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The Future Development of the Australian Honeybee Industry –

**Submission to the House of Representatives
Agriculture Fisheries and Forestry Committee Inquiry**

**Submission by the Rural Industries Research and
Development Corporation**

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1. Honeybee Industry Linkages Workshop, April 2007
2. Honeybee R&D Plan, 2007-2012

Abbreviations

AHBIC	Australian Honeybee Industry Council
CIE	The Centre for International Economics
CMAs	Catchment Management Authorities
HAL	Horticulture Australia Limited
R&D	Research and Development
RIRDC	Rural Industries Research and Development Corporation
SWOT	Strengths Weaknesses Opportunities and Threats analysis

1. Introduction

This document is a submission from the Rural Industries Research and Development Corporation (**RIRDC**) to the House of Representatives Agriculture, Fisheries and Forestry Committee Inquiry into the Future Development of the Australian Honeybee Industry.

RIRDC is the research and development (**R&D**) program manager for the Australian Honeybee R&D Program. This submission focuses on the R&D development needs of the industry and in particular the:

1. History of successful R&D in the Australian Honeybee Industry;
2. The new R&D plan including the process by which it was agreed and the resources available for its implementation;
3. The magnitude of issues facing the Australian Honeybee Industry;
4. A response plan agreed by both beekeepers and pollination dependent industries;
5. RIRDC's capacity to manage the unified honeybee and pollen industry response;
6. Next steps required to ensure a profitable and sustainable future for honeybee dependent industries; and
7. Submission recommendations.

The following details each of these R&D related issues.

The report includes two attachments:

1. Honeybee Industry Linkages Workshop, April 2007
2. Honeybee R&D Plan, 2007-2012

2. A History of Successful Innovation through Honeybee Industry R&D

The Honeybee R&D System

The Australian honeybee industry has made use of an industry production levy to invest in research, development and extension since the mid 1980s. Industry R&D has been guided through a series of five-year plans: 1986-91, 1991-96, 1996-2001 and 2002-07. Plans are formulated in consultation with stakeholders. Each five-year plan builds on the successes of the previous plan and reflects the agreed priorities for the industry. R&D projects are selected and managed by RIRDC and the RIRDC Honeybee R&D Advisory Committee.

The RIRDC Honeybee R&D Advisory Committee consists of persons with a range of skills and experience in the honeybee industry's research, production, processing and marketing sectors together with representatives of RIRDC. The committee provides recommendations on the allocation of research and development contributions (comprising industry levies and Commonwealth matching contributions) to the RIRDC Board.

The advisory committee consults with industry bodies, such as AHBIC and participants to evaluate the requirements of the industry for R&D, to prepare the five-year R&D plan, which it reviews annually, and to monitor and evaluate the impact of R&D projects.

Recent Projects

Recent successful projects delivering economic benefits to Australian beekeepers and their supply chain partners include:

- Predicting the productivity benefits of honeybees from the nutritional value of pollen.
- Clarification of aspects of *Varroa mite* reproduction – the first stage of a possible new control method.
- Production of a publication on honeybee nutrition in Australia – 'Fat bees/skinny bees'.
- Semen production in drone honeybees.
- Nutritional field trials to maximise honeybee colony populations.
- Using temperature manipulation to control small hive beetle – a pest of economic significance for the industry.
- Insecticidal control of small hive beetle – First stage results.
- A literature review and survey of the *Nosema apis* parasite in Australia.
- Development of treatment options for European foulbrood disease in Australia.
- The lessons for Australian beekeepers – the New Zealand experience with pests and diseases including a study tour for beekeepers and apiarists.
- Evaluating alternative antibiotics for control of European foulbrood disease.
- An Australian survey of pollens for their fatty acid composition.

- The effect of high and low fat pollens on honeybee longevity.
- A natural resource database for the South Australian apiary industry.
- Commercial beekeeping in Australia – an update.
- Review of honeybee nutritional research and practices.
- Participation in the Marcus Oldham Leadership Program by beekeepers.
- The effects of logging on nectar production in NSW forests.
- Securing long-term floral resources for the honeybee industry.
- Using ultrasound for candied honey liquefaction and controlled creamed honey crystallisation.
- Antioxidants as health and nutritional components of Australian floral honeys.
- Development of two genetic markers for hygienic behaviour in honeybees.
- An investigation into the therapeutic properties of honey.

A plain English compendium of these and other research projects is currently in production and RIRDC plans to launch this learning tool at the industry's international conference, Apimondia in September 2007.

An Evaluation of the Honeybee Program

A three-year 'snapshot' of honeybee R&D program expenditure for the period 2002/03 to 2004/05 demonstrates that the honeybee R&D program supported 37 projects with an expenditure of \$5.6 million.

Expenditure by Program Objective

Program resource allocation by plan objective is summarised in Table 1 below.

