PIPFRUIT

KEY RESULTS FROM MAF'S 2011 PIPFRUIT MONITORING PROGRAMME. Please note that several budget parameters have changed between 2009 and 2010. Caution should be taken when comparing this year's data to previous years. Refer to the budget table footnotes for more detail.

KEY POINTS

- Adverse climatic conditions, including hail damage in the Hawke's Bay and some tree removals, led to a reduction in export yields in 2010. Large Northern Hemisphere crops in the previous season, weaker consumer demand and a high New Zealand dollar impacted on export returns from the main markets. Asian markets performed well. The outcome for the Hawke's Bay model in 2010 was a small trading loss while the Nelson model experienced a second consecutive year of significant losses.
- Growers expect favourable climatic conditions to lift export volumes in 2011 by 17 percent and 9 percent for the Hawke's Bay and Nelson regions, respectively.
- Market conditions in 2011 are mixed. New Zealand Royal Gala and Fuji experienced greater competition this season in Asian markets. In contrast, demand is strong for the Pacific series of apple that is almost uniquely grown in New Zealand. Sales volumes into Europe are generally in line with expectations. The high value of the New Zealand dollar over recent months has caused growers and exporters to revise their expectations for 2011 with average export returns predicted to be lower than last year.
- The Hawke's Bay model anticipates a modest profit in 2011. For a third consecutive year, a net trading loss is expected for the Nelson model. As a result, grower morale in the Nelson region is very low.
- Growers in both regions are responding to the poor profitability outcomes by constraining expenditure, revising their business models and assessing options to improve business viability in the short to medium-term. Further rationalisation of the industry is likely.
- The pipfruit sector is optimistic about the potential for market expansion in Asia and Australia in the medium-term.

TABLE 1: KEY PARAMETERS, FINANCIAL RESULTS AND BUDGETS FOR THE PIPFRUIT ORCHARD MODELS

YEAR ENDED 31 DECEMBER	2007	2008	2009	2010	2011 BUDGET
HAWKE'S BAY MODEL					
Planted area (ha)	22	22	22	22	22
Total TCE[1]	63 279	56 070	68 135	62 260	65 520
Export TCE	43 671	35 485	49 990	38 200	44 680
Weighted average return ($/export TCE)[2]	19.63	24.55	21.60	22.00	21.25
Net cash income ($)	918 100	948 100	1 130 050	941 300	1 011 700
Orchard working expenses ($)	791 700	771 700	952 850	848 000	892 500
Orchard profit before tax ($)	32 800	80 900	78 700	–5 000	15 700
Orchard surplus for reinvestment ($)[3]	–5 600	31 600	31 700	–25 000	–4 900
NELSON MODEL[4]					
Planted area (ha)	27	27	27	27	27
Total TCE	91 500	75 500	80 500	73 160	78 105
Export TCE	64 900	55 500	58 850	54 730	59 515
Weighted average return ($/export TCE)[2]	18.89	24.82	18.60	21.10	20.65
Net cash income ($)	1 305 000	1 439 300	1 178 100	1 201 900	1 274 300
Orchard working expenses ($)	1 227 500	1 125 200	1 289 835	1 143 100	1 193 400
Orchard profit before tax ($)	–48 800	177 000	–261 635	–126 200	–54 100
Orchard surplus for reinvestment ($)[3]	–77 200	104 600	–263 735	–101 200	–59 100

Notes

Figures may not add to totals due to rounding.

The pipfruit orchard models are based on an owner-operator business structure.

1 Tray carton equivalent is a measure of apple and pear weight. A TCE is defined as 18.6 kg packed weight which equates to 18.0 kg sale weight.

2 Returns per export TCE are expressed at free alongside ship (FAS return). This is the value of the product at the ship's side net of commission, additional packaging costs and controlled atmosphere or SmartFresh™ costs.

3 Orchard surplus for reinvestment is the cash available from the orchard business, after meeting living costs, which is available for investment on the orchard or for principal repayments. It is calculated as orchard profit after tax plus depreciation less drawings.

4 Corrections were made retrospectively to some expenditure items in the 2009 Nelson model. Due to this revision, data for the 2009 year will not match the *Farm Monitoring Report 2010 - Horticulture Monitoring: Pipfruit.*

FINANCIAL PERFORMANCE OF THE HAWKE'S BAY PIPFRUIT ORCHARD MODEL IN 2010

The 2010 pipfruit crop in Hawke's Bay was destined to be smaller, given the large crop the previous season. This, combined with unfavourable weather conditions in spring and early summer including a widespread hail event at the end of October 2009 across the Heretaunga Plains, significantly reduced gross yields and export recovery rates.

Large Northern Hemisphere crops in the previous 2009 season, weaker consumer demand and a higher New Zealand dollar impacted on export returns from the main markets. Returns for Braeburn, Jazz™ and Pink Lady™ were impacted the most. Asian markets performed well. The net result in 2010 was a much poorer outcome than expected, with the model returning a net trading loss of $5000.

The Hawke's Bay pipfruit orchard model remained at 22 hectares, with 15 hectares owned and 7 hectares leased.

REVENUE DOWN

Income from pipfruit for the model was down 20 percent compared with 2009 to $892 800, due to the smaller export crop. Gross yields were down 9 percent and export yields were down 24 percent compared with the previous season. Many growers with hail insurance were compensated for their fruit losses, assisting overall income levels. Income from hail insurance is reported in the model as other orchard income.

ADVERSE CLIMATIC CONDITIONS REDUCE EXPORT YIELDS

Following the large 2009 crop, the 2010 pipfruit crop was further limited by a cold and wet October, which adversely affected flowering and fruit set, and the hailstorms that hit the region on 29 October 2009 causing widespread damage across the Heretaunga Plains. While many growers were able to thin the damaged fruit off the trees, some blocks were so badly damaged there was no option but to sell the crop for juice. Early flowering varieties, such as Braeburn and Jazz™ were affected the most.

The cold wet spring led to significant russet injury to sensitive varieties such as the Pacific series, Fuji and the new variety Envy™. Hail damage further lowered export recoveries of these varieties.

The mild summer temperatures and long periods of cloudy weather in January and February prevented fruit becoming conditioned to bright, sunny, warm temperatures so when the clear weather eventually arrived in March and April, sunburn injury caused significant fruit loss in later maturing varieties, including Fuji, Pink Lady™ and Braeburn.

Due to the wet spring and summer, wet weather fungus disease (particularly black spot) caused significant loss in some orchards where fungicide spray timing did not cover infection periods, or spray coverage was inadequate. The latter was made worse by excessive amounts of annual shoot growth caused by plentiful soil moisture and lack of any water or high temperature stress over the December to February period.

The mild, stress-free growing conditions over the summer favoured fruit size growth. Consequently fruit size by harvest was much better than would have been predicted from the cold spring, in particular for Royal Gala and Jazz™. However, the large fruit size was a problem for some varieties, notably Braeburn, where market demand is for medium-sized fruit.

A combination of russet, hail injury, excessively large fruit size and sunburn reduced the average export recovery rate (that is, the proportion of gross yield exported) across all varieties to 61 percent, lower than that of the frost affected crop of 2008, at 63 percent.

EXPORT RETURNS FAIL TO COMPENSATE FOR LOWER YIELDS

The average weighted return per export carton of $22.00 FAS (free alongside ship) was only marginally above that of the previous year at $21.60 and much less than growers had expected given the smaller export crop from New Zealand.

Asian markets performed well with price increases compensating for the higher New Zealand dollar. Export returns for Fuji and the Pacific series, which are mainly sold in markets in Asia, generally maintained levels achieved in 2009 (refer to Table 2).

The outcome from the mid to late-season European markets was disappointing for many growers, in particular as these markets are the main outlet for Braeburn, Jazz™ and Pink Lady™. The less than expected outcome, seen also in the Nelson model, was the result of:

- above-average Northern Hemisphere crops in 2009, leading to an overhang of fruit in the Southern Hemisphere selling season;
- weaker consumer demand in the main markets;
- a reduction in spot market opportunities for the Braeburn variety resulting in importers dropping prices early in the season, with additional adverse effects on fruit sold through retailer programmes; and
- the high value of the New Zealand dollar relative to the euro and UK pound.

EXPENDITURE INFLUENCED BY LOWER EXPORT CROP

Orchard working expenses for the model decreased 11 percent overall in 2010 to $848 000. This decrease was largely driven by the reduced crop volume but also attempts by growers to curb expenditure given a reduced export crop and lower than anticipated market returns. When orchard working expenses are expressed on a per export carton basis, the impact of the reduced crop was significant, increasing $3.14 per carton when compared with 2009 to $22.20 per export carton FAS.

When total orchard operating expenses are considered, which includes interest expenses, lease, depreciation and wages of management, these climbed to $26.12 per export carton FAS in 2010. This was up from $22.00 in 2009, demonstrating the huge impact the poor crop of 2010 had on the costs of production.

