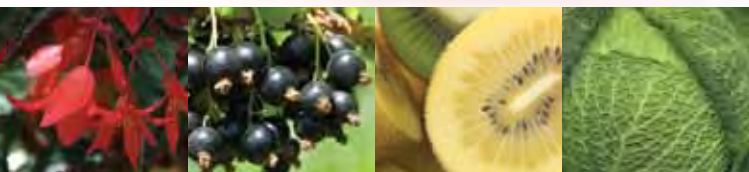


FreshFacts

NEW ZEALAND HORTICULTURE

2010



Plant & Food
RESEARCH

RANGAHAU AHUMĀRA KAI





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Reporting basis: unless stated otherwise, all statistics are for the year ending 30 June 2010 and expressed as \$NZ. Exports are given as free-on-board (fob) values. Imports are given as cost, insurance and freight included (cif). Historical values have not been adjusted for inflation.

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New Zealand horticulture - Sustainable success

It is a remarkable achievement that New Zealand's horticultural exports have grown from just \$33 million (fob) in 1975 to more than \$3.3 billion in 2010. Horticulture now accounts for more than 8% of New Zealand's merchandise exports.

Increasing diversification of varieties has been vital to the growth and development of New Zealand's horticultural industries. New fruit and vegetable cultivars and new wine styles are helping capture niche market opportunities. This has resulted in changes over time to our mix of products, shown this year with the wine sector overtaking kiwifruit as New Zealand's largest single horticultural export product.

New Zealand's impressive achievements in horticulture are due to the skill and dedication of many people and continuous improvements to systems and technology. Ongoing success will come from high quality produce effectively marketed in high value markets. Expert science and technology is now supporting most parts of the horticultural industry and Plant & Food Research, in cooperation with others, is pleased to play a lead role in much of this work.

Peter Landon-Lane
CEO, Plant & Food Research

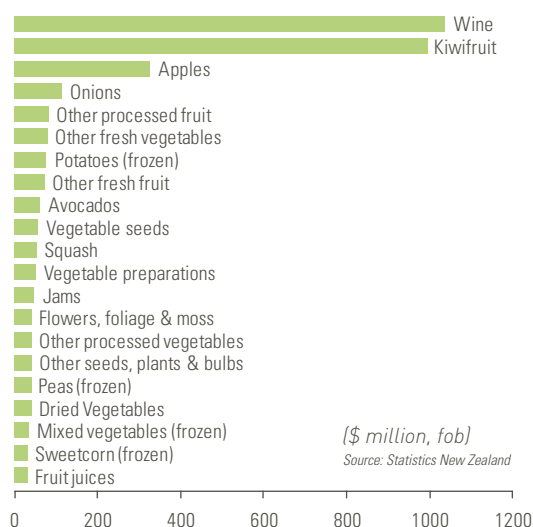
Horticultural exports (\$ million, fob)

Year ended June	1985 ^a	1995 ^b	2005 ^b	2008 ^b	2009 ^b	2010 ^b
Fresh fruit						
- Apples	108.2	343.6	387.0	344.9	395.7	324.6
- Kiwifruit	171.9	320.8	720.2	870.7	1071.7	995.7
- Avocados	n/a	n/a	29.0	59.3	38.4	59.9
- Other fresh fruit	28.4	57.6	51.5	62.7	74.7	74.7
Total fresh fruit	308.5	722.0	1187.7	1337.6	1580.5	1454.9
Processed fruit						
- Wine	3.0	42.0	432.7	793.7	984.5	1036.8
- Juices - fruit	9.6	30.5	34.5	39.0	48.4	31.7
- Jams	n/a	n/a	18.1	19.0	23.7	48.4
- Other processed fruit	40.3	44.3	49.2	64.4	57.4	77.5
Total processed fruit	52.9	116.8	534.5	916.1	1114.0	1194.4
Fresh vegetables						
- Onions	17.7	92.6	61.6	91.5	76.3	113.4
- Squash	14.6	57.7	72.1	69.8	69.3	53.2
- Other fresh vegetables	11.6	49.8	65.3	74.5	81.1	80.1
Total fresh vegetables	43.9	200.1	199.0	235.8	226.7	246.7
Processed vegetables						
- Peas (frozen)	22.0	34.3	36.6	56.0	49.8	41.0
- Potatoes (frozen)		14.1	54.3	63.7	81.0	77.2
- Sweetcorn (frozen/dried)	9.5	30.6	42.7	46.2	45.4	32.9
- Mixed vegetables (frozen)	4.6	23.9	36.0	41.3	37.1	36.1
- Dried vegetables			25.5	34.8	45.2	40.3
- Vegetable preparations			39.4	41.1	41.4	52.3
- Other processed vegetables	20.9	75.6	29.8	33.7	36.2	41.3
Total processed vegetables	57.0	178.5	264.3	316.8	336.1	321.1
Other Horticultural exports						
Flowers & foliage	10.5	49.9	38.5	39.2	38.6	35.1
Vegetable seeds	n/a	n/a	30.2	43.9	55.6	57.4
Seeds, plants & bulbs etc	2.1	17.4	42.1	48.9	42.9	41.3
Sphagnum moss	6.3	17.3	8.8	5.5	5.5	6.3
Total exports in current \$	481.2	1,302.0	2,305.1	2,943.8	3,399.9	3,357.2
Horticultural exports						
as % of NZ merchandise exports.	4.4	7.0	7.5	7.4	7.9	8.3

Source: *Bollard (1996) *Statistics New Zealand *Estimate

- Total horticulture merchandise exports decreased in fob value by 1.3% (\$42.7m) over 2009, but as merchandise exports in other categories reduced from \$43.0b to \$40.7b, the portion represented by horticulture increased from 7.9% to 8.3%.
- In fresh fruit, whilst apple exports were down in value by \$71.1 million and kiwifruit by \$76.0 million, avocado exports increased 56.2% to \$59.9 million and blueberries increased by 19.9% to \$16.0 million.
- Wine exports continued to increase in value, up 5.3% over 2009 to \$1.04 billion and is now the largest single category of New Zealand's horticultural export earnings.
- Frozen fruit exports increased 23.3% to \$11.9 million, dominated by frozen boysenberries increasing 41.2% to \$5.8 million fob.
- Exports of jams increased by over 100% to \$48.4 million (up 104.4%) and fruit preparations by 38.2% to \$36.3 million.
- Vegetable seeds are a significant export category for New Zealand horticulture at \$57.4 million in 2010 (up 3.2% on 2009), dominated by radish seed exports of \$21.4 million (up 2.5%).

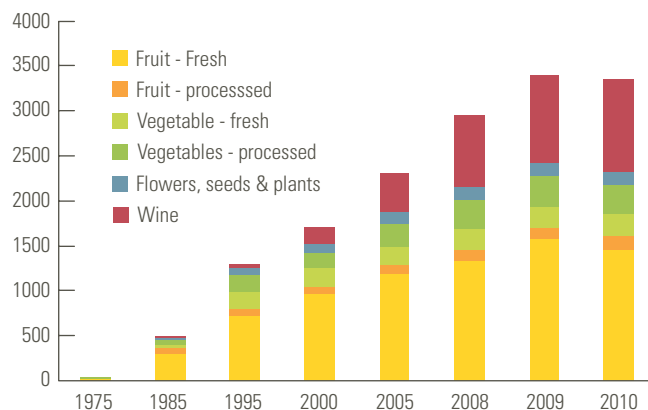
Horticultural exports 2010 (Year to June, \$ million, fob)



In addition to fruit, vegetables and flowers, seeds and bulbs exported as shown in the above table, the New Zealand horticultural sector also exported:

- Natural honey to the value of \$97.6 million was exported in 2010, up from \$81.0 million fob in 2009. Bees and their pollination are an integral part of New Zealand's horticulture.
- Horticultural machinery and components, primarily for cleaning, sorting and grading fresh and dried fruit and vegetables - to the value of \$51.5 million were exported in 2010. Over the past three years, exports of horticultural machinery and components has averaged \$55.9 million.

Horticultural exports – Years to June (\$ million, fob)

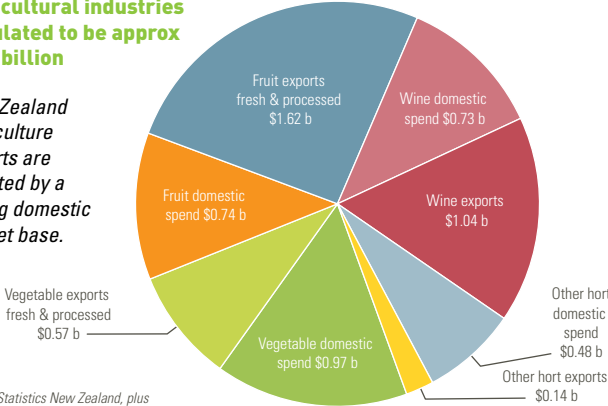


Source: Statistics New Zealand

Exports/imports

Produce from New Zealand's horticultural industries calculated to be approx \$6.3 billion

New Zealand horticulture exports are assisted by a strong domestic market base.



