



Billion Dollar BEEES

**THEY PRODUCE OUR HONEY AND
THEY POLLINATE OUR CROPS.
BUT HOW MANY OF US UNDERSTAND
THE TRUE VALUE OF HONEYBEES
AND HOW MUCH WE WOULD LOSE
WITHOUT THEM?**

Georgie Oakeshott reports.

TREVOR Monson is not your average beekeeper. Unlike other apiarists whose beehives are for honey production, Mr Monson's hives are for hire.

Based in the fertile Riverina, his blossoming business contracts out more than 100 beekeepers placing 45,000 hives amongst the crops of a growing number of horticulturists prepared to pay for pollination.

Horticulture—fruit, vegetables, nuts, nursery, extractive crops, cut flowers and turf— is said to be Australia's fastest growing agricultural industry, currently worth \$7 billion. While initially slow to pay for a service which has always been provided free of charge by feral (or wild) honeybees, the benefits of paid pollination are beginning to be realised.

For the Monson family apiary, this realisation has revolutionised their business. Twenty years ago, Mr Monson's family derived 100 per cent of its income from honey. Today, honey is about 25 per cent of what he does.

Strong demand for hives is being led by Australia's rapidly expanding almond industry, one of a handful of crops 100 per cent dependent on honeybees for pollination. Without pollination, which is the process of bees depositing pollen on fruit and seed producing plants for fertilisation, there is no crop. Or in Trevor Monson's words: "no bees, no nuts".



“There’s no doubt the almond industry is setting the price per hive, which is currently around \$60 per hive. I expect that will go up to \$100 in the next few years,” Mr Monson says.

He expects more horticulturists will come on board as they realise the benefits of pollination. While essential for some crops, it has been shown to increase yield and quality in others, in a shorter space of time.

Mr Monson is already supplying hives to growers of apples, apricots, avocados and rockmelons.

“The old guys growing these crops had feral bees they could rely on for pollination, but now, with bigger plantations and heavier insecticides, there’s a shortage of bees,” he says. “They’ve only started

paying for pollination in the past 10 years.”

Since being introduced to Australia in 1822, feral and commercial stocks of European honeybees have played a vital role pollinating crops for both human and animal consumption. An estimated 70 per cent of crops depend on honeybees for pollination to some degree.

Nothing pollinates as effectively and efficiently as this immigrant bee. Australia’s native bees certainly don’t. With demand for hives the way it is, Trevor Monson confidently forecasts his business will grow to 300 beekeepers supplying 180,000 hives by 2015.

It’s estimated the almond industry alone will need 370,000

hives by 2015, which is more than half the total number of hives in Australia today.

“Honeybees are vital to almond production, particularly commercial almond production which is 100 per cent reliant on pollination by honeybees,” says Julie Haslett, chief executive officer of the Almond Board of Australia.

“At the moment the Australian almond industry has a farm-gate value of around \$150 million, and that’s expected to increase to over \$700 million, with plantings increasing four to five fold in the next few years, certainly making almonds a major industry in Australian horticulture.”

Paid pollination is estimated to be worth around \$3.5 million.

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Honey production is the main source of income for Australia's 10,000 beekeepers, making up \$60 million of the industry's \$80 million gross value of production.

But with so many crops dependent on pollination, there's little doubt the demand for hives will continue to grow, providing vital additional income for honey producers who can no longer rely on sustainable returns from honey alone.

However, not all beekeepers are keen on supplying bees for pollination. Take Victorian beekeeper Paul Griffiths, who says the timing often clashes with honey production. Plus there are too many chemicals.