TABLE 2: HAWKE'S BAY PIPFRUIT ORCHARD MODEL FAS[1] EXPORT RETURNS

YEAR ENDED 31 DECEMBER	2007 ($/TCE[2])	2008 ($/TCE)	2009 ($/TCE)	2010 ($/TCE)	2011 BUDGET ($/TCE)
VARIETY					
Braeburn	15.15	25.25	16.00	17.15	18.00
Fuji	26.81	26.90	25.60	26.20	23.00
Granny Smith	17.52	21.40	20.80	22.45	21.00
Jazz™	30.26	30.30	21.65	21.85	19.50
Pacific Beauty™	21.30	24.35	33.00	27.30	26.00
Pacific Queen™	22.89	27.00	35.80	30.75	31.00
Pacific Rose™	21.24	24.10	29.70	28.45	30.20
Pink Lady™	26.31	29.50	24.00	22.45	21.00
Royal Gala	19.71	22.25	20.80	22.00	20.00
Weighted average	**19.63**	**24.55**	**21.60**	**22.00**	**21.25**

Notes
1 Free alongside ship.
2 Tray carton equivalent.

Harvesting expenses increased from $2.10 to $2.14 per gross carton, as growers invested time in the orchard to minimize non-export grade fruit being submitted to the packhouse.

Thinning costs increased 18 percent to $2545 per hectare; growers waited until after Christmas to see the impact of the hail before thinning off the crop.

Expenditure on weed and pest control increased 13 percent to $2855 per hectare as some growers moved towards greater use of growth regulators and the wet spring in 2010 meant intense disease management was required.

The decrease in pollination expenditure is attributed to some growers developing their own bee-keeping facilities for pollination.

Expenditure on fertiliser was scaled back significantly (by 44 percent) to $95 per hectare. The main reasons were fewer new plantings, which require higher fertiliser inputs than mature trees, and growers maintaining a tight rein on inputs in response to the impact of hail damage on profitability. The latter is also the main reason for the drop in expenditure on repairs and maintenance by 23 percent to $15 800 for the orchard model.

Hail insurance premium expenditure increased 40 percent to $14 400 for the orchard model. In response to the October 2009 hail event, many growers in Hawke's Bay increased their orchard areas covered by hail insurance.

NET RESULT BELOW EXPECTATIONS

A combination of lower export yields and below average returns for some varieties resulted in a cash operating surplus for the model down to almost half that of the previous year at $93 300. Many growers in Hawke's Bay made a loss in 2010. The model shows a small trading loss of $5000, the first trading loss since 2005.

Orchard redevelopment expenditure in the model has fallen significantly. With increasing debt, growers are wary of eroding their equity levels further. To save money, many growers who did undertake redevelopment work in 2010 opted to graft over existing varieties, rather than plant new trees.

The poor financial outcome meant that new borrowings and off-orchard income were required to cover capital purchases, development work and some living expenses. Growers also cut back on living expenses.

Increasing debt has reduced the equity level of the orchard model to 64 percent, down from an average 70 percent in recent years. The value of land and buildings has remained stable.

BUDGET FINANCIAL PERFORMANCE OF THE HAWKE'S BAY PIPFRUIT ORCHARD MODEL IN 2011

In 2011, export production is expected to return to typical levels for most apple varieties.

While the 2011 export crop in Hawke's Bay is well up on 2010, it is not as big as the pre-harvest estimate due to smaller fruit size and a significant proportion of fruit sent to juicing.

When interviewed in May 2011, growers were not optimistic about expected market returns because of mixed market conditions and the high value of the New Zealand dollar. Since then, the relative value of the New Zealand dollar has continued to increase against the currencies of our main trading partners, reaching all-time highs against the US dollar.

In 2011, the model is anticipating a modest net trading profit before tax of $15 700, up from a loss of $5000 in the previous year. This improvement is driven by the larger export crop as average export returns are expected to be less than those achieved last year.

HIGH YIELDS TO COMPENSATE FOR EXPECTED DROP IN PRICES

A significant lift in export yield to 44 680 cartons, up 17 percent on 2010, is expected for

the Hawke's Bay orchard model in 2011. This increase in yield is the result of the absence of any damaging spring frosts in spring 2010 and an "on" crop for those varieties that exhibit a biennial bearing pattern such as Braeburn and the Pacific series.

Small changes are planned in the variety mix with a reduction in the planted area of Braeburn and increases in the planted areas of Fuji and Pacific Queen™.

CLIMATIC CONDITIONS FAVOURABLE

Temperatures in September 2010 were above average, resulting in good bud-break. Cool weather conditions in October and November delayed flowering and reduced fruit size. Some heavier soils were still waterlogged from winter during the critical fruit set period, which caused fruit drop and also reduced fruit size later in the season (Refer to Table 3 for monthly rainfall and growing degree day information).

The La Nina climate was apparent throughout mid to late-summer and into autumn with December, January and February having above-average growing degree days (GDD) and significant rainfall events in January, March and April 2011. This wet weather increased the incidence of black spot disease and adversely affected the fruit quality of later harvested varieties, with increased fruit cracking and lower dry matter levels. Dull cloudy weather plus heavy crop loads delayed maturity and colour development in some varieties. Several small hail storms occurred in late spring on the Heretaunga Plains with another in April 2011. No significant damage was caused by these hail events.

Based on information on likely market demand for the Braeburn variety in 2011, and considering poor export returns in recent years, several growers in Hawke's Bay took up the 16 cents per kilogram price offered by juice processors. This, combined with seasonal factors, explains the low export recovery of 52 percent for the Braeburn variety.

The average export recovery rate across all varieties is estimated at 68 percent for 2011. This is significantly higher than the export recovery rate of 61 percent achieved in 2010, but 5 percent lower than the large crop of 2009.

GROWERS REALISTIC ABOUT MARKET RETURNS

To date, market conditions for the 2011 season and for the variety mix grown in Hawke's Bay are mixed.

Asian markets became more competitive in 2011 with large volumes of stored Washington State fruit competing with fruit from New Zealand in the early part of the season. South America and South Africa are also targeting greater volumes to Asian markets than previously. Increasing competition from other suppliers is making it more difficult for New Zealand exporters to achieve average to above average prices for varieties such as Royal Gala and Fuji. It is expected that demand for New Zealand fruit in Asian markets will lift later in the season as in-market stocks clear.

In contrast, demand in Asian markets for the Pacific series of apple is strong with demand exceeding supply. Increased prices are expected to compensate for the higher exchange rate with export returns expected to closely match those received in 2010. The Pacific series are almost uniquely grown in New Zealand.

Despite little overhang of fruit from the Northern Hemisphere 2010 season, sales volumes of overseas Royal Gala in European markets to date are less than last year. Export volumes of Southern Hemisphere Pink Lady™/ Cripps Pink to Europe are up 20 to 30 percent compared with recent years.

New Zealand growers and exporters are working to better co-ordinate market supply with demand for the Braeburn variety in 2011, with overall export volumes from New Zealand likely to be similar to or slightly less than last year.

The combination of challenging market conditions for some varieties and the very high level of the New Zealand dollar relative to the US dollar, euro and UK pound, has caused growers and exporters to revise their expectations for the 2011 season. The outcome is a weighted average export return per carton of $21.25 FAS, below that achieved over the past two years.

LARGE CROP GENERATES EFFICIENCIES

Orchard working expenses are expected to increase 5 percent overall, largely due to the increase in crop volume.

Labour costs on a gross carton basis are budgeted to be lower than in 2010 at $4.29 per gross carton due to the economies that eventuate with a larger crop, a greater proportion of lower cost juice picking, and an assumption of a return to average crop thinning requirements in December 2011. Labour costs per export carton are budgeted to reduce to $6.29 per carton from $7.28 due to the factors listed above and the higher export recovery rate expected in 2011.

A drier spring is forecast in 2011 as La Nina weakens. Hence expenditure on weed and pest control is budgeted to drop $60 per hectare to $2795 per hectare.

NET RESULT

The cash operating surplus for the model is budgeted to increase 28 percent to $119 200 in 2011. Interest payments are higher because of higher debt levels. Opening debt levels for the model are budgeted to increase by $50 000 to $695 000 on 1 January 2011. This reflects the need by some growers to take on new debt to fund losses incurred in 2010 due to hail damage and lower market returns for some varieties.

Lease expenses are expected to remain stable at $3000 per hectare leased. Commercial lease rates for pipfruit orchards in Hawke's Bay range from $3000 to $4000 per hectare. The lease rate for the model is at the lower end of the scale as some growers have family lease arrangements.

The model is anticipating a modest trading profit before tax of $15 700, an improvement on the loss situation in the previous year of $5000. Growers will be hoping that market returns will at least meet their cautious expectations.

Few growers are budgeting for any new capital purchases. Capital purchases are likely to be limited to necessities such as the installation of water meters now required on water takes over five litres per second.

The model is budgeting $15 000 for development work. Most monitored growers are planning some level of redevelopment during winter 2011, but this will be much lower than in recent years and likely to involve grafting over of existing varieties rather than planting new trees. Given the strong demand from Asian markets in recent years, Pacific Queen™ is likely to be the chosen variety for many.

