also concerned about the risk of biosecurity breaches leading to the import of overseas pests and diseases such as Pierce's Disease or the Glassy Winged Sharpshooter. New Zealand Winegrowers are currently working through a Government and Industry Agreement (GIA) covering a joint response to biosecurity protection and incursions. An agreement is likely to be in place for the 2016 vintage.
- Some growers reported concerns about the increase in powdery mildew, the spread of mealy bug and the associated virus risk and potential resistance to current control chemicals.
- Grower intentions suggest minimal increase in area of vineyard certified to organic or biodynamic standards, however a significant number of growers in Marlborough have switched to using some 'organic' practices in the past two seasons but do not intend to seek certification.

HOT TOPICS

- This year the group reported a very diverse list of hot topics and further acceptance of long term issues such as exchange rate.
- Continued consolidation in the industry concerned some of the group. Large companies are expanding and increasingly dominating both the supply and marketing sectors of the industry. Concerns are around the effect of such consolidation on grape prices, wine sale prices and brand perception of Marlborough wine. Some small to

medium size wineries as well as individual growers see this consolidation as a threat to their business, moving Marlborough Sauvignon Blanc towards being a commodity that detracts from its premium position in the market.

- Water availability, security of supply and increased regulation around water use consents were the other most common hot topic raised.
- Additional topics included concerns about future labour availability as the industry expands, biosecurity border control, monoculture in Marlborough, over-reliance on Sauvignon Blanc with about 18 000 hectares (77 percent of area) in the variety and difficulties with retention of permanent skilled and semi-skilled staff.

ABOUT THE MODEL

This report is based on data and comments collected in personal interviews with grape growers in Marlborough in May 2015. Model vineyard budgets were prepared using the data collected from these vineyards with feedback from industry representatives incorporated after a meeting in Marlborough to critique the draft models. Additional industry intelligence and Fruition Horticulture client interactions also informed the supporting commentary.

The model is a continuation of the Viticulture Monitoring Programme that the Ministry for Primary Industries has conducted since 2004. This year's data collection and report has been co-funded by the Ministry for Primary Industries and the New Zealand Winegrowers.

This model represents the dominant grape-growing region in New Zealand of Marlborough. According to New Zealand Winegrowers vintage survey this region accounted for over 75 percent of the grape harvest in New Zealand in 2014. The model is based on a combination of contract grower and winery-operated businesses where the main source of income is derived from grape growing. Smaller lifestyle properties are excluded from the monitoring programme.

The aim of the models is to typify an average vineyard for the region. Income includes income from grapes, off-vineyard income, new borrowing and other direct vineyard income. Expenditure allows for vineyard production costs, debt servicing, leasing, drawings, taxation, development and capital purchases. In 2014 some expense categories were redefined to better reflect vineyard business classifications. These included moving tractor repairs and maintenance from vehicle expenses to repairs and maintenance and moving mechanical stripping from contract machinery work to pruning (and tying down).

From 2014 the addition of new growers, some of these being winery-operated vineyards, has impacted on the time series for some items. Caution should be taken when comparing individual expense items between 2013 and 2014, especially other wages, rates, other administration and legal/consultancy.

Profitability in several other New Zealand grape growing regions will be assessed through the development of gross margins specific to dominant varieties in respective regions.

Financial data in the viticulture model relates to a year-end of 30 June.

MARLBOROUGH VINEYARD MODEL

The Marlborough model remains at 30 producing hectares. For 2015, data was sourced from 31 vineyards compared with 25 vineyards in the previous year. Nine vineyards are located in the Awatere Valley and 22 vineyards in the Wairau Valley. There are 23 contract growers and eight winery-operated vineyards in the monitoring group. Four of the vineyards are 0–10 hectares, six are 10–20 hectares, eleven are 20–50 hectares and ten are 50 hectares or larger. Sauvignon Blanc is the dominant grape variety in the model representing 74 percent of the producing area, followed by Pinot Noir, Chardonnay, Pinot Gris and Riesling. Three vineyards out of the 31 are Bio-Gro certified and two others have trial areas of organically grown grapes.

