



2014 VITICULTURE MONITORING REPORT



NEW ZEALAND WINE
PURE DISCOVERY

Ministry for Primary Industries
Manatū Ahu Matua



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Fruition Horticulture (SI) Ltd

Email: gregdryden@fruition.net.nz

Web: www.fruition.net.nz

Requests for further copies should be directed to:

Publications Logistics Officer

Ministry for Primary Industries

PO Box 2526

WELLINGTON 6140

Email: brand@mpi.govt.nz

Telephone: 0800 00 83 33

Facsimile: 04-894 0300

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KEY POINTS

- Very favourable weather in both Marlborough and Hawke's Bay during 2013/14 resulted in 20 and 16 percent increases in average yields respectively. The Marlborough vineyard model averaged 14.6 tonnes per hectare while the Hawke's Bay model averaged 9.6 tonnes per hectare. Some fruit remained unharvested in Marlborough, primarily due to wineries enforcing yield caps.
- In 2013/14 prices increased slightly in both regions. Marlborough growers had an average price per tonne of \$1730 with the price for Sauvignon Blanc increasing 2 percent to \$1640 per tonne. Hawke's Bay growers experienced increased prices to an average of \$1780 per tonne, up 6 percent compared with 2012/13.
- Increased yields and slightly increased prices resulted in both the Marlborough and Hawke's Bay models recording increased profits before tax in 2013/14.
- The Marlborough model recorded a vineyard profit before tax of \$368 800 or \$12 290 per hectare, up 25 percent compared with 2012/13. The Hawke's Bay model reported a vineyard profit before tax of \$63 200 or \$5060 per hectare an increase of 139 percent compared with the previous year.
- In the year ahead Marlborough growers are not expecting the 2014 'super' yield season to be repeated, and are budgeting for average yields to drop 10 percent while Hawke's Bay growers are expecting similar yields to 2012/13. Marlborough growers are budgeting for prices to remain constant while Hawke's Bay growers are budgeting slightly increased prices in 2014/15.
- In 2014/15 the Marlborough model is expecting a 22 percent decrease in profit before tax to \$289 370, or \$9650 per hectare. The Hawke's Bay model is budgeting an increased profit of 10 percent in 2014/15 to \$69 700, or \$5580 per hectare.
- Growers in both regions, while recognising there is a fine line between supply and demand, are cautiously optimistic about the future of their businesses, assisted by good demand for New Zealand wine.

Table 1: Key parameters, financial results and budgets for the vineyard models

Year ended 30 June	2010/11	2011/12	2012/13	2013/14 ³	2014/15 budget
Marlborough model					
Planted area (ha)	30	30	30	30	30
Producing area (ha)	30	30	30	30	30
Total production ¹ (t)	363	290	365	439	396
Average return (\$/t)	1 350	1 410	1 720	1 730	1 730
Net cash income (\$)	489 700	409 200	625 800	763 100	687 670
Vineyard working expenses (\$)	230 200	229 400	237 600	289 300	289 400
Vineyard profit before tax (\$)	167 300	96 900	294 000	368 800	289 370
Vineyard surplus for reinvestment ² (\$)	117 800	55 900	217 200	189 100	130 670
Hawke's Bay model					
Planted area (ha)	12.5	12.5	12.5	12.5	12.5
Producing area (ha)	12.5	12.5	12.5	12.5	12.5
Total production (t)	106	85	103	120	121
Average return (\$/t)	1 240	1 175	1 680	1 780	1 830
Net cash income (\$)	131 700	99 200	172 200	216 800	222 100
Vineyard working expenses (\$)	99 825	92 700	103 800	110 600	111 700
Vineyard profit before tax (\$)	- 20 475	- 39 300	26 400	63 200	69 700
Vineyard surplus for reinvestment (\$)	- 48 975	- 71 800	- 3 400	36 400	30 800

Notes

The vineyard models are based on an owner-operator business structure and from 2013/14 are 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 2013/14 year refers to fruit harvested in autumn 2014.

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 2012/13 and 2013/14. Caution is advised if comparing data between these two years.

INTRODUCTION

This report is based on data and comments collected in personal interviews with grape growers in Marlborough and Hawke's Bay in May 2014. Model vineyard budgets were prepared using the data collected from these vineyards with feedback from industry representatives incorporated after meetings in both Marlborough and Hawke's Bay to critique the draft models. Additional industry intelligence and Fruition Horticulture client interactions also informed the supporting commentary.

The models are a continuation of the Viticulture Monitoring Programme that the Ministry for Primary Industries have 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.

The two vineyard models represent the dominant grape-growing regions in New Zealand of Marlborough and Hawke's Bay. According to New Zealand Winegrowers vintage survey these two regions accounted for 87 percent of the grape harvest in New Zealand in 2014. The models are 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 2013/14 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 2013/14 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 2012/13 and 2013/14, especially other wages, rates, other admin and legal/consultancy.

Financial data in the viticulture models relate to a year-end of 30 June.

MARLBOROUGH VINEYARD MODEL

The Marlborough model remains at 30 producing hectares and for 2013/14 data was sourced from 25 vineyards compared with 18 vineyards in previous years. Six vineyards are located in the Awatere Valley and 19 vineyards in the Wairau Valley. There are 20 contract growers and five winery-operated vineyards in the monitoring group. Six of the vineyards are 0–10 hectares five are 10–20 hectares, six are 20–50 hectares and eight 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. Two vineyards out of the 25 are Bio-Gro certified and two others have trial areas of organically grown grapes.

HAWKE'S BAY VINEYARD MODEL

The Hawke's Bay model remains at 12.5 producing hectares. It is based on data from 20 vineyards, up from 15 in 2012/13, which are spread across the Heretaunga Plains. There are 17 contract growers and three winery-operated vineyards. Eight of the vineyards are 0–10 hectares, six are 10–20 hectares, five are 20–50 hectares and one is 50 hectares or larger. Merlot is the dominant grape variety, representing 24 percent of the model's producing area, followed by Sauvignon Blanc and Chardonnay.

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

FINANCIAL PERFORMANCE OF THE MARLBOROUGH VITICULTURE MODEL IN 2013/14

The Marlborough vineyard model reported a vineyard profit before tax of \$368 800 in 2013/14, up 25 percent on the \$294 000 achieved in 2012/13. This significantly increased profit is almost exclusively due to yield increasing 20 percent over the previous year to 14.6 tonnes per hectare. Price received per tonne was stable, increasing by one percent to \$1730 per tonne compared with 2012/13.

REVENUE UP DUE TO SIGNIFICANTLY INCREASED YIELD

The size of the 2013/14 Marlborough vineyard model remains at 30 hectares planted. The variety mix in the model is unchanged from 2012/13 and consists of 77 percent planted in Sauvignon Blanc with the residual area comprising Pinot Noir, Chardonnay, Riesling and Pinot Gris.

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CLIMATE MOSTLY FAVOURABLE IN 2013/14

Growing conditions in 2013/14 were generally favourable with the exception of rain in the latter half of the harvest. As predicted, the good fruit bud initiation conditions in December 2012 led to higher bunch numbers at vintage 2014. Excellent conditions during flowering in December 2013 resulted in a large potential crop.

Growing degree days in December 2013 were 17 percent higher than the long term average for Marlborough. Yield assessments showed estimated crops of Sauvignon Blanc in some instances of over 30 tonnes per hectare. From January 2014 many growers carried out crop reduction using a variety of methods to avoid over cropping their vines.

February and March were predominantly dry months with good ripening conditions. High crop levels led to the period from veraison to harvest for Sauvignon Blanc being significantly increased compared with the long term average. This was despite the 50 percent flowering date being the earliest in 10 years of records based on data from the Marlborough Research Centre trial at Squire Estate, Rapaura. Starting on 8 April, Marlborough experienced two significant rain events around harvest with the larger occurring on 16 and 17 of April. The total April rainfall was 146 millimetres, nearly three times the long-term average. A large part of the regional crop was safely harvested before the second rain event, but the rain made conditions difficult for the later harvested areas. Overall, a relatively small proportion of the crop was adversely affected by the rain and reports from winemakers are that the 2014 vintage is expected to produce excellent quality wines.

Table 2: Marlborough Weather Data

Month	Rainfall (mm)			Growing degree days ¹ (GDD)		
	2012/13	2013/14	Long-term average	2012/13	2013/14	Long-term average
June	80	115	69	3	24	18
July	73	35	68	10	20	10
August	123	65	60	23	38	19
September	32	67	49	58	78	58
October	53	47	71	99	129	102
November	7	46	48	117	177	143
December	25	17	51	246	251	215
January	59	79	44	253	223	246
February	19	18	34	189	213	221
March	23	27	34	202	168	194
April	98	146	53	141	133	110
May	94	16	54	49	65	58
Total	687	678	635	1390	1519	1394

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 to predict the date that a flower will bloom or a crop reach maturity.

Source

NIWA (Blenheim).

