

Senate Inquiry into the Beekeeping Industry

Submission by Doug Somerville PhD

A bit about the author: I have been employed by the NSW government in a beekeeping specialist role for 27 years. During that time I have been involved in all aspects of the beekeeping industry including research, education, extension, compliance and industry development. I am very familiar with the state of the beekeeping industry in Australia and on the international stage. At present I am involved in the production of electronic course material, a publication on honey bee health with a focus on pests and disease, and compiling a publication on the key floral species of importance to the NSW beekeeping industry.

Key Points

- A review of honey bees in the Australian landscape with particular reference to public lands
- For continued government support for the National Sentinel Hive Program
- That the Federal government assist in the training of young commercial beekeepers
- The Federal Government to continue to support Research and Development for the beekeeping industry
- That the Federal Government change the legislation to allow a R&D levy to be collected on the provision of pollination services
- Increase the testing of imported honey
- That the decision to relocate the honey bee quarantine facility from Sydney to Melbourne is reviewed and another location in Sydney is considered – the logical location to build a new facility
- That labelling of Australian product is clear and consistent to the consumer

The NSW Beekeeping Industry

The NSW beekeeping industry is the largest within Australia, accounting for approximately 40% of the beehives. As of January 2014 there were 3,461 registered beekeepers, 214,296 registered beehives and 489 beekeepers operating greater than 50 hives.

The primary income source for beekeeping has been, and remains, honey production. In 1999 the average honey yield per hive was 90kg per hive. At this time only 20% of the commercial beekeepers derived any income from the provision of pollination services. The proportion of beekeepers providing paid pollination services has probably risen to 50-60% of commercial beekeepers, as a result of the growth in the almond industry.

Products produced are primarily: specific floral origin honeys; beeswax - as a result of honey production; and some comb honey. NSW is the national centre for package bees, queen bees and nucleus hive production, which are produced by specialist beekeepers for the domestic and export markets. Pollination services are provided for a growing range of horticultural and agricultural crops with almonds being the biggest receiver of beehives.

Horticultural industries are increasingly paying for the provision of pollination services and this is assisting in the diversification of beekeeping businesses.

Business models are primarily family based units with perhaps occasional casual assistance or outsourcing of services. Traditionally commercial beekeepers used to carry out all functions, repairs and maintenance. Construction of new hive components is increasingly being conducted by specialist service businesses.

There has also been a trend in the last 10-15 years for some beekeeping enterprises to expand the number of hives managed from 400 - 500 up to 1,000 - 3,000 hives. This has necessitated the employment of labour, often relying on the 457 visa scheme to find suitable persons. Over the last ten years, records within the NSW Department of Primary Industries beekeeping registration system indicate that we have seen a decline in the number of commercial beekeepers, but the number of registered hives for NSW has remained static.

The NSW beekeeping industry is serviced very well from its core beekeeping organisation, the NSW Apiarists' Association. This association has branches strategically placed across the state. It conducts an annual, two-day conference and publishes a journal for members and subscribers six times per year.

The recreational beekeeping industry is growing with the peak body, the Amateur Beekeepers' Association, increasing the number of affiliated branches. This organisation used to have its major focus in the Sydney basin, but in recent years several organisations have been created in regional NSW.

The services provided by the NSW government include bee site permits in State Forests, National Parks and Travelling Stock Routes. A compliance service is managed by the Biosecurity Division of Department of Primary Industries, primarily focused on the bacterial disease American foulbrood, plus abandoned and neglected apiaries and the provision to deal with beehives creating a nuisance to the public. Microbiological services are available from the Elizabeth Macarthur Agricultural Institute to assist in the diagnosis of disease. The NSW Department of Primary Industries two beekeeping specialist staff manage educational and industry development programs.

Core issues affecting the NSW beekeeping industry include:

1. Increasing threats in the biosecurity area.
2. Access to floral resources to maintain healthy and productive bees.
3. Continuing sustainable business models.

Whilst the wish list to such inquiries could be extensive, I have focussed on issues I believe either require ongoing government support or could do with further government support. Please note the following points (recommendations) are my thoughts and not those of the NSW DPI or NSW government.

Recommendation

A review of honey bees in the Australian landscape with particular reference to public lands

Floral resource access is a major and consistent area of concern for the NSW and Australian beekeeping industry. Given the primary economic driver for commercial beekeeping is honey production, threats to this economic endeavour ultimately threaten the economic viability of commercial beekeeping.

