

APICULTURE

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

KEY POINTS

- › The New Zealand honey crop for 2009/10 was estimated at 12 553 tonnes, similar to the previous season's crop of 12 565 tonnes.
- › The number of registered beekeepers increased 11 percent from 2669 at May 2009 to 2957 in June 2010 – the first net increase since varroa arrived in 2000. More than 14 000 new hives were registered in 2009/10.
- › Export returns for some honey products increased slightly (despite a strengthening New Zealand dollar), due to ongoing world demand and reduced crops in the United States and Argentina. The most significant price increase was for clover honey at 10 percent.
- › Live packaged bee exports to Canada were up 13 percent compared with last season, reflecting increased world honey prices as well as winter colony losses in Canada of over 30 percent.
- › World sugar prices hit a 28-year high in August 2009, just when beekeepers were placing orders for spring feeding. Beekeepers paid an extra 30–50 percent for bulk liquid sugar during the last quarter of 2009 (October–December).
- › Varroa is spreading in the South Island and has been found in the Queenstown basin. Varroa is likely to have a negative effect on beekeepers in the region that cannot diversify into pollination, manuka honey, live bees or increase income in some other way.

»» TABLE 1: NEW ZEALAND HONEY CROP, 2005 TO 2010

YEAR ENDED 30 JUNE	2005 (T)	2006 (T)	2007 (T)	2008 (T)	2009 (T)	2010 (T)	6 YEAR AVERAGE (T)
Northland/Auckland/Hauraki Plains	1 221	1 337	1 252	1 186	1 756	1 285	1 340
Waikato/King Country/Taupo	1 095	1 124	1 270	1 436	1 864	1 584	1 396
Bay of Plenty/Coromandel/Poverty Bay	1 498	1 937	1 897	2 492	2 250	2 376	2 075
Hawke's Bay/Taranaki/Manawatu/Wairarapa	1 440	1 935	1 912	2 755	2 082	2 318	2 074
Marlborough/Nelson/Westland	800	690	675	966	1 140	1 400	945
Canterbury	1 500	2 100	1 620	1 980	1 718	2 200	1 853
Otago/Southland	2 135	1 300	1 040	1 560	1 755	1 390	1 530
New Zealand	9 689	10 423	9 666	12 375	12 565	12 553	11 212
Yield/hive (kg)	33.1	34.7	30.7	36.0	34.7	33.3	33.8

Source:ASUREQuality Limited.

FINANCIAL PERFORMANCE OF APICULTURE IN 2009/10

The apiculture sector continued to show an improved financial performance, adding to the gains made in 2008/09 following a significant lift in world honey prices. Beekeepers that provide pollination services, harvest manuka honey, or produce live bees for export recorded a particularly strong financial performance in 2009/10.

HONEY PRODUCTION

The New Zealand honey crop for 2009/10 was estimated at 12 553 tonnes; effectively the same as the 2008/09 crop. However, the per hive production figure decreased 4 percent from 34.7 kilograms per hive to



33.3 kilograms per hive as there were more than 14 000 new hives registered in the same period.

Regional honey production figures for the past six years are summarised in Table 1. Unlike 2008/09, when the record honey crop was produced evenly across all regions, there were marked regional differences in 2009/10. The upper North Island honey crop was down 27 percent due mainly to the extreme drought conditions affecting Northland. Apiarists in the East Coast regions of the North Island, and the lower half of the North Island including Hawke's Bay and Taranaki, had slightly better crops than 2008/09 and were ahead of the six-year average for their regions.



A very large crop of rata honey was produced on the West Coast of the South Island. Beekeepers on the West Coast, Nelson and Marlborough had a 23 percent increase in production compared with the previous year. A record crop was produced in Canterbury (up 28 percent on 2008/09) after an indifferent start to the season. Otago and Southland crops were down 21 percent from last season and below the six year average for their region.

Bees wintered well in all areas despite a very cold period in June and a wet July 2009. Early spring weather was near perfect for bee development with warm and dry conditions in many areas extending into October. However, El Nino conditions developed in November and December and cool temperatures and strong winds affected queen bee mating and colony development. This made it difficult for apiarists to consistently get colonies up to standard for green kiwifruit pollination.

