# AGRIQUALITY NZ LTD, REPORT TO THE ANNUAL CONFERENCE OF THE NATIONAL BEEKEEPERS' ASSOCIATION OF NEW ZEALAND: ASHBURTON, 14-15 JULY 1999

**1.0 Organisation and Personnel**

MAF Quality Management became a State Owned Enterprise (SOE) on November 1 1998 and was renamed AgriQuality NZ Ltd There has been a lot of restructuring within the new organisation accompanied by 'right sizing', but AgriQuality still has a staff of around 600 and a turnover of $60 million As an SOE, AgriQuality has all the trappings of a commercial entity including a Corporate Board, a Chief Executive Officer and General Managers for the four main businesses within the organisation.

The four main business units, headed by a General Manager, are Assurance Services, Farm Network, Emergency Response and Lab Network The apiculture unit is in Assurance Services as a stand alone business along with Forestry, Food Quality, Horticulture and Plants, the Plant Protection Centre, Proficiency Services, a Seeds Business and Training. There are 17 businesses altogether within AgriQuality plus the usual service units like Finance, Marketing, Human Resources and Information Technology. The apiculture unit contracts to deliver services to the Emergency Response Business which also includes Surveillance.

There have been no changes in apiculture personnel during the year (for a change) except that Paul Bolger, currently based in Pukekohe, and James Driscoll from Palmerston North, will be swopping regions. This move is designed to meet the personal circumstances of the two officers concerned, but the opportunity is also being taken to re locate an officer in Tauranga. The apiculture business employs the services of seven staff which equates to four full time equivalent positions.

**2.0 Beekeeping Statistics**

2.1 Beekeepers, Apiaries and Hives (1998-99 figures in brackets)

There were 4918 (5,356) registered beekeepers owning 302,988 (287,458) hives on 21793 (23,027) apiaries, as at 30 June 1999 (Table 4).

2.2 Honey Production

The total saleable crop was assessed at 9069 tonnes (29.9 kg/hive) which is an increase on last years crop of 8,081 tonnes (27.0 kg/hive). The six year average is 9,027 tonnes or 30.8 kg per hive (Table 5). Per hive honey production figures are taken over all registered hives not just the productive ones.

**3.0 Exotic Disease and Pest Response (EDPR) Capability**

Funding for a joint exercise involving beekeepers and AgriQuality NZ staff has been approved by MAF Regulatory Authority for the 99/2000 financial year. This is planned to be run from Pukekohe this spring, with the cooperation of the Auckland Branch, from 31 August to 3 September. This will follow the format of previous successful joint exercises which combined teams of AgriQuality staff and beekeepers to inspect apiaries for AFB. This model will be used for a response to a European foulbrood outbreak.

Activity in the 98/99 year has concentrated on re establishing systems after the split off of AgriQuality NZ from MAF and a reorganisation of the way in which MAF manages exotic disease responses. An AgriQuality NZ exotic bee disease workshop, attended by Peter Beny and Frank Lindsay of the NBA Exotic Disease Lm estigation Committee and MAF Reg staff, was held in Wellington in April this year. One of the outcomes of this workshop was the decision to call a meeting to discuss exotic bee disease issues at this conference.

MAF Reg are looking for an increase in primary industry involvement in all exotic disease response decision making and is seeking to clearly define responsibility for response activity, including funding, by developing Pest Management Strategies. The only exotic bee disease on their list is European foulbrood Work on a PMS for EFB has already begun. The agreed process involves submitting the draft PMS to overseas experts to see if it is technically feasible and then doing a cost benefit analysis to determine if the benefit to the country as a whole would be greater than the cost of eradication. This work is being done through a Technical Focus Group set up by MAF.

The NBA needs to be actively involved in this decision making process if it wants a positive outcome. This should also include contingency planning for other exotic diseases such as Varroa, which MAF Reg has decided not to include on the list of diseases under consideration for a PMS at this stage.

**4.0 Surveillance**

An exotic disease recognition brochure with coloured photographs was produced and sent to all beekeepers in the mail out containing an application to take up a Disease Elimination Conformity Agreement (DECA). The DECA also included a section on exotic disease recognition and reporting.

As part of the restructuring of the Ministry of Agriculture and Forestry, MAF took over responsibility for official diagnosis of suspect exotic diseases. There were some initial problems with turnaround time and reporting under this new regime but hopefully these have now been resolved.