2014 YIELDS INCREASE BY 20 PERCENT

The Marlborough vineyard model’s yield increased 20 percent compared with 2012/13, reporting 439 tonnes from 30 producing hectares. This equates to an average yield of 14.6 tonnes per hectare, compared with 12.2 tonnes in the previous year. In the 2013 report, the monitored group budgeted a yield of 12.3 tonnes per hectare in 2013/14, largely influenced by the yield cap prescribed by their wineries. The significantly higher actual yield was aided by increases in the yield cap accepted by some wineries, a wider band of accepted yield if quality parameters were met and some instances of alternative customers buying excess fruit. The Wairau growers monitored produced a 19 percent higher average yield than the Awatere growers (17.0 tonnes per hectare compared with 14.1 tonnes per hectare). In general, the Awatere area was more affected by the rain at harvest, leading to some crop being left behind and selective picking on some hand harvested blocks.

In the model, Sauvignon Blanc yielded 16.5 tonnes per hectare on average, up 26 percent compared with 2012/13 and 41 percent up on the average yield for the 2009-13 period. On the monitored vineyards, yields for Sauvignon Blanc ranged from 9.8 to 23.1 tonnes per hectare. This significant increase in the predominant variety’s yield was the main reason for the overall increased yield. For the model’s other varieties the yield changes were minor compared with 2012/13. Pinot Noir was down by 14 percent to 6.4 tonnes per hectare; Riesling yields decreased eight percent to 10.3 tonnes per hectare; Pinot Gris yields increased nine percent to 12.1 tonnes per hectare and Chardonnay (excluding Mendoza and Clone 15) yields were up by five percent compared with 2012/13 to 12.5 tonnes per hectare.

With excellent fruit bud initiation in December 2012 and equally good flowering conditions in December 2013, wineries and growers were well aware of the potentially high yields and used various methods to moderate crops. These included shoot thinning, cutting through a cane and hand or machine fruit thinning. At harvest many wineries enforced contracted yield caps and a common sight in many vineyards was an area of fruit left behind once the target had been reached. Within the monitored group 6 percent of the

total producing area was not harvested for wine production and was either harvested directly to the ground or left unharvested.

GRAPE PRICES STABLE

With good demand for grapes going into the 2013/14 season, prices remained stable after increasing 22 percent to \$1720 per tonne in 2012/13. In the model the average price per tonne for all varieties was just one percent higher compared with 2012/13 at \$1730 per tonne. The Sauvignon Blanc price increased from \$1603 to \$1640 per tonne. For both Chardonnay clonal groupings, prices increased by seven percent compared with 2012/13 to \$2155 for Chardonnay Mendoza and Clone 15 and \$1935 per tonne for Chardonnay all other clones.

Table 3: Marlborough vineyard model grape prices

Year ended 30 June	2010/11 (\$/t)	2011/12 (\$/t)	2012/13 (\$/t)	2013/14 (\$/t)	2014/15 budget (\$/t)
Sauvignon Blanc	1 190	1 315	1 603	1 640	1 635
Pinot Noir – table	2 880	2 735	3 024	3 035	3 035
Pinot Gris	1 725	1 700	1 780	1 860	1 790
Chardonnay – Mendoza and Clone 15	1 735	1 650	2 017	2 155	2 045
Chardonnay – all other clones	1 405	1 595	1 811	1 935	1 980
Riesling	1 460	1 510	1 661	1 685	1 745
Weighted average	1 350	1 410	1 720	1 730	1 730

Note

Figures may not add to totals due to rounding.

Table 4: Marlborough vineyard model production and income details for 2013/14

Year ended 30 June	Area (ha)	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix level (Brix)	Return (\$/t)	Revenue (\$)
Grape variety							
Sauvignon Blanc	23.0	16.5	379.5	86	21.5	1 640	622 400
Pinot Noir - Table	3.0	6.4	19.2	4	23.9	3 035	58 300
Pinot Gris	1.5	12.1	18.2	4	22.9	1 860	33 800
Chardonnay - Mendoza & Clone 15	1.5	7.4	11.1	3	19.4	2 155	23 900
Chardonnay - all other clones	0.5	12.5	6.3	1	21.3	1 935	12 100
Riesling	0.5	10.3	5.2	1	20.9	1 685	8 700
Total/average	30.0	14.6	439.4	100		1 730	759 200

Note

Figures may not add to totals due to rounding.

EXPENSES INCREASE

Please note that to better reflect the actual areas of expenditure this year some expense items have been reclassified in the model budgets, which has impacted on time series for these items. Caution should be taken when comparing individual expense items between 2012/13 and 2013/14.

- Tractor repairs and maintenance expenditure has been moved from the vehicle category to the repairs and maintenance category.
- Machine stripping and pruning expenditure has been moved from the contract machinery work category to the pruning (and tying down) category.

Furthermore, some vineyards new to the expanded monitored group (in particular winery-operated vineyards) have different expense structures and economies of scale compared to the previously monitored group. This has impacted on some expense items (especially other wages) between 2012/13 and caution should be taken when making comparisons between these two years.

For the first time in four years there was a significant increase in vineyard working expenses from the low of \$7647 per hectare achieved in 2011/12. Working expenses increased by 22 percent to \$9643 per hectare compared with 2012/13, which was still five percent below the 2008/09 high of \$10 100 per hectare.

LABOUR EXPENDITURE INCREASED TO MANAGE LARGE CROP

Labour expenditure increased from \$3847 per hectare in 2012/13 to \$5177 in 2013/14. This was a 20 percent increase over the average labour expenditure of the 2009-13 period of \$4329 per hectare. Canopy management was the main contributor to the increased labour expenditure item, increasing by 91 percent over 2012/13 to \$1393 per hectare reflecting the large crop and the major expenses associated with crop reduction. Commercial trials of machine thinning were carried out on 2500 hectares in Marlborough and the results are reported to be very promising for both yield management and *Botrytis* control.

The other wages expense item is for labour unallocated elsewhere and includes management costs as well as spraying, netting and numerous smaller tasks. Expenditure on other wages increased significantly from \$898 per hectare in 2012/13 to \$1407 per hectare in 2013/14. This is partially attributable to the higher number of spray rounds required due to the increased crop but the main driver was the influence of several new vineyards in the monitored group that have a higher level of paid management.

From 2013/14 the pruning (and tying down) expense item now includes machine stripping and pruning expenses which were previously recorded under contract machinery work. Analysis of the data shows that manual pruning expenditure was \$2040 per hectare, or \$40 per hectare less than 2012/13. The machine element of the pruning expense category amounted to \$159 per hectare in the model giving a total pruning cost of \$2197 per hectare, up five percent from 2012/13. Conversely the model contract machinery expenditure was less than 2012/13, mainly due to machine stripping and pruning now being included in the pruning expense category to show the whole cost of that task.

The number of spray rounds was higher than the previous year due to the larger crop leading to more disease pressure from *Botrytis* and powdery mildew. This contributed to increased expenditure on weed and pest control which increased 17 percent compared with 2012/13 to \$817 per hectare. For several growers there was also a requirement to apply expensive chemicals to combat the increasing incidence of mealy bug in the district.

After a significant reduction in fertiliser volumes applied during the 2008-12 period, fertiliser expenses were up by 47 percent compared with 2012/13 to \$293 per hectare, which in turn was an 82 percent increase on 2011/12 expenditure. Several growers mentioned that they perceived yield and quality had suffered from low or nil fertiliser inputs in previous years. With the large potential crop and improved cash flow, those growers said they decided to increase fertiliser inputs in 2013/14. Suspension and fertigation methods of applying fertilisers have also become more popular despite being more expensive. Five out of the 25 monitored vineyards applied no fertiliser in 2013/14 and in most cases this was because soil and plant tests showed adequate nutrient levels are present.

Repairs and maintenance expenditure increased to \$677 per hectare compared with 2012/13. This was due to continued catch up spending on deferred maintenance and from this year including tractor repairs and maintenance expenditure in this category, which was previously under the vehicle heading. In the model the vehicle expense category conversely decreased compared with 2012/13 and this was largely due to the reclassification of tractor repairs and maintenance to vehicle expenditure. Combining both these categories

expenditure increased 40 percent or \$220 per hectare which can be largely attributed to catch up spending on deferred maintenance.

Frost protection expenditure was down by 41 percent compared with 2012/13 to \$1600 for the total vineyard due to a minimal number of frost events.

INCREASED PROFITS

The average vineyard operating surplus for the survey group was \$473 800 or \$15 793 per hectare, up 22 percent compared with the 2012/13 result. This was largely due to the 20 percent increase in yield with stable prices compared with 2012/13. This was well up on the monitored group's prediction a year ago for 2013/14 operating surplus of \$13 283 per hectare.

Vineyard profit before tax increased by 25 percent over 2012/13 to \$12 290 per hectare. This is an increase of 169 percent compared with the average of the 2009-13 period of \$4572 per hectare. The 2013/14 profit before tax is still below the 2007/08 high of \$15 000 per hectare. In the monitored group 24 out of the 25 growers reported a profit before tax.

In the model tax is based on a partnership and it increased by 230 percent compared with 2012/13 to \$145 800. This is driven by a good vineyard profit before tax in 2013 after a poor result in 2012, leading to much higher provisional and terminal tax payments in 2013/14.

The monitored group includes a wide spectrum of grape growing businesses. Some have no debt, while others have debt servicing expenses ranging from \$100 to \$14 000 per hectare. Interest payments for the model are approximately \$2100 per hectare which is the average of the monitored vineyards.

