

THE QUEENSLAND THREAT TO OUR FOOD SUPPLY AND CROPS

The recent rain, floods and cyclone in Queensland have had adverse effects on crops and, consequently, on the supply and cost of some foods. We expect that these effects will be temporary and will decrease within months or a few years. But a far more serious and long-lasting threat to crop and food yields is present in Queensland – the Asian Bee, *Apis cerana*.

The Asian Bee is host to *Varroa* mite, which parasitises and kills the European honeybee, *Apis mellifera*, though it lives in comparative harmony with the Asian Bee. Australia is the only continent free of *Varroa* mite. Additionally, the Asian Bee competes with, and will replace feral honeybee populations. Asian Bees will rob honeybee hives. Asian Bees can mate with honeybee queens, but the matings are infertile. This means that, if a honeybee queen mates with only Asian Bee males, she will not produce brood. Even if a honeybee queen mates with both Asian Bee and honeybee males, her fertility will be decreased. In this way, feral honeybee colonies die out and the productivity of commercial honeybee hives decreases. An example is the Solomon Islands where there used to be about 2,000 managed honeybee hives before the introduction of the Asian Bee. In 2008 the number of hives had dropped to five. Today that number is zero.

The honeybee is essential for the pollination of important food and fodder crops. Apples, pears, almonds, cucumbers, melons, sunflowers and avocados, to name a few, depend entirely on the honey bee for pollination. The Australian almond industry currently employs more than 100,000 hives annually. This number is estimated to increase to 350,000 by 2015. Wind-pollinated crops, such as cotton and canola, and even pasture clover, give 10-20% higher yields if pollinated by honeybees rather than the wind.

The Asian Bee was detected by a beekeeper in the mast of a yacht in dry dock in Cairns in May 2007. It was not detected by our quarantine service. In my opinion this is another example of the inappropriate privatisation of Australia's quarantine service. In August 2008 six volunteer beekeepers commenced trapping bees and detecting and destroying bee nests. With government funding the number of field workers increased to 28 in April 2010 and, in May, to 36. A detector dog has been trained to seek out Asian Bee nests. When funding ran out in mid-November 2010, the number of field workers decreased to its present level of six. It will remain at this level until March 31st - **TODAY**, when activities will cease – even though, at present, the Asian Bee has been confined to the Cairns area. On Monday, January 31, the Asian Honey Bee National Management Group decided that, with the current level of funding, it is no longer technically feasible to eradicate Asian Bees and declared *Apis cerana* endemic on February 1.

If the Asian bee is allowed to become endemic in Australia, our honeybee population, both commercial and feral, will suffer seriously. This will have an effect on the honey industry,

worth about \$80 million annually and, more importantly, also on crops that involve honeybee pollination, worth an estimated \$4 billion per annum. The Asian Bee has invaded the highlands of Papua New Guinea demonstrating that, although it is a tropical species, it can adapt to temperate climates. This indicates that the Asian Bee, now in Queensland, could migrate even to Victoria.

Varroa mite is not yet in Australia. It is in the USA, Asia and even New Zealand. The USA has experienced Colony Collapse Disorder (CCD) – bees fly from the hive and simply do not return. Some American apiarists have experienced a 50% loss of hives due to CCD. It is currently considered that CCD is due to the cumulative effect of a number of pressures such as *Varroa* and other pathogens, including the small hive beetle. Currently, Australian apiarists export hives of honeybees to the USA by air for almond pollination to counter the loss of hives due to CCD.

The Asian Bees in Queensland did not introduce *Varroa*. However, if the Asian Bee is declared endemic to Australia, and is no longer contained, further incursions of the Asian Bee with *Varroa* will not be monitored. We can then expect the harmful effects of this mite on our honeybees, and food production, that have been experienced elsewhere. We might even experience Colony Collapse Disorder since the small hive beetle was introduced in 2000, possibly through the Richmond RAAF base with equipment returning from South Africa or with athletics gear for the 2000 Olympics. Another failure of our quarantine service.

Albert Einstein is quoted as saying, “If the bee disappears from the surface of the earth, man would have no more than four years to live.” While this might not be correct, it summarises the importance of bees in the production of our food.

All Australians know of the catastrophic introduction of the cane toad to Queensland and its spread. We cannot allow the Asian Bee to be a similar folly – its effects would be far worse. The necessary funding, estimated at \$10 million over 2 years, should be provided to effectively eradicate the Asian Bee from the Cairns area. It cannot be eradicated with the current low level of funding. But, for the sake of the food supply for all Australians, it must be eradicated. Ten million dollars over two years, even \$100 million, is a small price to pay for the continued security of the food crops worth \$4 billion annually that are dependent on the honeybee. If necessary, ten million dollars annually to contain *Apis cerana* to its current area around Cairns would be well worthwhile to protect the contribution made by the honeybee, *Apis mellifera*, to our food production.

I suggest that Australian Aborigines might well be employed in the eradication programme. A part of their traditional food gathering is to track native bees to their nests in order to obtain “honey bags”. Additionally, training and natural selection among Aborigines has led

them having tracking ability and powers of inference superior to whites. I have experienced these skills among Aborigines during direct association with Aborigines for more than 25 years.

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