Off-orchard income from wages and from other crops such as summerfruit is being relied upon to fund capital purchases and development work and top up living expenses.

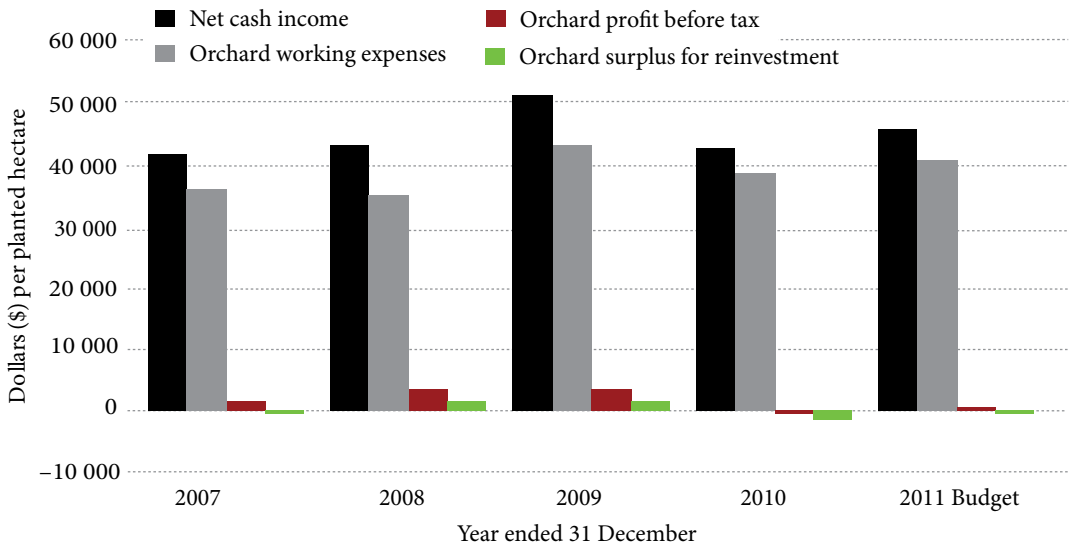
TABLE 3: HAWKE'S BAY WEATHER DATA

MONTH	RAINFALL (MM)			GROWING DEGREE DAYS[1] (GDD)		
	2009/10	2010/11	LONG-TERM AVERAGE	2009/10	2010/11	LONG-TERM AVERAGE
June	143	125	69	11	23	20
July	86	96	103	5	7	14
August	49	83	56	40	38	20
September	88	51	52	43	89	47
October	118	83	51	56	76	102
November	15	12	49	138	138	146
December	77	26	45	187	260	216
January	147	165	45	224	262	250
February	24	9	54	238	267	227
March	13	111	64	205	194	197
April	24	178	66	113	98	118
May	198	52	61	70	94	54
Total	**982**	**991**	**715**	**1 330**	**1 546**	**1 411**

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

Source
NIWA (Whakatu).

FIGURE 1: HAWKE'S BAY PIPFRUIT ORCHARD MODEL PROFITABILITY TRENDS



Note
Orchard surplus for reinvestment is the cash available from the orchard business, after meeting living costs, which is available for investment on the orchard or for principal repayments. It is calculated as orchard profit after tax plus depreciation less drawings.

TABLE 4: HAWKE'S BAY PIPFRUIT ORCHARD MODEL BUDGET

	2009	2010				2011 BUDGET			
	WHOLE ORCHARD ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[1] GROSS ($)	PER TCE EXPORT ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[1] GROSS ($)	PER TCE EXPORT ($)
REVENUE									
Pipfruit income	1 112 550	892 800	40 582	14.34	23.37	997 700	45 350	15.23	22.33
Other orchard income	17 500	48 500	2 205	0.78	1.27	14 000	636	0.21	0.31
Net cash income	**1 130 050**	**941 300**	**42 786**	**15.12**	**24.64**	**1 011 700**	**45 986**	**15.44**	**22.64**
Orchard working expenses	**952 850**	**848 000**	**38 545**	**13.62**	**22.20**	**892 500**	**40 568**	**13.62**	**19.98**
Cash operating surplus	**177 200**	**93 300**	**4 241**	**1.50**	**2.44**	**119 200**	**5 418**	**1.82**	**2.67**
Interest	50 000	50 000	2 273	0.80	1.31	55 000	2 500	0.84	1.23
Rent and/or leases	21 000	21 000	955	0.34	0.55	21 000	955	0.32	0.47
Depreciation	27 500	30 000	1 364	0.48	0.79	28 500	1 295	0.43	0.64
Net non-fruit cash income	0	2 700	123	0.04	0.07	1 000	45	0.02	0.02
Orchard profit before tax	**78 700**	**–5 000**	**–227**	**-0.08**	**–0.13**	**15 700**	**714**	**0.24**	**0.35**
Tax	15 000	0	0	0.00	0.00	1 600	73	0.02	0.04
Orchard profit after tax	**63 700**	**–5 000**	**–227**	**-0.08**	**–0.13**	**14 100**	**641**	**0.22**	**0.32**
ALLOCATION OF FUNDS									
Add back depreciation	27 500	30 000	1 364	0.48	0.79	28 500	1 295	0.43	0.64
Drawings / living expenses	59 500	50 000	2 273	0.80	1.31	47 500	2 159	0.72	1.06
Orchard surplus for reinvestment[2]	**31 700**	**–25 000**	**–1 136**	**–0.40**	**–0.65**	**-4 900**	**–223**	**–0.07**	**–0.11**
REVINVESTMENT									
Net capital purchases	33 000	22 000	1 000	0.35	0.58	8 000	364	0.12	0.18
Development	38 500	8 300	377	0.13	0.22	15 000	682	0.23	0.34
Principal repayments	0	0	0	0.00	0.00	0	0	0.00	0.00
Orchard cash surplus/deficit	**–39 800**	**–55 300**	**–2 514**	**–0.89**	**–1.45**	**–27 900**	**–1 268**	**–0.43**	**–0.62**
OTHER CASH SOURCES									
Off-orchard cash income	19 400	30 500	1 386	0.49	0.80	30 000	1 364	0.46	0.67
New borrowings	45 000	35 000	1 591	0.56	0.92	0	0	0.00	0.00
Introduced funds	0	0	0	0.00	0.00	0	0	0.00	0.00
Net cash position	**24 600**	**10 200**	**464**	**0.16**	**0.27**	**2 100**	**95**	**0.03**	**0.05**
ASSETS AND LIABILITIES[3]									
Land and building (opening)	1 650 000	1 650 000	110 000	26.50	43.20	1 650 000	110 000	25.18	36.93
Plant and machinery (opening)	100 000	120 000	8 000	1.93	3.14	120 000	8 000	1.83	2.69
Orchard related investments (opening)	0	0	0	0.00	0.00	0	0	0.00	0.00
Total orchard assets (opening)	**1 750 000**	**1 770 000**	**118 000**	**28.43**	**46.34**	**1 770 000**	**118 000**	**27.01**	**39.62**
Total liabilities (opening)	600 000	645 000	43 000	10.60	16.89	695 000	46 333	10.61	15.56
Total equity	**1 150 000**	**1 125 000**	**75 000**	**18.07**	**29.45**	**1 075 000**	**71 667**	**16.41**	**24.06**

Notes

Figures may not add to totals due to rounding.

1 Tray carton equivalent.

2 Orchard surplus for reinvestment is the cash available from the orchard business, after meeting living costs, which is available for investment on the orchard or for principal repayments. It is calculated as orchard profit after tax plus depreciation less drawings.

3 Land and building asset value includes the value of owned land, trees and supports, other improvements, orchard buildings and dwellings on the property. Asset and liability values per planted hectare are based on owned planted area of 15 hectares; not owned and leased planted area of 22 hectares.

Please note that several budget parameters have changed between 2009 and 2010. These changes have been made to better reflect the financial position of the orchard. New and adjusted definitions include orchard surplus for reinvestment, orchard cash surplus/deficit and net cash position. Caution should be taken when comparing this year's data to previous years.

