

# FreshFacts

NEW ZEALAND HORTICULTURE

2008



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Reporting basis: unless stated otherwise all statistics are for the year ending 30 June 2008 and expressed as \$NZ. Exports are given as free on board (fob) values. Imports are given as cost, insurance, freight included (cif) values. Historical values have not been adjusted for inflation.

Impact of exchange rate variations: the average US\$ exchange rate for the years to June were: 2007 NZ\$1.00:US\$0.6847 and for 2008 NZ\$1.00:US\$0.7704. (Source: NZ IRD). Had the same volume of exports been sold at the same US\$ fob price in both years, the return in NZ\$ for 2008 would have been 11% less than for 2007.

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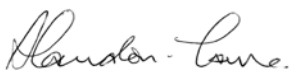
# New Zealand horticulture -sustainable success

*"New Zealand horticulture - delivering for customers*

*New Zealand's horticultural produce continues to entice customers both at home and around the world. Sector exports increasing to \$2.9 billion in 2008 have been driven by further improvements in sustainable production systems, handling, packaging, storage and transport technologies, allowing the delivery of higher-quality, higher-value produce to market.*

*Growers, processors, exporters, marketers and researchers all play a crucial role in ensuring that specific customer demands are met, and this issue of Fresh Facts shows just how successful they have been in 2008."*

Peter Landon-Lane  
CEO, Plant & Food Research



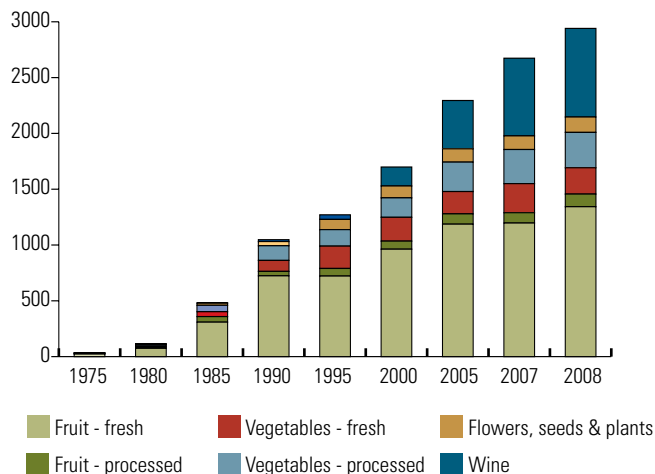
# Exports

## Horticultural exports (\$ million, fob)

Year ended June	1975 <sup>a</sup>	1985 <sup>a</sup>	1995 <sup>b</sup>	2005 <sup>b</sup>	2007 <sup>b</sup>	2008 <sup>b</sup>
Fresh fruit						
- Apples	19.3	108.2	343.6	387.0	343.3	344.9
- Kiwifruit	2.9	171.9	320.8	720.2	765.1	870.7
- Other fresh fruit	0.8	28.4	57.6	79.6	88.8	127.6
Total fresh fruit	23.0	308.5	722.0	1186.8	1197.2	1343.2
Processed fruit						
- Juices - fruit	0.1	9.6	30.5	34.1	40.2	38.2
- Other processed fruit	1.7	40.3	44.3	65.7	56.8	75.0
Total processed fruit	1.8	49.9	74.8	99.8	97.0	113.2
Fresh vegetables						
- Onions	1.2	17.7	92.6	61.6	120.5	91.5
- Squash		14.6	57.7	72.1	66.0	69.8
- Other fresh vegetables	1.9	11.6	49.8	66.3	74.0	74.5
Total fresh vegetables	3.1	43.9	200.1	200.0	260.5	235.8
Processed vegetables						
- Peas (frozen)	1.5	22.0	34.3	36.6	42.0	56.0
- Potatoes (frozen)			14.1	54.3	80.5	63.7
- Sweetcorn (frozen/dried)	0.8	9.5	30.6	42.7	38.6	38.3
- Mixed vegetables (frozen)		4.6	23.9	36.0	39.5	41.3
- Dried vegetables				25.5	35.3	42.7
- Vegetable preparations				40.2	40.6	41.1
- Other processed vegetables	2.4	20.9	75.6	28.4	29.2	33.7
Total processed vegetables	4.7	57.0	178.5	263.7	305.7	316.8
Wine	0.1	3.0	42.0	432.7	695.8	793.7
Flowers & foliage	0.2	10.5	49.9	38.5	42.8	38.3
Seeds, plants & bulbs etc	0.6	2.1	17.4	72.8	71.4	93.7
Sphagnum moss*		6.3	17.3	8.8	9.0	6.0
Total exports in current \$	8.2	33.5	481.2	1,302.0	2,679.4	2940.7
Horticultural exports as % of NZ merchandise exports.	2.0	4.4	7.0	7.0	8.0	6.9

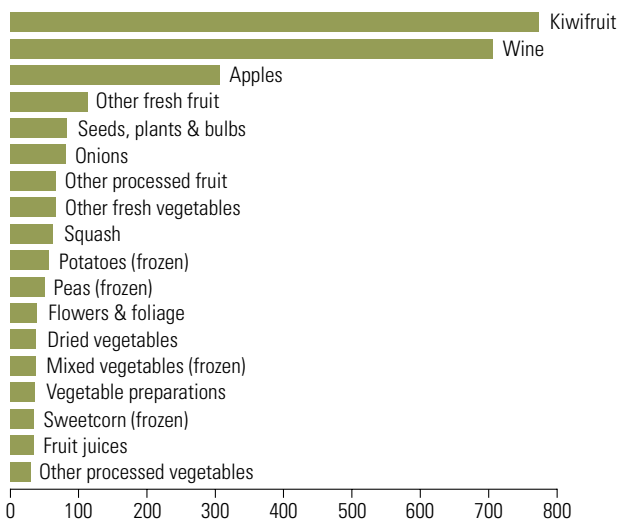
Source: <sup>a</sup>Bollard (1996) <sup>b</sup>Statistics NZ <sup>\*</sup>Estimate

## Horticultural exports (\$ million, fob)



Source: Statistics NZ.

## Horticultural exports 2008 (\$ million, fob)

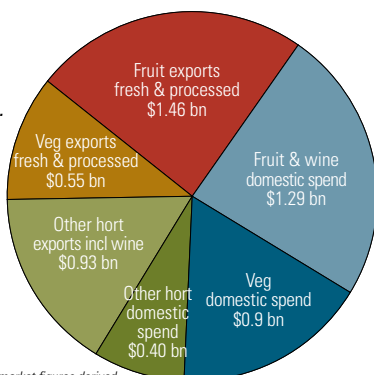


- For markets to which NZ exports over \$300m of horticultural products, exports to Australia increased by \$118m (+25%), to EU countries \$61m (+25%) whilst exports to Japan were down \$8m (-2%) and exports to USA down \$32m (-9%).
- 2008 Fruit exports increased by \$162.2m over 2007, with Fresh Fruit up by \$146.0m (+12%) and Processed Fruit up by \$16.2m (+17%).
- Kiwifruit exports increased \$105.6m (+14%)
- Wine exports increased \$97.9m (+14%)
- Fresh vegetable exports fell \$24.7m against 2007, predominantly due to Fresh Onions exports reducing from \$120.5m in 2007 to \$91.5m in 2008.
- Processed vegetables increased by \$11.1m (4%). Potato exports fell by \$16.8m. Frozen Pea exports increased by \$14.0m and Dried Vegetables by \$7.4m.

For more information visit [www.stats.govt.nz](http://www.stats.govt.nz)

## Produce from New Zealand's horticultural industries exceeds \$5.53 billion

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



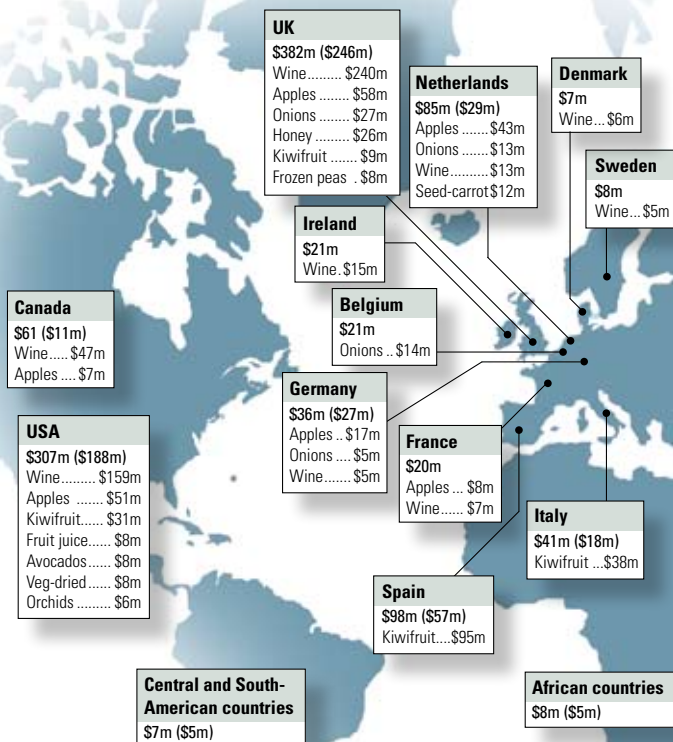
Source: Statistics New Zealand plus domestic market figures derived from triennial Household Economic Survey (HES) 2007 adjusted to 2008 est. of number of households.

