

# PIPFruit



THIS REPORT CONTAINS THE KEY RESULTS FROM THE MINISTRY OF AGRICULTURE AND FORESTRY'S 2010 PIPFRUIT MONITORING PROGRAMME.

## KEY POINTS

- › Favourable climatic conditions led to increased pipfruit yields in the Hawke's Bay and Nelson regions in 2009. However, large volumes of competing fruit in the main export markets, weaker consumer demand eroding price premiums, and an appreciating New Zealand dollar constrained revenue well below expectations. The Hawke's Bay model obtained a profit similar to recent years while the Nelson model experienced a significant loss.
- › Export production in 2010 is expected to be down by 22 percent and 5 percent for the Hawke's Bay and Nelson regions, respectively. This is due to combination of a cold wet spring, hail damage in the Hawke's Bay region, some tree removals in winter 2009, and an off-year in the biennial bearing pattern of varieties such as Braeburn.
- › Sales volumes have been slow in 2010. Good prices have been achieved for early season fixed price sales into Asian markets. Although European and UK markets are expected to be challenging, growers and exporters are expecting an improvement in export returns compared with last season, assisted by a smaller export crop from New Zealand.
- › The Hawke's Bay orchard model anticipates a modest increase in profitability in 2010, assisting with debt reduction and ongoing development. Despite a 14 percent increase in overall income in 2010, the Nelson model is expected to return a small loss before tax. As a result, grower morale in the region is low; many are focused on constraining expenditure and assessing options to improve business viability.

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

YEAR ENDED 31 DECEMBER	2006	2007	2008	2009	2010 BUDGET
<b>HAWKE'S BAY MODEL</b>					
Total area (ha)	28	28	28	28	28
Planted area (ha)	22	22	22	22	22
Total TCE <sup>1</sup>	57 401	63 279	56 070	68 135	61 720
Export TCE	38 039	43 671	35 485	49 990	38 890
Weighted average return (\$/export TCE) <sup>2</sup>	20.72	19.63	24.55	21.60	23.75
Net cash income (\$)	849 900	918 100	948 100	1 130 050	1 034 250
Orchard working expenses (\$)	690 400	791 700	771 700	952 850	820 400
Orchard profit before tax (\$)	75 400	32 800	80 900	78 700	118 600
Orchard surplus for reinvestment (\$) <sup>3</sup>	42 000	-5 600	31 600	31 700	68 850
<b>NELSON MODEL</b>					
Total area (ha)	28	29	29	29	29
Planted area (ha)	26	27	27	27	27
Total TCE	82 089	91 494	75 474	80 500	79 780
Export TCE	60 151	64 937	55 499	58 850	55 630
Weighted average return (\$/export TCE)	19.62	18.89	24.82	18.60	22.15
Net cash income (\$)	1 301 100	1 305 000	1 439 300	1 208 100	1 376 660
Orchard working expenses (\$)	1 116 600	1 227 500	1 125 200	1 284 740	1 267 195
Orchard profit before tax (\$)	3 000	-48 800	177 000	-226 540	-28 335
Orchard surplus for reinvestment (\$)	17 600	-77 200	104 600	-228 640	-38 335

**Notes**

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 represents 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 discretionary cash less off-orchard income and drawings.



# HAWKE'S BAY PIPFRUIT

## FINANCIAL PERFORMANCE OF THE HAWKE'S BAY PIPFRUIT MODEL IN 2009

The 2008/09 season was one of the best production seasons in Hawke's Bay for many years. An absence of damaging spring frosts and hail events, along with favourable fruit set and fruit finish conditions resulted in both high gross yields and good export recovery rates. However, large volumes of competing fruit in the main export markets, a global economic recession, and an appreciating New Zealand dollar pulled returns well below expectation, constraining most growers' revenue. The net result in 2009 was a much poorer outcome than expected, with the model returning an orchard profit before tax of \$78 700, similar to that achieved in recent years.

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

### REVENUE UP DUE TO HIGH YIELDS

Net cash income for the model was 19 percent higher in 2009 at \$1.13 million, driven by a 41 percent increase in export production compared with the frost affected crop of 2008. The increase in yield was the result of:

- › Strong return bloom in those varieties damaged by frost in the 2007/08 season, in particular Braeburn;
- › Favourable growing conditions throughout spring and summer, which resulted in good fruit set and early fruit size advances; and
- › New plantings of Jazz™ and Pacific Queen™ coming into production.

The average export recovery rate across all varieties in 2009 was 73 percent, considerably higher than the 63 percent achieved in 2008. Cool night temperatures in March and April, combined with clear sunny days resulted in good fruit colour development. Fruit finish across all varieties was good due to a relatively dry and warm spring. An adequate supply of seasonal labour to harvest the crop meant that fruit could be picked at optimum maturity, helping to deliver better export recovery rates.

Despite very warm conditions in December through to February and maximum temperatures in the mid-thirties, there was little incidence of sunburn. Jazz™, however, was affected by the calcium related disorders of skin blotch and bitter pit, thought to have been caused by the high summer temperatures and dry conditions. This reduced the export recovery rate of this variety by 9 percentage points, to 72 percent.

### MARKET PRICES IMPACTED BY FALLING CONSUMER DEMAND AND PLENTIFUL SUPPLIES OF FRUIT

The average weighted return per export carton of \$21.60 was much less than growers expected, but nevertheless higher than in other years with a large export crop from New Zealand.

The high in-market prices reached in 2008 continued into 2009 for fruit sold into Asian markets. Early fruit sales also capitalised on the favourable exchange rate in the first half of 2009 resulting in market returns averaging from \$29 to \$36 for the Pacific series; the highest returns for these varieties in several years.

In contrast, in Europe and the United States, an overhang of apples from the Northern Hemisphere season, additional competition from summerfruit in European markets, and the global recession impacting on demand, resulted in prices falling up to 30 percent. Premiums were eroded for higher priced varieties such as

»» TABLE 2: HAWKE'S BAY PIPFRUIT ORCHARD MODEL FAS<sup>1</sup> EXPORT RETURNS

YEAR ENDED 31 DECEMBER	2006 (\$/TCE <sup>2</sup> )	2007 (\$/TCE)	2008 (\$/TCE)	2009 (\$/TCE)	2010 BUDGET (\$/TCE)
<b>VARIETY</b>					
Braeburn	19.38	15.15	25.25	16.00	20.50
Fuji	25.14	26.81	26.90	25.60	27.80
Granny Smith	19.13	17.52	21.40	20.80	23.25
Jazz™	35.13	30.26	30.30	21.65	23.00
Pacific Beauty™	21.53	21.30	24.35	33.00	29.25
Pacific Queen™	23.86	22.89	27.00	35.80	30.20
Pacific Rose™	22.44	21.24	24.10	29.70	28.40
Pink Lady™	28.52	26.31	29.50	24.00	25.85
Royal Gala	20.31	19.71	22.25	20.80	22.75
<b>Weighted average</b>	<b>20.72</b>	<b>19.63</b>	<b>24.55</b>	<b>21.60</b>	<b>23.75</b>

**Notes**  
 1 Free alongside ship.  
 2 Tray carton equivalent.

Jazz™, Pink Lady™, and Tentation™ as well as for organic apples. The appreciation of the New Zealand dollar in the second half of 2009 compounded falling in-market prices in saturated markets.

### LARGE CROP GENERATES EFFICIENCIES

Orchard working expenses for the model increased by 23 percent overall in 2009 to \$952 900. This increase was largely driven by a higher crop volume.

Post-harvest costs increased slightly in 2009 following post harvest facilities raising their charges, bringing post harvest expenses per export carton to \$10.27.

Expenditure on repairs and maintenance increased 13 percent compared with the previous year to \$936 per planted hectare. In early winter 2009, growers were still optimistic about good market returns so many spent large on deferred repairs and maintenance.

Thinning expenses in 2009 were influenced by the hail event at the end of October 2009, which impacted on the 2010 pipfruit crop. Some growers with minor hail damaged fruit made the decision to hand thin the damaged fruit off the trees in early summer, while others waited until pre-harvest, or at harvest, to do this. For growers whose orchards were badly damaged by hail, no thinning was undertaken and the crop picked for juice instead.