TABLE 5: HAWKE'S BAY PIPFRUIT ORCHARD MODEL EXPENDITURE

	2009	2010				2011 BUDGET			
	WHOLE ORCHARD ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[1] GROSS ($)	PER TCE EXPORT ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[1] GROSS ($)	PER TCE EXPORT ($)
ORCHARD WORKING EXPENSES									
Hand harvesting	143 080	133 240	6 056	2.14	3.49	137 600	6 255	2.10	3.08
Pruning	39 700	40 500	1 841	0.65	1.06	40 500	1 841	0.62	0.91
Thinning	47 600	56 000	2 545	0.90	1.47	52 000	2 364	0.79	1.16
Other wages	42 000	44 200	2 009	0.71	1.16	47 000	2 136	0.72	1.05
ACC - employees	2 530	3 960	180	0.06	0.10	4 000	182	0.06	0.09
Total labour expenses	**274 910**	**277 900**	**12 632**	**4.46**	**7.28**	**281 100**	**12 777**	**4.29**	**6.29**
Packing	209 966	175 325	7 969	2.82	4.59	181 400	8 245	2.77	4.06
Packaging	197 468	144 000	6 545	2.31	3.77	168 000	7 636	2.56	3.76
Cool storage	92 485	68 375	3 108	1.10	1.79	80 400	3 655	1.23	1.80
Freight	13 627	13 700	623	0.22	0.36	14 400	655	0.22	0.32
Total post harvest expenses	**513 540**	**401 400**	**18 245**	**6.45**	**10.51**	**444 200**	**20 191**	**6.78**	**9.94**
Weed and pest control	55 400	62 800	2 855	1.01	1.64	61 500	2 795	0.94	1.38
Pollination	1 350	1 200	55	0.02	0.03	1 200	55	0.02	0.03
Fertiliser and lime	3 750	2 100	95	0.03	0.05	1 900	86	0.03	0.04
Electricity	3 500	3 200	145	0.05	0.08	3 200	145	0.05	0.07
Vehicle	11 600	12 600	573	0.20	0.33	11 600	527	0.18	0.26
Fuel	11 400	12 300	559	0.20	0.32	12 400	564	0.19	0.28
Repairs and maintenance	20 600	15 800	718	0.25	0.41	16 000	727	0.24	0.36
General	7 850	7 900	359	0.13	0.21	8 000	364	0.12	0.18
Frost protection	900	0	0	0.00	0.00	0	0	0.00	0.00
Contract machine work	1 250	1 600	73	0.03	0.04	1 700	77	0.03	0.04
Total other working expenses	**117 600**	**119 500**	**5 432**	**1.92**	**3.13**	**117 500**	**5 341**	**1.79**	**2.63**
Rates	5 200	5 300	241	0.09	0.14	5 400	245	0.08	0.12
Water rates	0	0	0	0.00	0.00	0	0	0.00	0.00
General insurance	4 200	4 700	214	0.08	0.12	4 800	218	0.07	0.11
Crop insurance	10 300	14 400	655	0.23	0.38	14 400	655	0.22	0.32
ACC - owners	2 900	2 750	125	0.04	0.07	2 200	100	0.03	0.05
Communication	2 700	2 800	127	0.04	0.07	2 800	127	0.04	0.06
Accounting	3 150	3 800	173	0.06	0.10	3 300	150	0.05	0.07
Legal and consultancy	2 850	3 250	148	0.05	0.09	3 000	136	0.05	0.07
Levies and subscriptions	12 000	9 500	432	0.15	0.25	11 200	509	0.17	0.25
Other administration	3 500	2 700	123	0.04	0.07	2 600	118	0.04	0.06
Total overhead expenses	**46 800**	**49 200**	**2 236**	**0.79**	**1.29**	**49 700**	**2 259**	**0.76**	**1.11**
Total orchard working expenses	**952 850**	**848 000**	**38 545**	**13.62**	**22.20**	**892 500**	**40 568**	**13.62**	**19.98**
CALCULATED RATIOS									
Economic orchard surplus (EOS)[2]	101 190	14 600	664	0.23	0.38	42 000	1 909	0.64	0.94
Orchard working expenses/NCI[3]	84%	90%				88%			
EOS/total orchard assets	5.8%	0.8%				2.4%			
EOS less interest and lease/equity	2.6%	–5.0%				–3.2%			
Interest+rent+lease/NCI	6.3%	7.5%				7.5%			
EOS/NCI	9.0%	1.6%				4.2%			
Wages of management	48 500	48 700	2 214	0.78	1.27	48 700	2 214	0.74	1.09

Notes

Figures may not add to totals due to rounding.

1 Tray carton equivalent.

2 EOS is calculated as follows: net cash income less orchard 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 orchard assets to a maximum of $75 000.

3 Net cash income.

TABLE 6: HAWKE'S BAY PIPFRUIT ORCHARD MODEL PRODUCTION AND INCOME DETAILS FOR 2010

YEAR ENDED 31 DECEMBER VARIETY	AREA (HA)	GROSS YIELD (TCE[1])	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN ($/TCE)	NON-EXPORT RETURN ($/TCE)	REVENUE ($)
Braeburn	4.4	16 820	57	9 280	17.15	1.25	167 900
Fuji	3.3	9 090	56	5 090	26.20	0.90	137 000
Granny Smith	0.9	2 755	58	1 600	22.45	2.30	38 500
Jazz™	2.2	3 860	74	2 860	21.85	1.95	64 400
Pacific Beauty™	0.7	1 155	57	660	27.30	3.60	19 700
Pacific Queen™	1.3	2 475	42	1 040	30.75	9.50	45 600
Pacific Rose™	1.3	3 015	51	1 540	28.45	5.10	51 300
Pink Lady™	1.3	3 100	57	1 765	22.45	1.30	41 400
Royal Gala	6.6	20 525	70	14 370	22.00	1.75	327 000
Total/average	**22.0**	**62 260**	**61**	**38 200**	**22.00**	**2.18**	**892 800**

Notes
Figures may not add to totals due to rounding.
1 Tray carton equivalent.

TABLE 7: HAWKE'S BAY PIPFRUIT ORCHARD MODEL BUDGET PRODUCTION AND INCOME DETAILS FOR 2011

YEAR ENDED 31 DECEMBER VARIETY	AREA (HA)	GROSS YIELD (TCE[1])	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN ($/TCE)	NON-EXPORT RETURN ($/TCE)	REVENUE ($)
Braeburn	4.0	16 890	52	8 780	18.00	2.50	178 400
Fuji	3.5	9 645	68	6 560	23.00	0.80	153 300
Granny Smith	0.9	3 135	60	1 880	21.00	3.00	43 200
Jazz™	2.2	4 190	83	3 480	19.50	0.45	68 200
Pacific Beauty™	0.7	1 625	72	1 170	26.00	5.40	32 900
Pacific Queen™	1.5	2 450	75	1 835	31.00	2.85	58 700
Pacific Rose™	1.3	3 800	61	2 325	30.20	5.65	78 500
Pink Lady™	1.3	3 750	70	2 625	21.00	0.65	55 800
Royal Gala	6.6	20 030	80	16 025	20.00	2.05	328 700
Total/average	**22.0**	**65 520**	**68**	**44 680**	**21.25**	**2.32**	**997 700**

Notes
Figures may not add to totals due to rounding.
1 Tray carton equivalent.

FINANCIAL PERFORMANCE OF THE NELSON PIPFRUIT ORCHARD MODEL IN 2010

The Nelson pipfruit model experienced a loss before tax in 2010 of $126 200. Although this was a significant negative financial result, this outcome was an improvement on the previous year. This result reflected an improvement in export returns for most varieties compared with the previous year but with a drop in both gross and export production. The returns for the recently planted varieties Jazz™ and Tentation™ were less than that required to compensate for the lower productivity levels of these varieties and young orchards.

The planted area for the Nelson pipfruit model remained stable at 27 hectares in 2010 with 22 hectares owned and 5 hectares leased. There were some changes in the variety mix; Braeburn dropped from 28 to 24 percent and Royal Gala dropped from 22 to 21 percent of the orchard model planted area. Growers in the Nelson region have relinquished lease blocks and pulled out trees from lower producing orchard blocks of these varieties. Jazz™ has risen slightly to 20 percent of the orchard model planted area.

REVENUE IMPACTED BY LOWER YIELDS AND INADEQUATE RETURNS

Overall gross yield on the Nelson orchard model dropped 9 percent and export yield fell 7 percent compared with the previous season. This outcome was due to changes in the variety mix, in particular a reduction in the planted area of traditionally high-cropping Braeburn, lower yields for Braeburn and lower export recovery rates for pears.

Production per hectare for Royal Gala, Jazz™ and Cox increased as growers backed off hand thinning once the impact of the hail storms that affected Hawke's Bay orchards was known. Some growers thought fruit might be in short supply and therefore were less focused on fruit size and more focused on maximizing quantity.

Braeburn yields were reduced by early spring frosts whilst an "off" year in the biennial bearing pattern of the pear Doyenne du Comice reduced yields of this variety.

Production from Jazz™ and Pink Lady™ varieties increased reflecting the large number of young trees that continue to increase yields as they mature.

EXPORT RECOVERIES AFFECTED BY WIND DAMAGE AND SUNBURN

The average export recovery rate (that is, the proportion of gross yield exported) across all varieties in 2010 reached 75 percent, up from 73 percent last year.

The cooler wetter spring of 2009 increased disease pressure in the 2010 crop and there were several major outbreaks of black spot that had not been seen in Nelson for some time. Windy conditions reduced the export recovery rate of the later varieties, especially for exposed orchards on the Waimea Plains.

Later picks of Braeburn suffered sunburn damage because of the dry summer, and some blocks were affected by black spot infection. Royal Gala had an export recovery rate of 82 percent, experiencing some wind damage in the more exposed sites and also sunburn due to fruit not being thinned hard enough earlier in the season; in essence, as one fruit is picked it exposes the other fruit around it to sunburn.