# Export destinations

## Horticulture helps to 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 118 countries in 2008, a similar number of countries as in 2000 (114)
- Exports to 48 countries exceeded \$1 million in 2008, up from 42 in 2000. Of these exports to 24 exceeded \$10 million, up from 16 in 2000.
- Five destinations all exceed \$300 million fob value of New Zealand fruit and vegetable exports: Australia, Japan, United Kingdom, European Union and the USA.



### Reference

Countries shown are those defined as the export destinations.

Note that there are exports to the European Union as well as direct exports to countries within the EU such as the Netherlands, Spain and Germany.

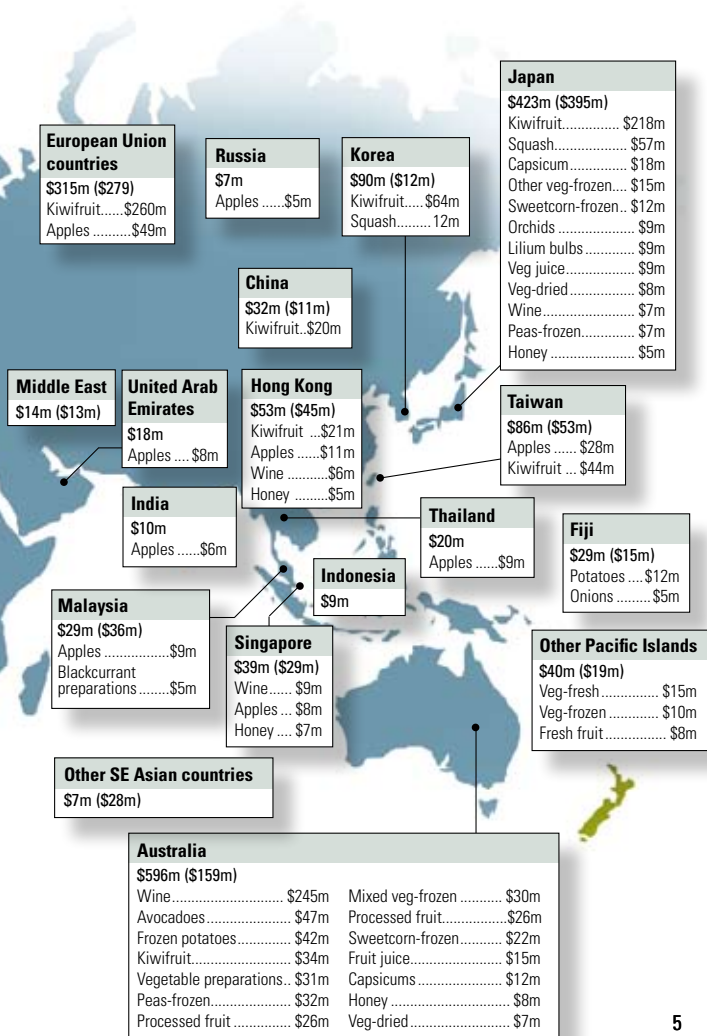
**Values following the country name are for 2008 (and those in brackets for 2000).**

Entries only included if value to a destination exceeds NZ\$5 million.

## Short term trends

- For markets to which NZ exports over \$300 million of horticultural products, exports to Australia increased by \$118 m (25%), to EU countries \$61 m (25%) whilst exports to Japan fell \$8 m (down 2%) and exports to USA down \$32 m (down 9%).
- New Zealand's fastest growing export sector in recent years has been wine which is now exported to 95 countries. Four countries account for 87% of New Zealand's wine exports: Australia 31%, UK 30%, USA 20% and Canada 6%. Another 91 countries share the remaining 13%.

For more information visit [www.stats.govt.nz](http://www.stats.govt.nz)



# Sector profiles

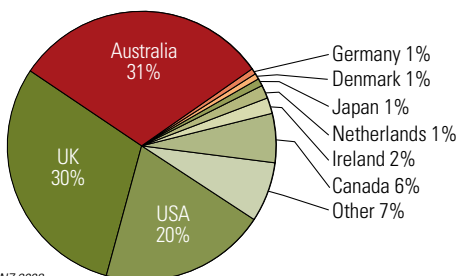
## Grape and wine production 2007-08

Variety	Production area (ha)		Production (tonnes)	
	1998	2008	1998	2008
Sauvignon Blanc	1,678	13,988	15,136	169,613
Chardonnay	2,006	3,881	18,169	33,346
Pinot Gris	61	1,383	257	12,417
Reisling	343	917	3,400	8,547
Gewurztraminer	85	316	937	2,101
Other white vinifera	982	399	19,672	5,060
Pinot Noir	596	4,650	4,489	32,878
Merlot	405	1,363	3,430	10,166
Cabernet Sauvignon	555	516	4,220	2,270
Syrah	40	278	203	1,452
Other red vinifera	177	396	2,175	2,734
Muscat varieties	177	135	4,448	1,697
Other and unknown	475	1,088		71
<b>Total</b>	<b>7,580</b>	<b>29,310</b>	<b>76,536</b>	<b>282,352</b>

Region				
Auckland/Northland	321	534	977	1,808
Waikato/Bay of Plenty	100	147	334	192
Gisborne	1,424	2,142	23,649	23,911
Hawke's Bay	1,829	4,899	22,751	34,284
Wairarapa	212	855	804	4,105
Marlborough	2,747	15,915	25,558	194,639
Nelson	161	794	898	7,002
Canterbury/Waipara	350	1,732	960	6,881
Otago	210	1,522	605	9,495
Other and unknown	226	770		35
<b>Total</b>	<b>7,580</b>	<b>29,310</b>	<b>76,536</b>	<b>282,352*</b>

Source: New Zealand Winegrowers Statistical Annual 2008 and previous. (\*) Total crushed by industry was 285,000 tonnes; <1% difference is adjustment for non respondents to an industry survey.

## Destinations of wine exports 2008 (% by value)



Source: Statistics NZ 2008.

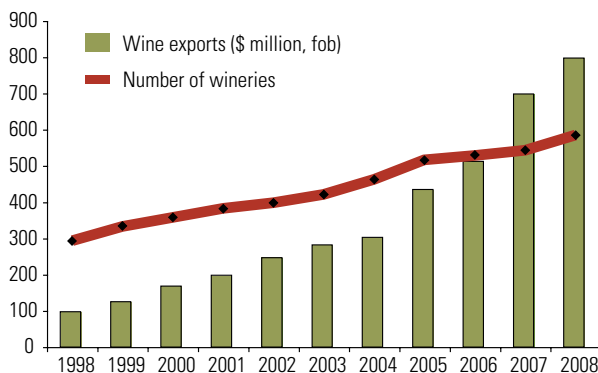
- Wine exports increased to \$798 million in 2008 (up 14% on 2007) compared to just \$98 million in 1998.
- New Zealand wine is exported to 95 countries. Exports to UK (\$240 m; up \$13 m / 35% on 2007), Australia (\$245 m; up \$66 m/37% on 2007) and the USA (\$159 m; down \$16 m/9% compared to 2007), were the major markets taking 81% of wine exports (83% in 2007).
- The 2008 grape harvest was a record 285,000 tonnes; up 80,000 tonnes (39%) from 2007.



- Total wine sales reached 135 million litres, up 8 million litres (6.4%) from 2007.
- Sauvignon Blanc (76%), Pinot Noir (7%) and Chardonnay (7%) are the dominant export wines. All other varieties are each 2% or less of total wine exports.
- Total producing area of 29,310 hectares is nearly four times the producing area of 7,580 in 1998.
- Marlborough produced 69% of grapes crushed in 2008, with 12% from Hawke's Bay and 8% from Gisborne.
- The 2008 grape harvest was a record 285,000 tonnes; up 39% from 2007.

For more information visit [www.nzwine.com](http://www.nzwine.com)

### Growth in wine exports and wineries between 1998 and 2008



Source: BNZ Statistical Annual, 2000, 2001 and 2002; N Z Grape & Wine Industry Statistical Annual 2003  
New Zealand Winegrowers Statistical Annual, 2004, 2005, 2006, 2007 and 2008.

### Grape yield model helps wine makers

When winemakers in Marlborough ready themselves for the annual influx of Sauvignon Blanc grapes, which go into 76% of New Zealand wine exports, they like to have enough tanks and product on-hand for the new vintage. Changes in the yield per hectare of grapes grown in Marlborough (producing area of 15,915 ha in 2008) can result in considerable variation in harvested grapes each season. To help wine makers prepare, the scientists at Plant & Food Research have developed a model to predict grape yield.

Initial information about yield becomes available about 15 months before harvest, when grape bunches start to form. Bunch numbers and potential grape yield are directly related to day and night temperatures during bunch initiation, which occurs in December and early January in Marlborough. These early figures are updated after flowering, about 4 months before harvest, when potential bunch weights are calculated. The model predicted a bumper harvest in 2009 and growers thinned vines to prevent overcropping. New Zealand Wine Growers are investing in extending the model to other varieties in other regions.