Table 1 Expenditure by Honeybee Program Area (2002/03 to 2004/05)

Objective	Total (\$' million)	Percentage of Total (%)
Bee Husbandry and Management	0.9	16
Diseases and Pests	2.7	48
Nutrition	0.8	13
Genetic Improvement	0.3	5
Income Diversification	0	0
Resource Access and Value	0.5	9
Pollination Research	0	0
Off-farm Activities/Improved Marketing	0.4	8
Communication, Extension and Human Capital	0.1	1
Total	5.6	100

Source: AgEconPlus analysis of RIRDC data

Consistent with directions provided by industry stakeholders the program has a strong emphasis on production research.

Project Classification

Table 2 shows RIRDC honeybee R&D program expenditure over the period 2002/03 to 2004/05 using an industry value chain classification system. Share of RIRDC funding reflects the extent that RIRDC investment has been matched by other research organisations.

Table 2 Expenditure by Honeybee Program Area (as a % of total)

Classification	Total (\$'million)	Share of RIRDC Funding (\$)	Share of Total Funding (%)
Production	5.1	2.0	91
Processing	0.1	0.1	2
Distribution, storage and transport	0	0	0
Markets	0.3	0.1	5
Communication, Extension, Human Capital	0.1	0.1	1
Total	5.6	2.3	100.0

Source: AgEconPlus analysis

RIRDC has been able to achieve a useful leverage rate for grower levy/matching Commonwealth funds. Every dollar invested by RIRDC has attracted another \$2.40 from other funding sources.

Stage of R&D

R&D can be thought of as a three-stage process:

- Stage 1: fundamental or basic research, the outputs of which are inputs into further research. The RIRDC honeybee program invested 29% of available funds into stage 1 projects between 2002 and 2005;
- Stage 2: specific outcome driven research that can be used in some type of production. The honeybee R&D program invested 65% of available funds into stage 2 projects between 2002 and 2005; and
- Stage 3: promoting the adoption of research outcomes. Some 6% of funds have been invested in stage 3.

For established industries like honeybees there tends to be a higher proportion of stage 2 projects.

Initial Assessment Results

An initial assessment of the program was prepared in consultation with representatives of the Honeybee R&D Committee for the period 2002 to 2005. Results are summarised in Table 3.

Table 3 Initial Assessment of Total Funding 2002 to 2005

Project Impact Ranking	Number of Projects	Total Funding (\$' million)	Share (%)
High	3	0.44	8%
Medium	14	1.86	33%
Low	3	0.89	16%
Too early	14	2.36	42%
Unknown	2	0.03	0%
Cancelled	1	0.04	1%
Total	37	5.6	100.0

Source: Honeybee R&D Committee analysis

From the table it can be seen that high and medium impact projects account for 41% of the total investment. High impact projects included a literature review of *Nosema apis* in Australia, a review of factors influencing the success of introduced queen bees and a publication on bee nutrition – fat bees/skinny bees. A further 42% of projects were assessed ‘Too early’ to establish impact reflecting the recent nature of investment. The Honeybee R&D Committee works toward reducing the percentage of projects ranked as ‘low’.

Lessons Learned

The results of this analysis were one input into developing the new honeybee R&D strategic plan for the period 2007 to 2012.

3. An Industry Agreed R&D Plan 2007- 2012

The Process by which the New R&D Plan was Agreed

Overview

A comprehensive analysis based and industry driven process was put in place to develop the new five-year strategic R&D plan for the Australian honeybee industry. This process included:

1. Profiling of the industry, industry risks and possible strategic directions identified from a comprehensive review of the industry (CIE 2005: 'taking stock and setting directions').
2. Completion by the industry of a strengths, weaknesses, opportunities and threats analysis (SWOT) that included prioritisation of issues in each category.
3. Review of the previous R&D program with the Honeybee R&D Advisory Committee and workshopping 'lessons learned'.
4. Review of external priorities and R&D priorities in other industries. This included review of Australian Government National Research Priorities and Rural Research Priorities, honeybee industry research in the USA and key directions for pollination dependent industries including the Horticulture Australia Limited (HAL) strategic plan and the strategic plan for the Australian almond industry.
5. A comprehensive stakeholder consultation process of opportunity and priority identification and validation.

