# Pollination Australia

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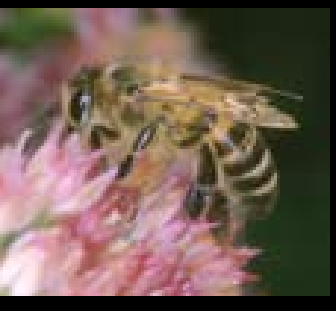


# Background to an industry alliance and business plan for the pollination industry

Honeybee pollination provides significant value to Australian horticulture and agriculture. To the 35 most important honeybee dependent crops[1], pollination services were estimated to be valued at $1.7 billion in 1999- 2000.

Some of the serious pests and diseases that affect honeybees are already present in Australia. However, there are several mites that are still exotic to Australia that pose a real threat of incursion. These include the Varroa mite (*Varroa destructor*), the mite *Tropilaelaps clareae* and tracheal mite (*Acarapis woodi*). The Asian bees *Apis dorsata* and *Apis cerana* are also vectors for mites, as well as being considered pests in their own right. If they enter Australia and are able to establish, the impact on the honeybee industry and the pollination of many horticultural and agricultural crops could be devastating.

At a workshop in April 2007, the honeybee industry and other pollination stakeholders evaluated opportunities and threats to the pollination industry and set initial directions to develop paid pollination services as a self sustaining industry. The workshop was funded by the Department of Agriculture, Fisheries and Forestry (DAFF) under their Industry Partnerships Program, the predecessor programme to Advancing Agricultural Industries (Advancing Industries), and by the Rural Industries Research and Development Corporation (RIRDC). Attendees represented a range of bodies including the honeybee, horticulture, pasture seeds and grains industries, research and development service providers, state and federal governments, and university research centres.

*Honeybee colony killed by Varroa mite.*

At this workshop, it was agreed that an incursion of *Varroa destructor* poses one of the greatest threats to Australian horticulture and other plant based industries. Varroa is already found in all Australia's neighbouring countries (including New Zealand) and it appears inevitable that it will at some time enter Australia. It is expected that the Varroa mite will wipe out virtually all feral European honeybees (and the incidental pollination services they perform) and cause significant damage to the managed honeybee industry. Given the infancy of the current paid pollination industry and the time required to build the demand for such services, a Varroa mite incursion is likely to cause considerable flow-on costs (including increased production costs, loss of output, and reduced quality of production) for those agricultural industries dependent on honeybee pollination.

The workshop identified a number of problems that currently limit the pollination industry's ability to reduce the risks imposed by exotic pests and disease.

*Gordon, J., and Davis, L., 2003, Valuing honeybee pollination, RIRDC, Project No. CIE-15A, Pub No. 03/077.*

The current emergency response plan is considered inadequate and the honeybee industry lacks the resources and capacity to manage these risks without assistance. The honeybee industry has resources for prevention and emergency response planning and for research and development, but by necessity these are focused on honeybee industry needs. There is no capacity to incorporate the requirements of the pollination industry. Workshop participants agreed that a collaborative approach should be developed throughout the pollination supply chain in order to tackle the Varroa mite risk to pollination-dependent industries.

The primary agreed outcome of the workshop was the need to develop a business plan that can be independently managed by an industry alliance. This project is known as *Pollination Australia*.

*Varroa mite infestation*

*Almond trees*

## Proposal to form a Pollination Industry Alliance

*Pollination Australia* is being directed by a newly formed Pollination Australia Steering Committee consisting of representatives from the honeybee industry, pollination dependent industries, research and development corporations and DAFF. The Steering Committee first met on 27 August 2007. Advancing Industries and RIRDC are providing support for the formation of the industry alliance and for development and endorsement of the business plan. It is expected that after the business plan is finalised by June 2008 it will be independently funded in the long term and managed by the Industry Alliance members.