The vineyards new to the expanded monitored group (in particular winery-operated vineyards) have higher debt levels than the previously monitored group. Industry participants believe this better reflects the debt burden typical of Marlborough growers. Consequently, the model shows increased total liabilities in 2013/14 of \$1 002 300. The model however also continues to reflect growers' efforts to reduce debt where possible with principal repayments of \$68 800 made in 2013/14, up from \$58 100 in 2012/13.

Capital expenditure increased 29 percent compared with 2012/13 to \$25 000 overall indicating increasing confidence and improved cash flow. To further back up this sentiment eleven out of 25 monitored growers purchased capital items such as bird netting, tractors, machinery and equipment.

NEW DEVELOPMENT INCREASING

Development expenditure increased from \$17 100 in 2012/13 to \$25 800 in 2013/14 with five of the 25 monitored growers planting mainly new areas on their properties. Additional development is also planned for next year. This rise in development expenditure reflects a return to vineyard expansion in Marlborough. Following a smaller regional vintage in 2012 and steady growth in export markets, established wine companies and individual growers are actively planting and placing orders for future plantings.

The perception of monitored growers is that vineyard property values increased by two percent as at 30 June 2014 to \$161 300 per planted hectare. An independent valuation for the model vineyard came in at \$164 230 per planted hectare suggesting growers currently have a conservative view of their property values.

FINANCIAL PERFORMANCE OF THE MARLBOROUGH VINEYARD MODEL IN 2014/15

The vineyard model's profit before tax in 2014/15 is budgeted at \$289 370 or \$9650 per hectare, a 22 percent decrease compared with 2013/14. This is based on an expected 10 percent decrease in yield and the same average price per tonne, reflecting grower's perception that the exceptional yields in 2013/14 are unlikely to be repeated.

REVENUE EXPECTED TO DROP

In 2014/15, the model's net cash income is expected to be \$687 670, compared with \$763 100 in 2013/14, reflecting an expected decrease in yield to 13.2 tonnes per hectare in 2014/15. This decreased yield is still 13 percent higher than the average yield of the 2009-13 period of 11.7 tonnes per hectare. Operating expenses are budgeted to broadly stay the same overall as 2013/14.

CLIMATIC CONDITIONS WERE FAVOURABLE FOR FRUIT BUD INITIATION – AGAIN!

Favourable weather conditions for fruit bud initiation in December 2012 were repeated in December 2013 with growing degree days 17 percent above the long term average. In New Zealand Winegrowers' June 2014 'Grape Day' presentation Marlborough Research Centre scientist Rob Agnew stated that the favourable climatic conditions in December 2013 would normally predict Sauvignon Blanc potential yield 15 percent above the long term average. However he expected that there may be a 'carry over' effect from the high yield in 2013/14 which could negate the extra yield potential. The monitored group has budgeted 14.6 tonnes per hectare for Sauvignon Blanc in 2014/15 compared with the 16.5 tonnes per hectare achieved in 2012/13.

Many growers pruned to four canes for Sauvignon Blanc in winter 2013 and then reduced crop once they were satisfied they had a good fruit set. There is an increasing trend for growers to make sure that they have a good potential crop level and then moderate it at a later date, and cutting out a surplus cane during the growing season is a cost-competitive method of crop moderation.

GROWERS BUDGET FOR THE SAME PRICES

Despite the record yields in Marlborough in 2014, growers' expect the same average price in 2014/15 as in the previous year. The budgeted average price for all varieties is \$1730 per tonne, identical to 2013/14. Sauvignon Blanc is budgeted to remain relatively constant at \$1635 per tonne compared with \$1640 in 2013/14.

Table 5: Marlborough vineyard model budget production and income for 2014/15

Year ended 30 June	Area (ha)	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix level (Brix)	Return (\$/t)	Revenue (\$)
Grape variety							
Sauvignon Blanc	23.0	14.6	335.8	85	21.4	1 635	549 000
Pinot Noir - Table	3.0	6.5	19.5	5	23.8	3 035	59 200
Pinot Gris	1.5	11.1	16.7	4	22.9	1 790	29 800
Chardonnay - Mendoza & Clone 15	1.5	8.3	12.5	3	22.8	2 045	25 500
Chardonnay - all other clones	0.5	11.4	5.7	1	21.7	1 980	11 300
Riesling	0.5	11.0	5.5	1	21.4	1 745	9 600
Total/average	30.0	13.2	395.6	100		1 730	684 400

Note

Figures may not add to totals due to rounding.

EXPENSES EXPECTED TO REMAIN SIMILAR TO 2013/14

The vineyard model is budgeting on vineyard working expenses staying the same as 2013/14 at \$9647 per hectare. Growers are budgeting for another yield above the long term average and are therefore reluctant to expect significant savings in canopy management, budgeting to decrease canopy/crop management expenditure by six percent to \$1313 per hectare following a 91 percent increase the previous year. Pruning expenses are expected to remain the same as 2013/14. Fertiliser expenses are budgeted to rise by 11 percent to \$327 per hectare, a third year of significant rises, reflecting grower's growing awareness of the negative impact on fruit and vine of a reduced or nil fertiliser policy. Frost protection is budgeted to increase to more typical levels reflecting the fact that 2013/14 had a particularly low number of frost events.

FURTHER DEVELOPMENT

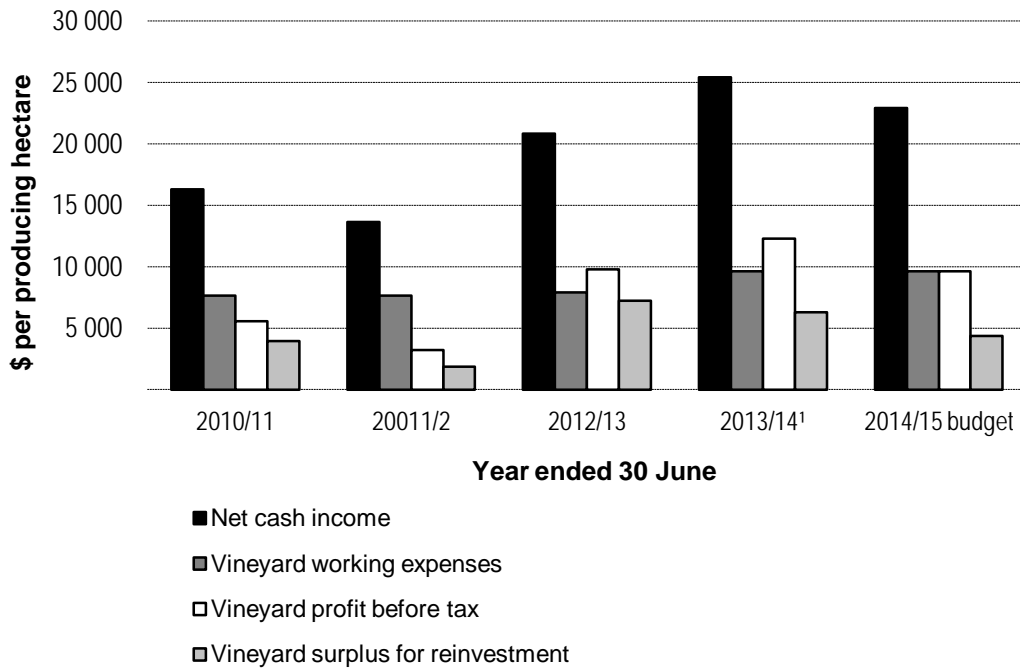
In 2014/15 development expenditure of \$43 900 is budgeted for the model. Four of the 25 growers have budgeted for development expenditure in 2014/15, with two of these growers planting significant new areas. A further two growers are actively investigating planting further areas on their properties. Industry commentators noted that growers are gradually emerging from some difficult years and there are signs that new vineyard developments including new vineyard planting are being increasingly planned in the region.

Three growers in the survey indicated they are considering purchasing additional vineyard area in an attempt to increase economies of scale.

POSTIVE RESULT BUDGETED

The 2014/15 vineyard model's profit before tax is budgeted at \$289 370, a 22 percent decrease compared with the profit before tax of \$368 800 achieved in 2013/14. This result is due to the budgeted lower yield with the same average price and expenses. This reflects the monitored group's acknowledgement that the 2013/14 yield was exceptional and unlikely to be repeated in 2014/15. The budgeted yield of 13.2 tonnes per hectare nevertheless is 13 percent higher than the average yield for the 2009-13 period and produces a very positive vineyard surplus.

Figure 1: Marlborough vineyard model profitability trends



Note

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.

¹ The sample of vineyards used to compile this model changed between 2012/13 and 2013/14. Caution is advised if comparing data between these two years.