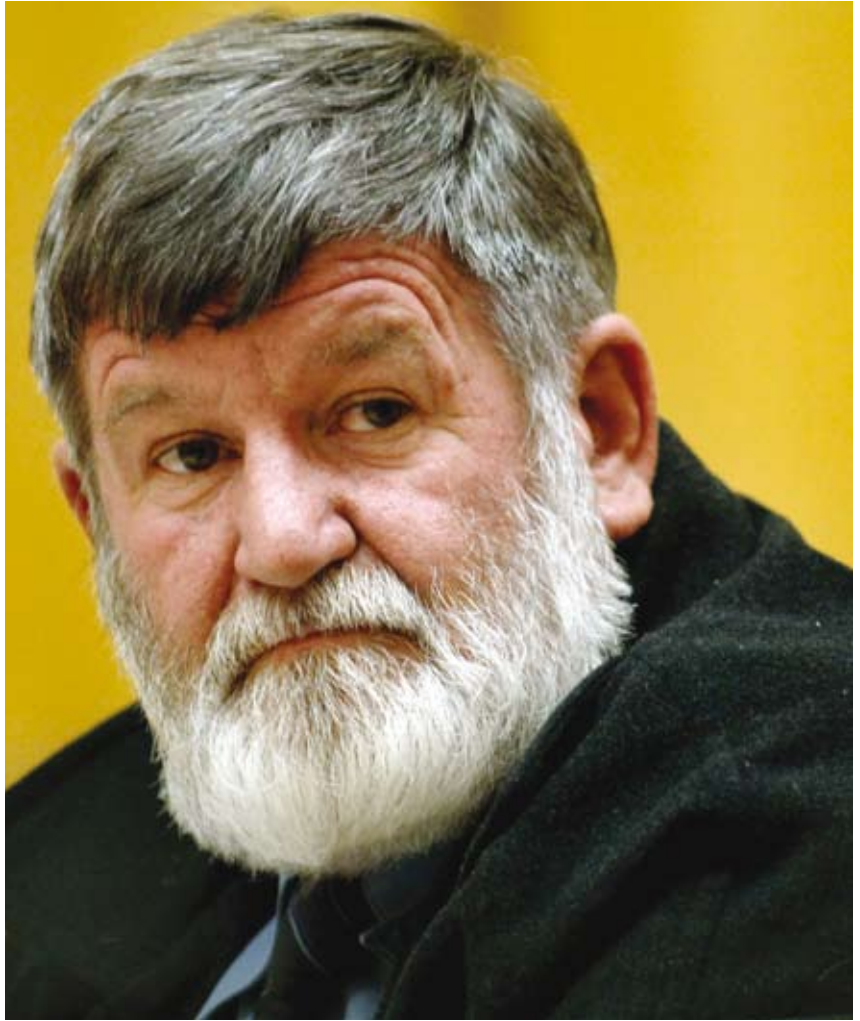
"And if your farmer isn't using a spray, then the one down the road is, and bees will fly two or three miles to another crop. If the honey price is right, you're better off sticking to honey," he says.

He may be right, but with the honey price the way it is, most beekeepers are welcoming the prospect of additional income from pollination. Executive director of the Australian Honeybee Industry Council, Stephen Ware believes it's not just important to the honeybee industry's future, it's important to agriculture more generally.

"The current research says that a lot of the crops which are dependent on honeybees do a lot better if they use more pollination services, so we certainly believe there is an opportunity for beekeepers," he says.

"Importantly, the people who will be the real beneficiaries are the ones who depend on pollination, because if we can deliver a better service, people will be prepared to pay for it, and in the end everybody will win."

As easy as it sounds, there are a few obstacles to overcome. First, it's an ageing industry, rapidly losing skills and failing to attract a new generation of beekeepers. Secondly, it's losing access to native forests which provide a valuable source of clean, green flora. Thirdly, and



Trevor Monson at a public hearing on the future of the honeybee industry. Photo: AUSPIC

perhaps most dangerously, it's staring down the barrel of a major biosecurity threat called varroa destructor.

If you want to make a beekeeper nervous, just mention varroa. This speedy bee-killing pest has already wiped out honeybee populations around the world. It hasn't made it to Australian shores yet, but most people say it's only a matter of time.

Trevor Monson thinks we could be on the brink of a disaster.

"Serious threats to the beekeeping industry have the potential to decimate most facets of agriculture and, in turn, threaten our very existence through a diminishing food supply," he told a House of Representatives Agriculture Committee inquiry into the future of the honeybee industry.

"Almond growers in California are now paying up to \$160 per hive for pollination. I met beekeepers there who said honey production is a

bit of a nuisance, because they're so busy keeping their bees healthy.

"If we're unfortunate enough to get the varroa mite in Australia, you can instantly add another \$25 to the price of a hive, because of the additional costs of keeping your bees healthy."

Varroa kills quickly, and once in Australia the loss of feral honeybees and their free pollination service would be sudden and dramatic. Price for a wide variety of foods would go up as a result of crop losses, which could cost the economy more than \$2 billion.