Source: Statistics New Zealand, plus domestic market figures derived from triennial Household Economic Survey (HES) 2010

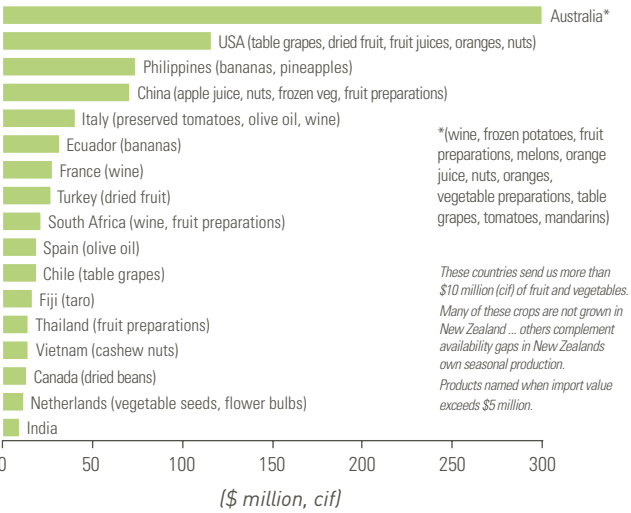
Top 10 export destinations (\$ million, fob)

	Exports 2000	Exports 2009	Exports 2010	
Australia	159	634	701	Wine, avocados, potatoes-frozen, jams, veg preps-beans, kiwifruit, mixed frozen veg, peas-frozen, honey, fermented beverages, blueberries, sweetcorn-frozen, capsicums, apple juice, apricots, beans-frozen, apple preparations
Japan	395	475	484	Kiwifruit, squash, capsicums, onions, veg-juice, orchids, sweetcorn-frozen, honey, wine, peas-frozen, lillium bulbs, potatoes-frozen
UK	246	358	365	Wine, apples, onions, honey
USA	188	383	352	Wine, apples, kiwifruit, honey, orchids, apple juice
EU (centralised distribution)	279	370	299	Kiwifruit, apples
Taiwan	53	113	108	Kiwifruit, apples, cherries
Netherlands	29	116	104	Wine, onions, seeds-radish, seeds-other veg
China	11	63	100	Kiwifruit, wine
Spain	57	130	89	Kiwifruit, apples

Entries only included if value to destination exceeds NZ \$5 million (Source: Statistics New Zealand)

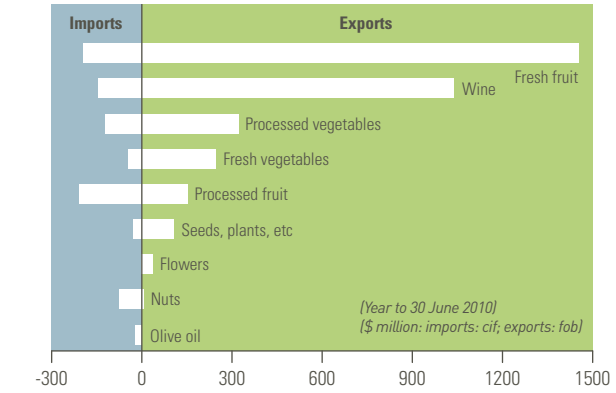


The origin of fruit and vegetable imports, 2010 (\$ million, cif)



Source: Statistics New Zealand; Overseas Trade for year ended June 2010

Comparisons of imports and exports 2010 (\$ million)



Source: Statistics New Zealand; Overseas Trade statistics

Horticulture helps build New Zealand's profile in many overseas markets.

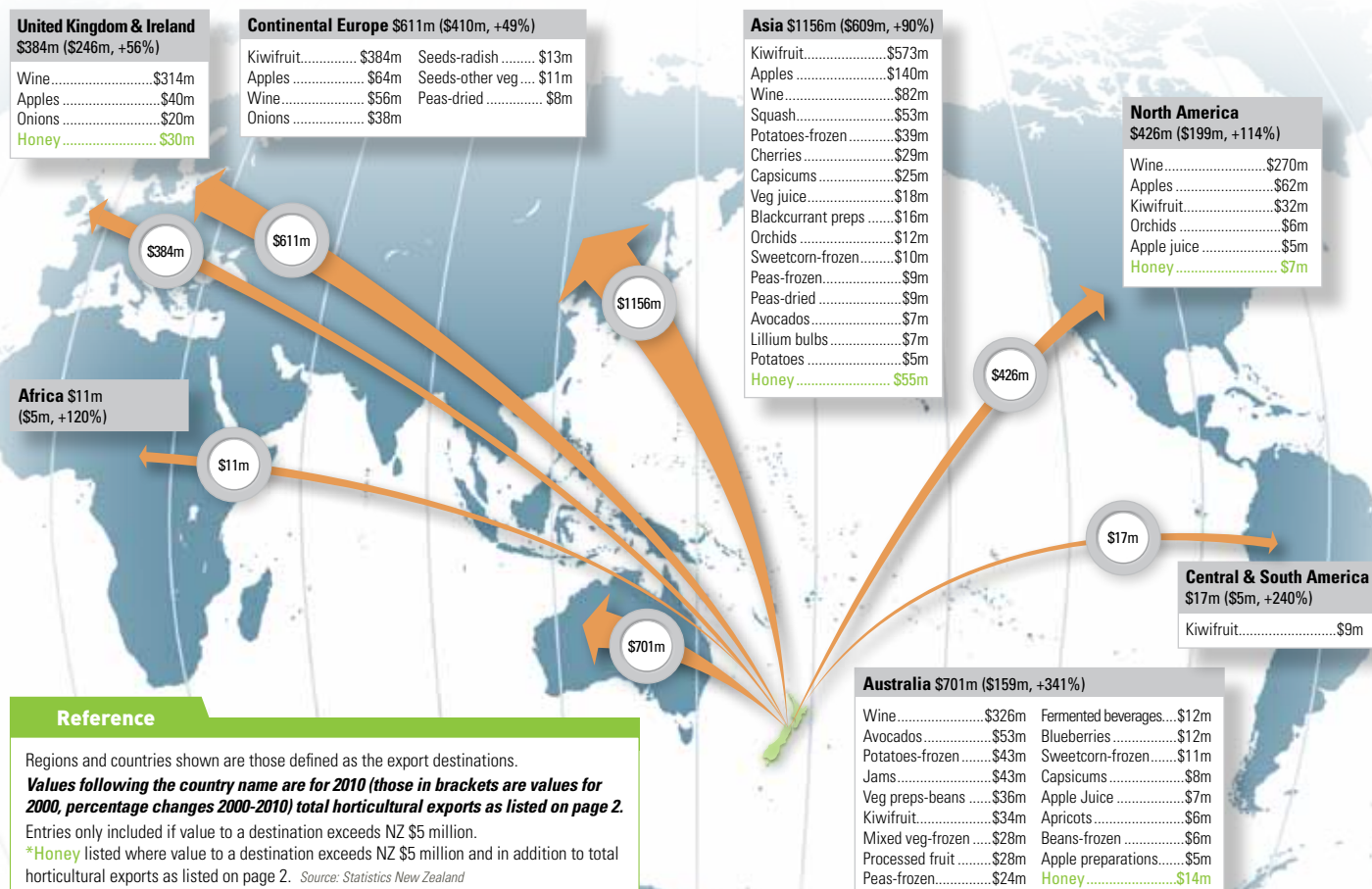
Export destinations for New Zealand horticultural products – trends since 2000 (\$ million, fob)

- Fruit, vegetables and flowers were exported to 117 countries in 2010, which is a similar number to that of 2000 when New Zealand horticultural produce was exported to 114 countries.
- Exports to 25 countries exceeded \$10 million fob in 2010, up from 16 countries in 2000.

Trends

- New Zealand fruit and vegetable exports to five markets exceeded \$300m fob value: Australia, Japan, UK and Ireland, Continental Europe and North America.
- These five export markets accounted for over \$2.6 billion (77%) of New Zealand's total horticultural exports in 2010.
- Exports to the above five markets have collectively increased 85% since the year 2000, with the largest increases being horticultural exports to Australia (increasing from \$159m in 2000 to \$701m in 2010) and North America (from \$199m to \$426m).
- The diversity of horticultural products that formed the growth in exports to Australia is evident in the table below listing 12 products each exceeding \$5 million export value fob.