Table 6: Marlborough vineyard model budget

	2012/13		2013/14			2014/15 budget			
	Whole vineyard (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)
Revenue									
Income from grapes	625 800	759 200	25 307	1 728	11.78	684 400	22 813	1 730	10.59
Other vineyard income	0	3 900	130	9	0.06	3 270	109	8	0.05
Net cash income	625 800	763 100	25 437	1 737	11.84	687 670	22 922	1 738	10.64
Vineyard working expenses	237 600	289 300	9 643	658	4.49	289 400	9 647	732	4.48
Cash operating surplus	388 200	473 800	15 793	1 078	7.35	398 270	13 276	1 007	6.16
Interest	54 100	62 100	2 070	141	0.96	63 400	2 113	160	0.98
Rent and/or leases	8 200	8 200	273	19	0.13	8 200	273	21	0.13
Depreciation	34 000	34 700	1 157	79	0.54	37 300	1 243	94	0.58
Net non-fruit cash income ¹	2 100	0	0	0	0.00	0	0	0	0.00
Vineyard profit before tax	294 000	368 800	12 290	839	5.72	289 370	9 650	731	4.48
Tax	44 200	145 800	4 860	332	2.26	129 500	4 317	327	2.00
Vineyard profit after tax	249 800	223 000	7 433	508	3.46	159 870	5 329	404	2.47
Allocation of funds									
Add back depreciation	34 000	34 700	1 157	79	0.54	37 300	1 243	94	0.58
Drawings/living expenses	66 600	68 600	2 287	156	1.06	66 500	2 217	168	1.03
Vineyard surplus for reinvestment²	217 200	189 100	6 303	430	2.93	130 670	4 356	330	2.02
Reinvestment									
Net capital purchases	19 400	25 000	833	57	0.39	29 300	977	74	0.45
Development	17 100	25 800	860	59	0.40	43 900	1 463	111	0.68
Principal repayments	58 100	68 800	2 293	157	1.07	26 200	873	66	0.41
Vineyard cash surplus/deficit	122 600	69 500	2 317	158	1.08	31 270	1 042	79	0.48
Other cash sources									
Indirect cash income	20 400	37 100	1 237	84	0.58	46 200	1 540	117	0.72
New borrowings	0	89 130	2 971	203	1.38	65 730	2 191	166	1.02
Introduced funds	0	0	0	0	0.00	0	0	0	0.00
Net cash position	143 000	195 730	6 524	445	3.04	143 200	4 773	362	2.22
Assets & liabilities									
Land and building ³	4 725 000	4 837 680	161 300	11 011	75.04	4 731 510	157 700	11 960	73.23
Plant and machinery	117 500	117 900	3 930	268	1.83	114 300	3 810	289	1.77
Total vineyard assets (opening)	4 842 500	4 955 580	165 186	11 279	76.87	4 845 810	161 527	12 249	75.00
Total vineyard liabilities (opening)	782 700	1 002 300	33 410	2 281	15.55	1 022 600	34 087	2 585	15.83
Total equity	4 059 800	3 953 280	131 776	8 998	61.32	3 823 210	127 440	9 664	59.17

Notes

Figures may not add to totals due to rounding.

The Marlborough model remains at 30 producing hectares and from 2013/14 data was sourced from 25 vineyards compared with 18 vineyards in previous years. There are 20 contract growers and five winery-operated vineyards in the monitored group.

1 Net non fruit cash income has been removed from the model from 2013/14 and incorporated into either direct or indirect vineyard income.

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

Table 7: Marlborough vineyard model expenditure

	2012/13		2013/14			2014/15 budget			
	Whole vineyard (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)
Vineyard working expenses									
Hand harvesting	3 200	4 400	147	10	0.07	3 800	127	10	0.06
Pruning (and tying down)	62 500	65 900	2 197	150	1.02	65 700	2 190	166	1.02
Canopy/crop management	21 900	41 800	1 393	95	0.65	39 400	1 313	100	0.61
Other wages	26 900	42 200	1 407	96	0.65	43 400	1 447	110	0.67
ACC - employees	800	1 000	33	2	0.02	1 100	37	3	0.02
Total labour expenses	115 300	155 300	5 177	353	2.41	153 400	5 113	388	2.37
Total other working expenses									
Weed and pest control	21 000	24 500	817	56	0.38	25 500	850	64	0.39
Fertiliser and lime	6 000	8 800	293	20	0.14	9 800	327	25	0.15
Electricity	4 200	4 000	133	9	0.06	4 500	150	11	0.07
Vehicle	4 400	2 900	97	7	0.04	2 700	90	7	0.04
Fuel	8 200	8 800	293	20	0.14	9 000	300	23	0.14
Repairs & maintenance	12 200	20 300	677	46	0.31	16 300	543	41	0.25
General	3 700	3 300	110	8	0.05	3 200	107	8	0.05
Frost protection	2 700	1 600	53	4	0.02	3 400	113	9	0.05
Contract machinery work	5 900	3 800	127	9	0.06	4 000	133	10	0.06
Machine harvesting	18 200	17 700	590	40	0.27	17 800	593	45	0.28
Total other working expenses	86 500	95 700	3 190	218	1.48	96 200	3 207	243	1.49
Total overhead expenses									
Rates	9 700	7 600	253	17	0.12	8 000	267	20	0.12
Water rates	2 200	2 500	83	6	0.04	2 900	97	7	0.04
General insurance	3 800	3 900	130	9	0.06	4 100	137	10	0.06
Crop insurance	0	0	0	0	0.00	0	0	0	0.00
ACC - owners	6 100	6 100	203	14	0.09	6 100	203	15	0.09
Communication	1 900	1 900	63	4	0.03	1 900	63	5	0.03
Accountancy	3 100	3 600	120	8	0.06	3 300	110	8	0.05
Legal and consultancy	2 000	3 800	127	9	0.06	3 800	127	10	0.06
Levies and subscriptions	5 600	6 300	210	14	0.10	5 700	190	14	0.09
Other administration	1 400	2 600	87	6	0.04	4 000	133	10	0.06
Total overhead expenses	35 800	38 300	1 277	87	0.59	39 800	1 327	101	0.62
Total vineyard working expenses	237 600	289 300	9 643	658	4.49	289 400	9 647	732	4.48
Calculated ratios									
Economic vineyard surplus (EVS) ¹	279 200	364 100	12 137	829	5.65	285 970	9 532	723	4.43
Vineyard working expenditure/NCI ²	38%	38%				42%			
EVS/Total vineyard assets	5.8%	7.3%				5.9%			
EVS less interest & lease/equity	5.3%	7.4%				5.6%			
Interest+rent+lease/NCI	10.0%	9.2%				10.4%			
EVS/NCI	44.6%	47.7%				41.6%			
EBIT ³	348 100	430 900				352 770			
EBIT/Total Capital	7.2%	8.7%				7.3%			
EBIT/Total Equity	8.6%	10.9%				9.2%			

Notes

Figures may not add to totals due to rounding.

From 2013/14 some expense items have been reclassified and the addition of seven new growers, three of these being winery growers, has impacted on the time series for some items. Caution should be taken when comparing individual expense items between 2012/13 and 2013/14, especially other wages, vehicle, repairs and maintenance, contract machinery work, rates, other admin and legal/consultancy.

1 EVS is calculated as follows: net cash income less vineyard working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$31 000 allowance 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 taxation reflects vineyard profit before tax less interest payments.

FINANCIAL PERFORMANCE OF THE HAWKE'S BAY VINEYARD MODEL IN 2013/14

The Hawke's Bay model achieved a vineyard profit before tax of \$63 200 in 2013/14. This was a 139 percent increase from the \$26 400 profit in the previous year and was driven by a 17 percent increase in yield to 9.6 tonnes per hectare and a 6 percent increase in price to \$1780. Favourable weather conditions led to increased yields of high quality fruit, resulting in improved prices. The 2013/14 year is the second year in a row that the model has reported a profit after the previous three years of negative results and is assisting with growers' financial recovery.

The size of the 2013/14 Hawke's Bay vineyard model remains at 12.5 hectares planted. The variety mix of the model also remains unchanged. Merlot is the dominant variety at 24 percent of the planted area followed by Sauvignon Blanc; the model consists of 52 percent white and 48 percent red grape varieties.

INCREASED YIELDS AND PRICES BOOST REVENUE

Net cash income for the Hawke's Bay model in 2013/14 was \$216 800 or \$17 344 per hectare, an increase of 26 percent on the previous year. Favourable growing conditions throughout the season contributed to high yields which boosted vineyard incomes. Growers reported that wineries often based harvesting decisions on the exceptional flavour profiles of the grapes and were less stringent with contracted brix targets. Prices increased by \$100 per tonne on average compared with the previous year to \$1780 per tonne for the model. Industry sources noted their belief that prices are strengthening in response to increased demand, notably for the red varieties and premium Chardonnay clones.

GOOD FRUIT FROM A FAVOURABLE GROWING SEASON

Exceptional spring weather leading into a settled summer resulted in an outstanding vintage for the 2013/14 season. Spring temperatures were above average and few frosts occurred. Bud burst and flowering were reported to be up to two weeks earlier than normal and rain late in November had a marginal effect on flowering. December temperatures eased off after the warm spring to be closer to the long term average while low rainfall saw the excellent growing conditions continue.

In early January climatic conditions led to widespread outbreaks of powdery mildew disease and growers had to be vigilant with their spray programmes and canopy and crop management throughout the rest of the season to maintain disease control.