Twelve cases of suspect European foulbrood were reported by beekeepers and investigated by AgriQuality staff, by inspection and/or having samples sent to the MAF laboratory at Wallaceville for culturing. Samples were also taken from a suspected pesticide poisoning episode and tested for exotic mites. A mite infestation can show symptoms similar to pesticide poisoning. Suspect mite samples are tested at the MAF lab at Lincoln. All of the suspect cases were negative

All samples of honey and bees collected from beekeepers for testing for AFB under the PMS are sent to the MAF labs to be examined for exotic bee diseases after they have been tested for AFB by Hort and Research at Ruakura. To date 91 samples of honey have been tested for EFB and 79 adult bee samples tested for internal and external mites. In addition, 301 samples of bees submitted by beekeepers, mainly as part of the live bee export business, have been tested for mites. All results were negative .

It should be noted that although the surveillance programme is closely linked to the PMS for the efficiencies to be gained, all of the costs of the exotic disease surveillance programme, including the exotic disease brochure, the cost of the mail out containing the DECA and brochure, a contribution toward the operation of the apiary register and all of the laboratory testing for exotics, was funded from the MAF surveillance budget not the NBA PMS budget

**5.0 AFB Pest Management Strategy**

5.1 Apiary Register

The Register costs an estimated $40,550 to operate for a year, although the true costs of hardware maintenance and upgrading and programming costs are not fully covered The cost of $40,550 was to be recovered as follows:

- $21,250 from the NBA
- $16,000 MAF Surveillance and EDPR
- $3,300 from an additional fee on export apiary clearances

There have been a number of allegations of an inaccurate database and AgriQuality is working hard to correct these. It was expected, that a move to an apiary levy and a conformity

management scheme involving all beekeepers, would cause more problems than in the past and this has proven to be the case. Conflicts have arisen where information, allegedly supplied to AgriQuality by beekeepers, is different to what is recorded in the database. We are working with the NBA and beekeepers - resolve these issues.

5.2 Annual Disease Returns (ADR's)

These were mailed to every beekeeper on April 20th this year. The completed ADR's were to be returned by 1st June but of the 5,200 mailed out, reminder notices bad to be sent to 2,738 beekeepers. The small number of returns by the due date was disappointing given the number of reminders put in the New Zealand Beekeeper magazine, on the Beekeeper Homepage and given at MBA field days and meetings etc. The NBA has to decide on a policy, whether to send a notice to beekeepers who have failed to comply by 15th July, and what actions to take if beekeepers are in default of the notice conditions.

5.3 PMS Inspection and Audit Services

AgriQuality was able to warrant beekeepers up to 1st November, but on becoming an SOE, it lost this authority and no beekeepers were engaged by AgriQuality after this date to inspect hives. The Ministry of Agriculture & Forestry (MAF) is now responsible for issuing warrants to both~ AgriQuality staff as Authorised Persons and to beekeepers as Approved Persons. The accreditation and training requirements for beekeepers to become Approved Persons is still being developed by the NBA and MAF.

5.3.1 Field Inspections

AgriQuality was contracted to inspect up to 280 apiaries as well as organise or supervise Diseaseathons. The results of the inspection programme are in Table 3. AgriQuality inspected 289 apiaries and 1482 hives and found 48 hives of AFB in 26 apiaries. Beekeepers inspected a further 927 hives in 90 apiaries and found 19 hives of AFB

5.3.2 Honey & Bee Sampling Programme

AgriQuality was required to arrange for the collection of 500 honey samples from commercial beekeepers (Table 1) and 500 bee samples from non-commercial beekeepers (Table 2). The number of samples per Apiary District was allocated on the number of beekeepers who had had AFB colonies the previous season. Beekeepers were selected within each district on the basis of previous AFB history or geographic location. 1069 jars were sent to 482 beekeepers.

Reminder notices were published in *The New Zealand BeeKeeper* and the Beekeeper Homepage and further requests were made at field days and NBA meetings and by individual contact and a personal letter to defaulters. Despite all this, only 300 beekeepers (60%) sent in the requested samples. Some samples are still trickling in but as at 30th June 1999, 664 samples (62%) out of 1,069 had been received and tested at the Hort & Research laboratory at Ruakura An additional 22 samples of suspect larvae or comb have also been sent in by AgriQuality or beekeepers as approved samples and there are 38 samples on hand waiting to be tested.

