

AGRIQUALITY LTD REPORT TO THE ANNUAL CONFERENCE OF THE NATIONAL BEEKEEPERS' ASSOCIATION OF NEW ZEALAND: NELSON 24 JULY 2003

PERSONNEL

Apicultural Officers AgriQuality Ltd

| | | | |
|----------------|--------------|---|--|
| Murray Reid | Hamilton | Phone (07) 838 5841; Fax (07) 838 5846; Mob (021) 972 858 | Email reidm@agriquality.com |
| Byron Taylor | Hamilton | Phone (07) 838 5845; Fax (07) 838 5846; Mobile 021 918 400 | Email taylorby@agriquality.com |
| Tony Roper | Christchurch | Phone (03) 358 1835, Fax.(03) 358 6222, Mobile (021) 283 1829 | Email ropert@agriquality.com |
| Phil Sutton | Timaru | Phone (03) 684 2621; Fax (03) 688 9181; Mob (021) 359 453 | Email suttonp@agriquality.com |
| David McMillan | Mosgiel | Phone (03) 489 0066; Fax (03) 489 0071; Mob (021) 951 625 | Email mcmillan@agriquality.com |

Bryan Mitchell, Apicultural Advisory Officer Hamilton, resigned during the year. Bryan joined AgriQuality during the varroa response and has made a valuable contribution to the apiary business during his time with us. His position will not be replaced for the foreseeable future.

Registrar's of Apiaries AgriQuality Ltd

| Registrar | Apiary District | Contacts | E-mail |
|-----------------|-----------------------|--|--|
| Viv Moslen | Whangarei | Phone (09) 430 7210; Fax (09) 430 0490 | moselenv@agriquality.com |
| Margaret Morris | Hamilton & Tauranga | Phone (07) 838 5851; Fax (07) 838 5846 | morrism@agriquality.com |
| Dawn Bell | Palmerston North | Phone (06) 351 7930; Fax (06) 351 7906 | belld@agriquality.com |
| Carole Lasseter | Canterbury & Blenheim | Phone (03) 358 1732; Fax (03) 358 1733 | lasseterc@agriquality.com |
| Trudi McDonald | Otago & Southland | Phone (03) 489 0065; Fax (03) 489 0071 | mcdonaldt@agriquality.com |

HONEY CROP to 30 June 2003

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 6-year av |
|---|------|------|------|------|------|-------|-----------|
| Northland, Auckland, Hauraki Plains | 1014 | 615 | 982 | 869 | 593 | 1066 | 857 |
| Waikato, King Country, Taupo | 1404 | 1617 | 1434 | 672 | 708 | 2210 | 1341 |
| Bay of Plenty, Coromandel, Poverty Bay | 1314 | 1800 | 1300 | 794 | 319 | 2064 | 1265 |
| Hawkes Bay, Taranaki, Manawatu, Wairarapa | 1230 | 1416 | 1323 | 1735 | 750 | 1607 | 1344 |
| Marlborough, Nelson, Westland | 598 | 770 | 705 | 606 | 300 | 1350 | 722 |
| Canterbury, North Otago | 1238 | 1782 | 2310 | 2743 | 921 | 2400 | 1899 |
| South and Central Otago, Southland | 1283 | 1069 | 1555 | 1725 | 1091 | 1555 | 1380 |
| New Zealand | 8081 | 9069 | 9609 | 9144 | 4682 | 12252 | 8806 |
| Yield/Hive (kg) | 27.0 | 29.9 | 30.0 | 29.4 | 15.0 | 40.8 | 28.6 |

Source: AgriQuality Ltd

APICULTURE

This section comments on a range of beekeeping activities and products throughout New Zealand.

Key Points

- The number of registered beekeepers decreased by 324 (9%) compared to 290 in 2002 and 470 in 2001.
- 130 new beekeepers registered compared with 257 for the same period last year.