Cox benefited from a lack of russet with an export recovery rate of 70 percent, up from 66 percent in the previous year.

The low market returns for pears in previous years have forced some growers to abandon the export markets and target local market sales. This helps to explain the decline in the export recovery rate for pears in the model in 2010.

PREMIUMS FOR NEW VARIETIES NOT ACHIEVED

The average weighted return per export carton for the Nelson model in 2010 was $21.10 FAS (free alongside ship) a significant improvement on the 2009 outcome of $18.60, but less than growers had hoped for given the smaller export crop from New Zealand.

The outcome from the mid to late-season European markets was disappointing for many growers, in particular as these markets are the main outlet for Braeburn, Jazz™ and Pink Lady™. These three varieties account for over half of the export production in the Nelson model. The less than expected outcome, seen also in the Hawke's Bay model, was the result of:

- above-average Northern Hemisphere crops in 2009, leading to an overhang of fruit in the Southern Hemisphere selling season;
- weaker consumer demand in the main markets;
- a reduction in spot market opportunities for the Braeburn variety resulting in importers dropping prices early in the season, with additional adverse effects on fruit sold through retailer programmes; and
- the high value of the New Zealand dollar relative to the euro and UK pound.

Jazz™ failed to deliver the premium returns that growers needed to recoup the sizeable investment in orchard development and crop management. Jazz™ averaged $21.25 per export carton FAS, a slight improvement on the previous year but assisted by the marketer ENZA International putting one dollar back into the grower return. Growers have concerns about how long it will take to recover the price premiums for this variety as many lack the financial resources to sustain an extended period of low returns.

EFFORTS CONTINUED TO IDENTIFY AND TRIM DISCRETIONARY EXPENDITURE

Orchard working expenses fell 11 percent overall on 2009 to $1.14 million or $20.89 per export carton FAS, due to a drop in both gross and export yield and efforts by growers to curb expenditure in response to reduced income from pipfruit.

Post-harvest costs fell to $9.24 per export carton from $9.72 last year. Growers sought out more competitive rates but also tried to minimize the amount of non-export grade fruit in each bin sent to the packhouse as a way of reducing post-harvest expenses.

Fertiliser and lime expenditure was down 32 percent to $389 per planted hectare as growers deferred lime applications and moved to maintenance fertiliser programmes for older trees. Less new plantings were also an influence.

TABLE 8: NELSON PIPFRUIT ORCHARD MODEL FAS[1] EXPORT RETURNS

YEAR ENDED 31 DECEMBER	2007 ($/TCE[2])	2008 ($/TCE)	2009 ($/TCE)	2010 ($/TCE)	2011 BUDGET ($/TCE)
VARIETY					
Braeburn	16.90	24.00	16.20	18.70	19.00
Royal Gala	18.65	22.60	19.50	21.30	20.00
Jazz™	27.44	30.30	21.50	21.25	19.50
Pink Lady™[3]	–	–	–	22.15	22.00
Fuji[3]	–	–	–	22.30	22.65
Cox Orange	23.33	21.60	23.00	22.85	23.15
Other apples	23.60	27.30	17.60	24.40	25.95
Pears	29.58	29.60	23.40	30.80	28.95
Weighted average	**18.89**	**24.82**	**18.60**	**21.10**	**20.65**

Notes
1 Free alongside ship.
2 Tray carton equivalent.
3 Included with "Other apples" in previous years.

Water rates were a new expense in the model in 2010 as some growers are now sourcing water via a water scheme, in addition to or rather than directly from bores into aquifers.

Poor financial outcomes in recent years have led to growers limiting expenditure to essential tasks or urgent work. This is reflected in the model by the reduction in expenditure on repairs and maintenance and on other administration work to half of the amount spent in the previous year.

NET RESULT INSUFFICIENT TO SUSTAIN ORCHARD

The model returned a cash operating surplus of $58 800, a significant improvement on the deficit of over $100 000 last year. Making allowance for interest, lease and depreciation costs, this resulted in an orchard loss of $126 200, a second consecutive year of losses for the model. The sale of some orchard equipment in 2010 was the main reason for the sharp rise in depreciation levels.

The model took on additional debt in the form of term debt and overdraft facilities, following the poor financial outcome in 2009. Because of this, total debt servicing expenses increased significantly in 2010 to $100 000.

Growers in the Nelson region are offsetting orchard losses through the sale of assets such as houses on orchards, land for sub-division or cash injections from other businesses and investments. This trend is reflected in the model through the injection of $250 000 as introduced funds. The model also had off-orchard income of $39 400 from other sources such as kiwifruit and investments in packhouse and post-harvest facilities.

Drawings/living expenses were cut from $38 000 in 2009 to $30 000 in 2010 given the recent scale of business loss and tight cashflow management required by banks.

Development expenditure has averaged around $80 000 per annum for the model in recent years. However, in 2010, expenditure on development fell to $20 000 as growers lacked investment funds and the confidence to continue their investment in new varieties.

Monitored growers commented that land values have remained stable; however, the values of some varieties have been reappraised downwards. Hence the value of land and buildings in the model has declined since 2009 from $114 000 to $111 000 per planted hectare owned.

BUDGET FINANCIAL PERFORMANCE OF THE NELSON PIPFRUIT ORCHARD MODEL IN 2011

The Nelson pipfruit model is budgeted to achieve an orchard loss before tax of $54 100 in 2011, an improvement on the previous year but not the outcome required by industry. Whilst both gross and export production are expected to improve on last season, growers are not expecting any improvement in average export returns given the very high value of the New Zealand dollar against the three most significant trading currencies; the euro, US dollar and UK pound.

Given the poor financial outcomes of recent years, the majority of growers monitored have stalled orchard redevelopment plans. The focus now is on trying to get the best return possible from the trees already planted.

REVENUE EXPECTED TO REMAIN STATIC

Net cash income for the model is expected to reach $1.27 million in 2011, a similar level to last year. Gross and export production are anticipated to increase by 7 and 9 percent, respectively. However, the gains in production are expected to be offset by lower market returns.

YIELDS UP GIVEN FAVOURABLE CLIMATE AND YOUNGER TREES MATURING

Climatic conditions were generally favourable during the 2010/11 production and harvest season. Dry conditions in October and November 2010 meant a lower incidence of black spot disease.

Braeburn production per hectare is expected to increase 6 percent on 2010. Royal Gala yields are estimated to be on a par with 2010 levels, assisted by less hand thinning as growers crop manage for the Asian market where the preference is for smaller fruit size.

Production of Jazz™ and Pink Lady™ are predicted to increase reflecting the large number of young trees that continue to increase yields as they mature. A yield increase of 19 percent per hectare is estimated for Jazz™.

Cox production was impacted by the warmer weather, preferring cooler growing conditions.

GOOD EXPORT RECOVERY RATES EXPECTED FOR APPLES

The average export recovery rate across all varieties is estimated at 76 percent for 2011, a slight improvement on last year at 75 percent.

The export recovery rate expected for Braeburn at 73 percent is influenced by a greater proportion of this variety being sent for juicing in a bid to better match export production with demand. The incidence of sunburn damage at harvest was also higher than anticipated.

Favourable climatic conditions delivered good colour development for Royal Gala, Fuji, Pink Lady™ and Jazz™, helping to lift expected export recovery rates for these varieties.

The warmer, drier season was not conducive for russet development in pear varieties that require it, including Beurre Bosc and Taylors Gold. Hence export recovery rates for these varieties are expected to be low in 2011.

MARKET RETURNS

The combination of challenging market conditions for some varieties and the very high level of the New Zealand dollar relative to the US dollar, euro and UK pound, has caused growers and exporters to revise their expectations for the 2011 season. The outcome is a weighted average export return per carton of $20.65 FAS, 45 cents per carton below that achieved in 2010.

The budgeted export return of $19.50 per export carton FAS for Jazz™ will mean a third consecutive year of inadequate returns. Such an outcome will continue to place financial hardship on those growers that diversified into planting intensive orchards in this variety.

Export returns of around $23.00 per export carton FAS for Cox is bordering on being sustainable given that this is generally a low yielding variety. However, Cox is a niche variety and growers are likely to retain it in the short term, mainly because of a lack of a suitable replacement.

With a smaller export pear crop from New Zealand in 2011, growers are hoping that export returns for the main pear varieties, Doyenne Du Comice and Taylors Gold will be similar to or only slightly less than those achieved in 2010.

GROWERS WORK HARD TO CONSTRAIN EXPENDITURE

Given the poor financial outcome from the previous two seasons, and less than sustainable market returns expected for 2011, growers are budgeting to constrain expenditure where possible in 2011. Many growers are reducing expenditure on labour by reducing the number of permanent staff and employing workers on a contract basis instead. The larger crop is expected to generate cost efficiencies and reduce orchard working expenses to $20.05 per export carton FAS, down from $20.89 in 2010.

NET RESULT

Most monitored orchards, depending on their variety mix, are expecting their cash operating surplus to remain static or improve in 2011, driven by an increase in production. A cash operating surplus of $80 900 is budgeted, up from $58 800 last year. This surplus is only sufficient to cover debt servicing expenses, resulting in a net trading loss of $54 100, a third

consecutive year of losses for this model.