"When you take account of the flow on effects it could actually be more like \$6 billion, even higher," says Margie Thomson, general manager for established industries at the Rural Industries Research and Development Corporation.

"When varroa hits Australia, as soon as it touches a feral honeybee

it will be dead. So we expect most feral honeybee populations will be absolutely decimated within 12 to 18 months of its arrival.

“When it comes to commercial stocks, we can manage it through good commercial practices and also at the moment there are some chemical means. But that’s not a long term solution, not only because of resistance, but we want to maintain a clean, green image.

“The benefits of honeybee pollination are felt though the whole of agriculture, so the risks to honeybee pollination services concerns the honeybee industry and all other industries which rely on honeybee pollination.”

In its submission to the parliamentary inquiry, CSIRO outlined the impact of varroa on the United States. Managed colonies of honeybees have been reduced by 30 per cent, while costs of maintaining hives have increased 25 per cent. There has been a four to five fold increase in the cost of hives, along with an increasing gap between demand for hives and capacity to supply them.

“Given that the more numerous and sophisticated providers of managed hives in the United States have failed to keep pace with demand, it is probable that those in Australia will be even less able. As a consequence, the economic/market shock is likely to be greater and last longer,” CSIRO says.

According to Horticulture Australia Limited, the gross value of production for the 20 most honeybee dependent horticultural crops is approximately \$2.2 billion per annum.

“If feral honeybees disappear, producers of crops heavily reliant on honeybee pollination will see a disastrous drop in yields in a matter of years,” managing director John Webster says.

“The continued pollination of some crops will not be possible without managed pollination, the payment for which will increase the production costs of these crops and reduce Australia’s competitive advantage.

“The apiary industry has advised that it will not be able to fully satisfy the demand for pollination services regardless of price, resulting in a drop in production of some crops to a nationally significant extent.”

On the one hand, it appears that in a post-varroa Australia beekeepers would be laughing all the way to the bank. But not so, according to the Australian Honeybee Industry Council.

“Control costs for the pest would substantially add to the cost of production and could have a devastating effect on the industry. Most small beekeepers would probably find it uneconomic to continue,” Stephen Ware says.

For all these reasons, the Rural Industries Research and Development

Corporation recently hosted a two-day workshop, bringing together for the first time representatives from the honeybee industry; horticultural, pasture seeds and grains industries; research and development service providers; state and federal governments; and university research centres.

While it was expected to be confirmed that beekeeping and pollination dependent industries aren’t prepared for varroa, what wasn’t expected was that many participants didn’t even know of the significance of the threat in the first place.

The workshop identified seven key strategic directions: 1) to establish a new national alliance with a research and development focus; 2) increase access to floral resources; 3) develop the business skills of the honeybee industry; 4) establish public and political support; 5) determine additional research and development priorities; 6) increase communication and extension between pollination

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The honeybee industry is failing to attract a new generation of beekeepers.



dependent industries; and 7) increase the viability of the honeybee industry.

It was also agreed that the honeybee industry couldn't, and shouldn't, manage the risks alone.

In July, the federal Minister for Agriculture, Peter McGauran announced \$300,000 to form a new national alliance to develop a strategic plan including a risk management strategy, a pollination business model, an education and training strategy, and identify research and development opportunities.

Timbercorp, an agribusiness investment manager with 8,000 hectares of pollination-dependent almonds, says the funding is an important first step in the right direction.

"It would be exceptionally embarrassing for the industry as a whole, embarrassing and difficult for beekeepers, and it would place pressure on state and federal governments if varroa struck and we didn't have a biosecurity threat plan in place," Timbercorp's Max Tolson says.

Pollination is already the almond industry's single biggest operating cost, at around 10 per cent, he says, and any increase in the price of hiring hives would be a big concern.

Could Australia's almond industry afford Californian prices?

"No, I don't think so," says Mr Tolson.

For more information on the House of Representatives Agriculture Committee's inquiry into the future development of the Australian honeybee industry, including access to the submissions and transcripts from public hearings, visit www.aph.gov.au/house/committee/primindl/honeybee or email aff.reps@aph.gov.au or phone (02) 6277 4500.