Expenditure on weed and pest control was higher in 2009 at \$2518 per planted hectare due to the wet spring and early summer. Expenditure on fertilizer was also higher at \$170 per planted hectare compared with \$105 the previous year, as growers applied extra fertilizer to young plantings.

The main reason for the increase in ACC expenses for the owner is that these figures are calculated based on the model parameters, rather than derived from the monitored dataset.



With the efficiencies afforded by the large crop in 2009, total orchard working expenses dropped back to \$19.06 per export carton, compared with \$21.75 per export carton in 2008. The total orchard operating expense, which also adds average interest expenses, lease expenses, depreciation and wages of management, dropped from \$25.83 in 2008 down to \$22.00 per export carton in 2009.

### NET RESULT BELOW EXPECTATIONS

Despite 2009 being a good production season, the net financial result was disappointing for many Hawke's Bay growers. The model returned a cash operating surplus similar to the previous year of \$177 200. Interest, lease and depreciation expenses were similar to 2008 resulting in an orchard profit before tax of \$78 700. Some growers were able to take advantage of lower interest rates when re-fixing term debt or chose to remain with the floating rate.

In early winter 2009, growers were still optimistic about good market returns so many increased expenditure on capital purchases. Similar to expenditure on repairs and maintenance, growers had been deferring this for some time due to poor profitability.

Expenditure on development increased significantly in 2009, reaching almost \$40 000 for the model; around double the annual average expenditure of the previous few years. Growers would have committed to most of this development expenditure back in 2007/08.

The lower than expected financial result meant that new borrowing was needed to complete commitments for development resulting in an increase in overall liabilities of 8 percent.

The pipfruit model shows a decline in property value of 6 percent to \$1.65 million compared with 2008. This reflects a market correction in the lifestyle value of horticultural properties in the Hawke's Bay region since 2007/08. There has been no evidence of any erosion in the horticulture value of pipfruit orchards in the region over recent years. The equity level in the orchard model has fallen to 66 percent, down from an average of 70 percent in recent years.

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

Most pipfruit growers would describe the 2009/10 production season in Hawke's Bay as extremely challenging. The 2010 crop 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, significantly reduced gross yields and export recovery rates for many varieties.

When interviewed in May 2010, growers were cautious about expected market returns because of slow sales to date. However, many had an expectation of returns being higher than in 2009 due to a smaller export crop from New Zealand and some other Southern Hemisphere countries. Growers and industry representatives are aware that the selling season has another few months to run with potential for price changes in the interim.

The model anticipates a decrease in export production of 22 percent compared with 2009, but higher average price expectations, together with payouts from hail insurance, limit the drop in net cash income to 8 percent, at \$1.034 million.

## GROWERS OPTIMISTIC THAT SMALLER EXPORT CROP WILL DELIVER HIGHER MARKET RETURNS

Income from pipfruit is budgeted to be down by 13 percent compared with 2009 to \$968 300, due to the smaller export crop. However, many growers with hail insurance were compensated for their fruit losses, boosting overall income levels. Hence the model also reports income from hail insurance in 2010.

### CHALLENGING CLIMATIC CONDITIONS

An off-year in the biennial bearing pattern of varieties such as Braeburn, combined with cold, wet conditions over the critical flowering and fruit set period, reduced gross yield by 9 percent to 61 720 tray carton equivalents, with yields of Braeburn and the Pacific series most affected. However, the cool, wet conditions helped to reduce insect pest problems relative to recent seasons.

Late August was warm with 10 days of particularly mild temperatures, which stimulated early bud movement. These favourable temperatures extended through September to the beginning of October. Higher than average rainfall levels lead to cooler temperatures during October, resulting in growing degree days (GDD) being around half of the long-term average for this month (refer to Table 3 for monthly rainfall and GDD information). Colder parts of the region experienced three or four frost events which caused some crop loss on orchards without frost protection.

On 29 October 2009, a series of hailstorms hit the region and caused widespread damage across the Heretaunga Plains. While many growers were able to thin this damage off the trees, some orchards were so badly damaged that growers had no option but to leave the crop for juice. Early flowering varieties, such as Braeburn and Jazz™ were the most impacted.

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, particularly 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.

The cold spring also delayed harvest maturity by 7 to 10 days for earlier varieties and this year the harvest delay extended into later varieties.

A combination of russet, hail injury, excessively large fruit size and sunburn reduces the expected average export recovery rate across all varieties to 63 percent. This is significantly lower than the export recovery rate of 73 percent achieved in 2009, but similar to that of the frost affected crop of 2008.

#### **GROWERS CAUTIOUSLY OPTIMISTIC ABOUT MARKET RETURNS**

Markets conditions for the 2010 season, and for the variety mix grown in Hawke's Bay, are mixed. Sales volumes have been slow to date with recessionary conditions still being felt around the world.

Good prices have been achieved for early season fixed price sales into Asian markets. The Pacific series are expected to perform well overall, in addition to Fuji in these markets.

European and UK markets, typically the destination for about 55 percent of New Zealand's pipfruit, are expected to be challenging due to on-going recessionary pressures and some overhang of fruit from the Northern Hemisphere season. These markets are the main outlet for Braeburn, Jazz™ and Pink Lady™. The high New Zealand dollar relative to the Euro and the UK pound is of concern to growers and exporters. Significant increases in market prices to compensate for the high exchange rate will likely be resisted by retailers.

Despite the challenging market conditions, growers and industry leaders are predicting the average Hawke's Bay export return to reach \$23.75, up \$2.15 on last season.

#### **HAIL INSURANCE PAYOUT LIFTS OVERALL INCOME**

Many growers in the Hawke's Bay region with hail insurance were compensated for their losses, assisting overall income levels. The model records a hail insurance payout of around \$48 500, which is included in the budget under other orchard income. This contributes an extra \$1.25 in income per export carton.

#### **EXPENDITURE INFLUENCED BY LOWER EXPORT CROP**

Orchard working expenses for the model are expected to decline by 14 percent overall in 2010 to \$820 400. This decrease is driven by the 9 percent reduction in gross yield, but also attempts by growers to curb expenditure given a reduced export crop and uncertainty about market returns. On an export carton basis, orchard working expenses are budgeted to reach \$21.10 per export carton, an increase of \$2.04 per carton compared with last season.

Overall harvesting expenses are expected to be about the same per gross carton as in 2009. Increases in time, and hence expenditure spent on the orchard to minimize the amount of non-export fruit going through the packhouse was offset by lower picking costs on other blocks destined for juice.

Post-harvest charges are expected to be similar to 2009, at \$10.42 per export carton (except for packing expenses), which will increase on an export carton basis due to lower export recovery rates.

Orchard operating expenditure is expected to be down slightly on 2009 as growers forecast a drier spring and scale back expenditure on repairs and maintenance. Hail insurance premiums are expected to increase in 2010 following the insurance payouts from 2009.

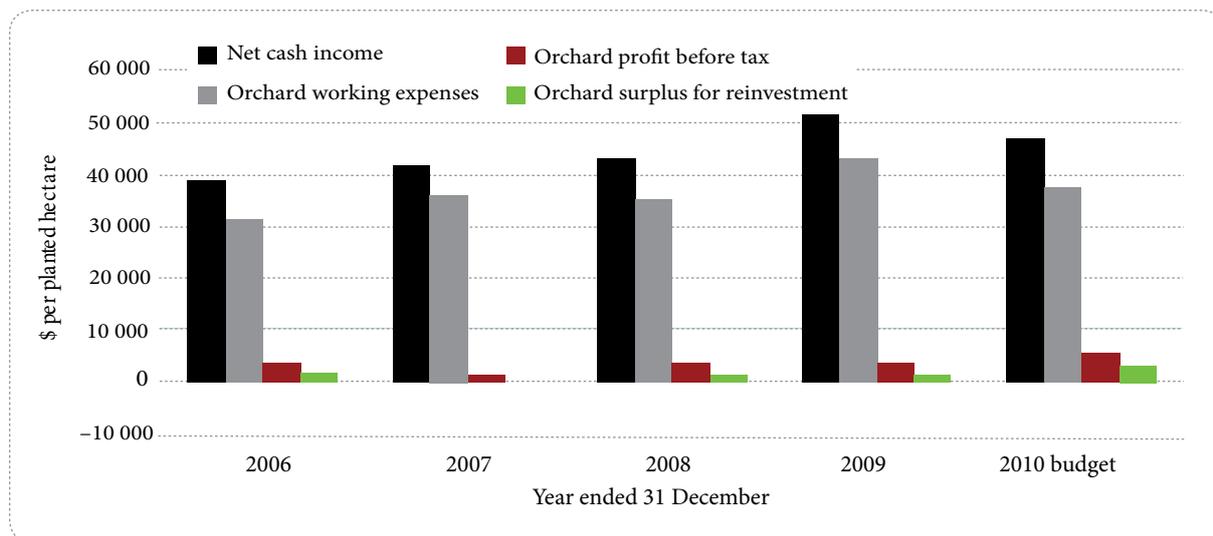
#### CAUTIOUS OPTIMISM AROUND NET RESULT

In 2010, the model is anticipating a cash operating surplus of approximately \$214 000, an increase of 21 percent on 2009. Some growers were able to take advantage of lower interest rates when re-structuring term debt or chose to remain with the floating rate. Hence interest payments in 2010 are expected to remain around \$50 000 despite an increase in opening debt. A rise in tax payment is expected, resulting in a net trading profit after tax of \$97 600, up 53 percent on last year.

