Ministry for Primary Industries
Manatū Ahu Matua

2017 PIPFRUIT MONITORING PROGRAMME
KEY RESULTS

BACKGROUND

This report provides summary production and financial information for the Hawke's Bay and Nelson pipfruit orchard models for the 2016 actual and 2017 budget years. Data for 2013 to 2015 is included for comparison. Commentary is also included on industry trends and issues.

KEY POINTS

The New Zealand pipfruit industry is performing well, with most growers achieving five consecutive profitable years. In 2016, high export production and prices were achieved by Hawke's Bay orchards resulting in one of the best financial outcomes in recent years. For most growers in the Nelson region, hail insurance and higher export prices helped to buffer the drop in production due to hail damage.

The Hawke's Bay model is budgeting a drop in operating profit in 2017 compared with 2016 due to lower export production overall and a fall in prices for some varieties. In contrast, expectations of higher export yields and stable prices are driving a lift in operating profit for the Nelson model in 2017.

Production

» Varieties with IP protection account for 40 to 50 percent of the planted area in the orchard models, up from around 20 percent a decade ago. Royal Gala remains the dominant apple variety due to the availability of high colour sports[1] and good demand across a range of markets.

» Export production for the Hawke's Bay model increased by 11 percent in 2016, driven in part by a small lift in gross production. Harvest of the early varieties was 5 to 7 days later than normal. Fruit quality was good, arising from favourable climatic conditions during the growing season and at harvest. In contrast, both gross and export production in the Nelson region were impacted by a widespread hail storm on 16 December 2015 when many orchard blocks had already been hand thinned. The Nelson model recorded its lowest export recovery rate in recent years.

» Climatic conditions in spring and late summer/autumn impacted production of the 2017 crop in Hawke's Bay and Nelson. Orchards in both regions had a large natural fruit drop[2]. In Nelson, this was attributed to the wet, cold spring causing carbohydrate deficits in the trees. In Hawke's Bay, it has been attributed to a combination of stresses including a large crop in the previous season, dry soils and sub-soils over autumn/winter 2016, and wet soils over flowering and fruit set.

» Early spring storms brought localised hail damage to some orchards in both regions. These hail events occurred in the first half of October 2016 in the Nelson

1 A sport occurs where there is a naturally occurring genetic mutation which causes a plant to develop slightly differently. A sport will show morphological differences from the rest of the plant, such as redder fruit, and hence some can be regarded as a new cultivar. Sports with desirable characteristics are usually propagated vegetatively to retain the characteristics of the new morphology.

2 Apple and pear trees shed fruitlets, typically in October/November in New Zealand, a process known as natural fruit drop. In the northern hemisphere, this process is known as 'June drop' as it occurs mainly in June. This is a natural seasonal process that fruit trees use to manage their energy reserves.

region when pears and early flowering apple varieties were in full bloom.

» Frequent and heavy rainfall in March and April 2017 interrupted picking. In the Hawke's Bay region, the predominance of mild, cloudy weather over this period delayed colour development in mid- to late-season apple varieties. Late season varieties such as Pacific Rose™ and Pink Lady® experienced wind damage from ex-Cyclone Cook, such as bruising and fruit fall.

» Export production for the Hawke's Bay model is budgeted to drop by 7 percent in 2017, driven by a drop in gross production of around 9 percent. In contrast, the Nelson model is anticipating a significant lift in export production, up 15 percent on the hail affected crop of 2016 whilst gross production is expected to lift slightly (by 1 percent). Very high export recovery rates are forecast for Royal Gala and JAZZ™apple varieties in particular.

Prices

» Export returns in 2016 increased for most varieties due to strong market demand. More fruit was shipped to the US than usual due to a reduced local crop in the US in 2015. The lower US crop also contributed to strong demand for New Zealand apples from Taiwan during the 2016 export season, lifting prices for the Fuji and Royal Gala apple varieties in particular.

» Prices for most varieties in 2017 are expected to be similar to 2016, despite a higher New Zealand dollar against the euro and British pound. Price drops are anticipated for Fuji and the Pacific series, however.

» Demand from some markets in Asia during 2017 has not been as strong as 2016, in particular Taiwan. This has impacted some apple varieties more than others, such as Fuji. Apples from the US, which had a large crop in 2016, reduced opportunities for early season sales of New Zealand fruit to Taiwan and India.