This issue is multi-levelled with a range of factors putting pressure on this area of concern;

- Urban sprawl and expansion is not compatible with commercial sized apiaries. As such, what used to be traditional beekeeping areas in say, the Sydney Basin or the Central Coast, is now off limits due to the high risk to public safety of having large numbers of beehives adjacent to urban areas.
- The conversion of public forests managed for timber production in the past to current conservation areas can also change the management attitude to commercial beekeeping activities. This has been a constant concern for the commercial beekeeping industry.
- Decline of desirable species such as Paterson's Curse. Not long ago this plant was considered the most important floral species to commercial beekeepers in NSW. The biological programs to control and suppress Paterson's Curse would appear to be taking effect and now this plant has a much diminished status for commercial beekeeping interests.
- Currently there is concern in NSW about how bee sites on State Forests and Travelling Stock Routes will be managed into the future. Given the largest group of species of importance to beekeeping are eucalypts and many of these species flower on a 3 to 5 year cycle, beekeepers need long-term security to access these resources to plan management strategies well before an anticipated flowering event.

A "National Best Management Practice for Beekeeping in the Australian Environment" code was developed in 2007 under the Industry Partnership Program – Action Partnership Grants, which was part of the Australian Government's Agriculture – Advancing Australia package. This was initiated by a two-day workshop held in Canberra in 2005. This process was highly beneficial to the beekeeping industry in stating its professional responsibility in an agreed single document on the subject of beekeeping activities in the Australian environment.

What is required, or desired, by the beekeeping industry is a consistent approach, particularly by State Government agencies, to access and the management of apiary sites on public lands.

Recommendation

For continued government support for the National Sentinel Hive Program

Biosecurity is a major area of concern to beekeepers, whether recreational or commercial. The pressure of pests and diseases also present a direct threat to the provision of paid and free pollination services to pollination dependant plant industries.

Nosema apis (microsporidial disease of adult bees), wax moth (pest of stored combs) and American foulbrood (a bacterial disease of brood) have been in Australia for several decades. European foulbrood (a bacterial disease of brood) was located in 1977 and quickly spread through NSW, causing serious ongoing losses of bee colonies. Chalkbrood (a fungal disease of brood) was identified in 1993 – a major production disease. Small hive beetles (an insect pest) were identified in Sydney in 2002 and have now become one of the major pests of beehives. *Nosema ceranae* (microsporidial disease of adult bees) is believed to have entered Australia in the last 15 years and is a major disease of adult bees.

Regionally, European wasps (1978) and cane toads are major pests of honey bees. Recently (2007) Asian bees were found in Cairns and eventually became established. Evidence in other countries suggests that if this insect reaches NSW it will also be a major competitor to honey bees.

Thus, what seems a continuous stream of new threatening pests and diseases, increases the pressure on the economic viability of the beekeeping industry.

There are several pests on the international stage, particularly mites, which pose a massive threat to the Australian beekeeping industry. If an incursion of one of these exotic pests is identified early enough before it becomes established, there is a possibility of a successful eradication program being mounted.

A consistent scientific-based surveillance program needs to be supported on a national basis to ensure that any incursion of an undesirable pest or disease is picked up and identified as early as possible. This would allow the opportunity of mounting an eradication attempt or, at the very least, adopting the necessary management practices to control the problem.

Recommendation

That the Federal government assist in the training of young commercial beekeepers
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The National Competency Standards have been developed for the beekeeping industry from past assistance provided by the Federal Government.

Some assessment materials have been produced, but what has not eventuated is the creation by Registered Training Organisations of a comprehensive pathway and materials to obtain qualifications in beekeeping.

There are a number of reasons for this, but generally, the main one is the small or limited size of the market. Commercial beekeeping is geographically scattered across regional NSW. The logistics and costs of potentially drawing together critical numbers of paying participants is limiting.

Increasing numbers of commercial larger scale beekeepers are relying on the 457 visa scheme to obtain qualified workers. While there is capacity to develop and provide comprehensive training for Australians by organisations such as Tocal Agricultural College, the commercial considerations are a major restriction on this happening quickly.

There is scope to deliver on-line learning and develop comprehensive learning pathways for the commercial beekeeping sector, but current development of these pathways is limited due to financial constraints.

Recommendation

The Federal Government to continue to support Research and Development for the beekeeping industry

Research and development (R&D) investment is critical for any business to be able to survive and continue to grow and remain profitable and sustainable. The amount of funds available to the beekeeping industry for such purposes is limited due to a range of reasons. The R&D levy on the beekeeping industry is based on honey production. There are no legal means by which the Federal Government may allow the collection of a levy on the provision of pollination services. As such, one of the largest beneficiaries of a healthy and sustainable beekeeping industry is the pollination dependant horticultural and agricultural plant industries who are not contributing to the R&D funds available directly via services provided by beekeepers.

The gross levy collected each year is approximately \$315,000 matched on expenditure by the Federal government. Levy collection costs are deducted amounting to approximately \$46,000. There are also other contributors such as the Wheen Bee Foundation. There is a project or committee management fee deducted by the Rural Industries Research and Development Corporation (RIRDC – the managing organisation). What is left is on average \$400,000 - \$500,000 per year to spend on R&D.

The amount of levy collected is primarily dependent on the national honey crop harvest each year. Droughts and reduced honey crops therefore have a direct negative effect on limiting R&D spending.