Development and capital expenditure are expected to drop back as growers take stock of their redevelopment plans. The poor market returns achieved in 2009 for the club varieties Jazz™ and Tentation™ came as a shock to many growers, and is likely to have contributed to a slowdown in redevelopment plans in 2010. Growers are reluctant to take on new debt and instead are likely to focus on bringing their existing plantings up to full production.

By September 2010, growers will know whether actual returns match up to these early estimates. If they do, some may change patterns of expenditure on capital and debt reduction in the current 2010 financial year.

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



»» TABLE 3: HAWKE'S BAY WEATHER DATA

MONTH	RAINFALL (mm)			GROWING DEGREE DAYS <sup>1</sup> (GDD)		
	2008/09	2009/10	AVERAGE	2008/09	2009/10	AVERAGE
June	49	143	69	12	11	20
July	135	86	103	20	5	14
August	26	49	56	24	40	20
September	28	88	52	46	43	47
October	29	118	51	101	56	102
November	16	15	49	143	138	146
December	30	77	45	247	187	216
January	2	147	45	261	224	250
February	72	24	54	258	238	227
March	24	13	64	165	205	197
April	22	24	66	101	113	118
May	79	198	61	34	70	54
<b>Total</b>	<b>613</b>	<b>981</b>	<b>716</b>	<b>1410</b>	<b>1329</b>	<b>1411</b>

**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).



»» TABLE 4: HAWKE'S BAY PIPFRUIT ORCHARD MODEL PRODUCTION AND INCOME DETAILS FOR 2009

YEAR ENDED 31 DECEMBER	AREA (HA)	GROSS YIELD (TCE <sup>1</sup> )	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN (\$/TCE)	NON-EXPORT RETURN (\$/TCE)	REVENUE (\$)
<b>VARIETY</b>							
Braeburn	4.8	19 844	72	14 288	16.00	0.85	233 325
Fuji	3.1	8 901	76	6 765	25.60	0.55	174 355
Granny Smith	0.9	2 851	53	1 511	20.80	1.65	33 645
Jazz™	2.2	2 772	72	1 996	21.65	0.65	43 715
Pacific Beauty™	0.7	1 624	68	1 104	33.00	3.30	38 150
Pacific Queen™	1.1	3 003	73	2 192	35.80	4.00	81 725
Pacific Rose™	1.5	4 389	53	2 326	29.70	7.40	84 350
Pink Lady™	1.1	2 970	73	2 168	24.00	0.20	52 195
Royal Gala	6.6	21 780	81	17 642	20.80	1.00	371 090
<b>Total/average</b>	<b>22.0</b>	<b>68 135</b>	<b>73</b>	<b>49 990</b>	<b>21.60</b>	<b>1.83</b>	<b>1 112 550</b>

**Notes**

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

»» TABLE 5: HAWKE'S BAY PIPFRUIT ORCHARD MODEL BUDGET PRODUCTION AND INCOME DETAILS FOR 2010

YEAR ENDED 31 DECEMBER	AREA (HA)	GROSS YIELD (TCE <sup>1</sup> )	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN (\$/TCE)	NON-EXPORT RETURN (\$/TCE)	REVENUE (\$)
<b>VARIETY</b>							
Braeburn	4.4	16 280	57	9 280	20.50	1.20	198 630
Fuji	3.3	8 498	62	5 268	27.80	0.90	149 370
Granny Smith	0.9	2 737	57	1 560	23.25	2.70	39 445
Jazz™	2.2	3 388	73	2 473	23.00	0.75	57 570
Pacific Beauty™	0.7	1 208	64	773	29.25	4.40	24 525
Pacific Queen™	1.3	2 772	55	1 525	30.20	5.40	52 780
Pacific Rose™	1.3	3 010	55	1 655	28.40	8.00	57 845
Pink Lady™	1.3	3 234	60	1 940	25.85	0.85	51 260
Royal Gala	6.6	20 592	70	14 414	22.75	1.45	336 825
<b>Total/average</b>	<b>22.0</b>	<b>61 720</b>	<b>63</b>	<b>38 890</b>	<b>23.75</b>	<b>1.96</b>	<b>968 250</b>

**Notes**

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

»» TABLE 6: HAWKE'S BAY PIPFRUIT ORCHARD MODEL BUDGET

	2008	2009				2010 BUDGET			
	WHOLE ORCHARD (\$)	WHOLE ORCHARD (\$)	PER PLANTED HA (\$)	PER TCE <sup>1</sup> GROSS (\$)	PER TCE EXPORT (\$)	WHOLE ORCHARD (\$)	PER PLANTED (\$)	PER TCE GROSS (\$)	PER TCE EXPORT (\$)
<b>REVENUE</b>									
Pipfruit income	928 900	1 112 550	50 570	16.33	22.25	968 250	44 011	15.69	24.90
Other orchard income	19 200	17 500	795	0.26	0.35	66 000	3 000	1.07	1.70
<b>Net cash income</b>	<b>948 100</b>	<b>1 130 050</b>	<b>51 366</b>	<b>16.59</b>	<b>22.60</b>	<b>1 034 250</b>	<b>47 011</b>	<b>16.76</b>	<b>26.59</b>
<b>Orchard working expenses</b>	<b>771 700</b>	<b>952 850</b>	<b>43 312</b>	<b>13.99</b>	<b>19.06</b>	<b>820 400</b>	<b>37 291</b>	<b>13.29</b>	<b>21.10</b>
<b>Cash operating surplus</b>	<b>176 400</b>	<b>177 200</b>	<b>8 054</b>	<b>2.60</b>	<b>3.54</b>	<b>213 850</b>	<b>9 720</b>	<b>3.46</b>	<b>5.50</b>
Interest	52 000	50 000	2 273	0.73	1.00	47 500	2 159	0.77	1.22
Rent and/or leases	20 400	21 000	955	0.31	0.42	21 000	955	0.34	0.54
Depreciation	23 100	27 500	1 250	0.40	0.55	26 750	1 216	0.43	0.69
Net non-fruit cash income	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Orchard profit before tax</b>	<b>80 900</b>	<b>78 700</b>	<b>3 577</b>	<b>1.15</b>	<b>1.57</b>	<b>118 600</b>	<b>5 391</b>	<b>1.92</b>	<b>3.05</b>
Tax	13 000	15 000	682	0.22	0.30	21 000	955	0.34	0.54
<b>Orchard profit after tax</b>	<b>67 900</b>	<b>63 700</b>	<b>2 895</b>	<b>0.93</b>	<b>1.27</b>	<b>97 600</b>	<b>4 436</b>	<b>1.58</b>	<b>2.51</b>
Add back depreciation	23 100	27 500	1 250	0.40	0.55	26 750	1 216	0.43	0.69
Off-orchard cash income	22 700	19 400	882	0.28	0.39	14 200	645	0.23	0.37
<b>Discretionary cash</b>	<b>113 700</b>	<b>110 600</b>	<b>5 027</b>	<b>1.62</b>	<b>2.21</b>	<b>138 550</b>	<b>6 298</b>	<b>2.24</b>	<b>3.56</b>
<b>APPLIED TO:</b>									
Net capital purchases	25 300	33 000	1 500	0.48	0.66	8 250	375	0.13	0.21
Development	21 500	38 500	1 750	0.57	0.77	15 500	705	0.25	0.40
Drawings	59 400	59 500	2 705	0.87	1.19	55 500	2 523	0.90	1.43
Principal repayments	0	0	0	0.00	0.00	6 500	295	0.11	0.17
New borrowings	0	45 000	2 045	0.66	0.90	0	0	0.00	0.00
Introduced funds	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Cash surplus/deficit</b>	<b>7 500</b>	<b>24 600</b>	<b>1 118</b>	<b>0.36</b>	<b>0.49</b>	<b>52 800</b>	<b>2 400</b>	<b>0.86</b>	<b>1.36</b>
<b>Orchard surplus for reinvestment<sup>2</sup></b>	<b>31 600</b>	<b>31 700</b>	<b>1 440</b>	<b>0.47</b>	<b>0.63</b>	<b>68 850</b>	<b>3 129</b>	<b>1.12</b>	<b>1.77</b>
<b>ASSETS AND LIABILITIES<sup>3</sup></b>									
Land and building (opening)	1 750 000	1 650 000	110 000	24.22	33.00	1 650 000	110 000	26.73	42.43
Plant and machinery (opening)	96 800	100 000	6 667	1.47	2.00	110 000	7 333	1.78	2.83
Orchard related investments (opening)	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Total orchard assets (opening)</b>	<b>1 846 800</b>	<b>1 750 000</b>	<b>116 667</b>	<b>25.68</b>	<b>35.00</b>	<b>1 760 000</b>	<b>117 333</b>	<b>28.52</b>	<b>45.26</b>
<b>Total liabilities (opening)</b>	<b>545 000</b>	<b>600 000</b>	<b>40 000</b>	<b>8.81</b>	<b>12.00</b>	<b>645 000</b>	<b>43 000</b>	<b>10.45</b>	<b>16.59</b>
<b>Total equity</b>	<b>1 301 800</b>	<b>1 150 000</b>	<b>76 667</b>	<b>16.88</b>	<b>23.00</b>	<b>1 115 000</b>	<b>74 333</b>	<b>18.07</b>	<b>28.67</b>