Source: Statistics New Zealand



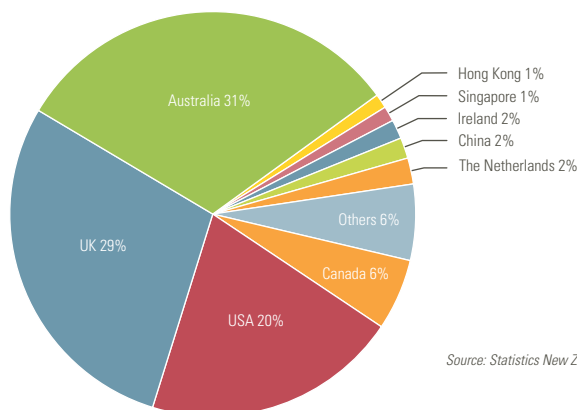
Grape and wine production

Variety	Production area (ha)		Production (tonnes)	
	2000	2010	2000	2010
Sauvignon Blanc	2,485	16,910	15,472	174,247
Chardonnay	2,858	3,865	23,593	26,322
Pinot Gris	130	1,763	572	12,810
Reisling	503	986	4,070	5,416
Gewurtztraminer	145	314	594	1,556
Other white vinifera	879	382	13,470	3,034
Pinot Noir	1,126	4,773	6,319	23,655
Merlot	674	1,371	4,090	8,885
Cabernet Sauvignon	671	519	3,792	2,203
Syrah	62	297	257	2,112
Other red vinifera	265	392	2,333	2,382
Muscat varieties	188	125	3,487	793
Other and unknown	211	1,731	20	30
Total	10,197	33,428	78,069	263,445

Region				
Auckland/Northland	393	550	1,468	1,503
Waikato/Bay of Plenty	119	147	637	118
Gisborne	1,681	2,083	21,820	18,316
Hawke's Bay	2,443	4,947	23,886	38,860
Wairarapa	327	871	1,124	3,942
Marlborough	4,054	19,295	26,212	182,658
Nelson	203	842	1,125	5,963
Canterbury/Waipara	442	1,779	788	5,870
Otago	280	1,540	1,009	6,196
Other and unknown	255	1,374		19
Total	10,197	33,428	78,069	263,445

Source: New Zealand Winegrowers Statistical Annual Report 2005 and 2009.
New Zealand Winegrowers Annual Report 2010.

Wine exports by country 2010 (% by value)



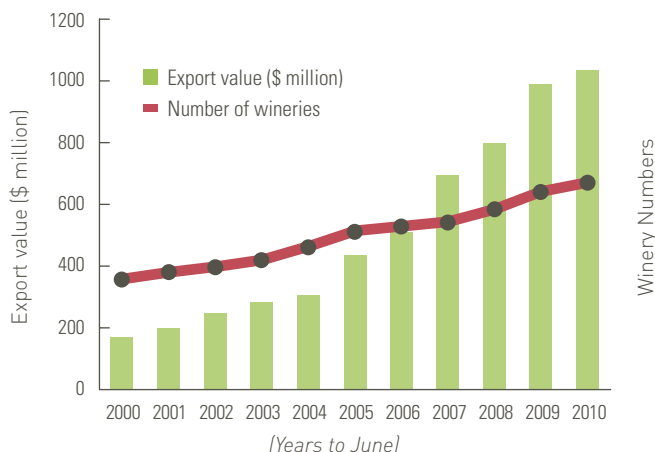
Source: Statistics New Zealand

- Exports increased to \$1,036 million in 2010, compared to \$167 million in 2000, and up 4.5% on 2009. New Zealand produced wine was exported to 94 countries in 2010.
- Exports to Australia increased 23.0% by volume in 2010 but only increased by 1.2% by value; to the UK 32.5% increase by volume but only 11.5% by value, and to the USA

volume increased 18.8% but fell 5.4% by value. These three markets together were 84.7% by volume and 80.5% by value of New Zealand's wine exports in 2010. Reduced revenue to volume ratios are influenced by increased exports of bulk (commoditised) wine and in-market bottling.

- The grape harvest was 263,000 tonnes in 2010, down 7% from 2009 and total wine sales reached 199 million litres in 2010, up 27% from 172 million litres in 2009.
- The dominant New Zealand export wine varieties in 2010 were sauvignon blanc (82%), pinot noir (14%) and chardonnay (4%), with syrah increasing by 47% from 2009 but remaining at less than 2% of total New Zealand wine exports by variety.
- At 33,428 hectares in 2010, total planted area in grapes for wine was up 6 fold from 2000, and up 4% from 2009.

Growth in wine exports and wineries



Sources: BNZ Statistical Annual, 2000 to 2002; New Zealand Grape & Wine Industry Statistical Annual 2003; New Zealand Winegrowers, 2004 to 2010.

Thinning the vines

The key to high quality wine production starts in the vineyard, with fruit capable of delivering optimum grape flavour attributes and the ability to ripen grapes reliably to optimum soluble solids, at any site and between seasons. During some seasons environmental variables can lead to particularly high crop loads and make this ripening process difficult, so wine grapes have traditionally been thinned by hand, a time consuming and expensive exercise.

Researchers at the Marlborough Wine Research Centre are investigating the use of machine grape harvesters, set up to thin vines shortly after fruit set and adjusted for yield, berry size and juice composition in New Zealand sauvignon blanc and Riesling vines. Early studies have shown that reducing yield results in earlier maturation of the grapes. Machine thinning sauvignon blanc removed berries and parts of bunches rather than whole bunches and disease levels were reduced when compared to hand thinning or no thinning.

Kiwifruit industry statistics

Season (ends 31 March)	2004	2005	2006	2007	2008	2009	2010
Crop volumes (million)							
Trays submitted*	66.1	85.8	87.8	90.0	102.0	109.4	107.0
Trays sold	64.6	79.7	82.3	80.1	92.4	99.9	98.5
General Statistics							
Yield (trays/ha)	6,247	7,847	7,655	7,514	8,371	8,866	8,546
Area planted [†] (ha)	10,580	10,934	11,464	11,967	12,186	12,337	12,525
Growers/suppliers [‡] (no)	2,703	2,760	2,748	2,754	2,727	2,710	2,711
Packhouses (no)	98	88	83	80	75	71	71
Coolstores (no)	86	89	85	87	83	92	77
Orchard Gate Return (\$)	38,488	34,738	28,687	32,566	28,169	35,655	39,142

*A tray weighs 3.6kg. * Producing hectares † Refers to number of submitters

Source: ZESPRI Group Ltd Annual Report 2010.

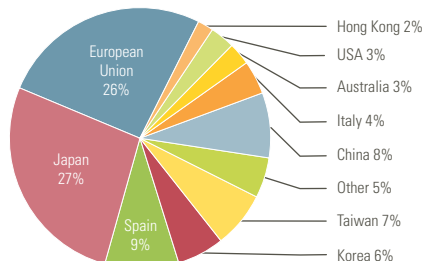
- New Zealand produced kiwifruit exports were valued at \$996 million in 2010, down 7% from \$1,072 million (fob) in 1999 (for the years ending 30 June). Kiwifruit exports to 23 countries exceeded \$1 million.
- Japan was the largest export market for New Zealand kiwifruit (27% by value) followed by the EU (non-specified) (26%) then Spain (8.4%) and China (7.5%). Exports to China have increased from \$20 million in 2008 to \$75 million in 2010, a 375% increase.

(Sources: Statistics New Zealand)

- The ZESPRI global crop sold comprised 108.3 million trays with 98.5 million trays from New Zealand and 9.8 million sourced abroad. The New Zealand sourced crop included 71.9 million trays of ZESPRI® GREEN, 22.0 million trays of ZESPRI® GOLD, 3.3 million trays of ZESPRI® GREEN ORGANIC and 1.3 million trays of other ZESPRI® Kiwifruit.
- The global sales of ZESPRI-branded non-New Zealand sourced kiwifruit of 9.8 million trays (up 13% from 2009), comprised 4.9 million trays of ZESPRI® GREEN (up 5%) and 4.9 million trays of ZESPRI® GOLD (up 2%).
- The average Orchard Gate Return was \$ 39,142 per production hectare (up 10% from 2009), comprising \$29,561 for ZESPRI® GREEN (down 1.7%) \$39,403 for ZESPRI® GREEN ORGANIC (down 0.01%) and \$83,094 for ZESPRI® GOLD (up 36%).
- Kiwifruit production area in 2009 increased to 9,871 ha for ZESPRI® GREEN (up 1%), increased to 506 ha for ZESPRI® GREEN ORGANIC (up 5%) and increased to 2,149 ha for ZESPRI® GOLD (up 3%).
- Overall yield of kiwifruit was 8,546 tray equivalents (TE) per ha (down 3% from 2009); average TEs per producing hectare was 7,495 for ZESPRI® GREEN (down 2% from 2009), 6,661 for ZESPRI® GREEN ORGANIC (up 9%) and 10,287 for ZESPRI® GOLD (down 4%).

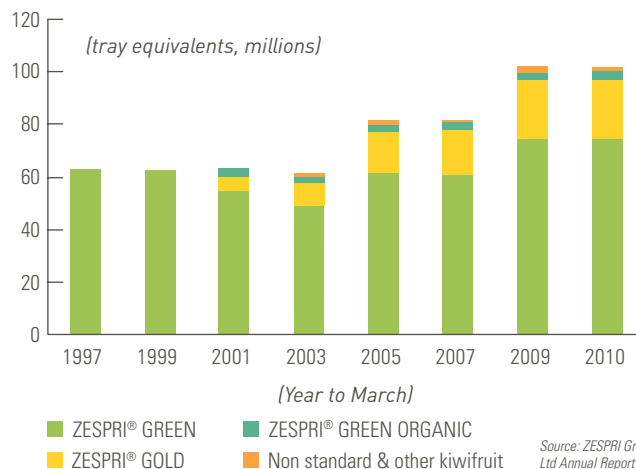
Source: ZESPRI Group Ltd Annual Report 2010

New Zealand export markets 2010



Source: Statistics New Zealand

ZESPRI production profile (TE's)



Source: ZESPRI Group Ltd Annual Report 2010

Extending the kiwifruit market

ZESPRI Group Limited has added three new kiwifruit cultivars to its stable. The three new commercial cultivars are two yellow-fleshed varieties – an early season, a potentially long-storing variety - and a new sweet green-fleshed kiwifruit. Released to growers in June 2010, the new cultivars were chosen from 50,000 potential new varieties developed in the Plant & Food Research Institute's breeding programme.