Sub-recommendation

That the Federal Government consider changing the legislation to allow a R&D levy to be collected on the provision of pollination services.

Extension and research commitments have diminished across State Departments of Primary Industries over the past decade plus. Increasingly project funds are required by government agencies to cover a greater proportion of the costs of those projects. Thus, there is a trend for a reduction in services nationally and the number of projects committed to honey bee R&D is diminishing.

This is not a healthy state of affairs. There have been two failed attempts to mount a bid to establish a Cooperative Research Centre for honey bees and pollination, but sufficient funds have not been able to be mustered to support these bids, which is indicative of the limited ability of the beekeeping industry to attract investment.

Given the links to horticulture particularly, there is strong interest from some specific crop industries expressing concern about the sustainability of the beekeeping industry.

Major opportunities exist to invest in R&D in areas such as: using honey as a therapeutic product; valuing and promoting the value of bees as a pollination agent for various crops; continue to build on the 'pure-natural' image of honey; alternative use of honey in wine, beer and manufactured products; low risk (residue) pest and disease management strategies.

The Australian beekeeping industry will not remain progressive and viable unless adequate investment is made in appropriate R&D.

Recommendation

Increase the testing of imported honey

Currently the Australian beekeeping industry produces honey for both the domestic and export trade. The costs of producing honey in NSW are high in comparison to several major competitors, particularly countries such as China.

The NSW beekeeping industry is a participant in the National Residue Survey and a large portion of commercial beekeepers are involved in quality control programs to safeguard the integrity of their product. DAFF (Biosecurity) formally AQIS regards honey as a low risk product and only randomly tests 5% of imported honey.

The international beekeeping fraternity recognises several locations around the world where contamination of honey is a major problem. The risk of contaminated honey entering Australia is high. Thus to protect the Australian beekeeping industry the 'powers to be' in the Federal Government department responsible should consider increasing the number of samples of imported honey to be tested.

Recommendation

That the decision to relocate the honey bee quarantine facility from Sydney to Melbourne is reviewed and another location in Sydney is considered – the logical location to build a new facility

There has been a facility purpose-built at the Eastern Creek Quarantine Facility in use by the beekeeping industry for a considerable time. This has allowed a safe and legal means by which genetic material can be obtained from various overseas sources with minimal risk to the Australian beekeeping industry.

Australia remains free of several pests and diseases of honey bees. The largest threat to the Australian beekeeping industry is the varroa mite. Most beekeeping experts around the world recognise that the best solution to deal with this pest is to breed resistant strains of bees. This will be a very time consuming and expensive task that Australian beekeepers will be unlikely to achieve in the event of varroa establishing in Australia.

It is therefore logical that Australia should consider importing strains of bees that demonstrate a resistance to varroa. This will also enhance our ability to maintain and increase our markets for the export of package bees and queen bees, adding to the profitability and sustainability of the Australian beekeeping industry.

While the current site at Eastern Creek in Sydney has been sold, there are alternate sites within the Sydney basin including Elizabeth Macarthur Agricultural Institute. The majority of clients utilising the existing facility at Eastern Creek are NSW based. The transfer of the facility to Melbourne will add considerably to the costs of the main importers.

The climatic factors in Sydney and Melbourne should also be considered as the warmer Sydney climate will prolong the period a facility can be utilised during any twelve-months.

In brief the primary clients who will be utilising the proposed new quarantine facility are based in NSW. Sydney offers a better climate for bee activities; there is a suitable location under the management of the NSW government at Elizabeth Macarthur Agricultural Institute.

Recommendation

That labelling of Australian product is clear and consistent to the consumer

While 'Product of Australia' and 'Made in Australia' mean different things under Australian legislation, these are meaningless to international tourists visiting Australia, the majority of Australian consumers who are unfamiliar with the label meanings and to the international market.

While I was part of a group of four Australian beekeeping industry delegates to China in May/June 2013 (part of the Australia-China Agricultural Cooperation Agreement program between the Australian and Chinese government) a case study was provided as to how the labelling laws are being used to the detriment of the Australian beekeeping industry.

China produces 90% of the world's royal jelly, a product of honey bees. Australia produces zero. China and Japan consume the vast majority of this product. It is a very labour intensive procedure and as such, China has a major advantage with cheaper labour costs.

Products originating from Australia are marketed at a premium in China. Unfortunately there is no financial advantage for Australian beekeepers to produce this product according to one Chinese-Australian businessman as he, or anyone else can (and does) import Chinese royal jelly in bulk into Australia. The royal jelly is then processed, encapsulated, bottled, labelled and packaged within Australia. Thus, the process allows an astute business person to produce a product that looks for all purposes as if it comes from honey bees managed within Australia, when it does not even come close.

The labelling laws must reflect the origin of the raw agricultural products produced and not as is currently the case.