The model shows interest expenses dropping from $100 000 to $80 000 as the model benefits from the injection of $250 000 of introduced funds in 2010 to reduce a sizable overdraft facility. Interest rates are budgeted to reduce slightly in 2011.

Growers hope that increased yields from maturing new plantings, and moves to secure more profitable methods for fruit sales, will help sustain their businesses. Some growers, under increasing financial pressure from previous years, are looking at a range of options to improve business viability in the short-term at least. These include:

- cropping for juice only, hence reducing permanent labour costs;
- using cheaper alternatives to control tree vigour, such as root pruning; and
- changing packhouses and exporters.

Banks continue to encourage their growers to rationalise expenditure in areas that will not compromise fruit quality, and to sell off assets not critical to the business. Financiers noted that some of the more financially challenged orchard businesses may face foreclosure.

TABLE 9: NELSON WEATHER DATA

	RAINFALL (MM)			GROWING DEGREE DAYS[1] (GDD)		
MONTH	2009/10	2010/11	LONG-TERM AVERAGE	2009/10	2010/11	LONG-TERM AVERAGE
June	148	217	132	5	24	6
July	90	51	143	0	6	3
August	174	170	151	25	39	7
September	113	162	113	25	51	29
October	154	14	127	43	71	76
November	67	18	102	139	170	124
December	40	242	96	186	251	194
January	90	35	80	247	236	237
February	22	10	78	233	244	214
March	26	56	99	192	174	177
April	61	107	118	105	82	85
May	219	292	115	70	104	30
Total	**1 203**	**1 374**	**1 353**	**1 269**	**1 453**	**1 180**

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

Source
NIWA (Riwaka).

TABLE 10: NELSON PIPFRUIT ORCHARD MODEL BUDGET

	2009[1]	2010				2011 BUDGET			
	WHOLE ORCHARD ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[2] GROSS ($)	PER TCE EXPORT ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[2] GROSS ($)	PER TCE EXPORT ($)
REVENUE									
Pipfruit income	1 178 100	1 201 900	44 515	16.43	21.96	1 274 300	47 196	16.32	21.41
Other orchard income	0	0	0	0.00	0.00	0	0	0.00	0.00
Net cash income	**1 178 100**	**1 201 900**	**44 515**	**16.43**	**21.96**	**1 274 300**	**47 196**	**16.32**	**21.41**
Orchard working expenses	**1 289 835**	**1 143 100**	**42 337**	**15.63**	**20.89**	**1 193 400**	**44 200**	**15.28**	**20.05**
Cash operating surplus	**–111 735**	**58 800**	**2 178**	**0.80**	**1.07**	**80 900**	**2 996**	**1.04**	**1.36**
Interest	84 000	100 000	3 704	1.37	1.83	80 000	2 963	1.02	1.34
Rent and/or leases	30 000	30 000	1 111	0.41	0.55	30 000	1 111	0.38	0.50
Depreciation	35 900	55 000	2 037	0.75	1.00	25 000	926	0.32	0.42
Net non-fruit cash income	0	0	0	0.00	0.00	0	0	0.00	0.00
Orchard profit before tax	**–261 635**	**–126 200**	**–4 674**	**–1.73**	**–2.31**	**–54 100**	**–2 004**	**–0.69**	**–0.91**
Tax	0	0	0	0.00	0.00	0	0	0.00	0.00
Orchard profit after tax	**–261 635**	**–126 200**	**–4 674**	**–1.73**	**–2.31**	**–54 100**	**–2 004**	**–0.69**	**–0.91**
ALLOCATION OF FUNDS									
Add back depreciation	35 900	55 000	2 037	0.75	1.00	25 000	926	0.32	0.42
Drawings/living expenses	38 000	30 000	1 111	0.41	0.55	30 000	1 111	0.38	0.50
Orchard surplus for reinvestment[3]	**–263 735**	**–101 200**	**–3 748**	**–1.38**	**–1.85**	**–59 100**	**–2 189**	**–0.76**	**–0.99**
REVINVESTMENT									
Net capital purchases	10 000	5 000	185	0.07	0.09	0	0	0.00	0.00
Development	80 000	20 000	741	0.27	0.37	10 000	370	0.13	0.17
Principal repayments	0	0	0	0.00	0.00	0	0	0.00	0.00
Orchard cash surplus/deficit	**–353 735**	**–126 200**	**–4 674**	**–1.73**	**–2.31**	**–69 100**	**–2 559**	**–0.88**	**–1.16**
OTHER CASH SOURCES									
Off-orchard cash income	30 000	39 400	1 459	0.54	0.72	31 500	1 167	0.40	0.53
New borrowings	70 000	0	0	0.00	0.00	0	0	0.00	0.00
Introduced funds	0	250 000	9 259	3.42	4.57	0	0	0.00	0.00
Net cash position	**–253 735**	**163 200**	**6 044**	**2.23**	**2.98**	**–37 600**	**–1 393**	**–0.48**	**–0.63**
ASSETS AND LIABILITIES[4]									
Land and building (opening)	2 511 000	2 442 000	111 000	33.38	44.62	2 375 000	107 955	30.41	39.91
Plant and machinery (opening)	195 000	175 000	7 955	2.39	3.20	125 000	5 682	1.60	2.10
Orchard related investments (opening)	0	0	0	0.00	0.00	0	0	0.00	0.00
Total orchard assets (opening)	**2 706 000**	**2 617 000**	**118 955**	**35.77**	**47.82**	**2 500 000**	**113 636**	**32.01**	**42.01**
Total liabilities (opening)	977 000	1 200 000	54 545	16.40	21.93	1 047 000	47 591	13.41	17.59
Total equity	**1 729 000**	**1 417 000**	**64 409**	**19.37**	**25.89**	**1 453 000**	**66 045**	**18.60**	**24.41**

Notes

Figures may not add to totals due to rounding.

1 Corrections were made retrospectively to some expenditure items in the 2009 Nelson model. Due to this revision, data for the 2009 year will not match the *Farm Monitoring Report 2010 - Horticulture Monitoring: Pipfruit.*

2 Tray carton equivalent.

3 Orchard surplus for reinvestment is the cash available from the orchard business, after meeting living costs, which is available for investment on the orchard or for principal repayments. It is calculated as orchard profit after tax plus depreciation less drawings.

4 Land and building asset value includes the value of owned land, trees and supports, other improvements, orchard buildings and dwellings on the property. Asset and liability values per planted hectare are based on owned planted area of 22 hectares; not owned and leased planted area of 27 hectares.

Please note that several budget parameters have changed between 2009 and 2010. These changes have been made to better reflect the financial position of the orchard. New and adjusted definitions include orchard surplus for reinvestment, orchard cash surplus/deficit and net cash position. Caution should be taken when comparing this year's data to previous years.