**Notes**

1 Tray carton equivalent.

2 Orchard surplus for reinvestment is calculated as follows: discretionary cash less off-orchard income and 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.



»» TABLE 7: HAWKE'S BAY PIPFRUIT ORCHARD MODEL EXPENDITURE

	2008	2009				2010 BUDGET			
	WHOLE ORCHARD (\$)	WHOLE ORCHARD (\$)	PER PLANTED HA (\$)	PER TCE <sup>1</sup> GROSS (\$)	PER TCE EXPORT (\$)	WHOLE ORCHARD (\$)	PER PLANTED (\$)	PER TCE GROSS (\$)	PER TCE EXPORT (\$)
<b>ORCHARD WORKING EXPENSES</b>									
Hand harvesting	112 700	143 080	6 504	2.10	2.86	127 755	5 807	2.07	3.29
Pruning	38 500	39 700	1 805	0.58	0.79	39 700	1 805	0.64	1.02
Thinning	52 200	47 600	2 164	0.70	0.95	49 000	2 227	0.79	1.26
Other wages	40 900	42 000	1 909	0.62	0.84	40 500	1 841	0.66	1.04
ACC - employees	2 900	2 530	115	0.04	0.05	2 400	109	0.04	0.06
<b>Total labour expenses</b>	<b>247 200</b>	<b>274 910</b>	<b>12 496</b>	<b>4.03</b>	<b>5.50</b>	<b>259 355</b>	<b>11 789</b>	<b>4.20</b>	<b>6.67</b>
Packing	152 900	209 966	9 544	3.08	4.20	170 722	7 760	2.77	4.39
Packaging	132 400	197 468	8 976	2.90	3.95	150 890	6 859	2.44	3.88
Cool storage	62 100	92 485	4 204	1.36	1.85	71 167	3 235	1.15	1.83
Freight	12 900	13 627	619	0.20	0.27	12 344	561	0.20	0.32
<b>Total post harvest expenses</b>	<b>360 300</b>	<b>513 540</b>	<b>23 343</b>	<b>7.54</b>	<b>10.27</b>	<b>405 123</b>	<b>18 415</b>	<b>6.56</b>	<b>10.42</b>
Weed and pest control	53 300	55 400	2 518	0.81	1.11	53 900	2 450	0.87	1.39
Pollination	1 100	1 350	61	0.02	0.03	1 450	66	0.02	0.04
Fertiliser and lime	2 300	3 750	170	0.06	0.08	3 500	159	0.06	0.09
Electricity	4 400	3 500	159	0.05	0.07	3 300	150	0.05	0.08
Vehicle	12 200	11 600	527	0.17	0.23	11 000	500	0.18	0.28
Fuel	15 900	11 400	518	0.17	0.23	11 400	518	0.18	0.29
Repairs and maintenance	18 200	20 600	936	0.30	0.41	16 600	755	0.27	0.43
General	8 600	7 850	357	0.12	0.16	8 000	364	0.13	0.21
Frost protection	900	900	41	0.01	0.02	900	41	0.01	0.02
Contract machine work	1 900	1 250	57	0.02	0.03	1 200	55	0.02	0.03
<b>Total other working expenses</b>	<b>118 800</b>	<b>117 600</b>	<b>5 345</b>	<b>1.73</b>	<b>2.35</b>	<b>111 250</b>	<b>5 057</b>	<b>1.80</b>	<b>2.86</b>
Rates	5 200	5 200	236	0.08	0.10	5 250	239	0.09	0.13
Water rates	0	0	0	0.00	0.00	0	0	0.00	0.00
General insurance	3 900	4 200	191	0.06	0.08	4 200	191	0.07	0.11
Crop insurance	10 300	10 300	468	0.15	0.21	11 800	536	0.19	0.30
ACC owners	1 700	2 900	132	0.04	0.06	2 800	127	0.05	0.07
Communication	3 100	2 700	123	0.04	0.05	2 600	118	0.04	0.07
Accounting	4 800	3 150	143	0.05	0.06	3 200	145	0.05	0.08
Legal and consultancy	3 200	2 850	130	0.04	0.06	2 600	118	0.04	0.07
Levies and subscriptions	9 900	12 000	545	0.18	0.24	9 722	442	0.16	0.25
Other administration	3 300	3 500	159	0.05	0.07	2 500	114	0.04	0.06
<b>Total overhead expenses</b>	<b>45 400</b>	<b>46 800</b>	<b>2 127</b>	<b>0.69</b>	<b>0.94</b>	<b>44 672</b>	<b>2 031</b>	<b>0.72</b>	<b>1.15</b>
<b>Total orchard working expenses</b>	<b>771 700</b>	<b>952 850</b>	<b>43 312</b>	<b>13.99</b>	<b>19.06</b>	<b>820 400</b>	<b>37 291</b>	<b>13.29</b>	<b>21.10</b>
<b>CALCULATED RATIOS</b>									
Economic orchard surplus (EOS) <sup>2</sup>	103 800	101 190	4 600	1.49	2.02	138 500	6 295	2.24	3.56
Orchard working expenses/NCI <sup>3</sup>	81%	84%				79%			
EOS/total orchard assets	5.6%	5.8%				7.9%			
EOS less interest and lease/equity	2.4%	2.6%				6.3%			
Interest+rent+lease/NCI	7.6%	6.3%				6.6%			
EOS/NCI	10.9%	9.0%				13.4%			
Wages of management	49 500	48 500	2 205	0.71	0.97	48 600	2 209	0.79	1.25

**Notes**

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.

# NELSON PIPFRUIT

## FINANCIAL PERFORMANCE OF THE NELSON PIPFRUIT ORCHARD MODEL IN 2009



The Nelson model experienced a substantial loss before tax of approximately \$227 000 in 2009 despite an increase in export yield of 6 percent. Poor market returns for Braeburn, and in particular for the recently planted varieties Jazz™ and Tentation™, was the main reason for the constraint on revenue. This is a disappointing outcome following a profit of \$177 000 in 2008.

Income from pipfruit in 2009 was enhanced with an increase in other orchard income to \$30 000. About half of the monitored growers have holdings of secondary crops such as kiwifruit, hops and boysenberries.