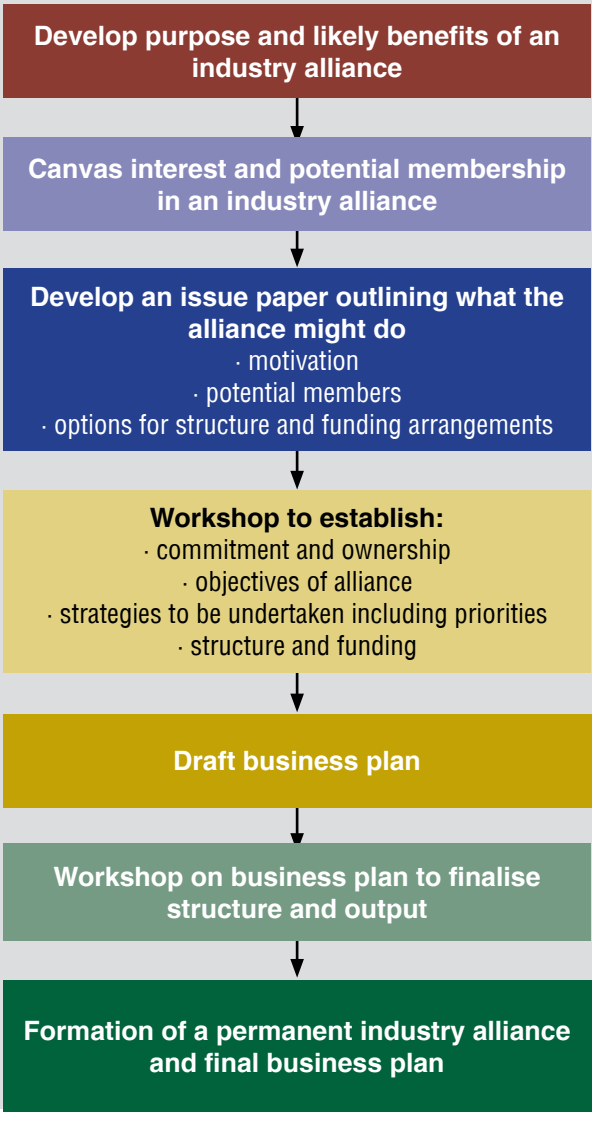
**The key objective of the Advancing Industries 'Pollination Australia' project is to develop a business plan that has full backing of pollination industry participants, can be independently administered and has committed industry funding.**

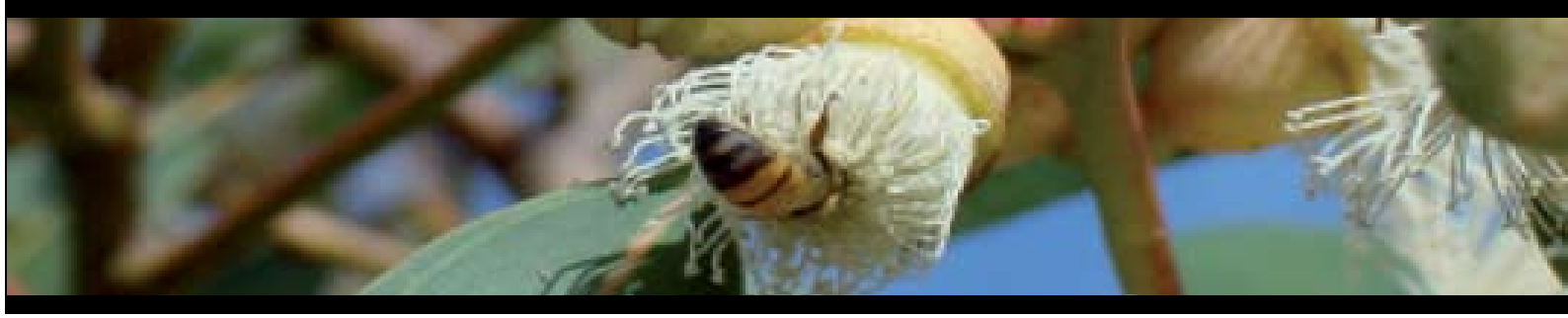
The three main steps in developing the business plan are to:

- motivate potential members and foster their commitment to participate by demonstrating the benefits of an industry alliance;
- specify the aims of the industry alliance, including development of:
  - risk management strategies for biosecurity and adaptation in the event of an exotic pest and disease incursion
  - research and development to support these risk management strategies
  - education and training to ensure that the honeybee industry's ability to deliver on the biosecurity strategies and to manage an exotic pest and disease incursion, and
  - the basis to grow a pollination industry
- develop an organisational and administrative structure and funding arrangements that will support the delivery of the strategies set out in the business plan.

The Centre for International Economics (CIE) has been contracted by RIRDC to help set up an industry alliance and coordinate the development of a business plan that will reduce risks to the pollination industry. Steps to establish an industry alliance and business plan are shown in Figure 1.

**Figure 1. Developing an industry alliance/ organisation and business plan**





## Motivation for developing an industry alliance

Research shows that Australian agriculture will suffer considerably and wide-reaching consequences from an exotic honeybee pest or disease incursion unless it can rely on a large and sustainable pollination industry.[2] The likelihood of an exotic pest incursion into Australia is high, with the Varroa mite the greatest concern.

The natural host of Varroa mite is the Asian honeybee *Apis cerana*. However, it has shifted hosts to the European honeybee, *Apis mellifera*, and it is on this new host that Varroa has moved around the globe. The entry of Varroa into Australia by the latter means is considered more likely. Despite established surveillance at Australian ports, the Asian bees carrying Varroa mites could easily be transported to Australia undetected (for example, on a ship). A swarm of European honeybees carrying the Varroa mite could arrive in a similar manner. The migratory activities of beekeepers and the difficult detection of the mite in early stages of infection, are likely to allow the mite to spread rapidly before it is discovered. If deemed appropriate and depending on the nature of the incursion, any eradication attempt would be extremely costly. No country in the world has ever successfully eradicated the Varroa mite. Furthermore, New Zealand failed to prevent Varroa moving from the north to the south island despite vigorous efforts to prevent this. As a result, New Zealand's feral bee population, for example, has already been decimated by the Varroa mite and the price of paid pollination services is increasing rapidly due to the loss of incidental pollination.