Cold wet conditions in December and early January reduced early manuka crops by more than 50 percent in some regions such as Coromandel, as well as kamahi crops on the West Coast. The El Nino pattern dissipated in late summer and early autumn 2010, and the dry and warm conditions in many areas were perfect for queen bee mating and live bee production for exports to Canada.

HONEY PRICES

Prices paid to beekeepers for some lines of honey rose again in 2009/10 as a result of ongoing world demand for honey and lower international supplies. The United States (US) has had the lowest honey crop on record due to droughts in some major honey producing states, and cool wet weather in others. US hive numbers have continued to decline due to Colony Collapse Disorder and other causes, which further reduced supply. Argentina, which is a major exporter of white honey especially into Europe, also had a small honey crop due to heavy rains.

Clover honey prices increased 10 percent on average in 2009/10 in response to smaller crops in the US and Argentina. New Zealand's high-end specialty honey products continued to maintain strong returns. Early offers for bulk non-active¹ manuka honey were \$7–\$8 per kilogram rising quickly to \$11.50–\$13.00 per kilogram. The bulk price for active manuka honey ranged from \$11.00–\$37.50 per kilogram.

The manuka honey industry initiated a project during 2009/10 to compare the results of different laboratories testing manuka honey for antibacterial activity. Some laboratories have adjusted their testing methods as a result. It is widely believed that some laboratories were inadvertently providing inflated test results. Hence there is likely to be a decline in the supply of "active" manuka honey as a result of standardised testing procedures. This may impact on revenues for some manuka honey producers and their packers and exporters.

¹ The "activity" of manuka honey is based on the non-hydrogen peroxide activity and is expressed as points of activity using phenol as a reference point. Points of activity payments usually begin when the honey scores over ten points. An alternative method used by one exporter reports on the level of methylglyoxal, an antibiotic compound.

Prices for a range of honey types as well as other apiculture products are summarised in Table 2.

RECORD EXPORT VOLUMES FOR HONEY IN 2009

The export value of honey, beeswax and live bees is estimated at \$97.5 million for the year to December 2009. New Zealand exported a record 8208 tonnes of honey in the year ending 31 December 2009, an increase of 35 percent compared with 2008 (refer to Table 3). Export earnings increased to \$94.3 million for all honey products over the same period, mainly due to the increase in export volume.

The New Zealand market consumes approximately 5000 tonnes of honey per year. The apiculture industry traditionally exported 30–40 percent of the annual honey crop to maintain domestic market stability, however, in the past two years over 60 percent of the crop has been exported.

OTHER REVENUE SOURCES

POLLINATION

Pollination fees for green (Hayward) kiwifruit ranged from \$120–\$175 per hive, depending on the level of service provided such as: the distance travelled to the orchards, placement in the orchards, feeding sugar syrup, ease of access and payment arrangements. This was a slight increase on 2008/09 prices (\$115–\$160 per hive). Pollination fees for gold (Hort16A) kiwifruit tend to be slightly less than the green variety as the gold variety flowers a month earlier than green, which gives the beekeepers more options to generate income from pollination and honey.

There is an increased awareness of the need to have hives audited while in the orchards to give kiwifruit growers an assurance of the hive quality. Various arrangements are in place for paying the audit fee, which can be met by the beekeeper, the grower or the company managing the orchard.

Pollination prices per hive reported for other crops include the following: onions \$120, pipfruit and summerfruit \$52–\$85, berryfruit \$60–\$65, avocados \$115 and carrot seed crops \$100–\$150.

RECORD LIVE BEE EXPORTS TO CANADA

Shipments of live bees to Canada continue to increase. In 2009/10 over 34 000 one kilogram packages of bees were exported to the Canadian market, a 13 percent increase from 2008/09 despite the relatively high New Zealand dollar. The record shipment was due to the ongoing lift in world honey prices and winter losses in Canada of up to 30 percent of beehives. Canada temporarily banned the import of queen bees from Hawaii, which meant New Zealand exports of queen bees to Canada increased from 3000 in 2008/09 to 7000 in 2009/10.