» New Zealand apples continue to achieve price premiums in Europe over competing southern hemisphere suppliers. Late season demand from Europe in 2017 has been strong, influenced by a significant decrease in the domestic crop due to widespread and severe frosts at flowering, and droughts in some areas.

Expenditure

» Orchard working expenses have increased in recent years with growers willing to spend more on producing crops that have greater value. Expenditure has risen on fertiliser and on weed, pest and disease control to help deliver high quality fruit and meet market access requirements.

» Hail events have forced increased expenditure on hand thinning. Growers are also investing more in hail insurance as part of their strategies for managing hail risk.

» Increasing labour requirements to manage new plantings, use of hail netting and reflective cloth, and best practice management of European canker disease has lifted wage expenditure on several orchards.

» Expenditure on repairs and maintenance is levelling off as most of the major repair work has been completed in recent years. Cash surpluses are being directed towards capital purchases including land, and development.

Net result

» High export production and prices led to a substantial increase (38 percent) in operating profit[3] for the Hawke's Bay orchard model in 2016. For most growers in the Nelson region, hail insurance and higher export prices helped to buffer the drop in production due to hail damage, with the Nelson orchard model achieving a lift in operating profit of 10 percent. It is noted that some orchards in the Nelson region were severely impacted by the December 2015 hail event, resulting in operating losses for orchards where crops were completely wiped out.

» The Hawke's Bay model is budgeting a drop in operating profit of 30 percent in 2017 due to lower export production and a fall in prices for some varieties. In contrast, expectations of higher export yields and stable prices are driving a lift in operating profit of 29 percent for the Nelson model in 2017.

» Good profitability and strong competition for land from a range of horticulture industries has seen pipfruit orchard values lift by around 20 percent between 2016 and 2017 in both the Hawke's Bay and Nelson regions.

Industry trends and issues

» Morale amongst pipfruit growers is good due to strong global demand for high quality New Zealand apples and pears, improved market and variety mix, access to IP-protected varieties and improved productivity.

» Growers and post-harvest operators are investing in technologies and practices to continually improve fruit quality and lift productivity. Such investments include new orchard production and training systems (such as narrow, well supported hedge row systems), picking platforms, hail netting, use of reflective mulch and modern fruit sorting systems.

» Half of the contributors to the monitored panel across the Hawke's Bay and Nelson regions indicated future growth aspirations. Those with no immediate expansion plans were focusing on improving and re-developing existing orchard blocks.

» Growth constraints identified include (i) availability of suitable and appropriately priced land, (ii) having an

3 Operating profit is reported in the pipfruit orchard models as Earnings before interest and tax (EBIT).

adequate supply of skilled staff, and of those willing to learn, (iii) the lead time in obtaining trees on desired rootstocks, and (iv) in some instances, availability of capital. Long-term security of water supply in the main growing regions was also noted as a concern.

» Areas deserving increased attention, promotion or investment were cited as (i) social licence to operate including environmental performance, labour practices and contributions to local communities, building on existing achievements, (ii) training and upskilling of staff and career pathways, (iii) automation and (iv) long-term planning, including research and development, on the opportunities and risks associated with climate change.

» The most commonly cited perceived threats to the New Zealand pipfruit industry include (i) potential restrictions to the Recognised Seasonal Employer scheme, (ii) restrictions to markets, and (iii) biosecurity breaches. Fruit fly and brown marmorated stink bug are considered the top two biosecurity threats. There is also a recognition that increasing global apple production will put downward pressure on prices.

INFORMATION ABOUT THE MODELS

The MPI pipfruit models are orchard production and profitability models representative of export pipfruit orchards in the main pipfruit growing regions of Hawke's Bay and Nelson.

The model parameters of orchard size and variety mix are guided by regional statistics from Statistics New Zealand's Agriculture Production Survey and New Zealand Apples and Pears Inc.

Production, income and expenditure information is collected from a monitored panel of contributing orchards, representing a cross-section of orchards in each region. Specifically the monitored panel includes representative orchards from each of the main supply chain categories, namely grower suppliers, grower-packers and grower-packer-marketers.

Data from the contributing properties are averaged, adjusted as necessary and used to create the orchard models.