The planted area for the Nelson pipfruit orchard model remains stable at 27 hectares in 2009 following a period of expansion and development over recent years. The model has 22 hectares owned and 5 hectares leased.

### A GOOD GROWING SEASON PROVIDES A FIRM FOUNDATION

Many growers considered the 2008/09 pipfruit growing season in Nelson among the best in recent years with minimal disruption from adverse weather conditions. Excellent fruit quality was apparent with good brix levels and good colour.

Most growers had an adequate supply of labour, being able to choose from a mix of New Zealanders, backpackers and workers employed under the Recognised Seasonal Employer scheme. Large volumes of fruit coming on stream early, along with a substantial rise in fruit volumes from new plantings of Jazz™ created challenges for pickers and packhouses. However, the situation was greatly assisted with little or no rain over the main harvest period.

Braeburn production per hectare was 8 percent up on 2008 due to a good growing season. The gross yield for Braeburn within the model underwent little change given the planted area for this variety decreased from 8.1 to 7.6 hectares. Warmer, wetter conditions earlier in the season were favourable for Royal Gala but negatively impacted on Cox, for which production was down approximately 20 percent per hectare. Plantings of Jazz™, as well as Pink Lady™ and Tentation™ (represented under other apples), showed production increases as new plantings came on stream.

The Braeburn packout at 69 percent was down on 2008, as this variety experienced slow colour development due to warmer weather and large crop loads. Better thinning results from chemical thinners and the warmer wetter season helped lift the export recovery rate for Royal Gala to 83 percent. Sunburn and stem pulls reduced packout rates for the Jazz™ variety to 82 percent, down from 86 percent in 2008. A wet spring and wind rub caused some russet for the Tentation™ variety, which lowered packouts.

The main pear varieties of Doyenne du Comice and Taylors Gold both had good production increases in 2009.

### PREMIUMS FOR NEW VARIETIES NOT MAINTAINED

The average weighted return per export carton for the Nelson model in 2009 was \$18.60, far less than growers

»» TABLE 8: NELSON PIPFRUIT ORCHARD MODEL FAS<sup>1</sup> EXPORT RETURNS

YEAR ENDED 31 DECEMBER	2006 (\$/TCE <sup>2</sup> )	2007 (\$/TCE)	2008 (\$/TCE)	2009 (\$/TCE)	2010 BUDGET (\$/TCE)
<b>VARIETY</b>					
Braeburn	18.06	16.90	24.00	16.20	20.20
Royal Gala	19.49	18.65	22.60	19.50	21.20
Cox Orange	20.00	23.33	21.60	23.00	23.00
Jazz™	33.25	27.44	30.30	21.50	22.00
Other apples	19.22	23.60	27.30	17.60	26.00
Pears	33.44	29.58	29.60	23.40	28.00
<b>Weighted average</b>	<b>19.62</b>	<b>18.89</b>	<b>24.82</b>	<b>18.60</b>	<b>22.15</b>

**Notes**

- 1 Free alongside ship.  
2 Tray carton equivalent.

expected, and lower than the average cost of production.

Returns from recently planted and newer varieties such as Tentation™ and Jazz™ were very disappointing. A market return of only \$7.10 per export carton for Tentation™ was realised, failing to even cover post-harvest costs. It was the third year, since the rise to prominence of this variety in Nelson, that prices have been unsatisfactory.

Jazz™ also failed to deliver the premium returns that growers need to justify the sizeable investment in orchard development and crop management. Jazz™ averaged \$21.50 per export carton, down from returns ranging from \$27 to \$33 achieved over recent years (refer to Table 8).

Growers accept that reduced consumer demand due to the global recession, large supplies of competing fruit in Continental Europe and the UK (the main export markets for Nelson-grown pipfruit varieties), and a volatile and appreciating New Zealand dollar, all contributed to the poor market returns of 2009. Growers have concerns about how long it will take to recover the price premiums for both Jazz™ and Tentation™ as they lack the financial resources to sustain an extended period of low returns.

By contrast, Pink Lady™ managed to maintain its market premium. More growers are looking at grafting over Tentation™ and some poor performing Jazz™, to redder strains of Pink Lady™. Prices achieved for Pink Lady™ in 2009 ranged between \$21.00 and \$28.00 per export carton amongst the monitored group; growers were generally satisfied with these returns given the challenging market conditions in 2009.

The Braeburn price of \$16.20 per export carton was significantly down on the \$24.00 achieved in 2008. However many growers in the local industry made strategic decisions some years ago to reduce their dependency on this variety along with aged plantings of Royal Gala.

The low yields from Cox, its biennial bearing tendency, combined with poor market returns are placing this variety under extreme pressure. Plantings of this variety in the Nelson region have declined from 222 to 161 planted hectares over the last five years.

Both major pear varieties suffered from lower returns, however the Comice price held up better than Taylors Gold. This places Taylors Gold under closer scrutiny by growers as increased packing costs mean the net return per hectare is insufficient.

## STEADY RISE IN UNIT COSTS

Orchard working expenses were up 14 percent overall on 2008 to \$1.28 million or \$21.83 per export carton, due to an increase in export yield of 6 percent, and higher expenditure in some categories.

A contributing factor to the increase in orchard working expenses is the move by many growers to a more intensive system of growing new varieties. Not only are growers' upskilling in how to grow a new variety, but also how to manage that variety under a dwarf rootstock system. The model now has 45 percent of trees grown under an intensive planting regime, mirroring the circumstances of monitored growers.

Labour expenses increased 19 percent overall in 2009 to \$410 300. Growers spent more on pruning, expecting the 2009 crop to provide favourable returns - unfortunately this was not to be. Expenditure on other wages increased as growers took on an extra staff member to string and train branches on newly planted trees.

Several large packing operators in the region have made significant investment in new plant and equipment such as optical graders. Combined with higher wage rates, this resulted in increased packing charges.

Weather conditions were favourable for good chemical thinning of the 2009/10 crop. However, growers were concerned about the risk of over-thinning and instead reduced the number of applications. This meant that more money was spent on hand thinning.

Expenditure on weed and pest control was up 6 percent to \$82 100, mostly due to a very wet spring 2009 (refer to Table 9 for monthly rainfall and growing degree days data). A severe outbreak of black spot meant that some areas required frequent spray applications throughout the season. Growers increased the number of calcium sprays on sensitive varieties such as Jazz™ to lessen the risk of storage disorders.

Expenditure on repairs and maintenance increased 29 percent to \$44 800 as growers, with an expectation of good market returns in 2009, looked to catch up on deferred expenditure. General expenditure also increased as growers put additional effort into tidying up around orchards. Contract machinery expenditure was higher with main activities being more hedge and shelter trimming, removal of old trees and small scale sterilising in preparation for replants.

The majority of monitored growers took out crop insurance in 2009. Due to growers' lack of financial resources to buffer against adverse climatic events such as hail, most are expected to continue to take out hail insurance. Insurance premiums for hail insurance have decreased slightly through increased competition locally and through insuring for lower amounts.

Expenditure on other administration rose as growers spent more on compliance related activities and purchasing additional software.

## NET RESULT INSUFFICIENT GIVEN RECENT MOVES TO REDEVELOP ORCHARDS

The model returned a cash operating deficit of approximately \$77 000, down \$390 700 on that achieved in 2008. Making allowance for interest, lease and depreciation costs this resulted in a significant orchard loss of \$227 000.

The model has taken on additional debt of \$70 000, and divested itself of its orchard related investments. Lower interest rates over the year have helped mitigate the amount of interest paid on the model.

Growers had already committed to their development expenditure in 2009 so were unable to change plans when confirmation of less than expected market returns filtered through. Planned expenditure on capital items was significantly reduced as a result.

Growers in the Nelson region were shocked and disappointed with the outcome from the 2009 season, in particular with the erosion of price premiums for the new varieties in which so many have invested. The majority of pipfruit growers in the Nelson area have failed to break even in 2009; most would have probably made a loss.

Interest rates are the lowest they have been for many years, which is fortunate as further borrowing is a necessity for many businesses. Banks have provided interest-only loans at the lower rates and continue to assess growers' financial positions to confirm orchard viability.

Growers have taken various actions to improve business viability, including introducing additional capital into the orchard business, restructuring the business by selling a portion of the orchard, and redevelopment into other horticulture crops.