Prices paid to suppliers of live bees rose 14 percent to \$25–26 per kilogram for bees, while prices for queen bees remained at \$25 per queen.

A consignment of 704 one-kilogram packages of bees was sent to the UK. This was the first ever shipment of package bees to the UK and required a lot of bilateral negotiations to obtain market and transit access. Two hundred queen bees were sent to Germany, which is also keen to obtain package bees once market access issues can be resolved.

»» TABLE 2: RETURNS FOR APICULTURE PRODUCTS, 2008 TO 2010

YEAR ENDED 30 JUNE	2007/08	2008/09	2009/10
BULK HONEY¹– COLOUR GRADE (\$/KG FOB²)			
Light (clover type)	2.80–3.75	3.50–5.60	4.00–6.00
Light amber – multi-floral	2.80–3.00	3.70–4.00	3.90–4.50
Dark, including honeydew	2.80–3.70	4.50–5.00	4.00–5.00
Manuka ³	8.50–13.25	7.00–12.00	7.00–13.00
Active manuka	12.10–45.00	12.50–56.25	11.00–37.50
BEESWAX (\$/KG FOB): RESIDUE FREE			
Light	6.50–7.00	7.00–8.10	6.80–8.50
Dark	5.00–5.20	4.00–5.20	6.00–6.50
POLLEN (\$/KG FOB)			
Not dried or cleaned	16.00–18.00	18.00–20.00	13.00–20.00
Dried and cleaned	20.00–30.00	25.00–31.00	30.00–36.00
POLLINATION (\$/HIVE)			
Pipfruit, summerfruit and berryfruit	60.00–96.00	55.00–96.00	52.50–96.00
Kiwifruit (green) ⁴			
– Hawke's Bay	110.00–170.00	140.00–160.00	145.00–170.00
– Auckland	110.00–150.00	115.00–150.00	120.00–150.00
– Bay of Plenty	110.00–160.00	110.00–160.00	120.00–175.00
– Nelson	100.00–120.00	125.00–145.00	125.00–145.00
Canola and small seeds (carrots)	120.00–150.00	120.00–180.00	100.00–150.00

Notes

1 Beekeepers supply drums or containers.

2 Free on board.

3 Non-active manuka honey.

4 Prices at the lower end of the range are for hives delivered to depot sites. At the upper end, prices include delivery into the orchard and sugar for three one-litre feeds to stimulate the bees to collect pollen.

Source

AsureQuality Limited.

»» TABLE 3: HONEY EXPORT VOLUMES AND VALUE, 2002 TO 2009

YEAR ENDED 31 DECEMBER	2002	2003	2004	2005	2006	2007	2008	2009
Export volume (tonnes)	2 555	3 192	2 767	3 631	4 134	4 871	6 099	8 208
Export value (\$ mil) ¹	20	27	28	36	42	54	71	94

Note

1 Export value is free on board value – the value of goods delivered to the port of export and loaded onto the vessel for transportation out of the country of origin.

Sources

Statistics New Zealand and Ministry of Agriculture and Forestry.

POLLEN AND BEESWAX

Prices for dried and cleaned pollen rose 16 percent compared with 2008/09. However, pollen production continues to fall with only a few commercial producers now collecting pollen as better returns can be obtained from manuka honey, pollination or harvesting live bees for export.

Export demand for light coloured beeswax and organic wax remained very strong especially from Japan and prices have risen 5 percent from 2008/09. New Zealand beeswax not contaminated with varroa control chemicals is in high demand by the cosmetics industry. This wax now largely comes from the lower half of the South Island where varroa treatments are not yet required.



EXPENDITURE INCREASING

The main increases in expenditure were from imported products, especially sugar which rose over 33 percent compared with 2008/09, equipment, packaging and diesel. Extraction fees, freight, compliance costs, new vehicles and labour costs also contributed to an overall increase in expenditure.