The two new yellow-fleshed cultivars were chosen to extend the market window for New Zealand-grown ZESPRI®GOLD Kiwifruit, with the early season cultivar predicted to enter markets up to three weeks ahead of the existing variety and the long storing variety expected to extend the window through the winter. The new green-fleshed variety has a sweeter taste than ZESPRI®GREEN Kiwifruit, and is expected to appeal to new kiwifruit consumers.



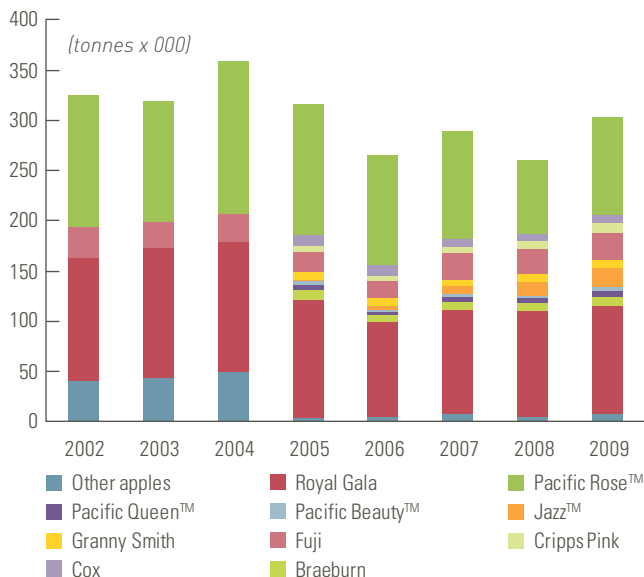
Apple statistics

Year ending 31 Dec	2004	2005	2006	2007	2008	2009	2010
Crop volumes ('000 tonnes)							
Nat export production	358	315	265	290	261	303	
Growing method: IFP	95%	95%	94%	94%	94%	92%	
Certified organic	5%	5%	6%	6%	6%	8%	
General statistics							
National IFP \$/TCE, FAS	\$15.55	\$12.88	\$20.02	\$19.06	\$24.44	\$20.52	
Area planted (ha)	12,585	10,764	8,996	8,766	8,538	8,484	8,630
Export growers (no.)	917	920	680	520	509	454	431
Export Packhouses (no.)	102	85	73	68	70	65	
No. of exporters			96	90	93	95	

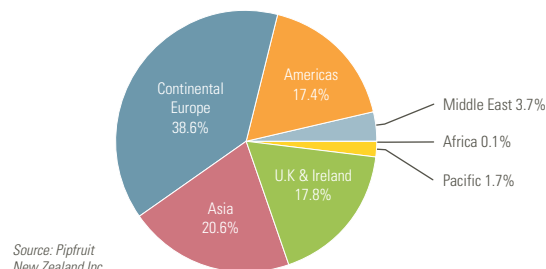
Timing: much of the production from the 2010 NZ apple crop was exported after 30 June 2010, the reporting period of this edition. IFP: Integrated Fruit Production sustainability; TCE: tray equivalents 18 kg sale weight FAS: Free Alongside Ship (the value of the product at ship side). * Estimate only. Source: Pipfruit New Zealand

- Following low returns in the 2004 – 2005 period, and the consequential reduction in hectares and the number of growers and other resources (e.g. apple exporting packhouses decreased from 150 in 1999 to 65 (43%) in 2009), increased capacity and capability of remaining resources has led to improved apple sector returns and new plantings.
- Important to the improved position for New Zealand apples has been the diversification of varieties since 2004 – see column chart. The Pacific series achieved the highest returns of IFP apple varieties with Pacific Queen™ achieving an average weighted return of \$35.19 TCE compared with an average of \$20.52 TCE for all apple varieties grown under IFP methods.
- Apple exports to the value of \$325 million in 2010 were at a similar level to apple exports in 1995 (\$344m), but significantly less than 2004 exports of \$485m fob

Apple export production by variety: 2002 - 2009

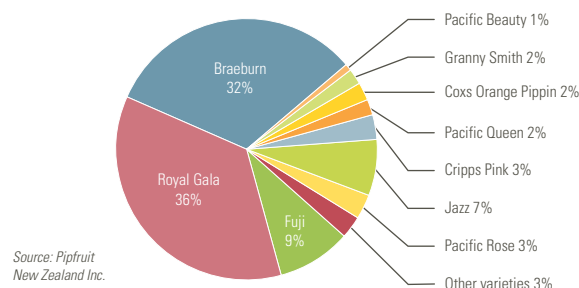


Apple export destinations by region (Weight basis, 2009)



Source: Pipfruit New Zealand Inc.

Apple exports by variety (Weight basis, 2009)



Source: Pipfruit New Zealand Inc.

- Despite planted hectares falling from nearly 16,000 ha and 1,600 growers in 1995 to less than 8,630 ha and 431 growers in 2010, apple exports remain an important section of New Zealand's horticulture sector being close to 10% by value of New Zealand's total horticulture exports in 2010.
- In 2010, New Zealand apples were exported to 64 countries of which 22 were markets for 1,000 tonnes or more – refer to pie chart of major market destinations.
- Of the 95 exporters in 2009, 21 exported 89% of the crop volume and 74 exported the remaining 11%.

Sources: Pipfruit New Zealand, Statistics New Zealand

A Smitten™ apple

A new early harvest apple bred for its appeal to New Zealand's export markets is poised for success on the global stage. The apple cultivar 'PREMA17', a result of the Plant & Food Research breeding programme, was bred specifically to have a traditional taste that appealed to consumers, while retaining good texture when transported to export markets.

The apple has been commercialised by Prevar™, and licensed to Seventeen Limited, a joint venture specifically formed to commercialise 'PREMA17' comprising six leading New Zealand pipfruit companies. The trademark name SMITTEN™ was chosen for the apple, and branding developed to establish the apple with suppliers and consumers in major markets.

Offshore testing of the cultivar is underway, with the intention of complementary global licensing arrangements in key markets to ensure year round supply. The first exports of SMITTEN™ were harvested in the 2009/10 season, with overseas supermarkets already displaying strong interest.

Other fresh fruit

Sales value (\$m)

	Growers ^{a,b} (no.)	Planted area ^{a,b} (ha)	Crop volume ^b (tonnes)	Domestic ^b 2008/10	Export ^c (fob) 2010
Avocados	1,600	5,097	21,738	18.6	59.9
Berryfruit	240	2,652	23,108	58.9	19.8
- Blackcurrants	52	1450	8,000	3.6	
- Boysenberries	30	240	4,350	4.8	
- Raspberries	50	150	945	3.0	
- Blueberries	95	522	2,813	25.6	16.0
- Strawberries	110	170	6,500	21.3	3.8
- Other brambles		120	500	0.6	
Citrus	450	1,834	44,650	35.0	4.5
- Grapefruit		41	1,150		
- Lemons	100	332	13,000	10.0	2.3
- Mandarins	334	691	16,000	21.0	1.6
- Oranges	220	681	12,000	11.0	0.5
- Tangelos		89	2,500		
Feijoa	200	251	500	1.7	0.2
Grapes - table		37			0.5
Hops	15	370	830		
Kiwiberries		27	163	0.2	1.1
Nashi	90	97	1,400	1.2	
Nuts		1484			
- Chestnuts	100	310	350		
- Macadamias		242			
- Walnuts		498			
- Hazelnuts		434			
Olives	400	2,173	1,600		
Passionfruit	40	17	130	1.3	0.4
Pears		431	5,400		8.5
Persimmons	50	250	2,250	4.0	6.9
Summerfruit	350	3,000	15,600	42.0	30.9
- Apricots			4,100	9.0	7.6
- Cherries			2,250	8.0	22.7
- Nectarines			3,600	9.0	0.1
- Peaches			3,100	8.0	0.3
- Plums			2,550	8.0	0.2
Tamarillos	40	110	420	1.0	0.2
Other fruit		250			1.4
Total fresh fruit (excl. Kiwifruit, Grape Wine, Apples)					134.6

Sources: ^aStatistics New Zealand - Agricultural Production Census 30 June 2007 and ^bSector estimates; ^cStatistics New Zealand, MAS/ HortNZ & NZ HEA report 'Barriers to Export Trade' 2010 edition ^{*}Author's estimate. Blank entries indicate either that the information is not available or items are valued at less than \$100,000.

- Fresh fruit exports in 2010 of \$1.45 billion were dominated by kiwifruit (68.4%) and apples (22.3%) with the remaining \$134.8 million (9.3%) being avocados, berryfruit, citrus and summerfruit, plus \$19.5 million of other fresh fruits and nuts.
- Avocado exports in 2010 at \$59.9 million were 56.2% above the 2009 export level although only 1% above 2008 exports, reflecting the biennial crop cycle of this valuable subtropical fruit.
- Summerfruit exports of \$30.9 million in 2010 was a record for that sector and 2.7% above the 2009 export value. Prior to 2007, summerfruit export levels were less than \$20 million annually.