- There are currently 3649 beekeepers (3973 in 2002) owning 300729 (305152) hives on 20228 (20258) apiaries.
- The honey crop of 12,252 tonnes (6-year average 8,806 tonnes) was the best on record and a much-needed turn around from the record low crop of 4682 tonnes in 2002.
- Export markets were very buoyant and prices for most lines of honey increased.
- The National Beekeepers' Association of NZ (NBA) became a voluntary organization while an alternative body called the NZ Beekeeping Industry Group (NZBIG) was established as a sector group within Federated Farmers.
- The government funded interim varroa management program ended on 30 June 2003 and will hopefully be replaced by a Varroa Pest Management Strategy in the South Island.

POLLINATION

The season was late for both bee colony development and flowering. Most fruit crops experienced reasonably good pollination despite the indifferent weather in October and November. Colonies struggled to build up through October and a huge amount of sugar feeding was required in all regions.

Pollination fees increased slightly in the Bay of Plenty area from an average of around \$115/hive to over \$120 with a top price of \$138 being reported for single queen hives. The increased fee helped offset cost increases for diesel, sugar and varroa treatments.

Heavy winter hive losses were experienced by some beekeepers who delayed treating for varroa, or couldn't get access to hives because of wet conditions, and this affected the number of colonies available for pollination. There was a strong demand to buy or rent hives from new suppliers to meet both an increase in demand from growers as well as to replace losses. An estimated 2000 hives were imported from the South Island for pollination services. Some kiwifruit growers increased their per hectare hive stocking rate and maturing areas of the ZESPRI™ GOLD variety also saw an increased demand for pollinating hives.

LIVE BEE MOVEMENTS AND EXPORTS

Bee exporters had a good season in sales of package bees to Canada and Germany. Demand for package bees to stock hives in Canada was particularly strong reflecting the world shortage of honey. For the year ended December 2002, 10,780 queen bees and 18,028 x 1 kg packages of bees were exported. Good sales of packages and queens continued into 2003 and these figures will be reported in the year ending December 2003.

PMS SUMMARY

Annual Disease Return (ADR's) - Figures For 2002 Are In Brackets

ADR's were sent to 3840 (4275) beekeepers, which were due back to AgriQuality on 1 June 2003. There were 2444 (1823) defaulters by the due date, and 1152 (1060) defaulters after a reminder letter was sent on 30 June 2003, with a final reporting date of 7 July 2003. Typically, 50% of the returns are received by the due date, and another 25% after the first reminder. By the final cut off date of 1 July there are usually still 25% ADR's outstanding. This year's returns are a little poorer than usual. Of the 3840 ADR's mailed out, 64% were outstanding as at 1 June 2003, and 30% as at 7 July 2003.

Disease Conformity Agreements (DECA'S) & Certificate Of Inspections (COI'S)

As at the end of June 2003 there were 2645 beekeepers with DECA's and a Certificate of Inspection Exemption (72%). These beekeepers are able to inspect their own hives for AFB and make reports to AgriQuality on the authorised forms. No DECA's were revoked in the reporting period.

1004
926
78 returned

There were 1004 beekeepers with a COI and 926 defaulters still outstanding at the end of June 2003. COI's for the 2003-2004 year are due to be mailed out before 1 August 2003. A list of defaulters as at 15 December 2002, was supplied to the NBA. The requirement of beekeepers without a DECA to find a beekeeper with a DECA to inspect their hives is an ongoing problem. Many beekeepers sign and return their own COI's i.e. they are not getting their COI's signed by a beekeeper with a DECA. These are usually returned to the beekeepers concerned.

PMS Inspections

A summary of hive inspections, audits and sampling performance is in the attached report.

Number and percentage of AFB found

AgriQuality and the NBA found 62 apiaries (25%), and 204 hives (13%), infected with AFB in the period 1 July 2002 to 30 June 2003. The total number of AFB found, or reported in this period, was 475 apiaries (2.3%) and 1035 hives (0.34) belonging to 171 beekeepers (4.6%). The corresponding figures for the year ending 30 June 2002 were 648 apiaries (3.2%) and 1457 hives (0.48%) from 240 beekeepers (6.0%).

