



Bees hold the key to Canterbury's growing success

It would be easy to thank honey bees just for their delicious by-product we spread on toast most mornings. However the value of these industrious pollinators goes much further than that, particularly in the diverse agricultural environment of Canterbury. *By Richard Rennie*

The Mid Canterbury region owes a lot to its bee population. James Callaghan, manager of Midlands Apiaries in Ashburton, says few outside the arable industry appreciate the part the region plays in world seed trade, and by default the role bees play in keeping that trade viable.

"Mid Canterbury supplies half the world's radish seed, a third of the world's carrot seed and 80% of New Zealand's total vegetable seed exports valued at over \$50 million." In addition there is a burgeoning trade in high value pastoral clover seed, along with brassica and forage crop seeds.

Globally, 75% of the world's crops are pollinated by honey bees. However in recent years the little insect has taken a literal body blow in numbers thanks to the invasion of the rapidly spreading, highly damaging varroa mite.

Arguably the most damaging bio-security incursion in the past 20 years, varroa is an external parasite of honey bees. These relatively large mites move through hives by hitching a ride with bees, then inserting themselves into the brood cell, feeding on pre-pupa material at the bottom of the cell, making initial detection difficult.

The varroa then lay eggs which hatch and after two juvenile stages the adult leaves the hive with the bees.

The most visible sign of varroa infestation is a significant drop off in hive populations and visibly sick bees near hive entrances.

The spread of the mite down the country from its first detection point in Auckland in 2000 has been aided by New Zealand's significant populations of feral bees.

Despite the best efforts of the beekeeping industry to manage hives with varroa control agents, these populations provide an unmanageable vector that has helped hasten varroa's spread as far south as North Canterbury. MAF reports suspect the mite may even be throughout the South Island already.

Based on experience in Marlborough, James says in the next two years all feral Canterbury hives will die off, along with any untreated commercial and hobbyist hives.

"Basically in the next two years there will be a lot fewer bees around to do any 'free' pollination. For remaining commercial beekeepers varroa comes at a cost, with treatment costing up to \$50 a hive per year."

He says it is inevitable the costs of paid pollination will increase, but is optimistic that beekeepers in Canterbury will manage as North Island beekeepers have done, and certainly better than their overseas counterparts. "Other countries have many other pests and diseases to deal with, including devastating colony collapse disorder that decimates whole populations."

With more intensive cropping systems through Mid Canterbury, the possibility of sprays killing bee populations is also ever present. ATS field rep Steve Lawson says timing and type of spray are critical.

"I think on the whole farmers are pretty aware of the importance of bees, but avoiding spraying during flowering, and spraying only in the evening helps reduce bee mortality." Most modern sprays will clearly state their toxicity to bees and he urges farmers to check if uncertain.

JAMES CALLAGHAN'S CHECKLIST TO HELP PROTECT BEES:

1. Report any swarms of feral bees or feral bee hives to your local bee keeper.
2. Take care over spraying. Read instructions regarding bee toxicity and avoid spraying in the morning.
3. Consider planting bee friendly plants high in nectar and pollen.
4. Take care irrigating. Avoid having hives in the path of irrigators and irrigate over hives only by night.
5. Tell your beekeeper if cattle are to be around hives. They will push hives over and a simple hot wire will keep hives in one piece.



James Callaghan, manager of Midlands Apiaries in Ashburton



The honey bee busy at work