TABLE 11: NELSON PIPFRUIT ORCHARD MODEL EXPENDITURE

	2009[1]	2010				2011 BUDGET			
	WHOLE ORCHARD ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[2] GROSS ($)	PER TCE EXPORT ($)	WHOLE ORCHARD ($)	PER PLANTED HA ($)	PER TCE[2] GROSS ($)	PER TCE EXPORT ($)
ORCHARD WORKING EXPENSES									
Hand harvesting	163 410	150 000	5 556	2.05	2.74	160 900	5 959	2.06	2.70
Pruning	58 725	59 300	2 196	0.81	1.08	56 600	2 096	0.72	0.95
Thinning	65 205	57 500	2 130	0.79	1.05	56 800	2 104	0.73	0.95
Other wages	117 315	110 000	4 074	1.50	2.01	93 200	3 452	1.19	1.57
ACC - employees	5 670	8 100	300	0.11	0.15	8 300	307	0.11	0.14
Total labour expenses	**410 325**	**384 900**	**14 256**	**5.26**	**7.03**	**375 800**	**13 919**	**4.81**	**6.31**
Packing	229 505	191 500	7 093	2.62	3.50	200 800	7 437	2.57	3.37
Packaging	229 505	209 300	7 752	2.86	3.82	232 500	8 611	2.98	3.91
Cool storage	100 040	97 000	3 593	1.33	1.77	124 200	4 600	1.59	2.09
Freight	12 880	8 100	300	0.11	0.15	9 400	348	0.12	0.16
Total post harvest expenses	**571 930**	**505 900**	**18 737**	**6.92**	**9.24**	**566 900**	**20 996**	**7.26**	**9.53**
Weed and pest control	82 080	75 400	2 793	1.03	1.38	73 000	2 704	0.93	1.23
Pollination	4 590	4 500	167	0.06	0.08	4 500	167	0.06	0.08
Fertiliser and lime	15 525	10 500	389	0.14	0.19	11 000	407	0.14	0.18
Electricity	10 530	9 300	344	0.13	0.17	9 700	359	0.12	0.16
Vehicle	18 765	17 900	663	0.24	0.33	16 700	619	0.21	0.28
Fuel	16 875	21 000	778	0.29	0.38	20 500	759	0.26	0.34
Repairs and maintenance	44 820	22 100	819	0.30	0.40	22 300	826	0.29	0.37
General	22 950	15 200	563	0.21	0.28	15 200	563	0.19	0.26
Frost protection	0	0	0	0.00	0.00	0	0	0.00	0.00
Contract machine work	9 315	5 700	211	0.08	0.10	2 800	104	0.04	0.05
Total other working expenses	**225 450**	**181 600**	**6 726**	**2.48**	**3.32**	**175 700**	**6 507**	**2.25**	**2.95**
Rates	12 960	13 000	481	0.18	0.24	13 300	493	0.17	0.22
Water rates	0	800	30	0.01	0.01	800	30	0.01	0.01
General insurance	9 855	10 000	370	0.14	0.18	10 500	389	0.13	0.18
Crop insurance	10 395	8 500	315	0.12	0.16	9 400	348	0.12	0.16
ACC owners[1]	1 800	1 800	67	0.02	0.03	2 200	81	0.03	0.04
Communication	6 615	5 400	200	0.07	0.10	5 300	196	0.07	0.09
Accounting	6 210	5 400	200	0.07	0.10	5 200	193	0.07	0.09
Legal and consultancy	8 235	5 300	196	0.07	0.10	6 100	226	0.08	0.10
Levies and subscriptions[1]	11 750	13 000	481	0.18	0.24	14 500	537	0.19	0.24
Other administration	14 310	7 500	278	0.10	0.14	7 700	285	0.10	0.13
Total overhead expenses	**82 130**	**70 700**	**2 619**	**0.97**	**1.29**	**75 000**	**2 778**	**0.96**	**1.26**
Total orchard working expenses	**1 289 835**	**1 143 100**	**42 337**	**15.63**	**20.89**	**1 193 400**	**44 200**	**15.28**	**20.05**
CALCULATED RATIOS									
Economic orchard surplus (EOS)[3]	–205 435	–53 370	–1 977	–0.73	–0.98	–100	–4	0.00	0.00
Orchard working expenses/NCI[4]	109%	95%				94%			
EOS/total orchard assets	–7.6%	–2.0%				0.0%			
EOS less interest and lease/equity	–18.5%	–12.9%				–7.6%			
Interest+rent+lease/NCI	9.7%	10.8%				8.6%			
EOS/NCI	–17.4%	–4.4%				0.0%			
Wages of management	57 800	57 170	2 117	0.78	1.04	56 000	2 074	0.72	0.94

Notes

Figures may not add to totals due to rounding.

1 Corrections were made retrospectively to some expenditure items in the 2009 Nelson model. Due to this revision, data for the 2009 year will not match the *Farm Monitoring Report 2010 - Horticulture Monitoring: Pipfruit.*

2 Tray carton equivalent.

3 EOS is calculated as follows: net cash income less orchard 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 orchard assets to a maximum of $75 000.

4 Net cash income.

TABLE 12: NELSON PIPFRUIT ORCHARD MODEL PRODUCTION AND INCOME DETAILS FOR 2010

YEAR ENDED 31 DECEMBER VARIETY	AREA (HA)	GROSS YIELD (TCE[1])	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN ($/TCE)	NON-EXPORT RETURN ($/TCE)	REVENUE ($)
Braeburn	6.5	24 120	74	17 850	18.70	2.90	352 000
Royal Gala	5.7	18 995	82	15 575	21.30	1.75	337 700
Jazz™	5.4	12 935	81	10 475	21.25	0.90	224 800
Pink Lady™	1.1	2 125	65	1 380	22.15	0.95	31 300
Fuji	1.4	3 145	64	2 015	22.30	1.65	46 800
Cox Orange	1.6	3 560	70	2 495	22.85	1.65	58 700
Other apples	2.7	4 245	68	2 885	24.40	2.65	74 000
Pears	2.7	4 035	51	2 055	30.80	6.70	76 600
Total/average	**27.0**	**73 160**	**75**	**54 730**	**21.10**	**2.58**	**1 201 900**

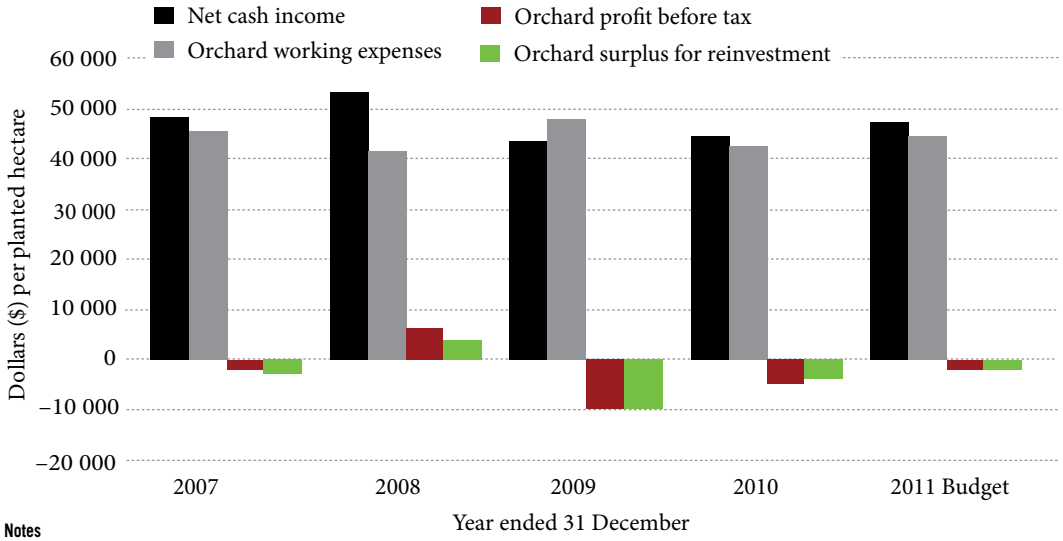
Notes
Figures may not add to totals due to rounding.
1 Tray carton equivalent.

TABLE 13: NELSON PIPFRUIT ORCHARD MODEL BUDGET PRODUCTION AND INCOME DETAILS FOR 2011

YEAR ENDED 31 DECEMBER VARIETY	AREA (HA)	GROSS YIELD (TCE[1])	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN ($/TCE)	NON-EXPORT RETURN ($/TCE)	REVENUE ($)
Braeburn	5.9	23 795	73	17 370	19.00	3.05	349 600
Royal Gala	5.4	18 065	84	15 175	20.00	2.20	309 800
Jazz™	5.4	15 385	85	13 080	19.50	0.90	257 100
Pink Lady™	1.4	3 580	75	2 685	22.00	0.90	59 800
Fuji	1.4	3 605	75	2 700	22.65	1.10	62 200
Cox Orange	1.6	3 155	73	2 305	23.15	1.55	54 700
Other apples	3.2	6 615	66	4 365	25.95	1.50	116 700
Pears	2.7	3 905	47	1 835	28.95	5.40	64 400
Total/average	**27.0**	**78 105**	**76**	**59 515**	**20.65**	**2.46**	**1 274 300**

Notes
Figures may not add to totals due to rounding.
1 Tray carton equivalent.

FIGURE 2: NELSON PIPFRUIT ORCHARD MODEL PROFITABILITY TRENDS



Notes
Orchard surplus for reinvestment is the cash available from the orchard business, after meeting living costs, which is available for investment on the orchard or for principal repayments. It is calculated as orchard profit after tax plus depreciation less drawings.
Corrections were made retrospectively to some expenditure items in the 2009 Nelson model. Due to this revision, data for the 2009 year will not match the *Farm Monitoring Report 2010 - Horticulture Monitoring: Pipfruit.*

INDUSTRY ISSUES AND DEVELOPMENTS

GROWER MORALE AND BUSINESS VIABILITY PLANS

Grower morale in the pipfruit industry varies. Some growers are optimistic about the future whilst others are struggling to maintain viability and questioning their business future. Many growers feel that they have little power or influence over the supply chain/value chain and there are now few aspects of their business that they remain in control of.

Morale amongst growers in the Hawke's Bay region is mixed. Many were affected by hail damage in 2010 and as the model indicates, would have struggled to break even. Some of those most severely impacted would have incurred significant losses. With export returns for 2011 expected to be lower than last year for many varieties, some growers are struggling to cover costs and are in a holding pattern, just trying to make it through another season.

Growers who are more positive have invested in new orchard development, particularly in varieties aimed at Asian markets such as the Pacific series, Fuji and Envy™.

Morale amongst growers in the Nelson region is very low as many growers in the region are likely to be budgeting on a net trading loss again in 2011, as indicated by the Nelson pipfruit orchard model. Contributing factors to this low morale are the current high exchange rate and increasing competition in the established markets of Europe and the US, the destination for most of the pipfruit varieties grown in the Nelson region. For many, 2008 was the only year in the last five where an adequate profit was achieved. For some growers, income from other crops such as kiwifruit, hops or berryfruit is helping to offset losses from their pipfruit businesses.