Several outbreaks of AFB have been found this year, which the NBA and AgriQuality have together to try and resolve. AgriQuality would like to thank all beekeepers that were involved in dealing with these outbreaks. Two of the major out breaks where in Canterbury and traced to two beekeepers. The resulting inspections carried out by the NBA and AgriQuality resulted in the destruction of about 50% of one commercial beekeepers hives and 20% of the other beekeeper.

Number of unregistered apiaries found

Eight unregistered apiaries were found and 6 notices sent to Registrars to update the database. In two cases the sites were registered after talking with the beekeepers concerned.

Abandoned apiaries found or destroyed

Six abandoned apiaries were found with 24 hives. Of these, 22 hives were destroyed after due notice had been served.

Number of apiaries & hives inspected by AgriQuality staff or contracted AP's

AgriQuality inspected 44 apiaries, and 217 hives. Apart from the inspections related to the disease out breaks in Canterbury, AgriQuality was not funded to complete any AFB audit inspections. In most cases AgriQuality inspected hives for AFB while going through outbreak areas on other business.

Number of apiaries and hives inspected by the NBA

The NBA has inspected 201 apiaries and 1363 hives. This was a small percentage of the numbers that had been allocated by AgriQuality to NBA branches for inspection.

Number of apiaries with AFB destroyed on default of a notice

NBA and AgriQuality did not destroy any apiaries or hives, in default of notice this season.

Number of restricted place notices sent to beekeepers

Two notices were sent to one beekeeper.

Number of clinical AFB notified and destroyed by beekeepers with COI's

Fifteen beekeepers' with COI's declared 33 AFB hives in 15 apiaries.

Number of apiaries and hives held by beekeepers with a COI

There were 1004 beekeepers with a COI who owned 1966 apiaries and 15799 hives

Number of apiaries and hives inspected on default of a notice

AgriQuality and the NBA did not inspect any apiaries or hives on default of a notice.

Lab tests

No funds were provided for lab testing but HortResearch Ltd at Ruakura tested 73 samples on a good will basis and in the expectation that further contact work would be forthcoming. Of the samples tested 5 were positive.

EXOTIC BEE DISEASE SURVEILLANCE

The new MAF standard for exotic disease surveillance has just completed its second year. The risk-based programme had a few changes from the previous year after feedback and input from beekeepers.

1 Field Inspection and Sampling

500 apiaries were selected and inspected and sampled for exotic diseases, with 400 of these coming from high-risk areas and 100 from beekeepers' home apiaries. High-risk areas are those locations considered to have the greatest potential for entry of exotic bee diseases eg ports, cities and tourist destinations. The high-risk sites were inspected in the South Island, by Authorised Person level 2 inspectors and beekeepers, as part of the varroa surveillance programme. In the North Island beekeepers were asked to inspect and sample their own hives and were sent a kit to assist with this.

In general the surveillance contract required that the hives on each site:

- Be inspected for exotic bee disease symptoms with any symptoms being sampled (namely European foulbrood, small hive beetle and other subspecies of bees).
- Have a sample of about 50 adult bees taken from each hive to be examined for internal mites
- Have a 24-hour sticky board and miticide sample taken for external mites.

Over and above this programme, a further 300 apiaries were sampled by beekeepers who export live bees. These samples were tested for external and internal mites.

All samples were negative for exotic be diseases and pests.

Table: The number of apiaries inspected and sampled as at the end of June 2003:

| Inspection Category | Target | Number Inspected |
|----------------------------|---------------|-------------------------|
| High risk apiaries | 400 apiaries | 310 apiaries 1224 hives |
| Home apiaries | 100 | 55 apiaries, 661 hives |
| Export samples | 300 | 300 |

As in past years many beekeepers, who voluntarily inspect their own sites, find it difficult to meet the target number of inspections. A few inspection kits have come in since the end of June so the numbers above will increase slightly.