A co-ordinated and collaborative approach to dealing with opportunities and risks within the pollination industry is clearly needed. An industry alliance is proposed because successful risk management must involve all members of the pollination value chain and successful delivery of the business plan will require adequate resources.

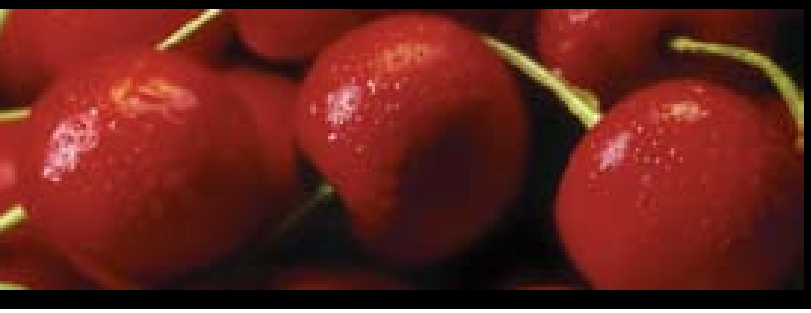
## Expected outcomes of the Industry Alliance

Formation of an alliance and successful delivery of its business plan is expected to bring substantially reduced risk and/or impact of the severe loss of incidental pollination services and reduced capacity for paid pollination, both of which are relied upon by Australian agriculture. Good preparation now by the pollination industry will provide direct cost savings for future agricultural production when the Varroa mite eventually reaches Australia. Outcomes of a successful industry alliance are expected to include:

- strengthened biosecurity arrangements that will reduce the risk of exotic pest and disease entry and enhance preparedness for an emergency and management response
- improved technical knowledge and skills to adjust to the presence of an exotic pest or disease in the honeybee industry to ensure industry survival and capacity to respond to increased demand for pollination services
- improved skills and technical knowledge on the crop management required when using pollination services in pollination-dependent industries
- growth in the supply and improved quality and efficiencies of pollination services in anticipation of a sustained exotic pest and disease incursion
- an expected increase in demand for pollination services regardless of an incursion.

*Research shows that Australian agriculture will suffer considerably and wide-reaching consequences from an exotic honeybee pest or disease incursion unless it can rely on a large and sustainable pollination industry*

[2] *Cook, D., D.L. Anderson, S.A. Cunningham, and P.J. Baro, 2005, De-pollination of a nation: Estimating the economic impact of Varroa mite on major Australian crops, CSIRO.*



# Workshops to develop the industry alliance

A Workshop will be held in March 2008 to allow potential industry alliance members the opportunity to provide input into the formulation of a business plan for the Pollination Industry Alliance. The workshop will discuss:

- goals and objectives of the Pollination Industry Alliance and content of the business plan
- the type of risk management strategy, research and development, and education and training the alliance would pursue. Three separate consultancies will present the findings of their research into
  - risk analysis and contingency plans, pre- and post-exotic pest and disease incursion that considers declining access to floral resources and likely economic and structural adjustment outcomes
  - research and development objectives into pest and disease management (especially the control of Varroa mite and other potential/present exotic disease or pest incursions), genetic improvement of honeybees for honey production and pollination services, crop pollination biology and efficiency, and pollinator impact on native flora and fauna
  - education and training needs of pollinators, and pollination dependent industries, addressing basic level training and basic business skills
- services that could be provided, and their relevance to different segments of the pollination industry (suppliers and demanders of services), and the benefits expected. An analysis will be provided of the market for pollination services under three scenarios— successful prevention of exotic pests and diseases, entry of Varroa and loss of incidental pollination services, and entry with a proactive strategy to build the paid pollination industry
- the expected costs for the proposed services including R&D, education and training and other risk management strategies, considering the trade-off between funding and what can be achieved and recognising that for some strategies to be successful there is a necessary threshold level of funding
- organisational arrangements and operational requirements (taking into account the relationship of the Pollination Industry Alliance to other industry organisations and with Federal and State government departments and agencies and research and development organisations).

This is a key opportunity for agricultural industries that rely on honeybee pollination to come together to ensure they can remain viable and sustainable in the future.

Potential members of the industry-driven Pollination Alliance will have the opportunity to comment on the final Business Plan at a further Workshop to be held in May 2008.

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ISBN 1 74151 575 0
ISSN 1440-6845

*Pollination Australia. Publication No. 07/180*

Published in November 2007.
Printed by Union Offset Printing, Canberra

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