Processed fruit

Sales value (\$m)

	Domestic ^b 2008/10	Export ^c (fob) 2010
Apple juice	45.9	19.0
Avocado oil	0.2	2.5
Other fruit juices	92.1	9.4
Other fermented beverages		12.4
Dried fruit		2.6
Frozen fruit		11.9
- Blackcurrants		2.7
- Blueberries		0.5
- Boysenberries		5.8
- Kiwifruit		2.4
- Raspberries		0.2
- Other		0.3
Fruit preparations		36.3
- Apples		6.7
- Blackcurrants		15.4
- Kiwifruit		0.8
- Fruit mixture preps.		1.4
- Pear		0.3
- Other		11.7
Hops	4.5	8.5*
Jams, jellies and purees		48.4
Nuts		5.8
Olive oil	2.3 ^b	0.8
Total processed fruit		157.6

Fruit used for processing is produced on the orchard areas described in the fresh fruit table

- Cherry exports at \$22.7 million in 2010 dominated summerfruit exports being 73.5% of summerfruit exports by value, and a record level for cherries (3.6% above 2009).
- Berryfruit exports, dominated by blueberries (80.6%), increased 7.9% over 2009, which was the previous record export level. Blueberries exported in 2010 were a record \$16.0 million which was a 19.9% increase over 2009.
- In 2010 exports of fruit preparations were \$36.3 million which was 38.2% above 2009 and were dominated by blackcurrant preparations (42.5%).

Source: Statistics New Zealand

Market access for avocado

Avocado exports were worth almost \$60 million to the New Zealand economy in 2010. In order to meet the stringent requirements for overseas markets, particularly the USA, new water blasting technologies have been introduced to remove egg rafts and larvae from export avocados. This technology reduces the requirement for fumigation on entry, which affects fruit quality, and maintains access for New Zealand avocados with key markets.

Based on research undertaken by Plant & Food Research scientists in the late 1990s, water blasting protocols were rolled out across the New Zealand avocado industry during the 2009-10 season. Studies submitted to the US authorities demonstrated that New Zealand-grown avocados treated by water blasting would present little risk of transporting pests and enabled continued access to this important market. Subsequent testing showed that use of the technology produced no significant damage to the fruit.

Fresh and processed vegetables

Sales value (\$ million, fob)

	Growers ^c (no.)	Planted area (ha)	Crop volume ^c (tonnes)	Domestic ^c 2008/10	Exports 2010 Fresh Processed ^b	
Asparagus	94	580 ^c	2,090	10.0*	3.2	
Beans	100	2,000 ^c	18,000	12.8		45.0
Brassicas	260	3,875	82,000	80.3	1.9	
- Broccoli	150	2,247	18,000			
- Cabbage	150	768	40,000			
- Cauliflower	120	860	24,000			
Capsicums	133	87 ^c	11,500	29.3	33.8	
Carrots	50	1,150 ^c	85,000	30.0*	7.2	0.8
Cucurbits	200	283 ^c	1,770			
Garlic	28	200 ^c	900	6.5	0.9	
Kumara	45	1,500 ^c	17,500	35.0		
Lettuce - outdoor	80	1,309		41.8	1.3	
Lettuce - greenhouse	70	22				
Melons	46	259			1.0	
Mushrooms	21	42 ^c	8,500	41.1	1.9	
Onions	105	5,100 ^c	188,200	25.0	113.4	
Peas	400	10,720 ^c	59,000	50.0		72.9
Potatoes	230	10,000 ^c	500,000	516.0	15.9	82.0
Pumpkin	129	1,066	31,000			
Shallots	10	25 ^c			0.8	
Silverbeet/Spinach	94	306	4,000	13.4		
Squash	52	6,850 ^c	85,000	2.9	53.2	
Sweetcorn	256	5,800 ^c	60,000	20.0*	0.3	29.1
Tomatoes - greenhouse	300	120 ^c	40,000	108.0	10.1	
Tomatoes - outdoor	20	757	50,000	5.0		3.5
Mixed vegetables	Made from combinations of the above crops					36.1
Dried vegetables	Excluding crops nominated above					7.4
Vegetable preparations						5.0
Vegetable juices						19.4
Other Vegetables ^a						2.8
						18.9
Total	3,409 ^d	54,660			247.7	320.1

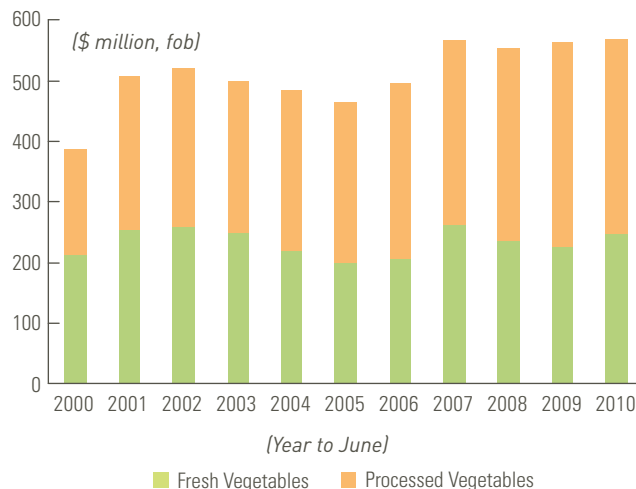
Crops areas as reported in June 2007 Census or as updated by later sector estimates ^aIncludes taro, celery, parsnips, spring onions, Asian vegetables (excl. Chinese cabbage), yams, witloof, leeks, vegetable shoots, shallots, swedes and some others. ^bProcessing includes freezing, canning, juicing and artificial drying. ^cSector estimates. Blank entries indicate that the information is not available. ^dMany growers produce multiple crops.

Sources: Statistics New Zealand - Agriculture Census 2007; Horticulture NZ, MAF Sector Monitoring Reports. MAS/ HortNZ & NZ HEA report 'Barriers to Export Trade' 2010 edition.

- Vegetable exports to Australia (\$184.2m) and to Japan (\$155.3m) were together 59.8% of New Zealand's total vegetable exports in 2010.
- Onions (\$113.4m), squash (\$53.2m) and capsicums (\$33.8m) accounted for 80.9% of New Zealand's fresh vegetable exports in 2010.
- Onion exports in 2010 increased by \$37.1 million (48.6% over 2009) but squash exports fell by \$16.1 million. Total vegetable exports increased by \$5 million (0.9%).
- Processed vegetables were 56.4% of total vegetable exports in 2010 and consisted of \$194.7m as frozen vegetables, \$49.2m of dried vegetables, \$57.7m of vegetables in other processes including vegetable preparations, and \$19.4m as vegetable juices.
- Frozen vegetable exports decreased by \$22.6 million (10.4%) in 2010 with the largest changes over 2009 being frozen peas down \$8.9 million (17.8%), frozen potatoes down \$3.8 million (4.6%) and frozen sweetcorn down \$8.0 million (24.9%).



Vegetable exports (\$ million, fob)

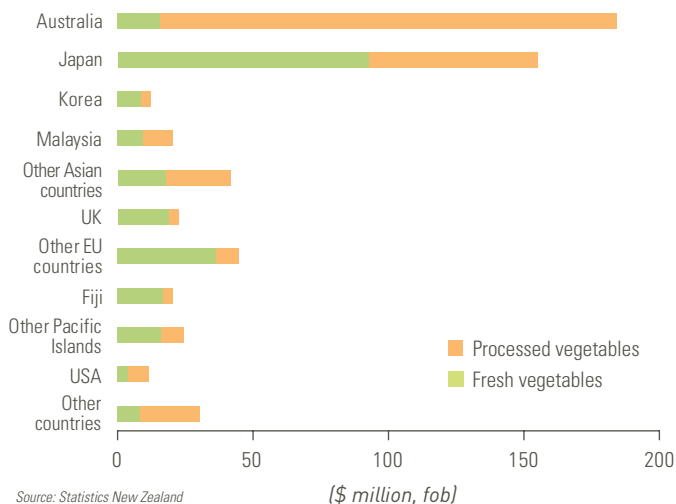


Source: Statistics New Zealand

- Exports of dried vegetables were down \$9.5 million in 2010 to \$49.2 million with the largest fall being dried corn down 33.9% from \$13.5 million in 2009 to \$8.9 million in 2010.
- Vegetable juice exports increased 63.2% from \$11.9 million to \$19.4 million in 2010.
- Carrot production of an estimated 85,000 tonnes includes over 45,000 tonnes juiced for export.

Sources: Statistics New Zealand, Horticulture NZ

Destinations of New Zealand vegetable exports 2010 (\$ million, fob)



Quality onions for export

Onions are a major export crop, worth more than \$113 million (fob) in 2010. Quality and appearance of onions, and other allium crops, can be affected by pests and diseases. A new Integrated Pest Management (IPM) Best Practice Manual, developed by the industry in association with Plant & Food Research and with funding from the MAF Sustainable Farming Fund, is now in extensive use by New Zealand onion growers.

The IPM Manual incorporates both standard and novel techniques for the management of the main diseases, insects and nematodes affecting allium crops. Best Practice guidelines for the methods and scheduling of control methods throughout the growing season, as well as postharvest practices, are outlined, allowing growers to effectively manage pests and diseases whilst maintaining quality and reducing chemical inputs.