2 Reports

Each year, reports on surveillance activity are written for MAF and the New Zealand Beekeeper magazine. These are used to meet our international reporting requirements for New Zealand's bee health status and also to keep New Zealand's beekeeper's informed of surveillance activities.

3 Apiary Database

MAF contributes to the cost of the management and maintenance of the apiary database through the exotic disease surveillance contract.

4 Beekeeper Extension / Education

A series of articles were written for beekeepers and published in the New Zealand Beekeeper magazine. These articles covered issues relating to surveillance and exotic pests and diseases and their relevance to the New Zealand beekeeping industry.

An information leaflet on the Cape Bee was developed and sent to all registered beekeepers. This leaflet is a supplement to the exotic disease pamphlet, which was published two years ago and distributed to all beekeepers. New beekeepers are sent a copy of these pamphlets when they register.

An exotic disease web site is under development and will appear on the world wide web in the near future.

5 Screening of Exotic Disease Inquires

Each year MAF and AgriQuality Ltd receive a number of calls regarding suspect exotic diseases or strange symptoms that beekeepers find in their hives. AgriQuality works with MAF's National Centre for Disease Investigation (NCDI) to screen these calls and determine whether a sample needs to be taken. Often a phone diagnosis can be made which rules out an exotic bee disease or pest.

Of the calls received by AgriQuality or MAF, 31 resulted in samples being taken and sent to a lab for further diagnosis. The suspects investigated included 11 for mites, 12 for European foulbrood (EFB), 1 for Cape Bee, 2 for Africanized Honey Bees and 5 for Small Hive Beetle.

In addition, 6 swarms were caught in the South Island swarm trapping programme. No exotic diseases or pests were found.

6 Technical Development

To ensure the technical robustness of the surveillance programme, a review of national and international literature on exotic bee diseases and pests was undertaken. New surveillance techniques and potential new bee pests were also reviewed and risks of introduction to New Zealand assessed. Suggestions for programme improvements were reported to MAF.

HONEY BEE EXOTIC DISEASE AND PEST RESPONSE (EDPR)

1 Testing the new EDPR Model.

A large focus on this years programme was to train role holders in the new procedures. Since the varroa outbreak in Auckland in 2000 the EDPR procedures and structures have been significantly modified. This year two workshops were held, one desk exercise at the National Centre for Disease Investigation in Wellington, and a field exercise involving beekeepers in Blenheim. Both exercises went well with the Blenheim exercise being the smoothest and most successful field exercise we have ever run.

2 Technical Advisors Training

Byron Taylor and Tony Roper completed a 3-week study tour to the United States as part of their technical advisor training for exotic diseases. Byron and Tony presented a very informative debrief on their findings to MAF, the beekeeping industry and AgriQuality at a workshop held in Wellington.