## Apple statistics 2008

Season	1998	2003	2004	2005	2006	2007	2008
Crop volumes ('000 tonnes)							
Apples produced	529	508	501	474	354	421	446
Fresh apples exported	292	322	367	322	268	295	261
General statistics							
Yield (tonnes/ha)	35	42	41	40	39	47	51
Area planted (ha)	14,976	12,150	12,150*	11,700*	9,000	8,945	8,832
Growers (No.)	1,500	918	917	920	680	520	509
Packhouses (No.)	183	125	102	85	74	74	70

\* Estimate

Source: Statistics New Zealand; Pipfruit New Zealand

## Envy™ is superior sweetness and crunch

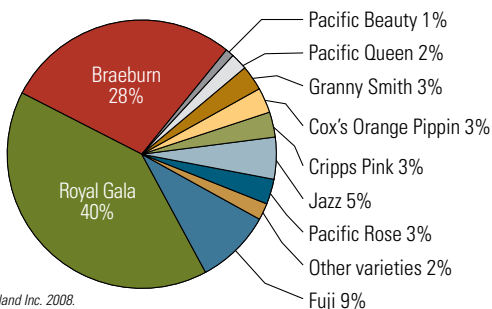
A very sweet new apple is much liked by those lucky enough to have tasted the small quantity available this past season from apple and pear exporter Enza. Known as Envy™ (Scilate), the bicolour apple was created at Plant & Food Research by crossing the two highly successful commodity cultivars Royal Gala and Braeburn. The new fruit has high flavour, high juice content and good storage potential. The crunch and taste of an Envy™ apple kept under normal storage conditions for five months is similar to a fresh apple.

Envy™ is being planted extensively by growers and commercial sales of fruit from trees grown in New Zealand will begin in the middle of 2009 to USA and Asia. The plan is to have similar volumes to Enza's other exclusive club variety, Jazz™. Envy™ will be available 12 months a year, with production planned for both hemispheres, and is expected to be in high demand in Asia and North America, where people particularly appreciate the sweetness and crunch it offers.



- Fresh apples valued at \$345 million were exported to 67 countries. Export volumes were 11% down on 2007 and export value was up 0.6%. Exports of apple preparations and juice were a further \$30 million.
- There were 93 exporters in 2008, with 33 exporting more than 1,000 tonnes. 52% of exported apples by value were to EU countries (including UK), 18% to Asia and 17% to North America.
- Royal Gala was the dominant export variety (40%) closely followed by Braeburn (28%) with no other variety exceeding 10% of exports.
- Grower numbers have declined by 67% since 1998 and the number of packhouses has decreased by 46% since 2002.

## Apple exports by variety - 2008



Source: Pipfruit New Zealand Inc. 2008.

- The Apple Futures programme targeting nil residue production introduced in 2007/2008 had 50% of the fruit in the programme tested from export boxes as free from residue, while the balance was at the limits of detection.
- New Zealand remains ranked second behind Chile among 28 apple producing countries in 2007, judged on 22 criteria including production efficiency, industry infrastructure and inputs, financial and market factors (source: World Apple Review).
- New Zealanders ate 14.1kg of apples per person in 2008. This is the highest consumption of apples for Southern Hemisphere countries.

For more information visit [www.pipfruitnz.co.nz](http://www.pipfruitnz.co.nz)

## Next-generation fruit bin-filler in demand

A New Zealand-designed and manufactured fruit-bin filler that is fast and kind to fruit is wanted by pack houses here, in the United States and in South America. The next-generation fruit bin-filler packs, on average, twice as many apples in the same time as existing conventional packing systems. It was developed by Fruit Handling Systems of Hastings with funding from TechNZ, the business investment arm of the Foundation for Research, Science & Technology.

Unlike conventional systems that rely on water to cushion fruit, the next-generation machine operates dry. It has a combination of advanced mechanical design and complicated software, resulting in a system that provides gentle handling. The bin-filler is versatile, with variable speeds, and can be easily adjusted for different types and sizes of fruit and for bins of varying capacities. Fruit Handling Systems is looking to meet market demand in New Zealand and offshore for the machine, which also takes up less pack house space than older machines.



# Sector profiles

## Industry industry statistics

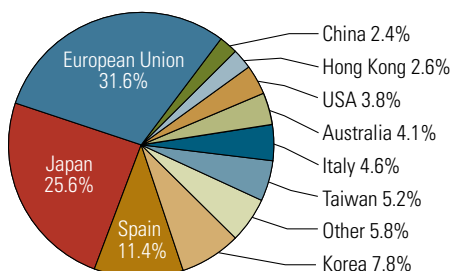
Season (ends 31 March)	1998	2003	2004	2005	2006	2007	2008
Crop volumes (million)							
Trays submitted*	60.6	64.1	66.1	85.8	87.8	90.0	102.0
Trays sold	56.2	61.3	64.6	79.7	82.3	80.1	92.4
General Statistics							
Yield (trays/ha)	5,919	6,175	6,247	7,847	7,655	7,514	8,371
Area planted (ha)#	10,243	10,376	10,580	10,934	11,464	11,967	12,186
Growers/suppliers‡ (no)		2,719	2,703	2,760	2,748	2,754	2,727
Packhouses (no)	126	101	98	88	83	80	75
Coolstores (no)	111	99	86	89	85	87	83
Orchard Gate Return	15,386	33,685	38,488	34,738	28,687	32,566	28,169

\* Tray weighs 3.6 kg. The difference between 'Trays submitted' and 'Trays sold' is the sum of fruit graded out before export and in export markets before being sent to final customers. †# Producing hectares ‡ Refers to number of submitters. Source: Zespri International Ltd Annual Reports 2001 and 2008.

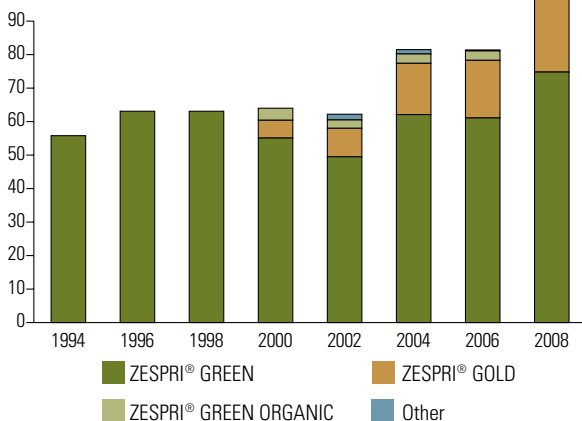
- Exports were valued at \$871 million (fob) in 2008, up from \$365 million in 1997, and \$765 million in 2007. Kiwifruit exports to 21 countries exceeded \$1 million.
- NZ produced export kiwifruit crop sold was 92.4 million trays comprising 67.9 million trays of ZESPRI® Green, 19.3 million trays of ZESPRI® Gold, 2.8 million trays of ZESPRI® Green Organic and 2.4 million trays of other kiwifruit.
- Global sales of non-New Zealand sourced kiwifruit were 5.6 million trays (down 9% from 2006-2007), comprising 2.5 million trays of ZESPRI® Green (down 36%) and 3.1 million trays of ZESPRI® Gold (up 15%).
- The average Orchard Gate Return was \$ 28,169 per production hectare (down 14% from 2006-2007), comprising \$24,051 for ZESPRI® Green (down 17%), \$34,744 for ZESPRI® Green Organic (down 1%) and \$46,067 for ZESPRI® Gold (down 5%).
- Kiwifruit production area in 2007/2008 increased to 9,675 ha for ZESPRI® Green (up 2.1%), decreased to 451 ha for Zespri® Green Organic (down 1%) and increased to 2,060 ha for ZESPRI® Gold (up 1%).
- Overall yield of kiwifruit was 8,371 tray equivalents (TE) per ha (up 11% from 2006-2007); average TEs per producing hectare was 7,241 for ZESPRI® Green (up 15.4% from 2006-2007), 6,427 for ZESPRI® Green Organic (up 23.6%) and 9,618 for ZESPRI® Gold (up 14.6% from 2005-2006).
- Italy, China, New Zealand, Chile and France were the top 5 kiwifruit countries 2004-2006 producing 1.4 million tonnes or 87% of total fruit produced. (*World Kiwifruit Review 2007*).

For more information visit [www.zespri.com](http://www.zespri.com)

## Major kiwifruit export markets 2008 (% by value)



Source: Statistics New Zealand 2008.

**Kiwifruit production profile** (tray equivalents, millions)

Source: ZESPRI Group Ltd Annual Reports.

**Record kiwifruit exported**

More kiwifruit left New Zealand shores in 2008 than in any year previously with over 100 million ZESPRI trays exported. The achievement was a highlight in a season that started with excellent production, with growers delivering fruit to meet ZESPRI's premium quality requirements. This helped to realise strong prices particularly in Europe, Asia and North America.