Beekeepers paid an extra 30–50 percent for bulk liquid sugar when world prices rose to a 28-year high in August 2009. Droughts affected sugar production in India and wet weather affected the crop in Brazil. As the beekeepers' peak demand for sugar is from August to December, these high prices impacted on cash flows. Sugar prices came down from a high of \$1300 per tonne wet weight in August 2009 to \$980 per tonne wet weight in June 2010. The size of the world sugar stockpile is uncertain, however, world sugar demand is continuing to outstrip supply.

The price of honey drums was lower than last year at \$55–\$65 per drum on average. However, the cost of new or remanufactured drums still represents a significant cost to honey producers. Many honey buyers will only accept new drums, and export drums are not returned.

Diesel prices held steady at around \$1.08 per litre over the 2009/10 production season before rising 14 percent to \$1.22 litre by autumn 2010. Beekeepers continue to review vehicle usage, pollination contracts, apiary locations and revenue streams to reduce travel expenses. Diesel prices and vehicle operating costs are expected to continue to increase.

Beekeepers in varroa areas are employing an average of one full-time labour unit per 350 hives. Beekeepers without varroa can manage 800–1000 hives per labour unit. South Island beekeepers will examine their labour expenses and income opportunities as varroa continues to spread.

»» TABLE 4: ESTIMATED EXPENDITURE FOR BEEKEEPING OPERATIONS, 2009/10

LABOUR	Worker	\$15–\$25 per hour
	Manager	\$27–\$35 per hour
	Average working week	45 hours
	Average ratio of hives per full-time equivalent with varroa present in hives	350:1 (800:1 pre-varroa)
FUEL	Variable	
SUGAR	Variable depending on overseas prices and NZ exchange rate	\$980–\$1300 per tonne for bulk sugar syrup
	Non-pollination hives may need 25–40 kilogram per year	Hives in kiwifruit orchards are usually fed up to 6 litres of sugar syrup during pollination
PROTEIN SUPPLEMENTS	Hives may require 1–2 kilogram per year	\$155 per 20 kilogram bag
VARROA TREATMENTS	Variable according to hive strength and product(s) used	Varroa strips \$12–\$24 per hive per year
CONTRACT EXTRACTION COSTS	Higher costs are for manuka honey which requires pricking of the cells	\$0.80–\$1.50 per frame. Average rate for clover \$1 per frame
HIVES	New: includes 2 brood boxes and 1 honey super; doesn't include bees	\$185
	Second hand: reasonable condition, includes two brood boxes and 1–4 honey boxes with bees	\$180–\$385
	Repairs and maintenance	\$11–\$27 per hive (7 percent of hive purchase price)
	Wax to coat plastic frames	\$6–\$8 per kilogram
	Hive strappers (number used as required)	\$10–\$12 each
BEEES	Queen bees	\$25–\$35
	Select queens	\$60–\$120
	Select tested breeder queens	\$600–\$1250
PROTECTIVE CLOTHING	Single piece suit	\$142–\$156
HONEY DRUMS	New or re-manufactured; holds approximately 300 kilogram of honey	\$55–\$65
APIARY RENTALS PAID TO LANDOWNER	Manuka (variable)	10–25 percent of crop when sold 10 percent of gross or \$40 per hive, whichever is the greatest 50–55 percent of the crop if the landowner owns the hives \$1000 for sole rights to a property
COMPLIANCE COSTS	Risk Management Programme (RMP)	Annual audit costs for processing RMP \$1300 and a storage RMP \$750
	NZ Food Safety Authority annual fees	\$542
	Tutin tests (depending on the laboratory up to 10 samples can be composited)	\$125–\$170 per sample
	American Foulbrood Strategy Levy	\$20 per beekeeper and \$11.00 per apiary
NATIONAL BEEKEEPERS' ASSOCIATION (NBA) MEMBERSHIP (VOLUNTARY)	Hobby beekeeper	\$135
	Commercial operations	\$169–\$4500
	Corporate membership	\$281
	Beekeeping clubs	\$135–\$1250
BEEKEEPING INDUSTRY GROUP (BIG) MEMBERSHIP (AFFILIATED WITH FEDERATED FARMERS) (VOLUNTARY)		\$112–\$499

Source:ASUREQuality Limited.