| AGRIQUALITY LTD REPORT TO NBA 30 JUNE 2003 | | | | | | | |
|--|--|-------------------------------|----------------------------|-------------------------|--|-----------------------------------|-------------------------------------|
| | 1 No & % AFB apiaries and hives found or reported and destroyed during the inspection programme by AQ and NBA | No AFB Apiaries AQ-NBA | No AFB Hives AQ-NBA | % AFB aps AQ_NBA | % AFB Hives AQ_NBA | Total aps inspected NBA-AQ | Total hives inspected NBA_AQ |
| WR | | 1 | 1 | 1.9% | 0.7% | 53 | 146 |
| HN | | 1 | 2 | 7.7% | 3.3% | 13 | 60 |
| TR | | 2 | 2 | 8.3% | 1.3% | 24 | 150 |
| PN | | 3 | 3 | 5.5% | 1.4% | 55 | 208 |
| BN | | 10 | 44 | 62.5% | 15.7% | 16 | 280 |
| CH | | 45 | 152 | 61.6% | 23.3% | 73 | 651 |
| INV | | 0 | 0 | 0.0% | 0.0% | 11 | 85 |
| Total | | 62 | 204 | 25.3% | 12.9% | 245 | 1580 |
| | 2 Number of test samples taken by bkprs, or supplied by AQ, and results of tests. Positives include any plates with 1 or more colonies of <i>Paenibacillus larvae</i> | Total No samples | No positive | No tested by lab | | | |
| WR | | 13 | 1 | 13 | | | |
| HN | | 12 | 0 | 12 | | | |
| TR | | 34 | 0 | 34 | | | |
| PN | | 5 | 2 | 5 | | | |
| BN | | 1 | 0 | 1 | | | |
| CH | | 0 | 0 | 0 | | | |
| INV | | 8 | 2 | 8 | | | |
| Total | | 73 | 5 | 73 | | | |
| | 3 No of unregistered apiaries found | No aps | No Instructions | | | | |
| | No instructions to register sent to Apiary Register contractor | | | | | | |
| WR | | 2 | 2 | | | | |
| HN | | 0 | 0 | | | | |
| TR | | 1 | 1 | | | | |
| PN | | 2 | 0 | | Sites registered by talking to beekeeper | | |
| BN | | 0 | 0 | | | | |
| CH | | 3 | 3 | | | | |
| INV | | 0 | 0 | | | | |
| total | | 8 | 6 | | | | |

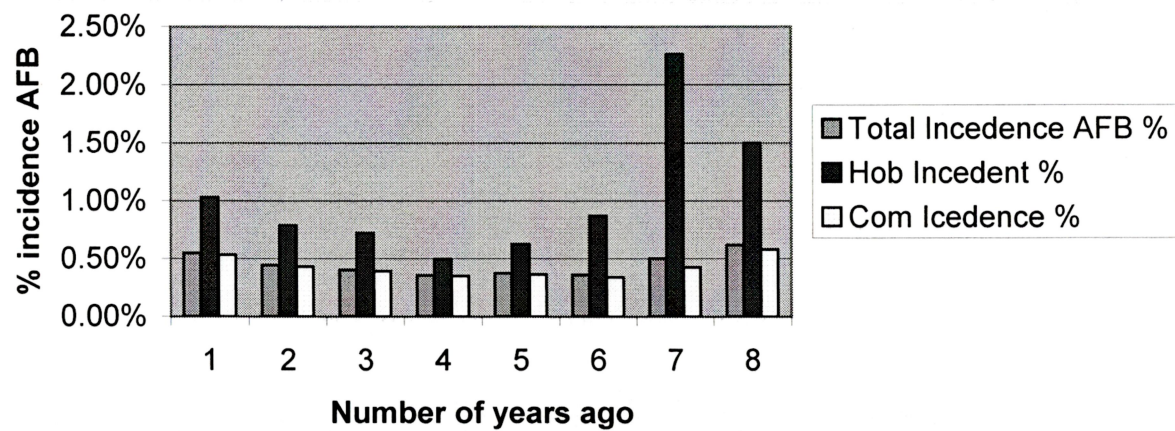
| | | No abandoned apiaries found | No aps destroyed | No hives | No hives destroyed | | |
|---|-------------------|------------------------------------|---------------------------------|-----------|--------------------|--|--|
| 4 No of abandoned apiaries/beehives found | | | | | | | |
| No of abandoned apiaries/beehives destroyed | | | | | | | |
| WR | | 1 | 1 | 12 | 12 | | |
| HN | | 2 | 2 | 3 | 3 | | |
| TR | | 1 | 1 | 1 | 1 | | |
| PN | | 0 | 0 | 0 | 0 | | |
| BN | | 0 | 0 | 0 | 0 | | |
| CH | | 2 | 1 | 8 | 6 | | |
| INV | | 0 | 0 | 0 | 0 | | |
| Total | | 6 | 5 | 24 | 22 | | |
| | | No Apiaries Inspected AgriQ | No Hives Inspected AgriQ | | | | |
| 5 No of apiaries/beehives inspected by contractor (ie AQ or paid AP's) | | | | | | | |
| WR | Target 0 apiaries | 15 | 36 | | | | |
| HN | Target 0 apiaries | 10 | 39 | | | | |
| TR | Target 0 apiaries | 6 | 42 | | | | |
| PN | Target 0 apiaries | 3 | 13 | | | | |
| BN | Target 0 apiaries | 0 | 0 | | | | |
| CH | Target 0 apiaries | 10 | 87 | | | | |
| INV | Target 0 apiaries | 0 | 0 | | | | |
| Total | Total 0 | 44 | 217 | | | | |
| | | No Apiaries Inspected NBA | No Hives Inspected NBA | | | | |
| 6 No of apiaries inspected by NBA | | | | | | | |
| WR | | 38 | 110 | | | | |
| HN | | 3 | 21 | | | | |
| TR | | 18 | 108 | | | | |
| PN | | 52 | 195 | | | | |
| BN | | 16 | 280 | | | | |
| CH | | 63 | 564 | | | | |
| INV | | 11 | 85 | | | | |
| Total | | 201 | 1363 | | | | |