Income figures include income from pipfruit and other pipfruit orchard income.

Expenditure figures include post-harvest expenses, orchard production costs, overheads and leasing. Labour expenses include wages of management.

The model business structure is a limited company.

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

The pipfruit model budgets are prepared using a 31 December balance date.

Hawke's Bay pipfruit model

The Hawke's Bay pipfruit model is 40 hectares planted, with 24 hectares owned and 16 hectares leased. The model is based on data from 24 orchards located in the Heretaunga Plains. Royal Gala is the predominant apple variety in the model, accounting for 32 percent of the planted area. The planting density distribution of the orchard model, guided by the monitored panel and based on the 2016 variety mix, is:

» 45 percent planted area is at standard density (<1000 trees per hectare);

» 25 percent planted area is at semi-intensive density (>1000 and <1800 trees per hectare);

» 30 percent planted area is intensive (>1800 trees per hectare).

Nelson pipfruit model

The Nelson model is 40 hectares planted, with 32 hectares owned and 8 hectares leased. The model is based on data sourced from 21 orchards. Royal Gala, Braeburn and JAZZ™ are the dominant apple varieties in the model accounting for 22, 20 and 17 percent of the planted area in 2016, respectively. The planting density distribution of the orchard model, guided by the monitored panel and based on the 2016 variety mix, is:

» 35 percent planted area is at standard density (<1000 trees per hectare);

» 5 percent planted area is at semi-intensive density (>1000 and <1800 trees per hectare);

» 60 percent planted area is intensive (>1800 trees per hectare).

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New Zealand Government

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

Year ended 31 December	2013	2014	2015	2016	2017 Budget
Hawke's Bay model					
Total planted area (ha)	40.0	40.0	40.0	40.0	40.0
Owned planted area (ha)	24.0	24.0	24.0	24.0	24.0
Leased planted area (ha)	16.0	16.0	16.0	16.0	16.0
Total TCE[1]	145 925	127 390	135 500	137 035	125 265
Export TCE	96 615	92 200	91 085	101 500	94 405
Weighted average return at FAS ($/export TCE)[2]	25.45	26.80	28.75	30.60	29.45
Net cash income ($)[3]	1 585 300	1 602 900	1 844 500	2 156 400	1 861 800
Earnings before interest and tax ($)	514 900	538 000	684 800	942 200	660 800
On-orchard working expenses[4]/Net cash income	65%	63%	60%	54%	61%
Earnings before interest and tax/Net cash income	33%	34%	37%	44%	35%
Return on assets[5] = Earnings before interest and tax less lease expenses/Total owned orchard assets	16.6%	15.9%	19.8%	26.0%	14.7%

Year ended 31 December	2013	2014	2015	2016	2017 Budget
Nelson model					
Total planted area (ha)	40.0	40.0	40.0	40.0	40.0
Owned planted area (ha)	32.0	32.0	32.0	32.0	32.0
Leased planted area (ha)	8.0	8.0	8.0	8.0	8.0
Total TCE	129 340	123 135	123 325	121 710	123 395
Export TCE	97 565	96 350	89 035	86 150	99 020
Weighted average return at FAS ($/export TCE)	25.50	25.65	28.10	29.95	30.45
Net cash income ($)	1 545 400	1 572 500	1 751 400	1 858 000	2 004 800
Earnings before interest and tax ($)	425 400	379 800	498 600	546 900	704 500
On-orchard working expenses/Net cash income	69%	72%	68%	67%	62%
Earnings before interest and tax/Net cash income	28%	24%	29%	29%	35%
Return on assets = Earnings before interest and tax less lease expenses/Total owned orchard assets	11.1%	8.7%	11.5%	12.3%	13.3%

Notes

The pipfruit orchard models are representative of export pipfruit orchards and based on a company structure.

The pipfruit orchard models were modified substantially in 2013 following a review of the MPI pipfruit monitoring programme. Hence direct comparisons with prior models are not recommended.

Figures may not add to totals due to rounding.

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 and SmartFresh™ costs.

3 Net cash income (NCI) to the orchard.

4 On-orchard working expenses include wages of management.

5 Note that the orchard models have a mixture of leased and owned orchard area. EBIT is calculated from the total planted orchard area.