Kiwifruit is New Zealand's highest value horticultural export and New Zealand is the leading global kiwifruit marketer. The ZESPRI® brand was launched in 1997 and is now recognised as the world leader in premium quality kiwifruit. ZESPRI manages 30% of internationally traded kiwifruit, supplies over 60 countries and represents 2700 New Zealand growers of ZESPRI® GREEN, ZESPRI® GOLD and ZESPRI® GREEN and GOLD ORGANIC kiwifruit.



# Sector profiles

## Other fresh and processed fruit

Sales value (\$m)

Crop areas as at 30 June 2007	Growers <sup>a,b</sup> (no.)	Planted area <sup>a,b</sup> (ha)	Crop volume <sup>b</sup> (tonnes)	Domestic <sup>b</sup>	Export <sup>c</sup> 2008
Avocados	1481	4,004	26,766	15.8	59.3
Berryfruit	240	2,563	22,950	50.4	15.1
- Blackberries		114		2.0	
- Blackcurrants	52	1275	9,500	9.2	3.9
- Boysenberries	55	334	5,344	9.1	5.7
- Raspberries	60	150	1,260	0.2	
- Blueberries	95	522	2,754	24.2	11.4
- Strawberries	100	170	4,760	18.7	3.7
Citrus	327	1,834	53,720	17.5	7.1
- Grapefruit		41	1,150		
- Lemons		332	11,620	10.4	
- Mandarins	334	691	19,350	21.0	4.6
- Oranges	220	681	19,100		2.1
- Tangelos		89	2,500		0.3
Feijoas	200	251	500	1.7	
Grapes - table		37			
Hops	15	370	730		
Nashi	90	97	1,400	1.2	0.5
Nuts		1484			
- Chestnuts	100	310	200		0.2
- Macadamias		242			5.5
- Walnuts		498			
- Other nuts		434			
Olives	400	2,173	1,600		
Passionfruit		47	240		
Pears		694			
Persimmons	88	180	3,000	1.0	0.5
Summerfruit	351	2,294	15,690	57.0	7.5
- Apricots		457	4,773		7.5
- Cherries		520	1,341		21.3
- Nectarines		377	3,937		5.0
- Peaches		527	3,205		15.9
- Plums		413	2,434		0.2
Tamarillos	175	194	740	1.4	1.1
Other fruit		398			2.0
Total fresh fruit					127.6
Processed fruit <i>Fruit used for processing is produced on the orchard areas described above</i>					
Apple juice				45.9	25.0
Avocado oil					1.7
Other fruit juices				92.1	11.5
Other fermented beverages					2.4
Dried fruit & nuts					1.3
Frozen fruit					1.3
Fruit preparations					1.3
Hops				0.8	7.5
Jams, jellies and purees					19.0
Olive oil				2.3	0.8
Total processed fruit					113.2

Sources: <sup>a</sup>Statistics NZ - Agricultural Production Census 2007, <sup>b</sup>Various, incl. sector estimates and ref. to MAF Horticulture Monitoring Reports 2006 & 2008, <sup>c</sup>Statistics NZ. Blank entries indicate either that the information is not available or items are valued at less than \$100,000.

## Avocado industry expanding rapidly

New Zealand's avocado industry has, over the past 7 years, evolved from a minor industry to become New Zealand's third largest fresh fruit export sector. Although a young industry, it is innovative and current planting trends indicate that it will continue to expand rapidly for at least the next 5 years. Growers and exporters are working to develop niche markets for premium quality fruit.

The New Zealand government recognises the industry's potential and has invested in research to gain a better understanding of avocado fruit set. Scientists from the New Zealand Avocado Industry Council and Plant & Food Research are collaborating with their peers at the University of California to find out how boron, an important element, is transported in trees and its relationship with carbohydrate transportation. This knowledge will underpin technology to improve fruit set reliability and so enhance continuity of supply of high quality fruit to key markets.



- 2008 Exports of fruit other than wine grape (pg.6), apples (pg.8) and kiwifruit (pg.10), increased by 43.7 % over 2007 to \$127.6 million.
- The standout increase was in avocado exports increasing \$28.5 million to \$59.3 million fob value. Avocado exports to Australia increased \$20 million (72%) from 2007 figure of \$27.5 million to \$47.1 million.
- Blueberry exports increased from \$11.4 million in 2007 to \$14.5 million in 2008.
- Exports of cherries at close to \$16 million for 2008 were almost double 2006 (\$9.0 million) and 2007 (\$8.1 m) levels.
- Summerfruit exports increased \$4.0 million to \$21.3 million. Apricot exports fell from \$9.0 million in 2007 to \$4 million in 2008, a level similar to 2006 apricot exports of \$4.6 million value.
- Processed fruit exports increased \$16.2 million to \$113.2 million (+16.7%). Apple juice and other fruit juice exports (34% of processed fruit exports) were comparable to 2007, but fruit preparations (from blackcurrants \$19.3 m, apples \$5.1 m and kiwifruit \$1.5 m) were up \$6.1 million (25%) on 2007 exports levels to \$30.4 million in 2008.
- At over \$13.6 million, frozen fruit exports are up by 36% on 2007 and now 2.5 times 2003 fob export value

For more information visit [www.hortnz.co.nz](http://www.hortnz.co.nz), [www.summerfruitnz.co.nz](http://www.summerfruitnz.co.nz), [www.citrus.co.nz](http://www.citrus.co.nz), [www.olivesnz.org.nz](http://www.olivesnz.org.nz) and [www.nzhops.co.nz](http://www.nzhops.co.nz)

# Sector profiles

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

Selected HS Items	1985	1995	2000	2005	2008
	FOB (\$)	FOB (\$)	FOB (\$)	FOB (\$)	FOB (\$)
<b>Cut flowers</b>					
- Hydrangeas				2.8	2.4
- Lilium		1.5	1.9	0.4	0.2
- Nerines			0.6	0.6	0.3
- Orchids	2.8	14.6	22.4	18.4	20.4
- Paeonies			0.5	1.2	1.6
- Pittosporum				0.4	0.8
- Proteaceae	0.3	1.5	1.4	1.1	1.0
- Sandersonias		5.6	3.1	0.8	0.2
- Zantesdeschias		6.6	7.7	5.5	4.7
- Other foliage	2.9	0.2	0.6	0.3	0.9
- Other flowers	4.6	19.9	8.5	7.0	6.7
<b>Plants</b>					
- Other live plants	6.3	3.5	5.6	15.7	11.4
<b>Seeds</b>					
- Flower seeds	0.5	0.3	2.1	0.3	0.5
- Fruit seeds				0.4	1.3
- Cabbage seeds				3.2	3.0
- Carrot seeds				6.8	13.2
- Radish seeds				11.7	15.3
- Other veg seeds	1.2	7.3	15.9	8.5	12.5
- Tree seeds			1.6	0.6	1.4
<b>Bulbs, tubers, corms</b>					
- Lilium				9.4	19.2
- Sandersonias				2.2	1.1
- Tulips				6.4	9.1
- Zantesdeschias			1.5	5.4	4.3
- Others	0.2	6.3	10.1	1.8	0.6
Sphagnum moss*		17.3	15.3	8.8	6.0
<b>Total</b>	<b>18.8</b>	<b>84.6</b>	<b>98.8</b>	<b>119.7</b>	<b>138.1</b>

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

- The largest export markets for New Zealand cut flowers were Japan \$17.1 million, USA \$11.3 million, Netherlands \$2.0 million, Canada \$1.8 million and Hong Kong \$1.6 million. Exports to 39 other markets were all less than \$1 million fob.
- Orchids, the dominant export cut flowers variety, are exported to 38 countries with Japan (46%), 30% to USA (30%) and Canada (5%) being the largest.
- Largest destinations for live plants were USA (35%) and UK (24%).
- 2008 Vegetable Seed Exports were \$43.9 million. For comparison, 2003 export fig was \$23.3 million fob.
- In 2008 total seeds exported increase of 50% over 2007 to \$47.2 million. The value seeds exported in 2006 was \$41.8 million, which had been the highest to that point.
- At \$34.2 million, exports of bulbs, tubers and corms have almost doubled since 2003 (\$17.9m fob).
- As at 2007 New Zealand had 597 farms growing cut flowers, and flower seeds (source:

Statistics NZ: 2007 Agricultural Production Census).

For more information visit [www.nzflowers.com](http://www.nzflowers.com)



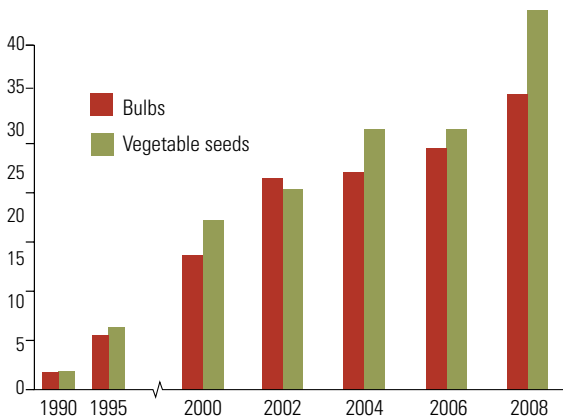
## Red and pink gentians for market

Novelty and fashion are important to flower buyers, so New Zealand scientists are delivering cut-flowers to market in striking new colours. Gentians are known for their naturally deep blue colour, but a new red gentian 'Showtime Diva' has been developed by Plant & Food Research in partnership with Southland Flowers. The first cut-flowers are available this year. 'Showtime Diva' is being multiplied in New Zealand and is part of a series of new releases that will include a range of reds, pinks and purples.