Veraison was reported to be up to two weeks earlier than average. Rainfall from December to March was below the long term average of 212 millimetres with 143 millimetres total in that period. However, this was significantly more than the previous season's 72 millimetres for that period and rain events were well spread across the season which lowered irrigation expenditure and prevented significant irrigation bans being required. A severe but localised hail storm occurred in late January but its timing was fortunate as it came before leaf plucking so most of the crop was protected by large canopies.

Harvest generally began a week early and progressed at a steady pace, with no *Botrytis* disease pressure reported due to low rainfall. A large proportion of the region's crop was safely in the winery when three major rain events occurred in April but some later maturing Merlot, Cabernet Sauvignon and Cabernet Franc blocks were harvested in the rain. There were reports of small volumes being left un-harvested but this did not impact on the monitored growers.

Winemakers spoken to reported that the 2014 vintage produced superb Chardonnay, Sauvignon Blanc, Merlot and Syrah wines and promises to be a close match for the outstanding 2013 vintage.

Table 8: Hawke’s Bay weather data

Month	Rainfall (mm)			Growing degree days ¹ (GDD)		
	2012/13	2013/14	Long-term average	2012/13	2013/14	Long-term average
June	14	128	69	4	25	20
July	199	159	111	19	9	16
August	90	133	46	24	31	26
September	21	93	53	65	97	63
October	15	30	53	102	154	118
November	23	101	38	130	199	178
December	21	41	54	303	268	257
January	18	42	50	301	281	291
February	9	42	43	239	246	248
March	24	18	65	239	213	220
April	88	149	63	173	151	129
May	59	23	67	71	59	59
Total	581	960	711	1 667	1 731	1 626

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 to predict the date that a flower will bloom or a crop reach maturity.

Source

NIWA (Hastings).

2014 YIELDS INCREASE 17 PERCENT

The Hawke’s Bay vineyard model’s yield increased 17 percent to total 120 tonnes for 12.5 producing hectares. This equates to an average yield of 9.6 tonnes per hectare, compared with 8.2 tonnes per hectare in the previous year. Excellent conditions at flowering for most varieties on the back of the near perfect growing season in 2013/14 contributed to this result. Many crops had to be heavily thinned due to powdery mildew infections but this did not affect overall yields due to exceptionally high initial crop loads and this thinning would likely have had to take place regardless to keep within contract yield parameters.

Sauvignon Blanc yields increased from 7.2 tonnes per hectare in 2012/13 to 12.5 in 2013/14; attributed mainly to increased yields from some younger blocks. Chardonnay (Mendoza, Clone 15 and Clone 95) increased 26 percent compared with 2012/13 to 7.8 tonnes per hectare due to favourable growing conditions and excellent flowering. Merlot yields remained at 9.9 tonnes per hectare.

The Syrah variety bucked the trend of increased yields with a 16 percent decrease compared with the previous year from 10.2 to 8.6 tonnes per hectare. Pinot Gris yields also decreased eight percent compared with 2012/13 from 10.4 to 9.6 tonnes per hectare, partly attributed to rain during flowering and removal of fruit affected by powdery mildew.

AVERAGE GRAPE PRICES STRENGTHEN \$100 PER TONNE

Prices were supported by a combination of high fruit quality and increasing underlying demand. On average, grape prices increased \$100 to \$1780 per tonne, the highest average price achieved in the past five years.

Chardonnay (Mendoza, Clones 15 and 95) prices increased by \$130 per tonne giving an average for the monitored growers of \$2020 per tonne, which is the highest price achieved in the past 5 years. Some growers attributed the price rise to increased demand for this variety and that the price reflects that the 2013/14 fruit was of exceptional quality.

Syrah prices increased \$340 per tonne to \$2290, due to more growers achieving quality bonuses. This was primarily achieved as a result of better yield management meaning higher brix and better flavours compared with the previous year. Merlot prices increased by \$70 to \$1840 per tonne, slightly above the previous price high recorded in 2008/09. Prices achieved in the other reds category were \$2100 per tonne, an increase of \$331 per tonne this year on top of an increase of \$394 per tonne in the 2012/13 season. This positive price trend for all red grape varieties can be attributed to good quality fruit, increased demand for Bordeaux-style varieties, and a building profile for Hawke's Bay Syrah.

Table 9: Hawke's Bay vineyard model grape prices

Year ended 30 June	2010/11 (\$/t)	2011/12 (\$/t)	2012/13 (\$/t)	2013/14 (\$/t)	2014/15 budget (\$/t)
Merlot	1 600	1 275	1 770	2 100	2 100
Sauvignon Blanc	950	1 020	1 890	1 840	1 490
Chardonnay - Mendoza, Clone 15 & Clone 95	1 350	1 350	1 390	1 440	1 930
Other reds ¹	1 900	1 375	1 769	1 490	1 510
Pinot Gris	1 250	1 300	1 430	2 020	2 090
Syrah	2 000	1 770	1 950	2 290	2 280
Weighted average	1 240	1 175	1 680	1 780	1 830

Notes

Figures may not add to totals due to rounding.

1 From 2012/13 Other reds includes Cabernet Sauvignon, Cabernet Franc, Malbec and Pinot Noir. Prior to this Pinot Noir was a separate category.

Table 10: Hawke's Bay vineyard model production and income for 2013/14

Year ended 30 June	Area (ha)	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix level (Brix)	Return (\$/t)	Revenue (\$)
Merlot	3.0	9.9	29.7	25	22.9	1 840	54 600
Sauvignon Blanc	2.5	12.5	31.3	26	20.9	1 440	45 100
Chardonnay - Mendoza, Clone 15 & Clone 95	2.3	7.8	17.6	15	22.7	2 020	35 600
Other reds ¹	2.0	8.2	16.3	14	22.5	2 100	34 200
Pinot Gris	1.8	9.6	16.8	14	22.7	1 490	25 000
Syrah	1.0	8.6	8.6	7	22.6	2 290	19 700
Total/average	12.5	9.6	120.2	100		1 780	214 100

Notes

Figures may not add to totals due to rounding.

1 From 2012/13 Other reds includes Cabernet Sauvignon, Cabernet Franc, Malbec and Pinot Noir. Prior to this Pinot Noir was a separate category.

VINEYARD EXPENSES INCREASE SEVEN PERCENT

Please note that to better reflect the actual areas of expenditure this year some expense items have been reclassified in the model budgets which has impacted on time series for these items. Caution should be taken when comparing individual expense items between 2012/13 and 2013/14.

- Tractor repairs and maintenance expenditure has been moved from the vehicle category to the repairs and maintenance category.
- Machine stripping and pruning expenditure has been moved from the contract machinery work category to the pruning (and tying down) category.

Furthermore, some vineyards new to the expanded monitored group (in particular winery-operated vineyards) have different expense structures and economies of scale compared to the previously monitored group. This has impacted on some expense items (especially other wages) between 2012/13 and caution should be taken when making comparisons between these two years.

Total vineyard working expenses increased seven percent from last season to \$8848 per hectare. The increase in expenditure is partly attributed to powdery mildew control expenses and that labour increased due to the introduction of winery-operated vineyards to the monitored group, as they tend to use more permanent labour.

Labour expenses in the model increased from the previous season. While the monitored contract growers had reduced their use of contract labour in past years, opting to use family help and directly employ backpackers and casual labour when needed, introducing winery-operated vineyards to the monitored group this year has resulted in increased contract labour expenditure. Winery-operated vineyards tend to make more use of contracted labour and have a higher incidence of permanent staff salaries. These factors have contributed to an increase this year in the other wages expense category to \$1520 per hectare.

Pruning (and tying down) expenses increased this year to \$1664 per hectare, now equating to \$0.71 cents per vine which better reflects contract pruning rates. This increase is partly due to the inclusion of winery growers who tend to make greater use of contracted labour and the reclassification of machine stripping and pruning to the pruning (and tying down) expenditure category. Machine pruning and stripping accounted for \$60 per hectare of pruning (and tying down) expenses in 2013/14.

Canopy/crop management expenditure increased in 2013/14 to \$1280 per hectare due to growers taking measures to counter powdery mildew. After no disease pressure in 2012/13, high yields and disease pressure required growers to undertake more fruit thinning and leaf-plucking. Contract machinery expenses decreased this year to \$88 per hectare with to the reclassification of machine stripping and pruning expenditure from the contract machinery category and into the pruning (and tying down) expenditure category.

Weed and pest control increased 32 percent to \$768 per hectare, which is considered a normal level of fluctuation related to seasonal climatic conditions.

In 2013/14 vehicle expenses decreased to \$96 per hectare and repairs and maintenance expenditure increased to \$608 per hectare due to reclassifying vehicle and tractor repairs and maintenance to the repairs and maintenance expense category from the vehicle expense category. Growers also took the opportunity to undertake some deferred maintenance due to their improved cashflow, resulting in slightly higher spending in these two categories overall.

Frost protection decreased 47 percent this year to \$64 per hectare, showing the climatic contrast between the two seasons. Little or no frost protection was required in 2013/14 whereas up to 13 frost events were reported in the previous year.

TWO CONSECUTIVE OPERATING SURPLUSES

The Hawke's Bay vineyard model achieved a cash operating surplus of \$106 200 in 2013/14 which is 55 percent greater than the \$68 400 achieved in the 2012/13 season. A second consecutive year of vineyard profit has led to growers reporting they feel more positive, although they remain cautiously optimistic with expectations for another favourable growing season with increased demand for grapes to aid in their financial recovery. Growers reported that grape payments from most wineries are being staggered, which is putting some pressure on vineyard cashflow.