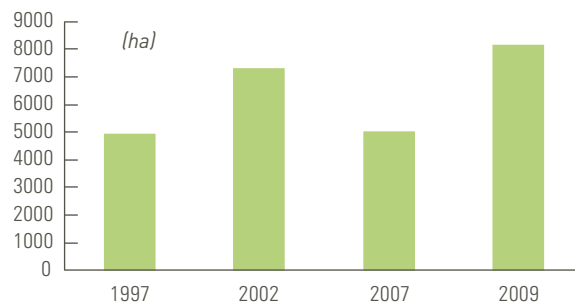


Organic production

- Organic systems production is an important section of New Zealand's horticultural production although currently a relatively small portion of total horticultural production.
- The value of organic fresh fruit and vegetables exported from New Zealand in 2009 has been calculated at \$85.9 million, equivalent to 2.1% of New Zealand's total horticultural exports in that year.
- In addition to export production, domestic sales of organic fresh fruit and vegetables in 2009 was estimated at \$2.45 million, excluding direct-to-consumer sales and sales via farmers markets of which there were 44 across New Zealand in 2009.
- Organic sales of fresh fruit and vegetables at retail speciality shops was estimated at \$3.35 million in 2009. The annual value of all categories of organic products (includes meat, dairy, cosmetics and beverages) was estimated to have increased 51% between 2007 and 2009.

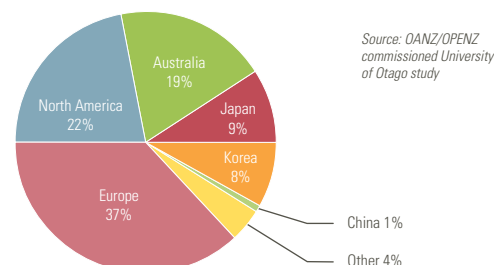
Source: OANZ/OPENZ commissioned University of Otago study

NZ land area under certification, horticulture and cropping (hectares)



Source: OANZ/OPENZ commissioned University of Otago study

Destination of organic exports (2009)



The above percentages for 2009 include exports of horticulture products valued at \$85.8million and other exports valued at \$84.6m.



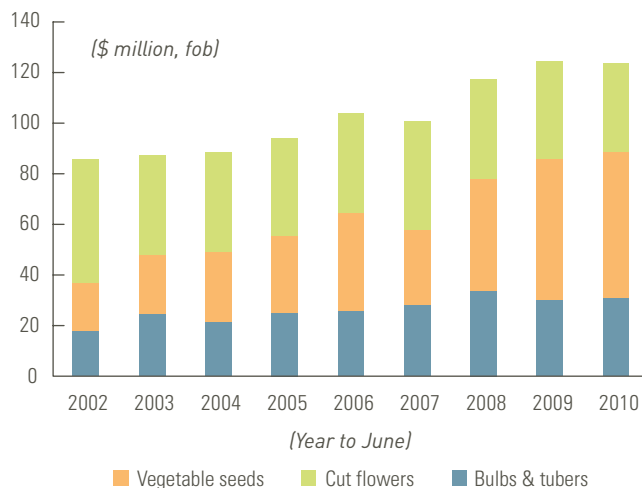
Exports of flowers, plants, seeds and other products (\$ million, fob)

Selected HS Items	1990	1995	2000	2005	2009	2010
Cut flowers						
- Chrysanthemums				0.2	0.2	0.2
- Hydrangeas				2.8	2.9	2.7
- Lilium		1.5	1.9	0.4	0.2	0.2
- Nerines			0.6	0.6	0.2	0.2
- Orchids	8.2	14.6	22.4	18.4	22.2	20.8
- Paeonies			0.5	1.2	1.5	1.7
- Pittosporum				0.4	1.2	1.2
- Proteaceae	0.5	1.5	1.4	1.1	0.8	0.9
- Sandersonia	0.2	5.6	3.1	0.8	0.2	0.2
- Zantedeschia (Calla Lily)	1.9	6.6	7.7	5.5	4.7	3.7
- Other Foliage	0.7	0.2	0.6	0.3	0.9	0.6
- Other cut flowers	7.8	19.9	8.5	7.0	3.8	2.7
Plants						
- Other live plants	2.5	3.5	5.6	14.5	8.5	6.6
Seeds						
- Flower seeds	<0.1	0.3	2.1	0.3	0.2	0.3
- Fruit seeds				0.4	2.1	1.9
- Cabbage seeds				3.2	3.2	5.0
- Carrot seeds				6.8	15.3	7.6
- Radish seeds				11.7	20.9	21.4
- Other veg seeds	2.1	7.3	15.9	8.5	16.2	23.4
- Tree seeds			1.6	0.6	1.8	1.5
Bulbs, tubers, corms						
- Lilium				9.4	14.3	16.8
- Sandersonias				2.2	1.3	0.7
- Tulips				6.4	9.9	9.6
- Zantedeschia (Calla Lily)			1.5	5.4	4.3	3.5
- Others	2.0	6.3	10.1	1.8	0.5	0.6
Sphagnum moss	11.0	17.3	15.3	8.8	6.3	6.3*
Total	36.9	84.6	98.8	118.7	143.6	140.3

The term "bulbs" is used to include bulbs, corms, tubers, tuberous roots, crowns & rhizomes. * Estimate only.
Source: Statistics New Zealand.

- Exports of cut flowers and foliage fell 9.1% to \$35.1 million in 2010.
- New Zealand's largest export markets for cut flowers in 2010 were Japan \$19.1m and the USA \$7.4m. Of the 35 other markets to which New Zealand cut flowers were exported, only two exceeded \$1.0m fob: Hong Kong \$1.8m and Canada \$1.4m.
- 56% of orchids by fob value were exported to Japan and 24% to USA. Of the 30 other markets orchids were exported to in 2010, Canada was the next largest market at 6% of the total value of orchid exports.

Exports of flowers, seeds and bulbs (\$ million, fob)

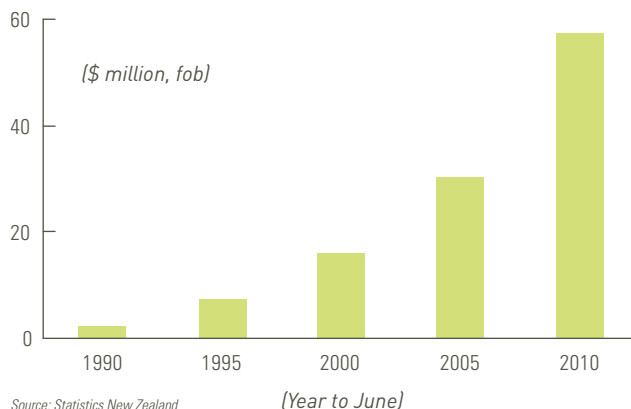


Source: Statistics New Zealand

- New Zealand has approximately 990 commercial flower growers whose produce is worth an estimated wholesale value of \$270 million of which \$35 million (fob) is exported (see 'cut flowers' section of table) and \$235 million is sold on the domestic market.
- Exports of bulb and tubers in 2010 were worth \$31 million (fob), which added to cut flowers sector value of \$270 million, plus exports of flower seeds (\$300,000 fob), gives the ornamentals section of horticulture a value of over \$300 million in 2010.
- Approximately eight exporters handle 95% of New Zealand's flower exports.
- Exports of vegetable seeds has been doubling every five years (see graph) and in 2010 were worth \$57.4 million fob.

Sources: www.floribase.com, Statistics New Zealand, New Zealand Flower Exporters Association

Vegetable seed exports (years to June, fob)



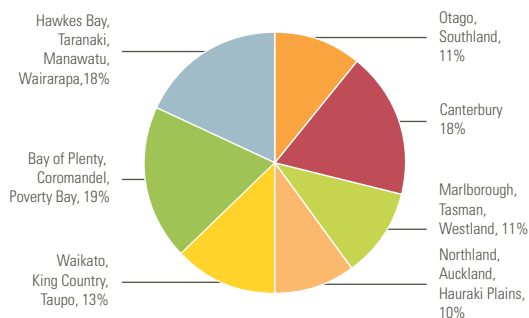
Source: Statistics New Zealand

BEES

- Bees pollinate crops and play a significant role in determining yields.
- Honey production of 12,553 tonnes in 2010 was similar to 2009 production (12,565 tonnes). The 6-year average (2005 to 2010) was 11,212 tonnes.
- The number of hives increased in 2010 to 376,540 (2009: 362,540 hives) with the average yield of 33.3 kg/hive, which was slightly below the 6-year average of 33.8 kg/hive.
- The value of New Zealand's honey exports increased in value by 20.5% to \$97.6m (2009 \$81.0m) with the major export markets being UK \$29.0m (2009 \$30.5m), Australia \$14.3m (\$11.3m), Singapore \$10.9m (\$8.7m), Hong Kong \$9.7m (\$5.0m), Japan \$9.0m (\$7.4m), USA \$5.0m (\$3.2m), and less than \$5 m to each of 33 other markets.
- Domestic honey consumption is about 5,200 tonnes.