New varieties being tested for commercial release have long stems, good yields, a wide range of flowering times (Christmas to May/June), disease resistance and a long vase-life, making them attractive to both growers and buyers. Research supported by New Zealand Gentian Growers and the Government's Foundation for Research Science & Technology has shown that gentian stems can be harvested, shipped to overseas markets and still perform well in the marketplace.



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



# Sector profiles

## Fresh and processed vegetables

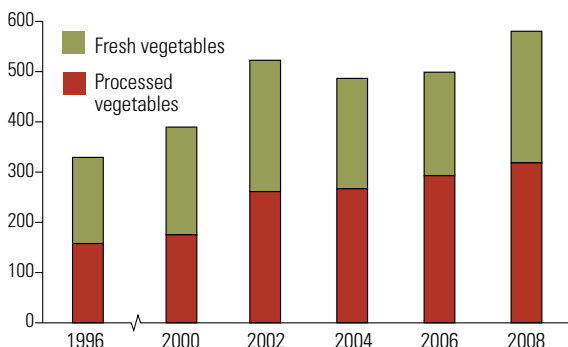
Sales value (\$ million, fob)

Crops as at 30 June 2007	Growers <sup>c</sup> (no.)	Planted area (ha)	Crop volume <sup>c</sup> (tonnes)	Domestic <sup>c</sup>	Exports 2008 Fresh Processed <sup>b</sup>	
Asparagus	100	871	3,136	5.6	2.5	0.7
Beans	184	724	20,000	12.8		6.5
Brassicas	290	3,875	82,000	80.3	1.5	
- Broccoli	80	2,247	18,000			
- Cabbage	80	768	40,000			
- Cauliflower	100	860	24,000			
Capsicums	128	56	11,500	29.3	30.5	
Carrots	98	1,320	65,000	41.3	9.2	1.0
Cucurbits	220	283	1,770	41.3		
Garlic	28	268	1,427	6.5	0.7	
Kumara	92	1,264	17,500	33.8		
Lettuce - outdoor	306	1,309		41.8	1.7	
Lettuce - greenhouse		22				
Melons	46	259				
Mushrooms	11	42	8,500	41.1	1.5	
Onions	108	4,594	184,200	25.0	91.5	
Peas	590	6,791	54,300	45.0		56.0
Potatoes	268	10,050	477,000	216.5	17.0	63.7
Pumpkin	129	1,066	31,000			
Shallots					2.0	
Silverbeet/Spinach	94	306	4,000	13.4		
Squash	76	7,774	108,800	3.9	69.8	
Sweetcorn	283	6,210	108,675	14.8	0.3	38.3
Tomatoes - greenhouse	300	100	40,000	108.0	5.6	
Tomatoes - outdoor	20	757	50,000	5.0		6.7
Mixed vegetables	Made from combinations of					41.3
Dried vegetables	the above crops					42.7
Vegetable preparations						41.1
Vegetable juices						10.2
Other Vegetables <sup>a</sup>		2,609			2.0	8.6
<b>Total</b>	<b>3,435<sup>d</sup></b>	<b>50,550</b>		<b>765.4</b>	<b>235.8</b>	<b>316.8</b>

<sup>a</sup>Includes taro, celery, parsnips, spring onions, Asian vegetables (excl. Chinese cabbage), yams, witloof, leeks, vegetable shoots, shallots, swedes and some others. <sup>b</sup>Processing includes freezing, canning, juicing and artificial drying. <sup>c</sup>Sector estimates. Blank entries indicate that the information is not available. <sup>d</sup>Many growers produce multiple crops. Sources: Statistics NZ - Agriculture Census 2007; HortNZ 2005 +

- Total fresh and processed vegetable exports for 2008 had an fob value of over \$550 million. Domestic consumption is estimated to exceed \$900 million, giving a combined vegetable sector total of close to \$1.5 billion.
- More than 50 different types of vegetables are grown in New Zealand for consuming fresh or for processing. In recent years there has been an increase in the range and volume of New Zealand grown Asian vegetable varieties for local consumption.
- In 2008, fresh vegetables exports (\$236 m) and processed vegetables exports (\$317 m) went to 73 countries.
- Onions (39%) and squash (29%) dominate fresh vegetable exports.
- Japan is New Zealand's largest market for fresh vegetables at \$84 million in 2008 (35% of total fresh vegetable exports). Total frozen vegetables exports to Japan fell by \$9.4 million from 2007 export value and by 5,000 t. to 22,900 t. in 2008.
- Australia (49%) is the main market for processed vegetables at \$169 million fob.

## Vegetable exports increased between 1996 and 2008 (\$ million, fob)



Source: Statistics NZ.

- Potatoes (20%), peas (18%), sweetcorn (12%), and mixed vegetables (13%) are the major processed and frozen vegetables exported.
- Frozen sweetcorn exports at \$38.3 million were up by 22.5% over 2007, but comparable to previous years; e.g. 2002 export level was \$44 million f.o.b. Frozen sweetcorn exports to Australia increased \$9.3 million on 2007 exports to \$22 million in 2008.
- Across all sectors vegetable growers in New Zealand farm over 50,000 ha and employ 25,000 people. Many growers produce multiple crops each year, and their crop types can vary from year to year.

For more information visit [www.hortnz.co.nz](http://www.hortnz.co.nz)

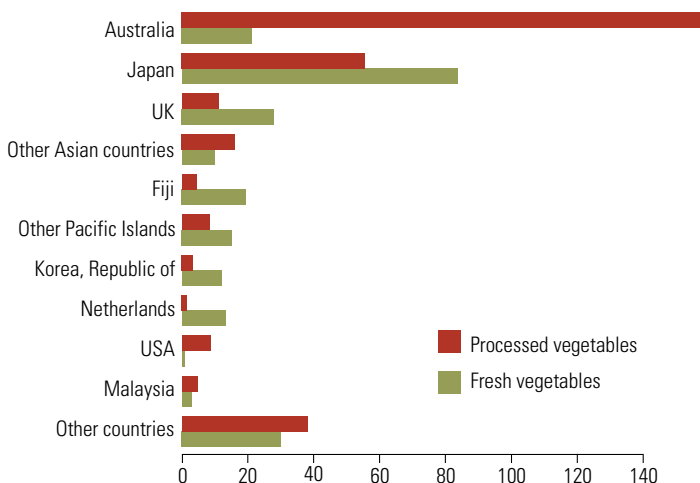
## A purple potato for better health

A new potato with attractive purple tones throughout the flesh and deep purple skin is well positioned to capture the attention of the health-conscious, as well as chefs and gourmet cooks.

This potato, provisionally named 'Purple Heart', gets its colour from anthocyanins, which are strong antioxidants. It has smooth skin and is larger and better yielding than many of the coloured flesh potatoes available. The unique gourmet potato is tasty and easy to use and is attracting interest from the restaurant trade and home cooks.

Seed potato growers are multiplying-up the crop for fresh market production on behalf of New Zealand licensee, Eurogrow, and the purple skinned potato will be available in trial quantities in 2010. Meanwhile New Zealand home gardeners have been buying the seed of the new potato as 'Crop 33' and can continue to purchase it from garden centres, rural servicing centres and some hardware stores.



**Destinations of vegetable exports 2008 (\$ million, fob)**

Source: Statistics NZ.

### Tools for sweetcorn production

Improvements in the sustainable and economic production of any crop of any crop benefits the environment, producers and processors, and it also appeals to consumers concerned about the planet – so a toolkit enabling the effective and efficient growing of sweetcorn has been welcomed. Knowledge about producing sweet corn has been aggregated into a best practice guide kit primarily for process growers in a project supported by Horticulture New Zealand's Process Vegetable Product Group, Cedenco, Heinz-Wattie's, McCain Foods, Ballance Agri-Nutrients and Plant & Food Research. This work on the sweetcorn tool kit was also supported by the MAF Sustainable Farming Fund.

New Zealand sweetcorn growers who produce the crop for process and fresh markets have been sent the toolkit to use this season. The kit includes a calculator, forecaster, grower manual and a "ute" guide to carry in their utility vehicles and use in the field. Together the tools provide a science base for crop management decisions and give growers a definitive overall picture of how sweetcorn should be grown to meet market requirements for quality.