Capital purchases reported by the monitored growers related to business necessities such as bird nets, and essential equipment such as a sprayer or mower, bought second hand. As with the previous season, no new development work was undertaken. There was no new borrowing in the model and average principal repayments of \$27 100 were made from last season's surplus to reduce debt.

In the monitored group income from off-vineyard sources often remains necessary to partially cover debt servicing and living expenses.

BUDGET FINANCIAL PERFORMANCE OF THE HAWKE'S BAY VINEYARD MODEL IN 2014/15

The vineyard model's profit before tax for 2014/15 is budgeted at \$69 700 or \$5580 per hectare, a 10 percent increase compared with 2013/14. Growers are not expecting to change their operations significantly next year and they remain cautious with their spending. Budgets for most expense items are expected to remain the same as the previous year. Six of the twenty monitored growers are planning a small amount of block redevelopment with new plantings of Syrah, Cabernet Sauvignon and Merlot on existing land.

GROWERS ANTICIPATE STABLE REVENUE

Net cash income is budgeted to rise by two percent in 2014/15 to \$222 100 or \$17 768 per hectare in 2014/15 due to slightly increased prices expected. Yields are expected to remain stable overall in 2014/15, averaging 9.7 tonnes per producing hectare. Syrah is expected to increase to 8.9 tonnes which represents a small 0.3 tonne per hectare increase. Small yield increases are predicted for Chardonnay yields to 8.2 tonnes per hectare from 7.8 tonnes per hectare and Pinot Gris to 10.5 tonnes per hectare, up 0.9 tonnes per hectare. Sauvignon Blanc yield is expected to decrease by 0.8 tonnes per hectare to 11.7 tonnes per producing hectare to bring crops into line with contract parameters.

Growers expect that international demand for Hawke's Bay wines will continue and with limited recent investment in new plantings due to poor financial returns, growers are budgeting on a small overall price increase in 2014/15 of \$50 per tonne to \$1830 per tonne. This assumes that quality parameters will be met through another favourable growing season. Merlot prices are expected to increase by five percent to \$1930 per tonne while Chardonnay and Sauvignon Blanc are anticipated to lift three percent to \$2090 per tonne and \$1490 per tonne respectively. Prices for Pinot Gris, Syrah and other reds are expected to remain essentially unchanged compared with 2013/14.

Growers' budgeted prices were obtained before New Zealand Winegrowers released the 2014 Vintage Survey results. Subsequent discussions with growers indicate that their outlook was less positive with some wariness regarding the size of the Marlborough vintage and its potential negative impact on grape prices in Hawke's Bay next year.

Growers are budgeting to continue keeping tight control over vineyard expenses and expect to continue to work as efficiently as possible.

The vineyard model has budgeted for a typical growing season next year. Growers predict an increase in labour expenses of one percent to \$4600 per hectare. The biggest change in labour expenses is for canopy and crop management expenditure to increase four percent compared with the previous year to \$1336 per hectare due to the expectation that increased inputs will be required for powdery mildew control. Growers expect repairs and maintenance expenditure to decrease 17 percent to \$504 per hectare, assuming that no major breakdowns or repairs occur.

Frost protection is budgeted to increase to levels of a more typical growing season level, increasing \$80 per hectare to \$144 per hectare. Growers expect electricity expenditure to increase 11 percent to \$160 per hectare resulting from both price increases and a return to more normal seasonal irrigation requirements compared with the previous year.

Table 11: Hawke’s Bay vineyard model budget production and income for 2014/15

Year ended 30 June	Area (ha)	Production per hectare (t/ha)	Total production (t)	Gross yield (%)	Brix level (Brix)	Return (\$/t)	Revenue (\$)
Merlot	3.0	10.0	30.0	25	23.3	1 930	57 900
Sauvignon Blanc	2.5	11.7	29.3	24	21.0	1 490	43 600
Chardonnay - Mendoza, Clone 15 & Clone 95	2.3	8.2	18.5	15	23.0	2 090	38 600
Other reds ¹	2.0	8.1	16.2	13	23.1	2 100	34 000
Pinot Gris	1.8	10.5	18.4	15	22.6	1 510	27 700
Syrah	1.0	8.9	8.9	7	23.2	2 280	20 300
Total/average	12.5	9.7	121.2	100		1 830	222 100

Notes

Figures may not add to totals due to rounding.

1 From 2012/13 Other reds includes Cabernet Sauvignon, Cabernet Franc, Malbec and Pinot Noir. Prior to this Pinot Noir was a separate category.

TIGHT CONTROL ON EXPENDITURE MAINTAINED

Growers are budgeting to continue keeping tight control over vineyard expenses and expect to continue to work as efficiently as possible.

The vineyard model has budgeted for a typical growing season next year. Growers predict an increase in labour expenses of one percent to \$4600 per hectare. The biggest change in labour expenses is for canopy and crop management expenditure to increase four percent compared with the previous year to \$1336 per hectare due to the expectation that increased inputs will be required for powdery mildew control. Growers expect repairs and maintenance expenditure to decrease 17 percent to \$504 per hectare, assuming that no major breakdowns or repairs occur.

Frost protection is budgeted to increase to levels of a more typical growing season level, increasing \$80 per hectare to \$144 per hectare. Growers expect electricity expenditure to increase 11 percent to \$160 per hectare resulting from both price increases and a return to more normal seasonal irrigation requirements compared with the previous year.

GROWERS LOOK TO CONSOLIDATE THEIR POSITIONS

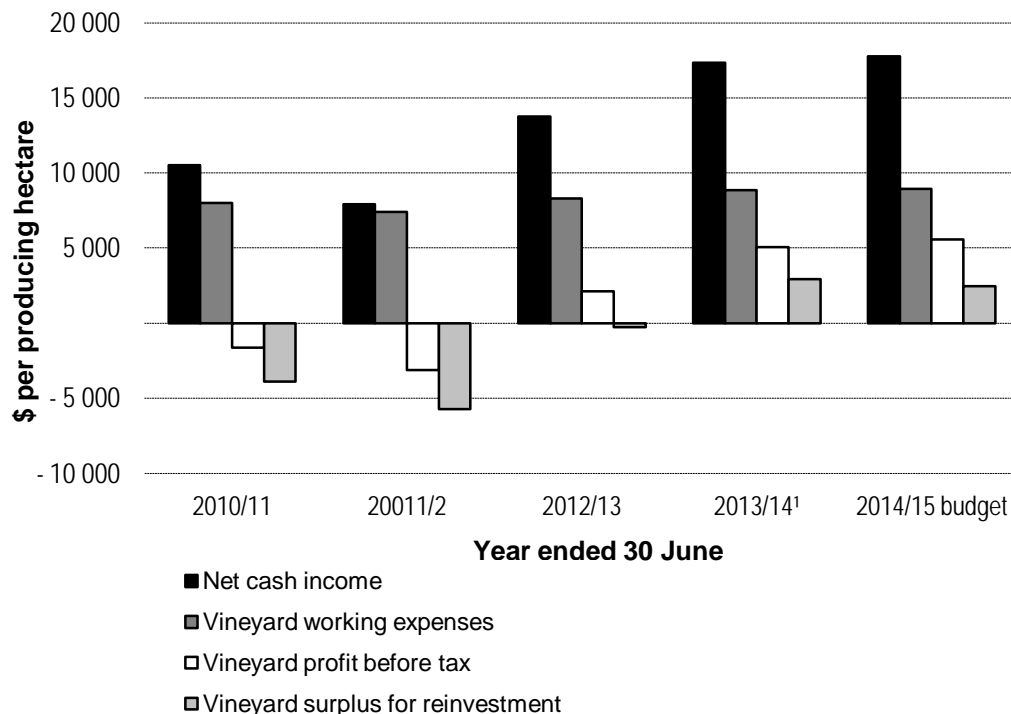
The model's vineyard profit before tax in 2014/15 is budgeted at \$69 700, compared with \$63 200 in 2013/14 and reflects the monitored growers' belief that the industry's position is strengthening. Growers are working on the assumption that ongoing benign climatic conditions will produce the quality and yield levels required to sustain price and demand for Hawke's Bay wines. Growers look forward to Hawke's Bay wines building traction in their international market niches, further assisting in Hawke's Bay vineyards' financial recovery.

Growers and their families continue to work on the vineyards themselves as much as possible. Systems operating for labour exchange and machinery sharing within grower communities are continuing to drive efficiencies in the region. Winery growers are also reviewing management systems to help increase efficiencies. Almost a third of the growers interviewed are actively seeking quality vineyard leases with a view to increase business viability by improving economies of scale.

Capital purchases are expected to increase in the budget year from \$7000 in 2013/14 to \$30 700 in 2014/15. This is to replace aging machinery which has been costly to maintain. After two years of the model showing no development expenditure the model has budgeted to spend \$5 900 in 2014/15. Six of the twenty monitored growers show a small amount of redevelopment activity with Syrah, Merlot and Cabernet Sauvignon varieties planned to be planted in reworked vineyard areas.