## **BUDGET FINANCIAL PERFORMANCE OF THE NELSON PIPFRUIT ORCHARD MODEL IN 2010**

Net cash income for the model in 2010 is expected to reach approximately \$1.377 million, an increase of 14 percent on the previous year, mainly due to price improvements across all varieties apart from Cox Orange. Both growers and exporters in the region are still quite reserved on final market out-turn. They are aware that export sales continue well into October 2010 and the exchange rate has been unfavourable against the Euro and UK pound in particular. Despite the lift in overall income, a loss of approximately \$28 000 is budgeted in the model this year.

### **REVENUE LIFTED BY EXPECTATIONS OF IMPROVED MARKET RETURNS**

Nelson growers experienced mixed results with fruit volume and quality in the 2009/10 season. This mixed outcome was the result of spring frosts, an abnormally high incidence of black spot on some orchards, as well as incidences of russet and wind rub.

Production from Jazz™ and Pink Lady™ varieties is increasing reflecting the large number of young trees that continue to increase yield as they mature. Only Braeburn and Doyenne du Comice are expected to have lower production than in 2009 with an early spring frost and an off-biennial year respectively, accounting for this result. In the case of Braeburn, the decrease in the model planted area from 28 to 25 percent is also a contributing factor.

The average export recovery rate across all varieties in 2010 is expected to only reach 70 percent, the lowest average recovery rate for the model this decade. The cooler wetter spring of 2009 raised 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 packouts 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 reported a packout of 74 percent, approximately 6 percent below the average of recent years. This is due mainly to wind damage in the more exposed sites and sunburn caused during harvest 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.

### **A CONSERVATIVE APPROACH TAKEN TO 2010 MARKET RETURNS**

Growers and industry leaders are reserved on the likely market returns for 2010. This approach seems justified given the high New Zealand dollar particularly against the Euro and UK pound, and below par returns for premium varieties last season. A weighted average export return of \$22.15 is predicted for the Nelson model this

year, an increase of 19 percent on the average return achieved in 2009.

Market returns for Jazz™ are predicted to rise only 50 cents to \$22.00 per export carton in 2010. Such an outcome is likely to be a major disappointment to those growers who have invested heavily in this variety. Braeburn prices are expected to bounce back by \$4.00 to \$20.20 per export carton on the back of a smaller national export volume of this variety.

### GROWERS WORK HARD TO CONSTRAIN EXPENDITURE

Given the poor financial outcome from the previous season, growers are expected to constrain expenditure where possible in 2010. Total orchard working expenses are expected to remain stable at approximately \$47 000 per planted hectare, with necessary increases in expenditure offset by savings elsewhere.

### NET RESULT REFLECT GROWER EFFORTS TO STAY AFLOAT IN DIFFICULT TIMES

Most monitored orchards are expecting an improvement in cash operating surplus compared with 2009, driven by an increase in market returns. A cash operating surplus of \$109 000 is budgeted compared with a deficit of \$77 000 last year.

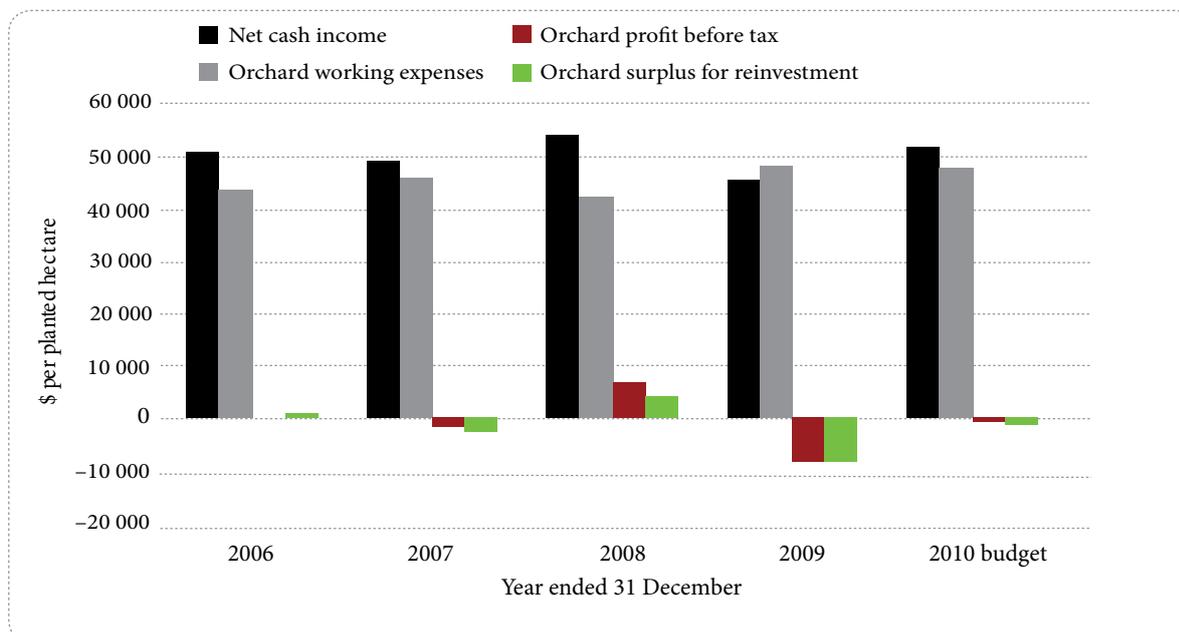
Orchard redevelopment is still evident in the region, with plantings of Braeburn and Royal Gala continuing to decline as growers forego lease blocks and pull out lower producing trees.

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;
- › changing packhouses and exporters.

Banks continue to manage their current suite of clients carefully and are cautious in taking on growers looking to change banks. They 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.

»» FIGURE 2: NELSON PIPFRUIT ORCHARD MODEL PROFITABILITY TRENDS



»» TABLE 9: NELSON WEATHER DATA

MONTH	RAINFALL (mm)			GROWING DEGREE DAYS <sup>1</sup> (GDD)		
	2008/09	2009/10	AVERAGE	2008/09	2009/10	AVERAGE
June	99	148	132	4	5	6
July	206	90	143	5	0	3
August	195	174	151	10	25	7
September	85	113	113	46	25	29
October	76	154	127	82	43	76
November	122	67	102	122	139	124
December	119	40	96	207	186	194
January	12	90	80	249	247	237
February	151	22	78	224	233	214
March	65	26	99	149	192	177
April	57	61	118	88	105	85
May	38	219	115	5	70	30
<b>Total</b>	<b>1224</b>	<b>1203</b>	<b>1353</b>	<b>1191</b>	<b>1269</b>	<b>1180</b>

**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 PRODUCTION AND INCOME DETAILS FOR 2009

YEAR ENDED 31 DECEMBER	AREA (HA)	GROSS YIELD (TCE <sup>1</sup> )	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN (\$/TCE)	NON-EXPORT RETURN (\$/TCE)	REVENUE (\$)
<b>VARIETY</b>							
Braeburn	7.6	34 245	69	23 630	16.20	5.60	442 260
Royal Gala	5.9	17 850	83	14 815	19.50	2.70	297 090
Jazz™	5.1	10 160	82	8 330	21.50	0.80	180 540
Other apples	4.1	9 460	67	6 335	17.60	1.70	116 820
Cox Orange	1.4	2 580	66	1 705	23.00	1.50	40 460
Pears	3.0	6 205	65	4 035	23.40	3.00	100 930
<b>Total/average</b>	<b>27.0</b>	<b>80 500</b>	<b>73</b>	<b>58 850</b>	<b>18.60</b>	<b>3.80</b>	<b>1 178 100</b>

**Notes**

Figures may not add to totals due to rounding.

1 Tray carton equivalent.

»» TABLE 11: NELSON PIPFRUIT ORCHARD MODEL BUDGET PRODUCTION AND INCOME DETAILS FOR 2010

YEAR ENDED 31 DECEMBER	AREA (HA)	GROSS YIELD (TCE <sup>1</sup> )	EXPORT RECOVERY (%)	TOTAL EXPORT CARTONS	EXPORT RETURN (\$/TCE)	NON-EXPORT RETURN (\$/TCE)	REVENUE (\$)
<b>VARIETY</b>							
Braeburn	6.8	27 020	65	17 565	20.20	5.70	408 680
Royal Gala	5.9	19 510	74	14 440	21.20	4.90	330 980
Jazz™	5.7	14 150	79	11 175	22.00	0.70	247 950
Other apples	4.3	10 630	66	7 015	26.00	1.30	187 060
Cox Orange	1.4	3 040	68	2 065	23.00	2.00	49 450
Pears	3.0	5 435	62	3 370	28.00	5.90	106 540
<b>Total/average</b>	<b>27.0</b>	<b>79 780</b>	<b>70</b>	<b>55 630</b>	<b>22.15</b>	<b>4.13</b>	<b>1 330 660</b>

**Notes**

Figures may not add to totals due to rounding.