For further information on the model contact: Nick.Dalgety@mpi.govt.nz

APPENDIX/TABLES

Marlborough weather data

Month	Growing Degree Days[1]			Rainfall (mm)		
	2014[2]	2015	Long Term Average	2014	2015	Long Term Average
July	20	8	10	35	10	68
August	38	11	19	65	12	60
September	78	64	58	67	39	49
October	129	92	102	47	23	71
November	177	154	143	46	17	48
December	251	226	215	17	32	51
January	223	272	246	79	4	44
February	213	208	221	18	15	34
March	168	209	194	27	37	34
April	133	128	110	146	52	53
May	65	67	58	16	20	54
June	38	20	18	90	87	69
Total	**1 533**	**1 460**	**1 394**	**653**	**349**	**635**

Note

[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 (usually 10 degrees centigrade). They help 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	2005-14 ($/t)	2010-14 ($/t)	2014 ($/t)	2015 ($/t)	2016 budget ($/t)
Sauvignon Blanc	1 815	1 420	1 640	1 710	1 745
Pinot Noir – Table	3 035	2 965	3 035	3 220	3 305
Pinot Gris	1 810	1 740	1 860	1 830	1 860
Chardonnay – Mendoza and Clone 15	1 930	1 870	2 155	2 200	2 270
Chardonnay – all other clones	1 780	1 635	1 935	1 830	1 865
Riesling	1 745	1 590	1 685	1 785	1 775
Weighted average	**1 865**	**1 535**	**1 730**	**1 810**	**1 850**

Note

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

Marlborough vineyard model production and income details for 2015

	Area (ha)	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix level (%)	Return ($/t)	Revenue ($)
Grape variety							
Sauvignon Blanc	23.0	11.7	269	*83%*	22.1	1 710	460 200
Pinot Noir - Table	3.0	5.3	16	*5%*	23.6	3 220	51 200
Pinot Gris	1.5	10.2	15	*5%*	22.7	1 830	28 000
Chardonnay - Mendoza & Clone 15	1.5	8.4	13	*4%*	22.9	2 200	27 700
Chardonnay - all other clones	0.5	12.9	6	*2%*	20.8	1 830	11 800
Riesling	0.5	9.4	5	*1%*	22.0	1 785	8 400
Total/average	**30.0**	**10.8**	**324**			**1 810**	**587 300**

Note

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

Marlborough vineyard model budget

		percent change 2015 vs 2014		
Total Area			ha	33.0
Planted Area			ha	30.0
Producing area			ha	30.0
Unproductive planted area			ha	0.0
Effective Area			ha	30.0
Vine number (vineyard)			#	65 107
Total Crop	439	-26%	tonne	324

Year ending 30 June	2014	percent change 2015 vs 2014	2015			
			$			
	Whole Vineyard ($)		Whole Vineyard ($)	per producing hectare ($)	per tonne gross ($)	per vine ($)
REVENUE						
Income from grapes	759 200	-23%	587 300	19 577	1 812	9.02
Other direct vineyard income	3 900		4 700	157	15	0.07
NET CASH INCOME	**763 100**	-22%	**592 000**	**19 733**	**1 827**	**9.09**
VINEYARD WORKING EXPENSES	**289 300**	1%	**291 600**	**9 720**	**900**	**4.48**
CASH OPERATING SURPLUS	**473 800**	-37%	**300 400**	**10 013**	**927**	**4.61**
Interest	62 100	5%	65 000	2 167	201	1.00
Rent &/or leases	8 200	0%	8 200	273	25	0.13
Depreciation	34 700	27%	44 000	1 467	136	0.68
Net nonfruit cash income	0		0	0	0	0.00
VINEYARD PROFIT BEFORE TAX	**368 800**	-50%	**183 200**	**6 110**	**565**	**2.81**
Tax	145 800	-11%	129 500	4 317	400	1.99
VINEYARD PROFIT AFTER TAX	**223 000**	-76%	**53 700**	**1 790**	**166**	**0.82**
Allocation of funds						
Add back depreciation	34 700	27%	44 000	1 467	136	0.68
Drawings/living expenses[1]	68 600	-11%	61 100	2 037	189	0.94
Vineyard surplus for reinvestment[2]	**189 100**	-81%	**36 600**	**1 220**	**113**	**0.56**
Reinvestment						
Net capital purchases	25 000	24%	30 900	1 030	95	0.47
Development	25 800	97%	50 900	1 697	157	0.78
Principal repayments	68 800	-30%	47 900	1 597	148	0.74
VINEYARD CASH SURPLUS/DEFICIT	**69 500**	-234%	**-93 100**	**-3 103**	**- 287**	**-1.43**
Other cash sources						
Indirect cash income	37 100	-35%	24 000	800	74	0.37
New borrowings	89 130		41 880	1 396	129	0.64
Introduced funds	0		0	0	0	0.00
NET CASH POSITION	**195 730**	-114%	**-27 220**	**- 907**	**- 84**	**-0.42**
ASSETS & LIABILITIES						
LAND AND BUILDING[3]	4 837 680	2%	4 927 830	164 300	15 207	75.69
Plant and machinery	117 900	23%	145 200	4 840	448	2.23
Total vineyard assets (opening)	**4 955 580**	2%	**5 073 030**	**169 101**	**15 655**	**77.92**
Total vineyard liabilities (opening)	1 002 300	7%	**1 073 300**	**35 777**	**3 312**	**16.49**
Total equity	**3 953 280**	1%	**3 999 730**	**133 324**	**12 343**	**61.43**