## Investment in the horticultural industries

	Crop area (ha)	On-farm (\$ million)	Off-farm (\$ million)
Apples, pears & nashi	10,038	868	868
Wine grapes	29,616	8,956	26,868
Kiwifruit	13,250	4,518	904
Summerfruit	2,294	89	89
Avocados	4,004	155	155
Citrus	1,834	71	71
Berryfruit	2,497	97	97
Nuts	1,484	58	58
Olives	2,173	84	84
Other subtropical fruit	709	28	28
Hops	354	35	106
Other fruit	44	2	2
<b>Total fruit</b>	<b>68,297</b>	<b>14,961</b>	<b>29,329</b>
Potatoes	10,050	227	341.1
Peas & beans	7,515	170	340.1
Onions	4,594	104	103.9
Squash	7,774	176	175.9
Sweetcorn	6,210	141	281.0
Broccoli, cabbages & cauliflowers	3,875	88	87.7
Carrots	1,320	30	29.9
Asparagus	871	20	39.4
Lettuce	1,309	30	44.4
Other vegetables	6,261	142	212.5
<b>Total vegetables</b>	<b>49,779</b>	<b>1,126</b>	<b>1,656</b>
Protected - high tech	85	128	38
- greenhouse tomatoes	101	253	76
- low/medium tech	260	182	55
<b>Total horticultural</b>	<b>118,522</b>	<b>16,685</b>	<b>31,260</b>

Sources: Statistics NZ - Agricultural Production Census 2007 + industry figures; MAF Horticulture & Arable Monitoring Report 2007 + estimates.

- Total investment in horticultural industries is calculated to be approximately \$48 billion.
- Calculated on a consistent basis, total investment in horticultural industries has increased by close to \$10 billion in the past 24 months. Virtually all of the increase is in grape wine where producing hectares have increased by 17% and total vineyard assets per producing hectare have increased by approximately 19% (calculated from a MAF model using 33 vineyards in Hawkes Bay and Marlborough).
- Horticultural enterprises represent a significant capital investment on farms, orchards & greenhouses of about \$16.5 billion in land, buildings and equipment.
- The off-farm capital investment to package, process and transport the products to the nearest port and/or domestic market, at close to \$31 billion, is significant.

# Distribution of fruit by Regional Councils (ha) As at June 2007

Regional Council	Apples	Wine grapes	Kiwifruit	Summerfruit	Avocados	Citrus	Berryfruit	Nuts	Olives	Other subtropical	Other fruit & hops	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	10,249	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	59	15	20	77	2	185	208	109	71	98	6	850
<b>Total</b>	<b>9,247</b>	<b>29,616</b>	<b>13,250</b>	<b>2,294</b>	<b>4,004</b>	<b>1,834</b>	<b>2,497</b>	<b>1,484</b>	<b>2,173</b>	<b>1500</b>	<b>398</b>	<b>68,297</b>
1996	15,819	6,110	10,210	2,692	946	1,919	1,691	n/a	n/a	728	1,846	58,553
%	-42%	385%	30%	-15%	323%	-4%	48%	n/a	n/a	106%	-78%	17%

Major changes since 2002 census: Wine grapes incr. 7,000 ha (+31%); Kiwifruit incr. 1,786ha (+16%); Avocados incr. 1,097 ha (+36%); Nuts incr. 1,906 ha (+109%). C - Some data have been suppressed for reasons of respondent confidentiality. + incomplete data set due to some crop data being suppressed. Source: Statistics NZ Agricultural Production census - as at June 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 (ha)**

Regional Council	Potatoes	Peas & Beans	Onions	Squash*	Sweetcorn	Broccoli, Cab & Caulis	Carrots	Asparagus	Lettuce	Other veg	Total veg
Year ended 30 June	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007
Northland	31	C	C	25	35	35	3	C	13	1,418	1560+
Auckland	1,316	64	1,531	251	46	921	344	C	479	986+	5938+
Waikato	2,022	8	1,477	C	92	C	C	199	120	384+	4302+
Bay of Plenty	C	C	C	C	22	C	-	C	17	88+	127+
Gisborne	C	276+	C	2,773	1,798	C	-	C	C	60+	4907+
Hawke's Bay	491	1062	517	3,117	2,411	51	C	189	14	670+	8522+
Taranaki	18	C	-	-	C	C	C	C	C	C	18+
Manawatu-Wang.	1,578	4+	319	841	34	870	247	245	214	655+	5007+
Wellington	C	C	C	C	C	26	C	-	C	56	82+
Tasman-Nelson	39+	C	26+	C	14	148+	C	6	82+	171+	486+
Marlborough	C	676+	-	-	778	C	C	C	C	174+	1628+
West Coast	C	0	-	-	-	0	-	-	-	C	C
Canterbury	4,273	5242	686	C	941	520	488	94	47	631+	12922+
Otago	168	3+	C	-	C	221	C	C	44	3+	439+
Southland	63	C	-	-	-	11	C	-	C	233+	307+
Other/non allocated	51	180	38	767	39	1,072	238	138	279	732	3534
Total	10,050	7,515	4,594	7,774	6,210	3,875	1,320	871	1,309	6,261	49,779
2002	10,611	9,108	5,488	6,560	6,384	3,746	1,831	2,015	1,287	5,690	52,721
% change	-5%	-17%	-16%	19%	-3%	3%	-28%	-57%	2%	10%	-6%

See above notes. \*Includes flowers, bulbs, nursery crops and hops grown outdoors.

For more information visit [www.maf.govt.nz](http://www.maf.govt.nz)

**Distribution of indoor crops (m<sup>2</sup>; 000s)**

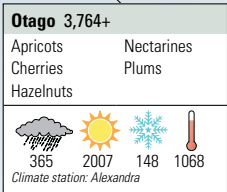
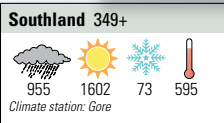
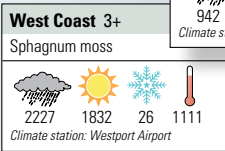
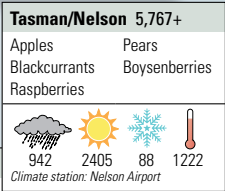
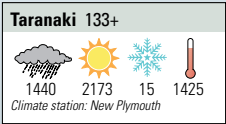
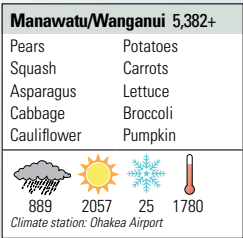
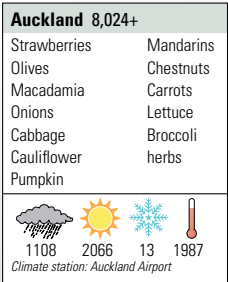
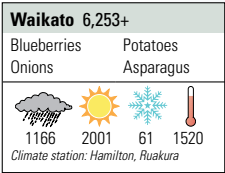
Other outdoor*	Tomatoes	Capsicum	Cucumber	Nursery crops	Flowers bulbs etc	Other indoor
2007	2007	2007	2007	2007	2007	2007
189	25	C	16	36	141	37+
429	438	364	108	163	25	150+
322	285	C	77	31	175+	48+
268	13	C	C	72	113+	32+
201	C	C	-	C	C	9
139	8	6	C	49	22+	C
132	C	C	C	3	29+	C
221	C	1	1	C	56	33+
96	C	C	C	C	10+	12+
477	72+	C	21+	C	C	19+
102	C	C	C	C	C	C
6	C	C	65	C	C	C
808	81	20	33	86	147+	63+
210	C	C	C	58	C	22+
263	C	C	C	C	C	C
	83	C	-	140	389	431
3,863	1,005	585	266	638	1,107	856
n/a	1,665	434	550	913	2342	974
n/a	-66%	26%	-107%	-43%	-112%	-14%

(1 ha = 10,000 m<sup>2</sup>)