| | No default aps destroyed | No hives destroyed | | | | |
|--|--------------------------------|-----------------------|-----------|--|--|--|
| No apiaries/beehives infected with AFB destroyed on default of a notice 7 issued | | | | | | |
| WR | 0 | 0 | | | | |
| HN | 0 | 0 | | | | |
| TR | 0 | 0 | | | | |
| PN | 0 | 0 | | | | |
| BN | 0 | 0 | | | | |
| CH | 0 | 0 | | | | |
| INV | 0 | 0 | | | | |
| total | 0 | 0 | | | | |
| | | | | | | |
| | No bkprs | No notices sent | | | | |
| 8 No Restricted Place notices sent to beekeepers | | | | | | |
| WR | 0 | 0 | | | | |
| HN | 0 | 0 | | | | |
| TR | 0 | 0 | | | | |
| PN | 0 | 0 | | | | |
| BN | 0 | 0 | | | | |
| CH | 1 | 2 | | | | |
| INV | 0 | 0 | | | | |
| Total | 1 | 2 | | | | |
| | | | | | | |
| No hives with clinical AFB found or reported and destroyed by beekeepers 9 with COI's | No Bkprs | No Apiaries | No hives | | | |
| WR | 3 | 3 | 11 | | | |
| HN | 0 | 0 | 0 | | | |
| TR | 0 | 0 | 0 | | | |
| PN | 1 | 1 | 1 | | | |
| BN | 0 | 0 | 0 | | | |
| CH | 10 | 10 | 20 | | | |
| INV | 1 | 1 | 1 | | | |
| Total | 15 | 15 | 33 | | | |