Of the 375 samples of honey that have been tested, 12 were positive but only three showed moderate numbers of AFB colonies on the culture plates (range 1-40). Of the 289 samples of bees tested, 23 were positive (range 1-1000), with 9 showing levels of AFB colonies that should indicate a visible infection in the field Seven cases of visible AFB have so far been found or reported.

A number of these cases were inspected in the late summer (February-March), but no signs of AFB were found In other instances the hives were found to have visible AFB on subsequent inspections during late April and May. These apiaries will be marked for further inspection in the spring.

In addition to the samples above, 22 suspect larvae or comb samples were submitted to the lab and 6 of these (27%) were positive with 2-1000+ AFB colonies.

5.4 Total AFB Reports

The total number of hives and apiaries with AFB continued to fall but it is difficult to say how significant this is. The figures are likely to be understated as more than 2000 ADR's are still outstanding. Also the ADR process has been moved from the spring to the autumn and many AFB colonies from the late summer of 1998 may not have been officially reported These infections would normally have been recorded with the old Statements of Inspection sent to beekeepers in September each year.

*Table: 1 Summary of Testing Honey Samples for AFB to 30th June 1999*

| No. beekeepers sent jars | No. jars sent | Beekeepers returning samples | | Samples returned | | * No. samples positive on culture | No. AFB hives in field |
|---|---|---|---|---|---|---|---|
| | | No. | % | No. | % | | |
| 162 | 579 | 108 | 67 | 375 | 65 | 12 | 1 |

*Table: 2 Summary of Testing Honey Samples for AFB to 30th June 1999*

| No. beekeepers sent jars | No. jars sent | Beekeepers returning samples | | Samples returned | | ** No. samples positive on culture | No. AFB hives in field |
|---|---|---|---|---|---|---|---|
| | | No. | % | No. | % | | |
| 320 | 490 | 192 | 60 | 289 | 59 | 23 | 7 |

** The No. of AFB colonies on the "honey" plates ranged from 1-40*

*** The No. of AFB colonies on the "bee" plates ranged from 1-1000*

*Table 3: AFB Reported by Beekeepers or Found by Inspectors to June 30 1999*

| Apiary District | Apiaries AFB | | Hives AFB | |
|---|---|---|---|---|
| | 98/99 | 97/98 | 98/99 | 97/98 |
| Whangarei | 56 | 61 | 103 | 101 |
| Hamilton | 165 | 153 | 307 | 266 |
| Tauranga | 112 | 138 | 184 | 228 |
| Palmerston North | 57 | 62 | 93 | 109 |
| Blenheim | 59 | 86 | 88 | 177 |
| Canterbury | 46 | 52 | 66 | 93 |
| Invermay | 62 | 104 | 97 | 171 |
| Total | 557 (2.6%) | 656 (2.8%) | 938 (0.31%) | 1145 (0.38%) |

**Table 4 New Zealand Beekeeper, Apiary and Hive Statistics by Apiary District as at 30 June 1999**

*Category 0-5 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 295 | 341 | 598 |
| Canterbury | 487 | 572 | 957 |
| Hamilton | 307 | 359 | 711 |
| Otago/Southland | 290 | 334 | 683 |
| Palmerston North | 866 | 949 | 1914 |
| Tauranga | 271 | 306 | 656 |
| Whangarei | 740 | 808 | 1518 |
| New Zealand | 3256 | 3669 | 7037 |

*Category 6-10 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 54 | 91 | 419 |
| Canterbury | 89 | 176 | 697 |
| Hamilton | 73 | 123 | 592 |
| Otago/Southland | 67 | 97 | 502 |
| Palmerston North | 229 | 326 | 1773 |
| Tauranga | 70 | 106 | 543 |
| Whangarei | 121 | 183 | 933 |
| New Zealand | 703 | 1102 | 5459 |

*Category 11-50 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 39 | 102 | 884 |
| Canterbury | 54 | 158 | 1318 |
| Hamilton | 43 | 107 | 916 |
| Otago/Southland | 52 | 139 | 1310 |
| Palmerston North | 113 | 308 | 2718 |
| Tauranga | 54 | 130 | 1451 |
| Whangarei | 70 | 143 | 1647 |
| New Zealand | 425 | 1087 | 10244 |