Following on from the positive 2013/14 season, the vineyard model is budgeting for further principal debt repayments of \$34 300. For the sixth year in a row no new borrowing is planned and growers are budgeting to rely on off vineyard income of \$42 400 to prop up the business.

Figure 2: Hawke's Bay vineyard model profitability trends



Note

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 costs.

¹ The sample of vineyards used to compile this model changed between 2012/13 and 2013/14. Caution is advised if comparing data between these two years.

Table 12: Hawke's Bay vineyard model budget

	2012/13		2013/14			2014/15 budget			
	Whole vineyard (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)
Revenue									
Income from grapes	172 200	214 100	17 128	1 780	7.29	222 100	17 768	1 830	7.56
Other vineyard income	0	2 700	216	22	0.09	0	0	0	0.00
Net cash income	172 200	216 800	17 344	1 800	7.38	222 100	17 768	1 830	7.56
Vineyard working expenses	103 800	110 600	8 848	920	3.77	111 700	8 936	922	3.80
Cash operating surplus	68 400	106 200	8 496	883	3.62	110 400	8 832	911	3.76
Interest	28 500	28 600	2 288	238	0.97	22 900	1 832	189	0.78
Rent and/or leases	0	0	0	0	0.00	0	0	0	0.00
Depreciation	15 700	14 400	1 152	120	0.49	17 800	1 424	147	0.61
Net non-fruit cash income ¹	0	0	0	0	0.00	0	0	0	0.00
Vineyard profit before tax	26 400	63 200	5 060	526	2.15	69 700	5 580	575	2.37
Tax	0	5 700	456	47	0.19	18 700	1 496	154	0.64
Vineyard profit after tax	26 400	57 500	4 600	478	1.96	51 000	4 080	421	1.74
Allocation of funds									
Add back depreciation	15 700	14 400	1 152	120	0.49	17 800	1 424	147	0.61
Drawings/living expenses	45 500	35 500	2 840	295	1.21	38 000	3 040	314	1.29
Vineyard surplus for reinvestment²	-3 400	36 400	2 912	303	1.24	30 800	2 464	254	1.05
Reinvestment									
Net capital purchases	7 400	7 000	560	58	0.24	30 700	2 456	253	1.05
Development	0	0	0	0	0.00	5 900	472	49	0.20
Principal repayments	0	27 100	2 168	225	0.92	34 300	2 744	283	1.17
Vineyard cash surplus/deficit	-10 800	2 300	184	19	0.08	-40 100	-3 208	-331	-1.37
Other cash sources									
Indirect cash income	65 400	40 500	3 240	337	1.38	42 400	3 392	350	1.44
New borrowings	0	0	0	0	0.00	0	0	0	0.00
Introduced funds	18 500	1 700	136	14	0.06	2 600	208	21	0.09
Net cash position	73 100	44 500	3 560	370	1.51	4 900	392	40	0.17
Assets & liabilities									
Land and building ³	1 455 000	1 476 200	118 096	12 279	50.25	1 483 400	118 672	12 241	50.50
Plant and machinery	94 000	118 700	9 496	987	4.04	115 600	9 248	954	3.94
Total vineyard assets (opening)	1 549 000	1 594 900	127 592	13 267	54.29	1 599 000	127 920	13 195	54.43
Total vineyard liabilities (opening)	440 000	440 000	35 200	3 660	14.98	412 900	33 032	3 407	14.06
Total equity	1 109 000	1 154 900	92 392	9 607	39.32	1 186 100	94 888	9 788	40.38

Notes

Figures may not add to totals due to rounding.

The Hawke's Bay model remains at 12.5 producing hectares. It is based on data from 20 vineyards, compared with 15 vineyards in 2012/13. There are 17 contract growers and three winery-operated vineyards in the monitored group.

1 Net non fruit cash income has been removed from the model from 2013/14 and incorporated into either direct or indirect vineyard income.

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

Table 13: Hawke's Bay vineyard model expenditure

	2012/13		2013/14			2014/15 budget			
	Whole vineyard (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)	Whole vineyard (\$)	Per producing ha (\$)	Per tonne gross (\$)	Per vine (\$)
Vineyard working expenses									
Hand harvesting	300	300	24	2	0.01	400	32	3	0.01
Pruning (and tying down)	16 500	20 800	1 664	173	0.71	21 000	1 680	173	0.71
Canopy/crop management	13 700	16 000	1 280	133	0.54	16 700	1 336	138	0.57
Other wages	15 300	19 000	1 520	158	0.65	18 700	1 496	154	0.64
ACC - employees	700	700	56	6	0.02	700	56	6	0.02
Total labour expenses	46 500	56 800	4 544	472	1.93	57 500	4 600	475	1.96
Total other working expenses									
Weed and pest control	7 300	9 600	768	80	0.33	9 200	736	76	0.31
Fertiliser and lime	2 500	1 500	120	12	0.05	1 500	120	12	0.05
Electricity	1 900	1 800	144	15	0.06	2 000	160	17	0.07
Vehicle	3 000	1 200	96	10	0.04	1 200	96	10	0.04
Fuel	5 000	4 200	336	35	0.14	4 300	344	35	0.15
Repairs & maintenance	5 600	7 600	608	63	0.26	6 300	504	52	0.21
General	1 100	1 300	104	11	0.04	1 400	112	12	0.05
Frost protection	1 500	800	64	7	0.03	1 800	144	15	0.06
Contract machinery work	2 700	1 100	88	9	0.04	1 200	96	10	0.04
Machine harvesting	10 000	9 000	720	75	0.31	9 000	720	74	0.31
Total other working expenses	40 600	38 100	3 048	317	1.30	37 900	3 032	313	1.29
Total overhead expenses									
Rates	3 800	3 900	312	32	0.13	3 900	312	32	0.13
Water rates	300	300	24	2	0.00	300	24	2	0.00
General insurance	3 600	3 600	290	30	0.12	3 700	299	31	0.13
Crop insurance	0	0	0	0	0.00	0	0	0	0.00
ACC - owners	1 600	1 600	128	13	0.05	1 800	144	15	0.06
Communication	1 300	900	72	7	0.03	900	72	7	0.03
Accountancy	2 400	2 400	192	20	0.08	2 500	200	21	0.09
Legal and consultancy	1 100	300	24	2	0.01	200	16	2	0.01
Levies and subscriptions	1 700	1 900	152	16	0.06	1 900	152	16	0.06
Other administration	900	800	64	7	0.03	800	64	7	0.03
Total overhead expenses	16 700	15 700	1256	131	0.53	16 300	1 304	135	0.55
Total vineyard working expenses	103 800	110 600	8848	920	3.77	111 700	8 936	922	3.80
Calculated ratios									
Economic vineyard surplus (EVS) ¹	6210	44 851	3 588	373	1.53	45 610	3 649	376	1.55
Vineyard working expenditure/NCI ²	60%	51%				50%			
EVS/Total vineyard assets	0.4%	2.8%				2.9%			
EVS less interest & lease/equity	-2.0%	1.4%				1.9%			
Interest+rent+lease/NCI	16.6%	13.2%				10.3%			
EVS/NCI	3.6%	20.7%				20.5%			
EBIT ³	54 900	91 800				92 600			
EBIT/Total Capital	3.5%	5.8%				5.8%			
EBIT/Total Equity	5.0%	7.9%				7.8%			

Notes

Figures may not add to totals due to rounding.

From 2013/14 some expense items have been reclassified and the addition of five new growers, three of these being winery growers, has impacted on the time series for some items. Caution should be taken when comparing individual expense items between 2012/13 and 2013/14, especially other wages, vehicle, repairs and maintenance, contract machinery work, rates, other admin and legal/consultancy.

1 EVS is calculated as follows: net cash income less vineyard working expenses less depreciation less wages of management (WOM). WOM is calculated as follows: \$31 000 allowance 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 taxation reflects vineyard profit before tax less interest payments.

MARLBOROUGH

GROWER MORALE AND BUSINESS VIABILITY PLANS

The 2013/14 season was the best financial result for the Marlborough model since 2008 and follows a good result in the 2012/13 season. The monitored group's morale was positive, with the majority noting they were reasonably optimistic about their businesses.

Grower's relationships with winery customers in the region were also reported as generally positive or improving. However, four of the 20 monitored contract grower respondents reported a negative relationship with their winery, quoting issues such as perceived lack of interest in the grower, late payment and unwillingness to change yield cap or price to meet levels offered by the competition. In recent years there has been some movement by growers to different wineries, particularly when contracts finished, and some monitored growers and industry commentators expect this to continue in 2014/15. For the first half of the season there were noticeable efforts by some wineries to source more fruit, which gave growers confidence to consider changing customer.

The monitored group indicated a number of changes that they planned to implement in the near future to improve business viability. Two growers are planting vines on significant new areas of their properties and another is replanting diseased vines. Three growers are looking at purchasing additional vineyards to increase their business size and consequently improve economies of scale. Others are changing winery customers or seeking a better deal with their existing customer.

In general growers mentioned that they did not feel they could reduce expenses without a negative impact on yield and vine health and are also expecting expenses to stay the same in 2014/15 as the previous year. This reflects the view by some of the monitored group that inputs in recent years were cut too far and at the expense of yield and quality. Some growers continue to mechanise labour operations such as stripping and pre-pruning as far as possible while others have gone back to hand stripping or cane pruning, citing quality issues negatively impacting on yield.