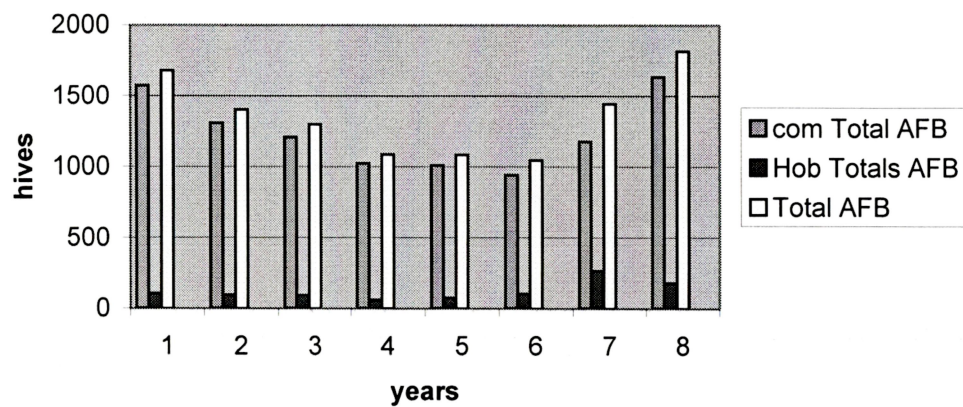
| | No Bkprs | No Apiaries | No hives |
|---|-------------|--------------------|-----------------|
| 10 No bkprs, apiaries and hives held by bkprs with COI's | | | |
| WR | 231 | 331 | 2304 |
| HN | 95 | 188 | 1203 |
| TR | 99 | 315 | 4238 |
| PN | 260 | 403 | 2007 |
| BN | 80 | 111 | 674 |
| CH | 174 | 480 | 4066 |
| INV | 65 | 138 | 1307 |
| Total | 1004 | 1966 | 15799 |
| | | No apiaries | No hives |
| 11 No apiaries and hives inspected on default of a notice issued | | | |
| WR | | | |
| HN | | 0 | 0 |
| TR | | 0 | 0 |
| PN | | 0 | 0 |
| BN | | 0 | 0 |
| CH | | 0 | 0 |
| INV | | 0 | 0 |
| Total | | 0 | 0 |

| District | 01_02 Hives | 00_01 Hives | 99_00 Hives | 98_99 Hives | 97_98 Hives | 96_97 Hives | 95_96 Hives | 94_95 Hives | | | | | | |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|--|--|--|--|--|
| Com | | | | | | | | | | | | | | |
| com Total AFB | 1574 | 1307 | 1207 | 1023 | 1010 | 942 | 1175 | 1635 | | | | | | |
| Com Total hives | 294853 | 302142 | 307364 | 290519 | 275628.1 | 275628.1 | 275002.9 | 281018.7 | | | | | | |
| Wha | 347 | 168 | 116 | 116 | 65 | 73 | 73 | 89 | | | | | | |
| Ham | 315 | 262 | 228 | 238 | 125 | 116 | 83 | 196 | | | | | | |
| Tau | 451 | 440 | 375 | 249 | 337 | 264 | 259 | 360 | | | | | | |
| Pal | 151 | 117 | 99 | 78 | 79 | 146 | 153 | 233 | | | | | | |
| Ble | 144 | 119 | 173 | 107 | 159 | 83 | 176 | 163 | | | | | | |
| Can | 83 | 102 | 86 | 123 | 75 | 99 | 232 | 331 | | | | | | |
| Ota | 83 | 99 | 130 | 112 | 170 | 161 | 199 | 263 | | | | | | |
| Hob | | | | | | | | | | | | | | |
| Hob Total AFB | 106 | 94 | 92 | 62 | 74 | 103 | 267 | 181 | | | | | | |
| Hob Total Hives | 10299 | 11949 | 12749 | 12469 | 11830 | 11830 | 11803 | 12061 | | | | | | |
| Wha | 12 | 34 | 11 | 7 | 17 | 12 | 11 | 9 | | | | | | |
| Ham | 8 | 14 | 4 | 6 | 10 | 6 | 6 | 10 | | | | | | |
| Tau | 8 | 9 | 18 | 14 | 10 | 13 | 41 | 5 | | | | | | |
| Pal | 29 | 10 | 37 | 23 | 11 | 29 | 110 | 68 | | | | | | |
| Blem | 2 | 2 | 6 | 5 | 9 | 11 | 13 | 31 | | | | | | |
| Can | 40 | 10 | 10 | 7 | 15 | 31 | 80 | 48 | | | | | | |
| Ota | 7 | 15 | 6 | 0 | 2 | 1 | 6 | 10 | | | | | | |
| Total AFB | 1680 | 1401 | 1299 | 1085 | 1084 | 1045 | 1442 | 1816 | | | | | | |
| Total hives | 305152 | 314091 | 320113 | 302988 | 287458 | 287458 | 286806 | 293080 | | | | | | |
| Total Incidence AFB % | 0.55% | 0.45% | 0.41% | 0.36% | 0.38% | 0.36% | 0.50% | 0.62% | | | | | | |
| Hobby AFB% | 6.31% | 6.71% | 7.08% | 5.71% | 6.83% | 9.86% | 18.52% | 9.97% | | | | | | |
| Hobby Total Hive % | 3.38% | 3.80% | 3.98% | 4.12% | 4.12% | 4.12% | 4.12% | 4.12% | | | | | | |
| Hob Incidence % | 1.03% | 0.79% | 0.72% | 0.50% | 0.63% | 0.87% | 2.26% | 1.50% | | | | | | |
| Com AFB% | 93.69% | 93.29% | 92.92% | 94.29% | 93.17% | 90.14% | 81.48% | 90.03% | | | | | | |
| Com Total Hive % | 96.62% | 96.20% | 96.02% | 95.88% | 95.88% | 95.88% | 95.88% | 95.88% | | | | | | |
| Com Incidence % | 0.53% | 0.43% | 0.39% | 0.35% | 0.37% | 0.34% | 0.43% | 0.58% | | | | | | |