Vertically integrated businesses in both regions are tending to fare better than grower suppliers, with the opportunity to make margins in the provision of post-harvest services and/or marketing offsetting any growing losses.

In recent years, many pipfruit growers diversified into new club varieties such as Jazz™ and Tentation™ to provide greater business resilience. Naturally, growers are frustrated and disappointed at the low market returns in the past two years for these varieties as well as those predicted for 2011. It is likely that some growers will seek to graft over either whole or partial blocks of these varieties in the near future, particularly if such blocks are still young and hence low yielding.

Growers in both regions are trying to strengthen their business viability by reducing expenditure where possible, pulling out unprofitable pipfruit blocks, and where finances are available, redeveloping into varieties that are suited to Asian markets. Other strategies, most likely encouraged by banks, are the introduction of additional capital into the orchard business and restructuring the business by selling a portion of the orchard.

In the Nelson region, orcharding for many is changing from "playing to win" to "playing not to lose". Revised business models for growers include selling fruit in the bin to packhouses for fixed prices, growing for juice, developing local market opportunities, juicing non-profitable varieties or orchard blocks, and not picking all the fruit for

export. Minimizing the amount of non-export grade fruit in each bin sent to the packhouse is being quickly recognised as a way of reducing post-harvest expenses.

Despite the low and fluctuating profitability trends demonstrated by both the Nelson and Hawke's Bay pipfruit orchard models, many in the pipfruit industry see a positive outlook for the sector. Factors that should engender future industry development and profitability include:

- growth potential of Asian markets, in particular China and India;
- access to Australian markets in time for the 2012 crop;
- willingness of some growers and exporters to accept that market discipline mechanisms are needed to successfully develop the potential of the Australian market;
- establishment of the Braeburn Exporter Group in 2011 to better co-ordinate market demand with New Zealand supply of this variety;
- secure supply of seasonal labour with migrant workers under the Recognised Seasonal Employer scheme complementing New Zealanders;
- strong demand for the Pacific series of apple from markets in Asia. The Pacific series are almost uniquely grown in New Zealand;
- on-going rationalisation, vertical integration and restructuring of pipfruit businesses creating scale, career opportunities, and improving resilience;
- recent investment in apple processing facilities in the Hawke's Bay region; and
- initiatives such as the industry sponsored "Young Grower of the Year" competition, and others, raising the profile of the sector and attracting new entrants to the industry.

GROWER RESPONSE TO INPUT PRICE CHANGES AND SHORTAGES

Actions being taken to minimise expenditure, particularly in the Nelson region, include relinquishing permanent staff and taking on more contract workers, sourcing cheaper sprays and terminating or seeking to renegotiate orchard leases.

A shortage of inputs, in particular of fungicides and calcium chloride, was a real issue in the Hawke's Bay region during the 2010/11 season. A wetter than average spring meant a greater need for fungicide use for disease control, exacerbating the fungicide shortage. This meant that at key times, growers were forced to use less preferred products for disease control.

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

Environmental and natural resource management continues along the same lines as in previous years. However, given the low profitability levels and hence the general lack of funds for reinvestment in recent years, there has been little new investment or other developments in this area beyond core regulatory and market requirements.

WATER

The most significant environmental issue for Hawke's Bay growers this year is water allocation, the replacement of expiring resource consents and the government regulations requiring the installation of water meters on all water-takes over five litres per second.

Water resource consents for the Twyford catchment came up for renewal in 2009 and 2010. After the Twyford catchment growers made their applications for replacement water consents, hydrological investigations were undertaken on the aquifer by the Hawke's Bay Regional Council (HBRC). The aquifer in this catchment is unconfined in some areas whilst confined and semi-confined in others. The majority of the

consent applications were replaced for a period of 9 or 15 years, depending on whether they abstracted from the semi-confined or unconfined part of the aquifer. Consent holders who had previously been taking water without consent, or with an insufficient volume in their existing consent and sought to increase their water-take or apply for new water-takes, were granted with stricter conditions of consent, as the catchment was considered already technically over-allocated. Some growers feel this means they have been allocated inadequate volumes of water to grow their crops and are concerned about the impact on their land use options, and consequently land values. Some of the most affected growers have lodged an appeal directly with the Environment Court. HBRC is working with the Twyford water users group to facilitate possible global consenting or options for water sharing/rostering.

The consent renewal process in the Twyford area is raising awareness amongst growers generally in the Hawke's Bay region about the importance of surety of water supply to their businesses. Such awareness is prompting the formation of user groups for individual catchments and early engagement with the regional council on consenting issues.

The National Environment Standard (NES) on water-take measurements (meters) came into effect in November 2010. This requires the installation of water meters on all water-takes over five litres per second. Water-use measurements are also required to be reported to regional councils directly; in some instances reporting via telemetry is a condition of the consent.

Industry bodies and others are advising growers nationally of the importance of having adequate water consent volumes for their crops, and being able to show evidence of their water-takes.

MARKET ACCESS

Growers believe that having universal access for crops to all markets would provide marketers with maximum flexibility and the opportunity to derive better market returns. However, growers report that they are finding it increasingly difficult to produce ultra-low residue fruit for European markets with a dwindling list of permitted pesticides, and pest free fruit for other (mainly Asian) markets.

Industry funds are being invested in developing further biological control options for the main pest species. In addition, chemical companies are being encouraged to introduce new integrated pest management compatible active products for the control of woolly apple aphid and apple leaf curling midge in particular.

EXCHANGE RATE

Growers say that the current and unprecedented high New Zealand dollar and its volatility within the selling season is a significant issue for industry profitability at present. Many view it as the main cause of uneconomic returns, and are keen to see the dollar decline to somewhere near its 10-year average in order to make the industry more sustainable. Growers realise that a significant depreciation of the New Zealand dollar would affect shipping costs and the cost of inputs such as fuel. However, these cost increases would be relatively small compared with the better export returns likely to be achieved for the export crop.

INFORMATION ABOUT THE MODELS

The two pipfruit models represent the main pipfruit growing areas of New Zealand. Hawke's Bay is the largest pipfruit-producing district, exporting over half the national crop, with Nelson the second largest pipfruit-growing region. The orchards are a mixture of old and new, mainly apple varieties, typically run by owner-operators. Although there is an increasing trend towards corporate ownership and vertical integration of pipfruit businesses, this has not been captured in the models, which are based on an owner-operator business structure.

The aim of each model is to typify an average orchard for the region. Budget figures are averaged from the contributing properties and adjusted to represent real orchards. Income figures include income from pipfruit, off-orchard income, new borrowing, and other cash income. Expenditure figures include orchard production costs, debt, leasing, drawings, development, and capital purchases.

The value of land and buildings in each model is attributed to the owned title area, including a dwelling.

The pipfruit model budgets are prepared using a 31 December balance date to allow year-to-year financial comparisons.

HAWKE'S BAY PIPFRUIT MODEL

The Hawke's Bay model includes leased land that accounts for about one-third (7 hectares) of the orchard size (22 hectares). The owned title area is 18 hectares, with 15 hectares planted in pipfruit.

Royal Gala is the predominant apple variety in the model, accounting for 30 percent of the planted area. The model is based on data from 18 orchards located in the Heretaunga Plains.

The planting density distribution of the orchard model is:

- 50 percent planted area is at standard density (<1000 trees per hectare);
- 30 percent planted area is at semi-intensive density (>1000 and <1800 trees per hectare);
- 20 percent planted area is intensive (>1800 tree per hectare).

NELSON PIPFRUIT MODEL

The Nelson model is 27 hectares planted with 22 hectares owned and 5 hectares leased. The model is based on data sourced from 18 orchards. Braeburn is the predominant apple variety in the model, accounting for 24 percent of the planted area in 2010. The proportion of planted area in Jazz™ has increased from 9 to 20 percent over the past four years.

The planting density distribution of the orchard model is:

- 40 percent planted area is at standard density (<1000 trees per hectare);
- 15 percent planted area is at semi-intensive density (>1000 and <1800 trees per hectare);
- 45 percent planted area is intensive (>1800 tree per hectare).

For more information on these models contact **Annette.Carey@maf.govt.nz**

PUBLISHER

Ministry of Agriculture and Forestry
PO Box 2526, Wellington 6140, New Zealand
Tel +64 4 894 0100 or Freephone 0800 008 333
Email: policy.publications@maf.govt.nz
Web: www.maf.govt.nz

ISBN 978-0-478-36437-8 (Print)
ISBN 978-0-478-36438-5 (Online)

The report can be downloaded from **www.maf.govt.nz**

New Zealand Government

DISCLAIMER

The information in this report by the Ministry of Agriculture and Forestry is based on the best information available to the the Ministry at the time it was drawn up and all due care was exercised in its preparation. As it is not possible to foresee all uses of this information or to predict all future developments and trends, any subsequent action that relies on the accuracy of the information in this report is the sole commercial decision of the user and is taken at his/her own risk. Accordingly, the Ministry of Agriculture and Forestry disclaims any liability whatsoever for any losses or damages arising out of the use of this information, or in respect of any actions taken.

MAF