Notes

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

2 Vineyard surplus for reinvestment is the cash available from the vineyard business, after meeting living costs, which

3 Land and building asset value includes the value of owned land, vines and supports, other improvements, vineyard buildings and dwellings on the property.

Marlborough vineyard model expenditure

Total Area (ha)	33.0		33.0			
Planted Area (ha)	30.0		30.0			
Producing Area (ha)	30.0		30.0			
Vine Numbers	65 107		65 107			
Total Crop (tonne)	290		324			
	2014		**2015**			
			calculations based on weighted average values			
VINEYARD WORKING EXPENSES	**Whole Vineyard ($)**	pecent change 2014/15 vs 2013/14	**Whole Vineyard ($)**	**per producing hectare ($)**	**per tonne gross ($)**	**per vine ($)**
Hand harvesting	4 400	45%	6 400	213	20	0.10
Pruning (and tying down)	65 900	1%	66 800	2 227	206	1.03
Canopy/Crop management[1]	41 800	-17%	34 800	1 160	107	0.53
Other wages	42 200	13%	47 500	1 583	147	0.73
ACC - employees	1 000	-20%	800	27	2	0.01
Total labour expenses	**155 300**	1%	**156 300**	**5 210**	**482**	**2.40**
Weed & pest control	24 500	4%	25 600	853	79	0.39
Fertiliser & lime	8 800	-15%	7 500	250	23	0.12
Electricity	4 000	73%	6 900	230	21	0.11
Vehicle	2 900	-21%	2 300	77	7	0.04
Fuel	8 800	-17%	7 300	243	23	0.11
Repairs & maintenance	20 300	17%	23 800	793	73	0.37
General	3 300	24%	4 100	137	13	0.06
Frost protection	1 600	113%	3 400	113	10	0.05
Contract machinery work	3 800	-29%	2 700	90	8	0.04
Machine harvesting	17 700	7%	18 900	630	58	0.29
Total other working expenses	**95 700**	7%	**102 500**	**3 417**	**316**	**1.57**
Rates	7 600	-12%	6 700	223	21	0.10
Water rates	2 500	8%	2 700	90	8	0.04
General insurance	3 900	-3%	3 800	127	12	0.06
Crop insurance	0		0	0	0	0.00
ACC - owners	6 100	0%	6 100	203	19	0.09
Communication	1 900	-26%	1 400	47	4	0.02
Accountancy	3 600	3%	3 700	123	11	0.06
Legal & consultancy	3 800	-50%	1 900	63	6	0.03
Levies & subscriptions	6 300	-29%	4 500	150	14	0.07
Other administration	2 600	-23%	2 000	67	6	0.03
Total overhead expenses	**38 300**	-14%	**32 800**	**1 093**	**101**	**0.50**
Total vineyard working expenses	**289 300**	1%	**291 600**	**9 720**	**900**	**4.48**
Wages of management	75 000	0%	75 000	2 500	231	1.15
Interest	62 100	5%	65 000	2 167	201	1.00
Rent &/or leases	8 200	0%	8 200	273	25	0.13
Depreciation	36 700	20%	44 000	1 467	136	0.68
	182 000	6%	**192 200**	**6 407**	**593**	**2.95**
TOTAL VINEYARD OPERATING EXPENSES	**471 300**	3%	**483 800**	**16 127**	**1 493**	**7.43**
CALCULATED RATIOS						
Economic Vineyard Surplus (EVS)[1]	364 100		181 400	6 047	560	2.79
Vineyard working expenditure/NCI[2]	38%		49%			
EVS/Total vineyard assets	7.3%		3.6%			
EVS less interest & lease/equity	7.4%		2.7%			
Interest+rent+lease/NCI	9.2%		12.4%			
EVS/NCI	47.7%		30.6%			
EBIT[3]	430 900		248 200			
EBIT/Total Capital	8.7%		4.9%			
EBIT/Total Equity	10.9%		6.2%			

Notes:

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.