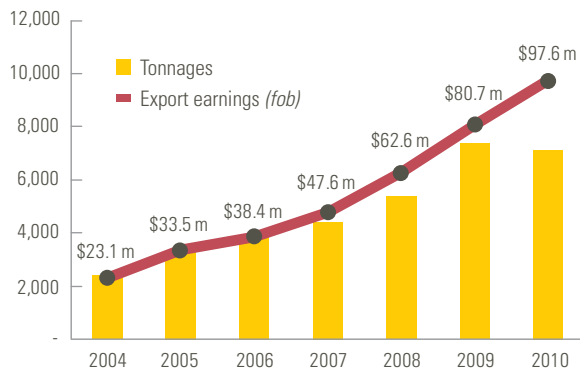
Source: MAF Sector Monitoring Reports 2009 (information supplied byASUREQuality Ltd.)

New Zealand production 2010 (12,553 tonnes)



Source: MAF Sector Monitoring Report 2010 (information supplied byASUREQuality Ltd)

New Zealand natural honey exports

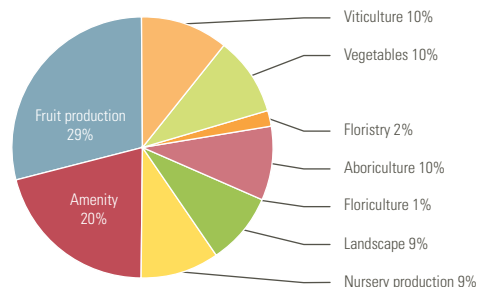


Source: Statistics New Zealand

HORTICULTURAL TRAINING

Trainees by category (year to December 2010)

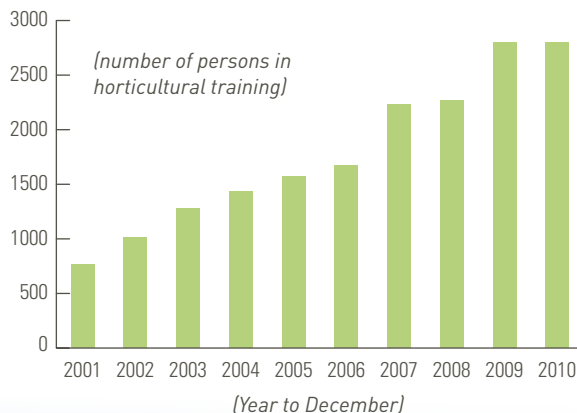
Horticultural trainees in 2010 totalled 2,796



Source: Horticulture Industry Training Organisation Inc.

Trainees in amenity horticulture (e.g. sports grounds) in 2010 fell by 23 (-4%) from 2009, but trainees in viticulture increased by 27 (10%) and vegetables by 10 (4%). Other category trainees in horticulture remained at close to constant numbers in the two years 2009 and 2010.

Persons in horticultural training, per year

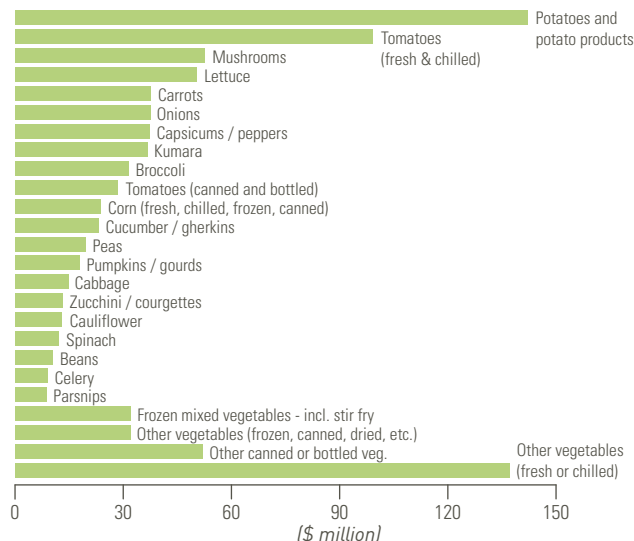


Source: Horticulture Industry Training Organisation Inc.



New Zealand consumer spend on vegetables (\$ million)

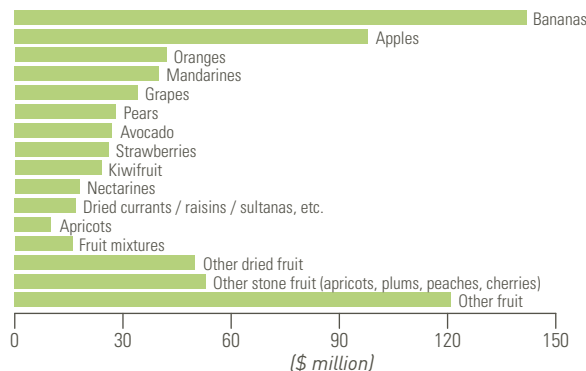
(fresh / chilled / dried / canned / bottled / frozen)



Note: sample base is New Zealand resident private households; i.e. excludes overseas visitors, persons living in motels and hotels etc. Individual line items are subject to sampling errors that as a guide are typically 12% (+/-).

New Zealand consumer spend on fruit (\$ million)

(fresh / chilled / dried / canned / bottled / frozen)



Source: Statistics New Zealand: triennial Household Economic Survey (HES), 2010

In 2010, New Zealand households spent an estimated \$2.4 billion on fruit, vegetables and wine, with

- \$ 615 million on fresh and chilled fruit
- \$ 130 million on processed fruit
- \$ 745 million on fresh and chilled vegetables
- \$ 225 million on processed vegetables
- \$ 730 million on wine

Source: Statistics New Zealand triennial Household Economic Survey (HES) 2010. N.B. survey is of households only and excludes overseas visitors, person living in hotels and motels, etc., and excludes restaurants and takeaway meals

Investment in the horticultural industries, 2010

	Crop area (ha)	On-farm (\$ million)	Off-farm (\$ million)
Apples, pears & nashi	9,061	1,076	1,076
Wine grapes	33,428	6,123	18,369
Kiwifruit	12,525	3,743	749
Summerfruit	2,294	120	120
Avocados	5,097	266	266
Citrus	1,834	96	96
Berryfruit	2,686	140	140
Nuts	1,484	77	77
Olives	2,173	113	113
Other subtropical fruit	2,576	134	134
Hops	370	19	58
Other fruit	250	13	13
Total fruit	73,778	11,920	21,211
Potatoes	10,000	304	455.9
Peas & Beans	12,720	387	773.1
Onions	5,100	155	155.0
Squash	6,850	208	208.2
Sweetcorn	5,800	176	352.5
Broccoli, cabbages & cauliflowers	3,875	118	117.8
Carrots	1,150	35	34.9
Asparagus	580	18	35.3
Lettuce	1,309	40	59.7
Other vegetables	6,811	207	310.5
Total vegetables	54,195	1,647	2,503
Protected - high tech	85	128	38
- greenhouse tomatoes	120	300	90
- low/medium tech	260	182	55
Total horticultural	128,438	14,196	23,954

Sources: Statistics New Zealand - Agricultural Production Census - 2007 + Industry figures. MAF Sector Monitoring Reports 2010 + estimates.

- Total investment in horticultural industries is calculated to be approximately \$38 billion, a substantial reduction from the \$45 billion calculated on a similar basis for the 2009 year. Much of this reduced value is attributable to vineyard values being reduced by approximately 28% from 2009 values.
- Total planted hectares under horticulture in 2010 was approximately 128,000 ha, an increase of 5% on the 2009 calculation. Without this increase in area, the total investment in horticulture figure would have been \$2 billion less than the \$38 billion calculated in the above table. Note that over 60 percent of the calculated value is invested in off-farm facilities, e.g. wineries and packhouses.
- Between 2009 and 2010, on-orchard capital investment per hectare increased for pipfruit by approximately 28% and kiwifruit orchards decreased by approximately 7% and wine grapes by an estimated 28%. Kiwifruit orchards have the highest capital investment per hectare with the weighted average for vineyards is approximately 40% less and for pipfruit, approximately 60% less per hectare.
- Calculations of investment in horticultural industries have been made on a consistent basis between 2009 and 2010 using information from MAF Sector Monitoring Reports model budgets with adjustments made for weighted average crop areas between the major regions of pipfruit, kiwifruit and wine grape growing areas.