INDUSTRY ISSUES AND DEVELOPMENTS

BEEKEEPER MORALE AND BUSINESS VIABILITY PLANS

New commercial beekeepers entering the industry are ensuring they have access to pollination contracts, manuka honey, or can produce bulk bees for export. Existing beekeepers also continue to diversify to guarantee an income stream in order to meet increased operational and labour expenses as a result of the varroa mite. South Island beekeepers in particular, are apprehensive of the impact varroa will have on their business. The apiculture industry remains very concerned about the importation of foreign honeys and the possible effects of exotic bee pests and diseases being introduced.

HIVE AND BEEKEEPER NUMBERS INCREASING

For the first time since the varroa bee mite arrived in 2000, there has been a net increase in beekeeper numbers. There were 2957 registered beekeepers, 22 440 apiaries and 376 672 hives in June 2010 compared with 2669 beekeepers, 21 550 apiaries and 362 540 hives in June 2009. This represents an 11 percent increase in beekeeper numbers and a 4 percent increase in hives. There is a strong interest from hobby beekeepers in pure food products and producing their own food, while commercial entrants are attracted by the high manuka prices.

BEEKEEPER RESPONSE TO INPUT PRICE CHANGES AND SHORTAGES

The main price increases in 2009/10 were for sugar, vehicle running, labour, freight, honey containers and extracting fees. High sugar and diesel prices are expected to continue for next season, which will impact on profitability.

REDUCING APIARY SERVICING COSTS

In order to better manage vehicle and sugar expenses, some beekeepers are considering reducing the amount of syrup they feed to colonies in the orchards, and others are considering leaving more honey on the hives rather than feeding sugar. Beekeepers continue to evaluate the cost of servicing distant apiaries against returns.

FINDING SUFFICIENT LABOUR UNITS

Beekeepers often find it difficult to recruit and hold experienced labour and many recruit labour from the Philippines, South America and Eastern Europe. Beekeeping in both the North and South Islands is on the

»» TABLE 5: NEW ZEALAND BEEKEEPER, APIARY AND HIVE STATISTICS, AS AT 8 JUNE 2010

	BEEKEEPERS	APIARIES	HIVES
Northland/Auckland/Hauraki Plains	618	3 331	53 543
Waikato/King Country/Taupo	196	2 316	46 457
Coromandel/Bay of Plenty/Poverty Bay	296	3 493	71 383
Manawatu/Taranaki/Hawke's Bay/Wairarapa	642	4 182	70 143
Marlborough/Nelson/West Coast	261	1 910	28 576
Canterbury	549	3 842	54 966
Otago/Southland	395	3 366	51 604
New Zealand	2 957	22 440	376 672

Source:ASUREQuality Limited.

Depart of Labour's Immediate Skills Shortage List (ISSL) which makes recruiting temporary overseas beekeepers much easier.

CONTRACT EXTRACTING COSTS

Many beekeepers who have honey extracted on contract are finding it more economic to build their own storage or extraction facility. They anticipate that the savings in transport and extraction fees, as well as the convenience, will more than match the set up and ongoing compliance costs. These beekeepers need to register and operate under a Risk Management Programme (RMP) if they sell their honey to exporters requiring an official government assurance or export certificate. Over 22 operators registered new RMPs in 2009/10.

MONO-FLORAL LABELLING

The Bee Products Standards Council is working to develop standards that accurately define honey produced from single floral sources, such as manuka and clover. Standards have to be created before truth of labelling can be verified. The industry has been attempting to agree on testing parameters for many years. Standards are seen as necessary to give consumers and overseas buyers' confidence that New Zealand honeys are true to label. This is especially true for high value manuka honey.

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Ministry of Agriculture and Forestry
PO Box 2526, Wellington 6140, New Zealand
Tel +64 4 894 0100 or Freephone 0800 00 83 33
Email: policy.publications@maf.govt.nz
Web: www.maf.govt.nz



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