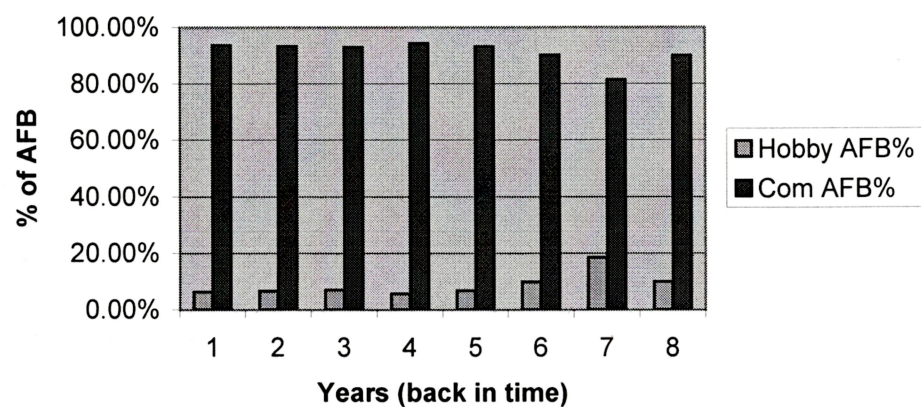
Incidence of AFB by % for total Commercial & Hobby Beekeepers



Total AFB Hobby & Commercial Beekeepers



% AFB Hobby & Commercial Beekeepers



| district_na | Bk AFB | Total BK | % BK | Apiary Afb | Toal Api | % Api | Hives AFB | Total Hive | % Hives |
|-------------|--------|----------|-------|------------|----------|-------|-----------|------------|---------|
| Blenheim | 25 | 317 | 7.89% | 49 | 1690 | 2.90% | 136 | 26820 | 0.51% |
| Canterbury | 32 | 578 | 5.54% | 113 | 4311 | 2.62% | 279 | 61299 | 0.46% |
| Hamilton | 8 | 301 | 2.66% | 63 | 2509 | 2.51% | 156 | 46185 | 0.34% |
| Otago/Sou | 25 | 385 | 6.49% | 41 | 3207 | 1.28% | 56 | 49003 | 0.11% |
| Palmerston | 8 | 981 | 0.82% | 14 | 3681 | 0.38% | 18 | 43544 | 0.04% |
| Tauranga | 12 | 339 | 3.54% | 93 | 2783 | 3.34% | 156 | 47435 | 0.33% |
| Whangarei | 29 | 721 | 4.02% | 49 | 2052 | 2.39% | 125 | 26464 | 0.47% |
| Total | 139 | 3622 | 3.84% | 422 | 20233 | 2.09% | 926 | 300750 | 0.31% |