As at June 2007

Distribution of fruit by Regional Councils (area planted, ha)

Regional Council	Apples	Wine grapes	Kiwifruit	Summerfruit	Avocados	Citrus	Berryfruit	Nuts	Olives	Other subtropical	Other fruit	Total fruit
Year ended 30 June	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007
Northland	30	121	634	16+	1,325	324+	8+	92+	231	155+	34	2970+
Auckland	179	411	309	48+	130	153	161	187+	290	168	50	2086+
Waikato	228	133	782	34+	144	23	340+	61+	79	91+	36	1951+
Bay of Plenty	8	25	10249	9+	2,210	119	45+	85+	56	159	41	13006+
Gisborne	190	1,812	284	2+	58	1003	C	C	6	92+	10	3457+
Hawke's Bay	5,206	4,930	220	895	31	20+	29+	3	317	217+	17	11885+
Taranaki	1	-	C	C	68	1+	C	C	C	27+	18	115+
Manawatu-Wanganui	35	10	138	10+	19	3+	18+	44+	C	78+	20	375+
Wellington	127	860	C	27+	8	1+	14+	39+	254	36+	39	1405+
Tasman-Nelson	2438+	805+	614	10+	9	1+	925+	22+	148	296+	13	5281+
Marlborough	25	17,169	C	67	C	C	2+	26+	240	27+	39	17595+
West Coast	-	-	-	0	-	C	C	C	C	3+	C	3+
Canterbury	249	1,683	C	122	C	1+	736	642+	437	30+	51	3951+
Otago	472	1,642	-	977	-	0	11+	144+	44	23+	12	3325+
Southland	C	C	-	C	-	C	C	30+	C	C	12	42+
Other/non allocated	59	15	20	77	2	185	208	109	71	98	6	850
Total 2007	9,247	29,616	13,250	2294	4,004	1834	2,497	1,484	2,173	1500	398	68,297
Total 2002	11,715	17,359	11,964	2,915	3,099	2,093	2,754	1,841	2,590	820	1,385	58,535
%	-21%	71%	11%	-21%	29%	-12%	-9%	-19%	-16%	83%	-71%	17%

Major changes since 2002 census: wine grapes increased 12,257 ha (+71%); kiwifruit increased 1,286ha (+11%); avocados increased 905 ha (+29%); olives decreased 417 ha (-16%); and nuts decreased 357 ha (-19%). C - Some data have been suppressed for reasons of respondent confidentiality. + incomplete data set due to some crop data being suppressed. Source: Statistics New Zealand Agricultural Production Census - as at June 2002 & 2007. Note: There may be some variations between the data reported in this section with those reported for the individual horticultural sectors. This is attributed to factors such as differences in sampling times, working definitions and the number of respondents. For some crops the planted areas have not reached full production.

Distribution of vegetables by Regional Councils (area planted ha)

Distribution of indoor crops (m²; 000s)

Regional Council	Potatoes	Peas & Beans	Onions	Squash*	Sweetcorn	Broccoli	Caulis	Carrots	Asparagus	Lettuce	Other veg	Total veg	Tomatoes	Capicum	Cucumber	Nursery	Flowers	Other indoor crops
Year ended 30 June	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007
Northland	31	C	C	25	35	35	3	C	13	1,418	1560+	1560+	25	C	16	36	141	37+
Auckland	1,316	64	1,531	251	46	921	344	C	479	966+	5938+	5938+	438	364	108	163	25	150+
Waikato	2,022	8	1,477	C	92	C	C	199	120	384+	4302+	4302+	285	C	77	31	175+	46+
Bay of Plenty	C	C	C	C	22	C	-	C	17	88+	127+	127+	13	C	C	C	72	113+
Gisborne	C	276+	C	2,773	1,798	C	-	C	C	60+	4907+	4907+	C	C	C	-	C	C
Hawke's Bay	491	1062	517	3,117	2,411	51	C	189	14	670+	8522+	8522+	8	6	C	C	49	22+
Taranaki	18	C	-	-	C	C	C	C	C	C	18+	18+	C	C	C	C	3	29+
Manawatu-Wang.	1,578	4+	319	841	34	870	247	245	214	655+	5007+	5007+	C	1	1	C	56	33+
Wellington	C	C	C	C	C	26	C	-	C	56	82+	82+	C	C	C	C	C	10+
Tasman-Nelson	39+	C	26+	C	14	148+	C	6	82+	171+	486+	486+	72+	C	21+	C	C	19+
Marlborough	C	676+	-	-	778	C	C	C	C	174+	1628+	1628+	C	C	C	C	C	C
West Coast	C	0	-	-	-	0	-	-	-	-	C	C	C	C	C	65	C	C
Canterbury	4,273	5242	686	C	941	520	488	94	47	631+	12922+	12922+	81	20	33	86	147+	63+
Otago	168	3+	C	-	C	221	C	C	44	3+	439+	439+	C	C	C	C	58	C
Southland	63	C	-	-	-	11	C	-	C	233+	307+	307+	C	C	C	C	C	C
Other	51	180	38	767	39	1,072	238	138	279	732	3534	3534	83	C	-	140	389	431
Total 2007	10,050	7,515	4,594	7,774	6,210	3,875	1,320	871	1,309	6,261	49,779	49,779	1,005	585	266	638	1,107	856+
Total 2002	10,611	9,108	5,488	6,580	6,384	3,746	1,831	2,015	1,287	5,690	52,721	52,721	1,665	434	550	913	2,342	974
%	-5%	-17%	-16%	19%	-3%	3%	-28%	-57%	2%	10%	-6%	-6%	-66%	26%	-107%	-43%	-112%	-14%

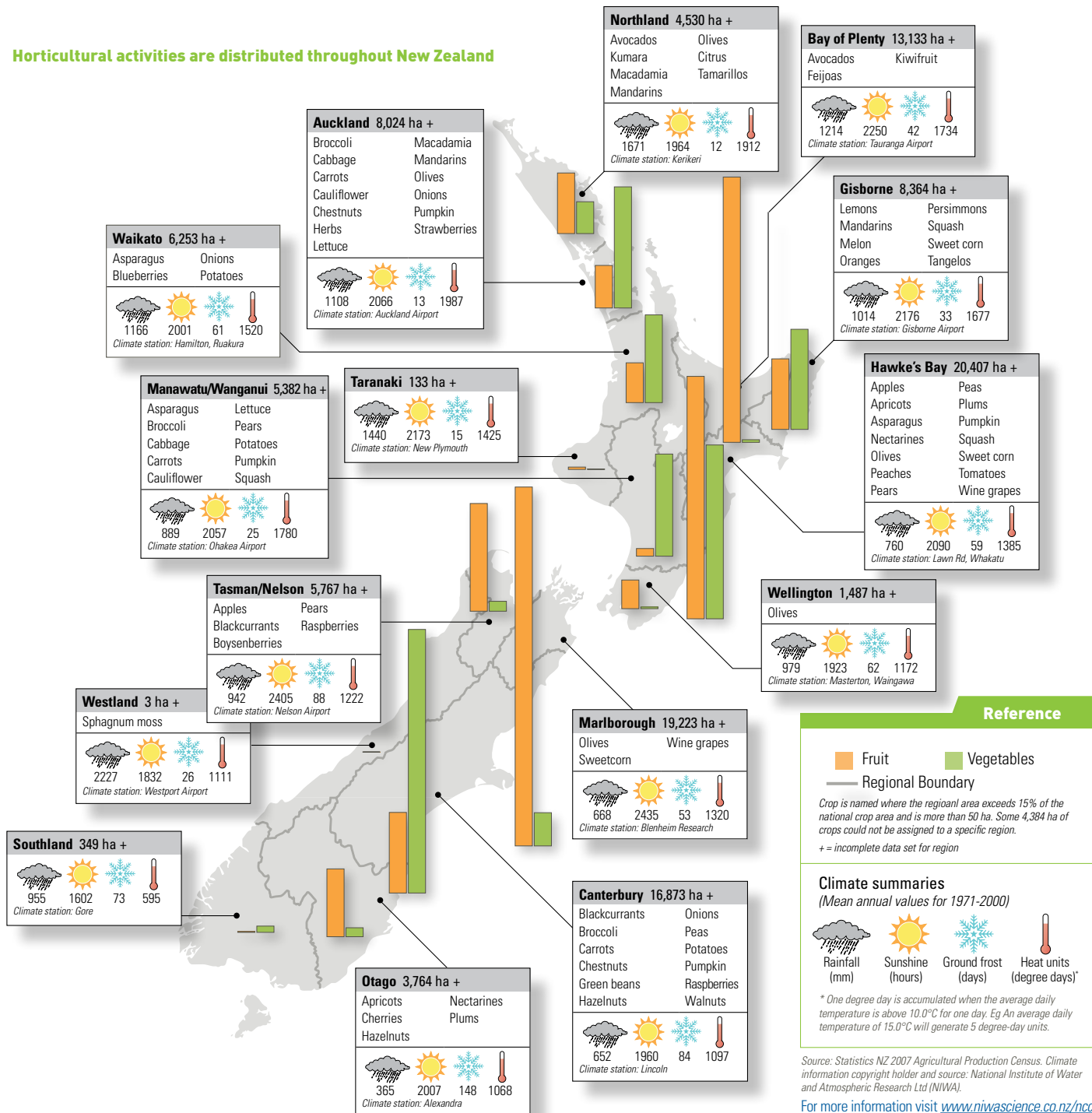
See above notes

For more information visit www.maf.govt.nz

(1 ha = 10,000 m²)

Regional resources

Horticultural activities are distributed throughout New Zealand





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Plant & Food Research's purpose is to enhance the value and productivity of New Zealand's horticultural, arable, seafood and food and beverage industries to contribute to economic growth and the environmental and social prosperity of New Zealand.

We conduct research that delivers:

- Better cultivars faster
- Residue-free pest and disease control
- More sustainable and profitable production systems
- Proprietary foods with price premiums.

Our focus is on using science innovation to enable New Zealand industry to produce more and better food from less land, with reduced environmental impacts and fewer chemical, carbon and water inputs.

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We represent all fruit and vegetable growers, leading issues that are industry wide for industry good.

We bring together under one umbrella an industry that spans more than 50 products, operates nationwide in more than eight regions, provides 50,000 jobs and exports to more than 120 countries.

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*New Zealand Fruitgrowers
Charitable Trust*



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