1 Tray carton equivalent.

»» TABLE 12: NELSON PIPFRUIT ORCHARD MODEL BUDGET

	2008		2009			2010 BUDGET			
	WHOLE ORCHARD (\$)	WHOLE ORCHARD (\$)	PER PLANTED HA (\$)	PER TCE <sup>1</sup> GROSS (\$)	PER TCE EXPORT (\$)	WHOLE ORCHARD (\$)	PER PLANTED (\$)	PER TCE GROSS (\$)	PER TCE EXPORT (\$)
<b>REVENUE</b>									
Pipfruit income	1 414 900	1 178 100	43 633	14.64	20.02	1 330 660	49 284	16.68	23.92
Other orchard income	24 400	30 000	1 111	0.37	0.51	46 000	1 704	0.58	0.83
<b>Net cash income</b>	<b>1 439 300</b>	<b>1 208 100</b>	<b>44 744</b>	<b>15.01</b>	<b>20.53</b>	<b>1 376 660</b>	<b>50 987</b>	<b>17.26</b>	<b>24.75</b>
<b>Orchard working expenses</b>	<b>1 125 200</b>	<b>1 284 740</b>	<b>47 583</b>	<b>15.96</b>	<b>21.83</b>	<b>1 267 195</b>	<b>46 933</b>	<b>15.88</b>	<b>22.78</b>
<b>Cash operating surplus</b>	<b>314 100</b>	<b>-76 640</b>	<b>-2 839</b>	<b>-0.95</b>	<b>-1.30</b>	<b>109 465</b>	<b>4 054</b>	<b>1.37</b>	<b>1.97</b>
Interest	84 000	84 000	3 111	1.04	1.43	75 800	2 807	0.95	1.36
Rent and/or leases	28 500	30 000	1 111	0.37	0.51	30 000	1 111	0.38	0.54
Depreciation	24 600	35 900	1 330	0.45	0.61	32 000	1 185	0.40	0.58
Net non-fruit cash income	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Orchard profit before tax</b>	<b>177 000</b>	<b>-226 540</b>	<b>-8 390</b>	<b>-2.81</b>	<b>-3.85</b>	<b>-28 335</b>	<b>-1 050</b>	<b>-0.36</b>	<b>-0.51</b>
Tax	42 000	0	0	0.00	0.00	0	0	0.00	0.00
<b>Orchard profit after tax</b>	<b>135 000</b>	<b>-226 540</b>	<b>-8 390</b>	<b>-2.81</b>	<b>-3.85</b>	<b>-28 335</b>	<b>-1 050</b>	<b>-0.36</b>	<b>-0.51</b>
Add back depreciation	24 600	35 900	1 330	0.45	0.61	32 000	1 185	0.40	0.58
Off-orchard cash income	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Discretionary cash</b>	<b>159 600</b>	<b>-190 640</b>	<b>-7 061</b>	<b>-2.37</b>	<b>-3.24</b>	<b>3 665</b>	<b>136</b>	<b>0.05</b>	<b>0.07</b>
<b>APPLIED TO:</b>									
Net capital purchases	29 900	10 000	370	0.12	0.17	7 000	259	0.09	0.13
Development	83 700	80 000	2 963	0.99	1.36	65 000	2 407	0.81	1.17
Drawings	55 000	38 000	1 407	0.47	0.65	42 000	1 556	0.53	0.76
Principal repayments	27 000	0	0	0.00	0.00	0	0	0.00	0.00
New borrowings	22 000	70 000	2 593	0.87	1.19	0	0	0.00	0.00
Introduced funds	0	0	0	0.00	0.00	0	0	0.00	0.00
<b>Cash surplus/deficit</b>	<b>-14 000</b>	<b>-248 640</b>	<b>-9 209</b>	<b>-3.09</b>	<b>-4.23</b>	<b>-110 335</b>	<b>-4 087</b>	<b>-1.38</b>	<b>-1.98</b>
<b>Orchard surplus for reinvestment<sup>2</sup></b>	<b>104 600</b>	<b>-228 640</b>	<b>-8 468</b>	<b>-2.84</b>	<b>-3.89</b>	<b>-38 335</b>	<b>-1 420</b>	<b>-0.48</b>	<b>-0.69</b>
<b>ASSETS AND LIABILITIES<sup>3</sup></b>									
Land and building (opening)	2 511 000	2 511 000	114 136	31.19	42.67	2 511 000	114 136	31.47	45.14
Plant and machinery (opening)	216 000	195 000	8 864	2.42	3.31	175 000	7 955	2.19	3.15
Orchard related investments (opening)	108 000	0	0	0.00	0.00	0	0	0.00	0.00
<b>Total orchard assets (opening)</b>	<b>2 835 000</b>	<b>2 706 000</b>	<b>123 000</b>	<b>33.62</b>	<b>45.98</b>	<b>2 686 000</b>	<b>122 091</b>	<b>33.67</b>	<b>48.29</b>
<b>Total liabilities (opening)</b>	<b>955 000</b>	<b>977 000</b>	<b>44 409</b>	<b>12.14</b>	<b>16.60</b>	<b>1 047 000</b>	<b>47 951</b>	<b>13.12</b>	<b>18.82</b>
<b>Total equity</b>	<b>1 880 000</b>	<b>1 729 000</b>	<b>78 591</b>	<b>21.48</b>	<b>29.38</b>	<b>1 639 000</b>	<b>74 500</b>	<b>20.54</b>	<b>29.46</b>

**Notes**

1 Tray carton equivalent.

2 Orchard surplus for reinvestment is calculated as follows: discretionary cash less off-orchard income and 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 22 hectares; not owned and leased planted area of 27 hectares.