Around two-thirds of the monitored group were optimistic about the immediate future of the New Zealand wine industry. Of the other third, the group's main concern was the continuing expansion of the high volume, low margin market for Marlborough wine, which they are worried may erode the quality perception of the Marlborough brand. The growers see an increasingly split market with the potential risk of the premium end being reduced in favour of the commodity product. Others in the group noted the option to treat particular blocks for a specific quality end product as a positive.

The monitored growers noted that their relationships with banks were generally positive and had improved compared with the previous year.

GROWER RESPONSE TO INPUT PRICE CHANGES AND SHORTAGES

One-third of the monitored group responded that they had done nothing in particular to cope with increasing costs. Several other growers noted that they believed that scrimping on costs was actually counter-productive to achieving desirable yield and quality results. The remaining growers had reviewed spending and believe they have managed all input costs as much as possible. They had applied strategies such as tendering out major jobs like pruning and reduced any cosmetic practices such as mowing. There has been a further increase in mechanisation in the region, particularly with stripping and pre-pruning, and this year for the first time a commercial level of machine thinning occurred. Growers in Marlborough are

still polarised about mechanical stripping with some growers who tried it going back to manual stripping due to a perceived higher job quality achieved and others valuing the reduction in pruning costs achieved.

Most of the group reported that inputs were generally readily available except for the usual temporary shortage of harvesting machinery and trucks, exacerbated by the rush to get the crop in when the rains started. Those monitored growers planning new developments indicated a shortage of grape plants and posts in 2013/14, in some cases leading to delaying planting for a year. A nursery representative confirmed that new plant supply will be restricted for the next two years and vines need to be ordered well ahead of development.

Several growers commented on the importance of the Recognised Seasonal Employer (RSE) scheme in ensuring an adequate and reliable labour force and the benefits that this programme is bringing to the industry.

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

All growers in the monitored group are Sustainable Wine Growing members or Bio-Gro certified organic and report that they are supportive of responsible natural resource use and management. Eighteen growers in the monitored group already have well established areas of native plantings or wetland improvements on their properties and report that these continue to be maintained and extended. There is also a continued move by the majority of growers in Marlborough to reduce herbicide spray rounds by extending use of sheep grazing and more tolerance of an 'untidy look' in the vineyard.

This year two of the new growers in the monitored group are Bio-Gro certified organic with two others trialing small areas of organic growing to decide whether to seek organic certification in the future. Generally the growers in the monitored group are not intending to go organic with the majority believing it to be uneconomic at this stage. A few of the growers have used or would consider using some organic methods and products as part of sustainable production rather than going down the route of fully organic production.

The biggest environmental risk perceived by growers is an increase in existing pest and disease problems in the region and potential biosecurity breaches. Top of the existing pest and disease list is Grapevine Leafroll associated Virus-3, which is spread by mealy bug insects. Anecdotally this is increasing in Marlborough and several growers mentioned they would be including specific mealy bug sprays in their programme for the coming season to combat the mealy bugs. Of potential biosecurity breaches Pierces disease and Glassy Winged Sharpshooter were considered the most worrying. Other potential production risks that the monitored group identified are a bad frost year, climate change and availability of irrigation water.

GROWERS HOT TOPICS AND INDUSTRY FEEDBACK FROM MARLBOROUGH

The large national grape crop in 2014 is estimated at 445 000 tonnes compared with 345 000 tonnes the previous year and the monitored growers raised this as a potential issue for the industry to manage. Growers said that the extra 70 million litres of wine likely to be produced from the 2014 vintage was a one-off occurrence and unlikely to be repeated in the 2015 harvest. Industry opinion is that it would not cause the problems of the large crop in 2008 as there is not a large additional planted area coming on stream to exacerbate the situation as was the case back then. However, industry commentators expect that there would be substantial wine inventory going into vintage 2015.

New Zealand's high exchange rate continues to have a significant negative effect on exports but it was less reported as an issue by growers this year, indicating a potential increasing acceptance of the situation.

In addition to biosecurity, mealy bug with associated Grapevine Leafroll associated Virus-3 and water availability, water storage and management were noted by the survey growers and industry commentators

as the main issues facing grape growing. Brand image, exports of bulk versus branded wine and the risk of Sauvignon Blanc falling from fashion were also concerns around marketing Marlborough wine.

The conundrum of yield and its influence on quality, price and winery requirements was a key discussion point by surveyed growers and at the industry meeting. It was commented by both monitored growers and industry commentators that vineyard location and soil type has the biggest bearing as to what yield level can be produced without compromising quality, but yield caps are often set the same regardless of vineyard location. However winery capacity is finite and wineries may need to set caps to limit production accordingly. Caps are also likely to change with inventory levels and for individual winery requirements.

Earthquakes were noted as a potential threat to the industry after the 2013 Marlborough quakes caused damage to winery tanks and structures. Potential labour shortages in the future are also a concern with an industry now significantly reliant on imported labour through the RSE scheme. Growers believe that any reduction in the labour force from overseas would have a significant impact on Marlborough's wine industry. Industry commentators raised the issue of the aging profile of Marlborough vineyards and what happens when all the suitable land for vines is planted. They commented that the ramifications to the industry are not fully understood but it is something that will become more important to the Marlborough wine industry in the future.

HAWKE'S BAY

GROWER MORALE AND BUSINESS VIABILITY PLANS

The monitored growers have a more positive outlook after two profitable seasons in a row. Back to back vintages of excellent grape quality and quantity coupled with increasing demand driving improved prices have given growers' confidence that their prospects are improving. This positive tone is tempered with some caution from many recent years of poor financial performance exacerbated by poor growing seasons and concerns about wine oversupply. Hawke's Bay growers are concerned that this year's large Marlborough crop may produce another oversupply situation which could potentially drive prices down again in Hawke's Bay.

The monitored contract growers report that their relationships with wineries are generally positive. Twelve of the sixteen contract growers report excellent support and communication along with fair contract terms and good pricing. On the other hand, there is a feeling of distrust between a few growers and their wineries, with some growers expressing concern over winery future plans and contracts with restrictive growing parameters. The emergence of some new buyers in the region is giving growers more options for selling their harvest.

Growers in the monitored group discussed ways that they are seeking improved vine performance such as changing pruning systems, removing diseased vines and monitoring soil health. One grower has changed from organic to conventional management in the short term to address yield issues. A few growers are redeveloping unprofitable varieties or vacant land and planting small areas of Syrah, Merlot and Cabernet Sauvignon. The monitored growers report a continued need to keep tight control over expenses, and are seeking to direct any extra profit into debt reduction.

GROWER RESPONSE TO INPUT PRICE CHANGES AND SHORTAGES

The high New Zealand dollar has helped to restrict cost increases of imported inputs such as chemicals. Growers report shopping around for better deals and some are involved in a grower co-op bulk buying together, while others were tendering for supplies.

The rise in the minimum wage is likely to push up labour costs. This will likely be most felt in the area of canopy management where tasks such as wire lifting and leaf plucking are performed on an hourly rate. The

monitored growers are seeking to minimise this expense by employing directly or ensuring contract gangs are returning seasonal workers who have previous experience with this work. Employing skilled workers ensures that a quality job is done and is often cheaper than using unskilled workers who struggle to make the minimum wage on piece rates.

The 2013/14 season has seen a move toward using less bird netting. This is being done where crop loss to bird damage is negligible compared to price of netting.

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

As with the 2012/13 season, the monitored growers are most concerned about biosecurity risks and the importance of preventing any new pests or diseases from arriving in New Zealand.

The monitored grower's responses regarding natural resource and environmental management are similar to last year in that they feel strongly about respecting the environment and practicing sustainable use of natural resources. All monitored growers are members of Sustainable Winegrowing New Zealand. They note that lean vineyard operations contribute to a light environmental footprint. Four monitored growers are undertaking ongoing amenity planting programmes of native species, with one involved in a wetland project and ongoing lake-side protection programme. Managing the waste stream is topical as growers seek sustainable ways of disposing of broken posts, irreparable irrigation components and old bird netting.

Disease resistance, mealy bug control and the spread of Grapevine Leafroll associated Virus-3 are ongoing issues in the region. Growers report that they are confident that this season's problem with powdery mildew can be controlled with changes in spray timings and better spray calibrations, along with increased crop monitoring and cultural practices.

GROWERS HOT TOPICS AND INDUSTRY FEEDBACK FROM HAWKE'S BAY

Growers in Hawke's Bay report that succession, the future of contract grape supply and compliance costs are the hot topics of the season.

Some growers in the region have left the industry and vines have been removed after poor returns from a string of low paying seasons. Some industry commentators believe that the industry should be concerned whether the long term supply of contract grown grapes in Hawke's Bay is adequate for future demand. There is little private investment reported to be currently taking place in Hawke's Bay and the monitored growers perceive the industry as static.

The monitored growers noted that succession is on their minds as for the last six years there has been insufficient profitability in the Hawke's Bay viticulture industry to motivate the next generation to invest and carry on growing grapes.