THE BEES NEEDS

ACCESS to native forests on public land is considered fundamental to the future of the honeybee industry, but in Queensland, New South Wales and Victoria beekeepers are losing this access.

These states are home to 80 per cent of all beehives owned by 80 per cent of all beekeepers producing about 70 per cent of all honey. Most of these beekeepers use public land, such as national parks, for their beekeeping activities.

But state governments are placing restrictions on beekeepers accessing these areas, which has the Australian Honeybee Industry Council concerned about the industry's ability to prosper.

The council considers the restrictions a political response to concerns about vehicle access and honeybees not being native. They argue managed honeybees either have a minor or no effect on native insect pollinators or fauna competing for nesting hollows in public forests.

Without access to native flora, it says, the commercial beekeeping industry would not exist.

Most concerning to beekeepers is the situation in Queensland, where the state government has announced a phasing out of beekeepers on public lands in the south east by 2024.

"This is a real problem," says executive director of the Australian Honeybee Industry Council Stephen Ware. "Between now and then we are supposed to find alternative sights. Considering beekeepers have only a small environmental footprint, the whole thing is strange."

In its submission to the inquiry, the Queensland government says beekeeping is inconsistent with the management principles of national park tenure, and there is a possibility that significant



alternative honey flora resources may exist in other areas of the state.

Like other beekeepers, Trevor Monson sees diminishing access to native forests as a major threat to beekeeping.

"Continued access to this country's floral resources is fundamental to the survival of the beekeeping industry," he says.

"Some states such as Queensland are in a phasing out period that will prohibit any use of public forest areas by 2020. Other states have areas where they have excluded bees altogether.

"If the government is serious about preserving and rebuilding our country's resources and its agricultural sector, than legislation and polices need to be reviewed to support these decisions."

Major crops and their reliance on honeybee pollination

Apple	90%
Pear	50%
Peach	60%
Macadamia	90%
Almonds	100%
Avocado	100%
Mango	90%
Melons	70%
Pumpkin	90%
Orange	30%
Peas	50%
Nectarine	60%
Strawberry	40%
Apricot	70%

SWEET OR SOUR

SECOND generation Victorian beekeeper Philip McPherson thinks honey producers are at a major cross-road: either the industry will vanish, or it could be about to turn a corner to a brighter future.

One of the biggest problems is attracting a new generation of beekeepers.

He thinks young people are staying away from beekeeping as a career because it doesn't pay enough, and they don't want to get stung.

"At present, honey to the producer is priced somewhere between two and three dollars per kilogram—and that actually is below the cost of production," he says.

"The price definitely needs to get back up between \$3.50 and \$4 per kilo to at least break even."

Fellow Victorian beekeeper Rod Gell agrees the current honey price is unsustainable.



Jodie Goldsworthy of Beechworth Honey, one of this country's honey success stories.

"At the present honey price, the industry will struggle to survive and the number of full time beekeepers will decrease," he told the House of Representatives Agriculture Committee inquiry.

"The current honey price is barely sustainable. We need to get the honey price back to at least \$3 as an average, so honeybees are a sustainable industry," he says.

One of this country's honey success stories, Jodie Goldsworthy of Beechworth Honey, thinks Australian honey has come to the end of an era.

"The steps that existed 10 years ago to enable Beechworth Honey to grow as it has no longer exist," the former NSW Young Business Woman of the Year and member of the Regional Women's Advisory Council says.

"The hurdles have been made so much bigger that sadly Beechworth Honey may go down in history as the last brand that started small and made it this far in honey in Australia."

She believes strong demand for paid pollination services and live packaged bee exports are two key

factors which have the potential to positively balance the negative impacts of global factors that impact on the marketing of Australian honey.

She says paid pollination can help Australian beekeepers remain viable into the future and make the transition to being less reliant on returns from honey production alone.

"As I see it, the harsh reality is that Australian honey packers can survive without Australian beekeepers. Packers can buy honey from wherever they like," she said.

"In addition to that, the high volume Australian retail market can survive without Australian based honey packers. Supermarket chains can buy honey from packers overseas."

But despite this, Australian agriculture cannot survive without Australian beekeepers.

"Agriculture needs honeybee pollination," she says. "Given that two-thirds of the food we eat has been pollinated by a bee I would consider it's in the national interest to make sure the Australian honeybee industry is viable." ■