*Category 51-250 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 28 | 186 | 3505 |
| Canterbury | 40 | 493 | 4942 |
| Hamilton | 21 | 215 | 3300 |
| Otago/Southland | 36 | 351 | 4308 |
| Palmerston North | 50 | 464 | 5865 |
| Tauranga | 44 | 292 | 4773 |
| Whangarei | 41 | 338 | 4712 |
| New Zealand | 260 | 2339 | 31405 |

*Category 251-500 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 13 | 265 | 4847 |
| Canterbury | 18 | 387 | 6051 |
| Hamilton | 8 | 200 | 3329 |
| Otago/Southland | 16 | 410 | 5346 |
| Palmerston North | 9 | 248 | 4176 |
| Tauranga | 15 | 252 | 4710 |
| Whangarei | 7 | 96 | 2198 |
| New Zealand | 86 | 1858 | 30657 |

*Category 501-1000 Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 13 | 479 | 8371 |
| Canterbury | 25 | 1253 | 17968 |
| Hamilton | 13 | 510 | 10340 |
| Otago/Southland | 22 | 1052 | 15413 |
| Palmerston North | 7 | 337 | 5388 |
| Tauranga | 17 | 550 | 12475 |
| Whangarei | 9 | 272 | 6115 |
| New Zealand | 106 | 4453 | 76070 |

*Category 1001+ Hives*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 5 | 282 | 6781 |
| Canterbury | 16 | 1797 | 28046 |
| Hamilton | 10 | 1197 | 27904 |
| Otago/Southland | 14 | 1185 | 21030 |
| Palmerston North | 8 | 1087 | 19689 |
| Tauranga | 17 | 1218 | 25284 |
| Whangarei | 8 | 519 | 13382 |
| New Zealand | 78 | 7285 | 142116 |

*Category 0-9999 Total*

| Location | Beekeepers | Apiaries | Hives |
|---|---|---|---|
| Blenheim | 447 | 1746 | 25405 |
| Canterbury | 729 | 4836 | 59979 |
| Hamilton | 475 | 2711 | 47092 |
| Otago/Southland | 497 | 3568 | 48592 |
| Palmerston North | 1282 | 3719 | 41523 |
| Tauranga | 488 | 2854 | 49892 |
| Whangarei | 996 | 2359 | 30505 |
| **New Zealand** | **4914** | **21793** | **302988** |

**Table 5 NEW ZEALAND HONEY PRODUCTION, IN TONNES AS AT 30 JUNE ANNUALLY**

| YEAR | Northland, Auckland, Hauraki Plains | Waikato, King Country, Taupo | Bay of Plenty, Coromandel, Poverty Bay | Hawkes Bay, Taranaki, Manawatu, Wairarapa | NORTH ISLAND | Marlborough, Nelson, Westland | Canterbury*, North Otago | South & Central Otago, Southland | SOUTH ISLAND | NEW ZEALAND | Yield per Hive (kgs)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1994 | 1295 | 1946 | 1524 | 1442 | 6207 | 493 | 2883 | 2236 | 5612 | 11819 | 40.8 |
| 1995 | 354 | 962 | 1426 | 1200 | 3942 | 499 | 1685 | 1921 | 4105 | 8047 | 27.5 |
| 1996 | 829 | 1639 | 1077 | 1367 | 4912 | 607 | 1287 | 1804 | 3698 | 8610 | 30.0 |
| 1997 | 766 | 829 | 933 | 1112 | 3640 | 919 | 2339 | 1639 | 4897 | 8537 | 29.7 |
| 1998 | 1014 | 1404 | 1314 | 1230 | 4962 | 598 | 1238 | 1283 | 3119 | 8081 | 27.0 |
| 1999 | 615 | 1617 | 1800 | 1416 | 5448 | 770 | 1782 | 1069 | 3621 | 9069 | 29.9 |
| 6 yr ave | 812 | 1400 | 1346 | 1295 | 4852 | 648 | 1869 | 1659 | 4175 | 9027 | 30.8 |

* Includes honeydew

** Total estimated production available for extraction divided by total number of registered hives

Hives 1994 289875
Hives 1995 293080
Hives 1996 286806
Hives 1997 287458
Hives 1998 298921
Hives 1999 302998