VARIETY GROSS MARGINS MARLBOROUGH

PINOT NOIR GROSS MARGIN[1]

KEY POINTS

- The Marlborough 2015 Pinot Noir gross margin was $3315 per producing hectare, equal to $720 per tonne. Gross margin varied substantially between the 11 blocks monitored, from -$8300 to $15 200. This was caused by variation in all categories. Pinot Noir is grown for a range of markets from super premium to every day table wine and growers focus management and inputs accordingly. In addition, generally variable conditions from mid-November to mid-December when Pinot Noir was flowering resulted in variable pollination and therefore yield in 2015, depending on when blocks flowered.
- 2015 yields averaged 4.6 tonnes per producing hectare, ranging from 2.1 to 12.0 tonnes per hectare. Yield was largely related to the number of canes/buds laid down and weather conditions over flowering.
- The average price for Pinot Noir was $3265 per tonne. While only three winery growers were in this group, generally winery growers report higher prices for all varieties compared with contract growers. This is related to the premium target market of the fruit from winery blocks compared to more contract growers growing their fruit for every day table wine.
- There were large differences in total labour expenses for Marlborough Pinot Noir. Variation in pruning occurred due to pruning style (cane vs spur) the number of canes/buds laid down and also vine density. Variation in canopy management occurred due to target market and therefore the type and amount of crop moderation, leaf plucking method, trimming and other crop husbandry tasks.
- Variation in other direct expenses was largely due to variation in spray programmes with some following cheaper, organic-focused programmes while others used more expensive specialist chemicals. Variation also occurred in machine versus hand harvest expenses which was generally, although not always, related to the target market for the fruit.

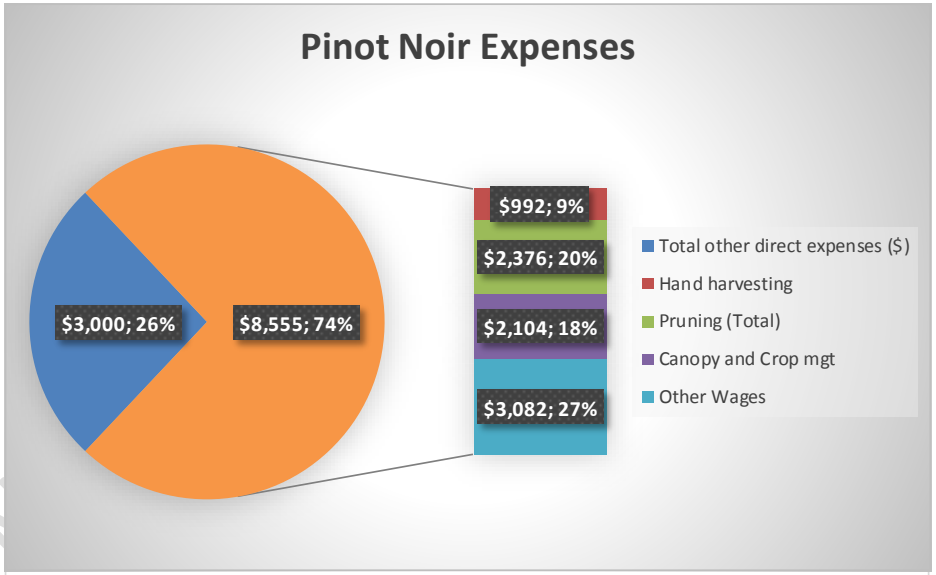
[1] The 2015 Pinot Noir Gross Margin was generated from a subset of the Marlborough vineyard model survey group. Data from those growers able to provide variety specific data was used. As such averages differ slightly from the Marlborough model vineyard. This is the first year of a pilot programme reporting gross margins. In 2015 only three winery growers included data so caution should be exercised when comparing winery and contract grower results.