»» TABLE 13: NELSON PIPFRUIT ORCHARD MODEL EXPENDITURE

	2008		2009			2010 BUDGET			
	WHOLE ORCHARD (\$)	WHOLE ORCHARD (\$)	PER PLANTED HA (\$)	PER TCE <sup>1</sup> GROSS (\$)	PER TCE EXPORT (\$)	WHOLE ORCHARD (\$)	PER PLANTED (\$)	PER TCE GROSS (\$)	PER TCE EXPORT (\$)
<b>ORCHARD WORKING EXPENSES</b>									
Hand harvesting	150 200	163 410	6 052	2.03	2.78	157 965	5 851	1.98	2.84
Pruning	55 000	58 725	2 175	0.73	1.00	61 155	2 265	0.77	1.10
Thinning	53 700	65 205	2 415	0.81	1.11	63 855	2 365	0.80	1.15
Other wages	79 200	117 315	4 345	1.46	1.99	114 750	4 250	1.44	2.06
ACC - employees	5 600	5 670	210	0.07	0.10	6 480	240	0.08	0.12
<b>Total labour expenses</b>	<b>343 700</b>	<b>410 325</b>	<b>15 197</b>	<b>5.10</b>	<b>6.97</b>	<b>404 205</b>	<b>14 971</b>	<b>5.07</b>	<b>7.27</b>
Packing	210 300	229 505	8 500	2.85	3.90	219 730	8 138	2.75	3.95
Packaging	202 000	229 505	8 500	2.85	3.90	220 840	8 179	2.77	3.97
Cool storage	93 800	100 040	3 705	1.24	1.70	99 575	3 688	1.25	1.79
Freight	13 600	12 880	477	0.16	0.22	11 965	443	0.15	0.22
<b>Total post-harvest expenses</b>	<b>519 700</b>	<b>571 930</b>	<b>21 183</b>	<b>7.11</b>	<b>9.72</b>	<b>552 110</b>	<b>20 449</b>	<b>6.92</b>	<b>9.93</b>
Weed and pest control	77 300	82 080	3 040	1.02	1.39	88 830	3 290	1.11	1.60
Pollination	4 000	4 590	170	0.06	0.08	4 995	185	0.06	0.09
Fertiliser and lime	12 200	15 525	575	0.19	0.26	15 390	570	0.19	0.28
Electricity	8 900	10 530	390	0.13	0.18	10 395	385	0.13	0.19
Vehicle	21 900	18 765	695	0.23	0.32	20 115	745	0.25	0.36
Fuel	17 300	16 875	625	0.21	0.29	18 495	685	0.23	0.33
Repairs and maintenance	34 700	44 820	1 660	0.56	0.76	41 850	1 550	0.52	0.75
General	13 800	22 950	850	0.29	0.39	24 705	915	0.31	0.44
Frost protection	0	0	0	0.00	0.00	0	0	0.00	0.00
Contract machine work	3 300	9 315	345	0.12	0.16	7 425	275	0.09	0.13
<b>Total other working expenses</b>	<b>193 400</b>	<b>225 450</b>	<b>8 350</b>	<b>2.80</b>	<b>3.83</b>	<b>232 200</b>	<b>8 600</b>	<b>2.91</b>	<b>4.17</b>
Rates	11 700	12 960	480	0.16	0.22	13 905	515	0.17	0.25
Water rates	0	0	0	0.00	0.00	0	0	0.00	0.00
General insurance	10 000	9 855	365	0.12	0.17	10 395	385	0.13	0.19
Crop insurance	11 000	10 395	385	0.13	0.18	9 855	365	0.12	0.18
ACC owners	700	810	30	0.01	0.01	945	35	0.01	0.02
Communication	6 600	6 615	245	0.08	0.11	7 155	265	0.09	0.13
Accounting	4 600	6 210	230	0.08	0.11	6 480	240	0.08	0.12
Legal and consultancy	6 900	8 235	305	0.10	0.14	6 345	235	0.08	0.11
Levies and subscriptions	6 100	7 650	283	0.10	0.13	8 345	309	0.10	0.15
Other administration	10 800	14 310	530	0.18	0.24	15 255	565	0.19	0.27
<b>Total overhead expenses</b>	<b>68 400</b>	<b>77 040</b>	<b>2 853</b>	<b>0.96</b>	<b>1.31</b>	<b>78 680</b>	<b>2 914</b>	<b>0.99</b>	<b>1.41</b>
<b>Total orchard working expenses</b>	<b>1 125 200</b>	<b>1 284 740</b>	<b>47 583</b>	<b>15.96</b>	<b>21.83</b>	<b>1 267 195</b>	<b>46 933</b>	<b>15.88</b>	<b>22.78</b>
<b>CALCULATED RATIOS</b>									
Economic orchard surplus (EOS) <sup>2</sup>	230 100	-170 340	-6 309	-2.12	-2.89	22 265	824	0.28	0.40
Orchard working expenses/NCI <sup>3</sup>	78%	106%				92%			
EOS/total orchard assets	8.1%	-6.3%				0.8%			
EOS less interest and lease/equity	6.3%	-16.4%				-5.0%			
Interest+rent+lease/NCI	7.8%	9.4%				7.6%			
EOS/NCI	16.0%	-14.1%				1.6%			
Wages of management	59 400	57 800	2 141	0.72	0.98	55 200	2 044	0.69	0.99

**Notes**

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.

## 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.

Morale amongst growers in the Hawke's Bay region is mixed. Many were affected by hail damage in 2010, and so have a reduced export crop. Some of those most severely impacted have insufficient income to cover orchard expenditure, which may prompt some to consider an exit strategy. Growers who are more positive have invested in new orchard development, particularly in varieties aimed at the Asian market such as Envy™, high-coloured sports of Fuji, and the Pacific series. Many growers in the region believe that Asia and the Middle East will become more important markets for New Zealand pipfruit. Smaller owner-operator growers are leaving the vertically integrated corporate orchards to grow commodity varieties, such as Braeburn, while owner-operators are focusing more on niche varieties for the Asian market, with even some Jazz™ being grafted over.

Morale amongst growers in the Nelson region is very low as the majority would have failed to break even in 2009; most would have probably made a loss. Contributing factors to this low morale are the current high exchange rate, the ongoing recession in Europe (the destination for most of the pipfruit grown in the Nelson region), and its impact on price premiums. In recent years many growers have diversified into new varieties such as Jazz™ and Tentation™, to provide greater business resilience. Naturally, they are disappointed at the low market returns in 2009, as well as those predicted for 2010.

Growers have taken various actions to improve business viability. In the short-term, the focus is on constraining expenditure where possible. Other strategies are the introduction of additional capital into the orchard business, restructuring the business by selling a portion of the orchard, and redevelopment into other horticulture crops.

### GROWER RESPONSE TO INPUT PRICE CHANGES AND SHORTAGES

Many growers comment that they are price takers, and therefore there is not much they can do apart from accept input prices and pay them. Given the poor financial outcome for many last season, growers are looking to cut expenditure where possible without compromising fruit quality. Some are looking for cheaper alternative sprays as a way to reduce costs. Many growers are limiting their use of plant growth inhibitors deemed to be expensive, such as Regalis. Growers are investigating alternative management strategies such as root pruning to reduce tree vigour.

Growers expect costs for fuel and electricity to increase from 1 July 2010 due to the implementation of the New Zealand Emissions Trading Scheme. Cost creep post-orchard gate is a significant issue for growers, and an area where growers are pushing for greater transparency. Orchard gate costs are typically up to 25 percent of the overall costs of producing and shipping fruit to the main European markets.

Growers in the Nelson region are concerned that as international shipping companies introduce larger vessels to improve their economies of scale, this will mean a reduced number of ports that these vessels can



visit. Hence, Nelson is likely to become a feeder port to a larger port in New Zealand. Industry representatives believe that shipping costs would increase whilst flexibility in supplying markets would decrease.

The Recognised Seasonal Employer (RSE) scheme continues to be a great success within the pipfruit industry, since its introduction in April 2007. Growers report that the security of labour skill and supply offered by the RSE scheme has allowed them to improve productivity and expand their businesses as needed. As a result, most have been able to hold overall labour and picking costs, produce better quality fruit, and schedule harvesting better.

## ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

Growers are showing commitment to their local environments through planting ornamental and native plants around their properties. The majority of growers use water monitoring devices to more accurately assess irrigation needs. In light of the increased incidence of black spot on some orchards this season, sheep are being used to graze underneath trees to assist in the decomposition of infected leaves.

Growers report that they are finding it increasingly difficult to produce ultra low residue fruit for European markets, 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. Growers and exporters identified scope for the development of further systems and training programmes on the specific requirements of existing and new markets, and how to consistently meet these requirements.

## CONCERNS OVER WATER CONSENTS IN HAWKE'S BAY

Many Hawke's Bay growers are facing higher costs for water consent renewals, particularly if water is being drawn from the Ngaruroro River catchment. The minimum flows and allocation limits for this river are currently uncertain. The Hawke's Bay Regional Council is undertaking a detailed science-based catchment study on water allocations from this river and its interaction with adjacent aquifers. This will then form part of a plan change process. The impacts for growers affected by this catchment study are:

- › higher costs for water consent renewals, approximately \$4000 for each consent; and
- › a shorter consent period compared to previously, with expiry in 2015, timed to coincide with the plan



change process. The short timeframe of recently renewed water consents and the potential risks of non-renewal are of concern to both growers and financiers.

The soon-to-be-operative national regulations on water take measurement (meters) requires the installation of a water meter on all water takes over five litres per second. Growers in the Hawke's Bay region see positives in this development as well as increased costs. While not specifically required by the national regulations, information could be provided on water availability in real time. Hence more water could be made available to either existing or new users.

## EXCHANGE RATE

Growers say that the 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 a trend towards corporate ownership, 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 28 percent of the planted area in 2009. The proportion of planted area in Jazz™ has increased from 9 to 19 percent over the past three years.

The planting density distribution of the orchard model is:

- › 45 percent planted area is at standard density (<1000 trees per hectare);
- › 10 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](mailto:Annette.Carey@maf.govt.nz)

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ISBN 978-0-478-36391-3 (Print)  
ISBN 978-0-478-36392-0 (Online)

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This report can be downloaded from [www.maf.govt.nz](http://www.maf.govt.nz)

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