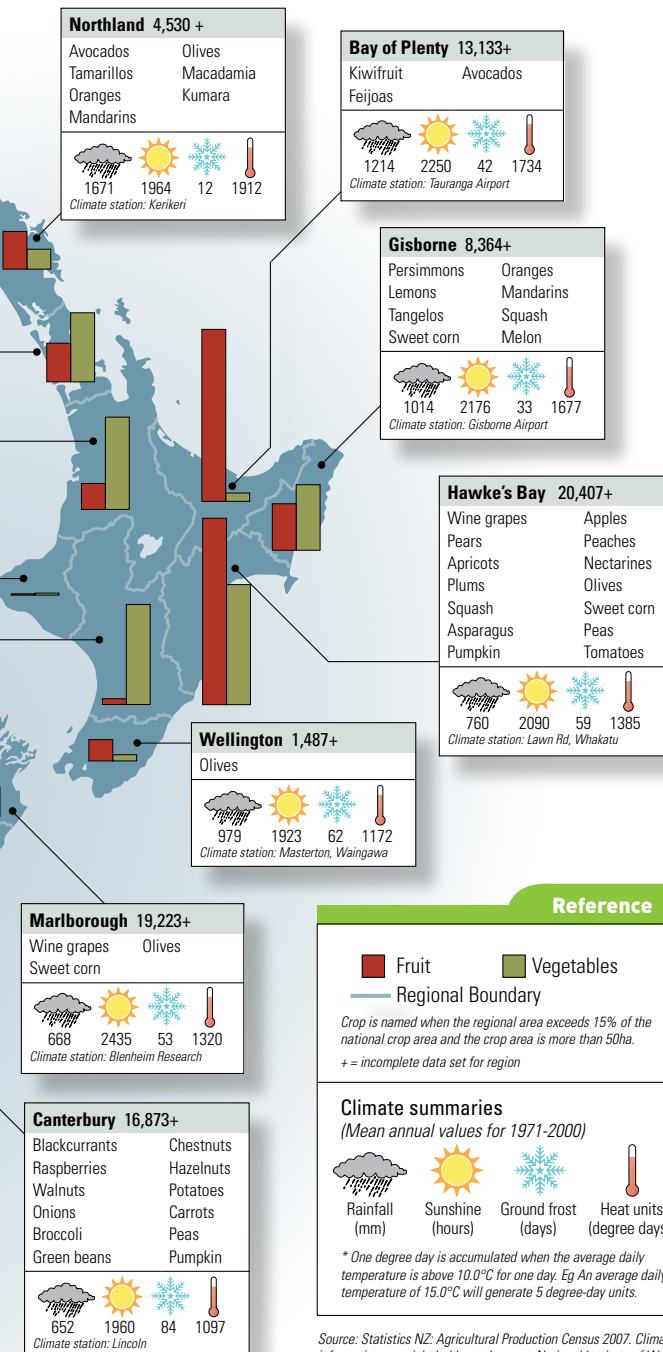
# Regional resources

## Horticultural activities are distributed throughout New Zealand.

The number beside each Region's name indicates hectares in horticultural production. Some 4,384 hectares of crops could not be assigned to a specific region, predominantly for confidentiality reasons.







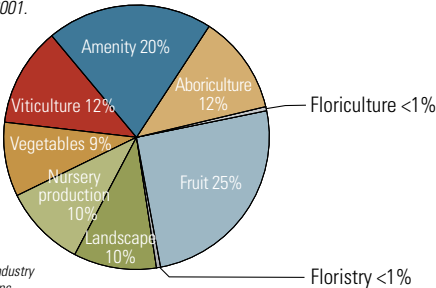
Source: Statistics NZ: Agricultural Production Census 2007. Climate information copyright holder and source: National Institute of Water and Atmospheric Research Ltd (NIWA).

For more information visit [www.niwascience.co.nz/ncc](http://www.niwascience.co.nz/ncc)

## HORTICULTURAL TRAINING

### Trainees by category (year to December 2008)

Horticultural trainees are increasing with 2,624 trainees in 2008 compared to 2,231 in 2007 and 763 in 2001.



Source: Horticultural Industry Training Organisation Inc.

For more information visit [www.hortito.org.nz](http://www.hortito.org.nz)

## ORGANIC PRODUCTION

- World sales from certified organic products (includes horticultural and other outputs) increased from about US\$23 billion in 2002 to US\$46 billion in 2007. Source: United Nations Trade and Development Agency (UNCTAD).
- In New Zealand demand for organic produce is increasing and knowledge of organic systems is assisting advanced conventional production systems.

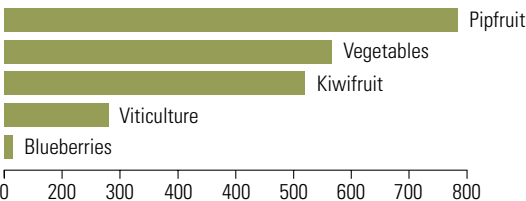
### Organic Kiwifruit

- First exports from New Zealand 1991
- 160 growers producing 3.5% of total kiwifruit (2007)

### Organic Pipfruit

- First exports from New Zealand 1998
- 80 orchards producing approx. 10% of NZ national crop (2008)
- 40% increase in organic pipfruit production from 2006 to 2008/9.

### Organic horticultural crops - area certified and under conversion 2006 (ha)

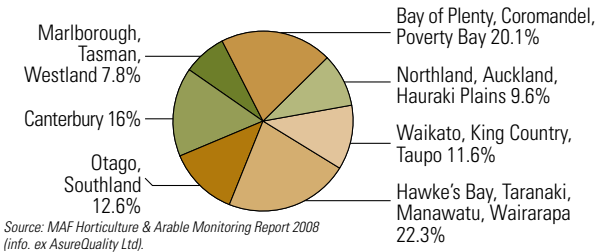


Source: Organics Aotearoa New Zealand.

### A vital contributor to horticulture

- Bees pollinate crops and play a significant role in determining yields
- Honey production of 12,375 tonnes was 28% above 2007 production (9,666 tonnes) and 17% above the 6-year average of 10,549 tonnes. The highest previous annual production volume was 12,252 tonnes in 2003.
- The number of hives increased to 344,123 (2007 was 314,600) and the average yield of 36.0 kg/hive was 17% above 2007 (30.7 kg/hive).
- Honey exports by value increased to \$62.6 million (2007 \$47.8 m) with \$26.0 million to UK, \$7.6 million to Australia, \$7.2 million to Singapore and \$5 million or less to 39 other markets.
- Domestic honey consumption is about 6,800 tonnes.

### New Zealand honey crop (12,375 tonnes)



### Sustainable solutions tested for varroa

Since arriving in New Zealand seven years ago varroa mite has become a major problem for beekeepers. The mite spreads rapidly, laying its eggs inside beehive brood cells where they mature by feeding on bee larvae. Uncontrolled, varroa can 'kill' a beehive within a year.

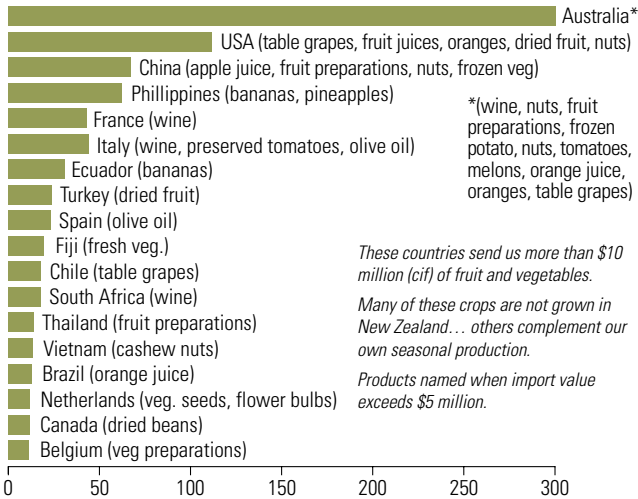
Scientists at Plant & Food Research are having success finding chemical-free ways of fighting the varroa bee mite with development of a population of resistant bees that make the mite's offspring sterile. The research has been made possible with support from the Ministry of Agriculture's Sustainable Farming Fund, the National Beekeepers Association, individual beekeepers and the kiwifruit industry through ZESPRI scientists.

About 20% of the bee population is resistant to varroa, and the breeding of resistant bees has been successful in producing hives with up to 80% of the varroa sterile. The resistant bee-breeding programme is being expanded on Great Mercury Island, with the idea that bees bred there and at other potential isolated breeding centres will deliver a continuous flow of resistant bees to the mainland, helping to build high levels of resistance in commercial hives.

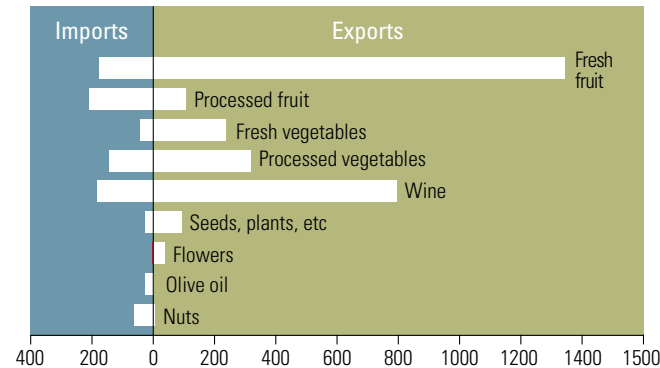


# Imports/exports

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



## Comparisons of imports and exports (\$ million)



## Horticulture New Zealand



Horticulture New Zealand (HortNZ) is an advocacy group representing New Zealand's 7000 commercial fruit, vegetable, berryfruit and olive growers.

New Zealand growers, 60% of whom are exporters, face the challenge of significant distance from their markets, while needing to maintain the highest standards for their customers.

HortNZ monitors changes in Government policy, promotes the horticulture industry, makes submissions, gives policy advice and aims to influence change for the benefit of growers and their 'right to farm'.

The range of issues in which HortNZ becomes involved on behalf of growers includes resource management legislation, biosecurity protection, seasonal and skilled labour recruitment, environmental change and impacts, industry education and training and monitoring the progress of international trade barriers and tariffs.

HortNZ works with other industry bodies, such as the Horticulture Export Authority and New Zealand GAP, to monitor and maintain market access and good trade practice for horticulture.

There are 22 'product groups' affiliated to HortNZ. These are: pipfruit, kiwifruit, summerfruit, nashi, citrus, tamarillos, feijoas, avocados, boysenberries, strawberries, blackcurrants, blueberries, kiwiberries, olives, passionfruit, persimmons, tomatoes, fresh vegetables, potatoes, kabocha (pumpkin squash), processed vegetables and asparagus.

HortNZ is funded by a compulsory commodity levy on sales. HortNZ is governed by a board of eight people, all of whom are growers. It operates with an annual budget of just over NZ\$2 million, has a staff of 20 and is based in New Zealand's capital, Wellington.