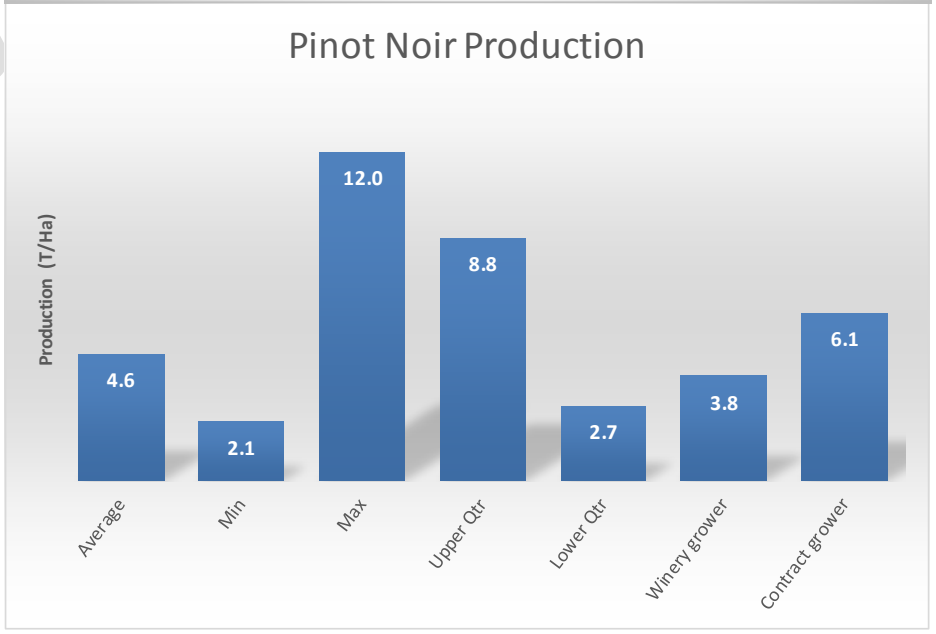
The gross margin calculates the revenue less direct expenses for growing, harvesting and marketing the crop. It does not take account of overheads such as administration, debt-servicing, tax, drawings or development and capital spending.

Vineyard Gross Margin Benchmarking

Region	**Marlborough**
Year	**2015**
Variety	**Pinot Noir**

Adjusted for unpaid labour	$ per producing Ha						
	Average			Quartile by Gross Margin[1]		Winery grower	Contract grower
	per Ha	per vine	per row metre	Upper	Lower	average	average
Unpaid FTE - number	0.3					0.0	0.7
Unpaid FTE - hours/ha	23					0	64
Vines/ha	2 420			2 762	2 621	2 367	2 514
Row metres/ha	3 973						
Yield (Tonnes)	4.61	1.9kg	1.2kg	8.82	2.71	3.78	6.09
Income $/tonne	3 265			2 915	2 910	3 430	2 975
Income ($)	**14 870**	**6.14**	**3.74**	**24 790**	**7 885**	**13 100**	**18 005**
Labour expenses ($)							
Hand harvesting	992	0.41	0.25	1 367	1 212	1 376	237
Pruning (Total)	2 376	0.98	0.60	2 845	2 072	2 144	2 789
Canopy and Crop mgt	2 104	0.87	0.53	1 130	3 141	2 605	1 214
Other Wages	3 082	1.27	0.78	1 235	3 928	4 170	1 225
Total labour expenses	8 555	3.53	2.15	6 580	10 355	10 295	5 465
Other direct expenses ($)							
Weed and pest control	727	0.30	0.18	1 271	942	567	1 012
Fertiliser and lime	294	0.12	0.07	351	226	307	271
Electricity	341	0.14	0.09	389	337	365	298
Vehicle	59	0.02	0.01	66	72	37	99
Fuel	192	0.08	0.05	255	156	149	268
Repairs & maintenance	708	0.29	0.18	570	726	659	794
General	213	0.09	0.05	47	74	319	24
Machine harvesting	464	0.19	0.12	493	269	345	674
Total other direct expenses ($)	3 000	1.24	0.76	3 445	2 805	2 750	3 440
Total direct expenses ($)	11 555	4.77	2.91	10 025	13 160	13 045	8 905
Gross Margin ($/ha)	**3 315**	**1.37**	**0.83**	**13 955**	**5 460**	**55**	**9 100**
Gross Margin ($/T)	**720**			**1 510**	**1 080**	**15**	**1 495**
Number in model	11			11	11	3	8





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