For more information visit  
[www.hortnz.co.nz](http://www.hortnz.co.nz)





## Plant & Food Research

Plant & Food Research is the science company supporting New Zealand's horticulture industry and its goal is to support industry growth with successful application and commercialisation of scientifically sound innovation.

With over 900 staff based at sites across New Zealand as well as in Europe, the USA and Australia, Plant & Food Research covers a broad spectrum of disciplines from molecular biology to elite cultivar development, sustainable production systems and bioprotection to fresh fruit and vegetables and new food product innovation.



Plant & Food Research collaborates with leading global research providers to bring the latest discoveries to the plant industries of New Zealand.

For more information visit  
[www.plantandfood.com](http://www.plantandfood.com)



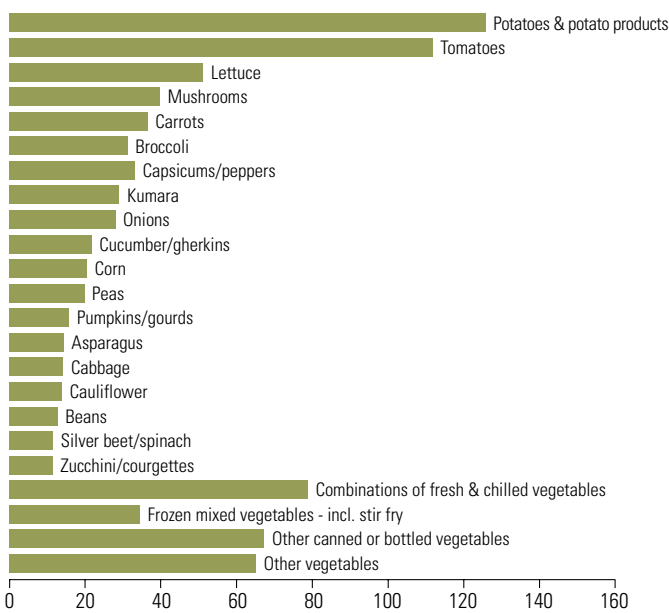
# Plant & Food **RESEARCH**

RANGAHAU AHUMĀRA KAI

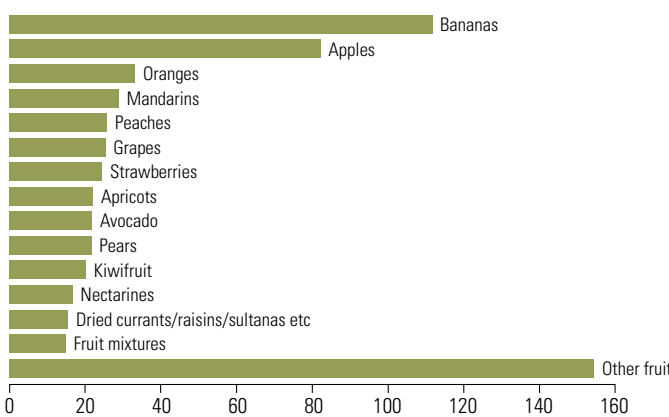


# Nutrition

## New Zealand consumer spend on vegetables (\$ million)



## New Zealand consumer spend on fruit (\$ million)



Source: Statistics New Zealand: triennial Household Economic Survey (HES), 2007.  
Sample base is NZ resident private households; i.e. excl. overseas visitors, persons living in motels and hotels, etc.  
Note: individual line items are subject to sampling errors that as a guide are typically 16%.

New Zealand households spend over \$2.1 billion each year on fruit, vegetables and wine, with:

- \$500 million on fresh and chilled fruit
- \$120 million on processed fruit
- \$700 million on fresh and chilled vegetables
- \$180 million on processed vegetables
- \$650 million on wine



## A mix of fruit and vegetables adds value to daily health

A balanced diet includes deeply coloured fruits and vegetables that provide the vitamins, minerals, fibre, and phytochemicals needed to maintain good health, protect against the effects of aging and reduce the risk of cancer and heart disease.

### Blue/Purple

*Contain phytochemicals such as anthocyanins and phenolics, which have potential antioxidant and anti-aging benefits*

Include: Blackberries, blueberries, blackcurrants, purple grapes, plums, prunes, raisins, purple cabbage, eggplant, purple Belgian endive, purple peppers, potatoes (purple fleshed)



### Green

*Contain phytochemicals such as lutein and indoles, which have potential antioxidant, and health-promoting benefits*

Include: Avocados, green apples, green grapes, honeydew, kiwifruit, green pears, artichokes, asparagus, broccoli, brussel sprouts, cabbage, beans, celery, cucumbers, endive, leafy greens, leeks, lettuce, green onions, okra, peas, green pepper, spinach, watercress, zucchini



### White/Brown

*Contain varying amounts of phytochemicals eg allucin, found in the onion family*

Include: Bananas, brown pears, dates, white nectarines, white peaches, cauliflower, garlic, ginger, Jerusalem artichoke, kohlrabi, mushrooms, onions, parsnips, potatoes (white fleshed), shallots, turnips, white corn



### Orange/Yellow

*Contain varying amounts of antioxidants such as vitamin C as well as carotenoids and bioflavonoids, which have health promoting potential*

Include: Yellow apples, apricots, cantaloupe, grapefruit, gold kiwifruit, lemon, mangoes, nectarines, oranges, peaches, yellow pears, persimmons, pineapples, tangerines, melon, butternut squash, carrots, yellow peppers, yellow potatoes, pumpkin, sweetcorn, sweet potatoes, yellow squash



### Red

*Contain phytochemicals such as lycopene and anthocyanins with potential health-promoting properties*

Include: Red apples, cherries, cranberries, red grapes, pink/red grapefruit, red pears, raspberries, strawberries, watermelon, beets, red peppers, radishes, red onions, red potatoes, rhubarb, tomatoes



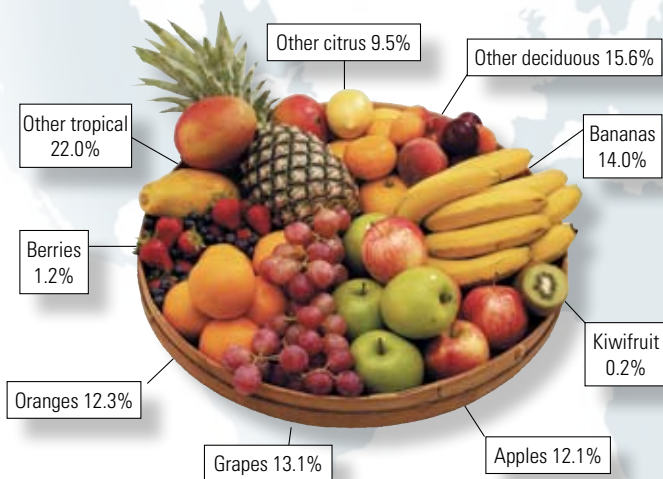
Source: 5aday.co.nz

For more information visit [www.5aday.co.nz](http://www.5aday.co.nz) & [www.crop.cri.nz](http://www.crop.cri.nz)

## New Zealand's place in the global fruit and vegetable scene

The world's fruit bowl is very large and the world's vegetable bowl is even larger. For both fruit and vegetables only a small percentage of total production is traded internationally. New Zealand is a small player and targets niche markets for export.

**The world fruit bowl (527 million tonnes)**



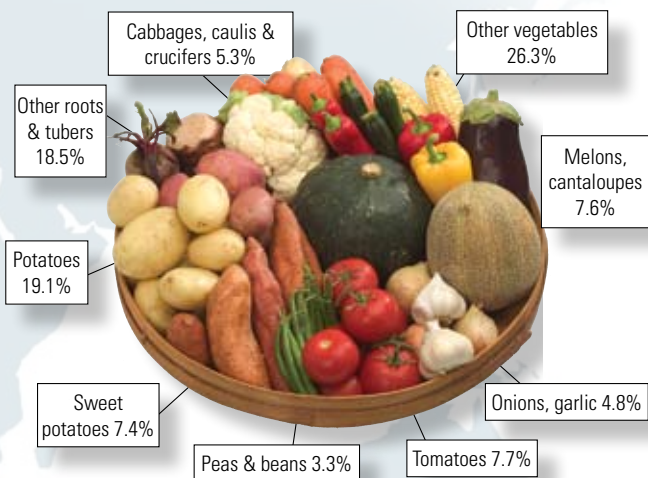
Source: FAOSTAT Agriculture Data (2006). [www.faostat.fao.org](http://www.faostat.fao.org)

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The quantity of New Zealand's fruit and vegetable exports are only a small percentage of international trade in each sector. New Zealand kiwifruit exports represent over 35% of world trade, frozen sweet corn about 10%, apples, squash and onions 3 to 5%; and capsicums, frozen potatoes, avocados and blueberries each exceed 1%.

### The world vegetable bowl (1,640 million tonnes)



Source: FAOSTAT Agriculture Data. [www.faostat.fao.org](http://www.faostat.fao.org)

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# Plant & Food RESEARCH

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