Consultation Completed

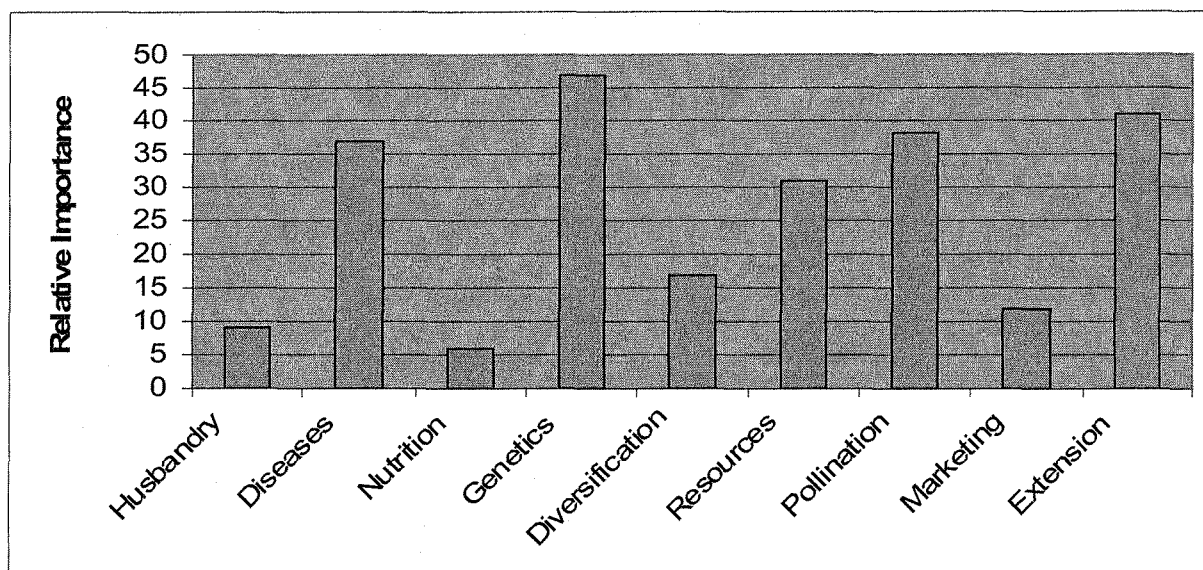
Consultation to secure broad ownership of future research directions was completed with apiarists, honey packers, the research, regulatory and extension communities using the following process:

- Distribution, collection and collation of research priority surveys at 2006 NSW, Victorian, Western Australian, South Australian and Queensland state conferences;
- Distribution, collection and collation of research priority surveys at the 2006 peak industry body conference in Launceston, Tasmania;
- Presentation of program review background paper to the 2006 peak industry conference and workshopping of emerging themes and potential research priorities with delegates;
- Targeted follow-up with key stakeholders on emerging plan themes and research priorities with additional requests for comment on specific objectives and strategies; and
- Circulation of a draft five-year R&D plan to the Honeybee R&D Advisory Committee for comment.

Survey respondents were asked whether the RIRDC honeybee program should spend more or less of its total budget on its nine current research objectives and whether they could nominate any new areas requiring research that the program was not addressing.

Future R&D priorities as identified by stakeholders are summarised in Figure 1.

Figure 1 Future R&D Priorities – Stakeholder Consultation



Source: R&D Advisory Committee Survey Results

These priorities informed the resultant R&D strategic plan 2007-2012.

Industry Commitment to Research

The Australian honeybee industry is strongly committed to R&D. Questions posed during R&D plan consultation revealed:

- Overwhelming support for the RIRDC Honeybee R&D program – 80% of respondents indicated that the program has played a critical role in ensuring the honeybee industry remains competitive, profitable and sustainable; and
- Overwhelming support for the role played by government – 100% of respondents indicated that government should continue to match each dollar growers provide to the program.

Additional specific comments on the value of the R&D program included:

- ‘Excellent publications and information’;
- ‘R&D program looks into things we as beekeepers don’t have the time, money or knowledge to do’;
- ‘Not all projects are winners but we must keep on investing in R&D’;
- ‘The RIRDC R&D Program is essential for the future of the industry’;
- ‘A research dollar is potentially worth \$20 in industry benefit’; and
- ‘There is no critical mass in our research program without government matching contributions’.

Support for the research program has also shaped the five-year R&D strategic plan.

Increasing Resources for Industry R&D

To fund the R&D program the industry have agreed to increase their levy.

Beekeepers pay a levy for research, which is matched on a dollar for dollar basis by the Australian Government up to 0.5% of the industry's gross value of production. The levy raises between \$350,000 and \$450,000 per annum and funds approximately 12 projects per year. Around \$10,000 pa is also provided by queen bee producers via a statutory levy.

The industry voted to support an increase in its levy over the life of the new R&D plan. The levy increased from 0.8 cents/kg of honey sold by beekeepers to 1.2 cents/kg from 1 July 2006 and will increase again to 1.5 cents/kg from 1 July 2009. The levy increase will eventually lift R&D funds available to the industry by up to \$200,000 pa when Australian Government matching funds are added to the additional levy.

Plan Themes, Goal, Objectives and Budget

The new R&D plan was shaped by the following themes:

- Pests and disease preparedness and management are the most important area for honeybee R&D;
- Productivity improvement is essential in order to address declining terms of trade for beekeepers;
- There is sufficient current investment in bee nutrition research;
- It is not the role of R&D to evaluate pollination standards or complete pollination audits;
- Market analysis and industry statistics were afforded a relatively low priority by the industry;
- It is important that the program not repeat research completed elsewhere;
- There is benefit in preparing a compendium of international research findings;
- Practical research works best in this industry i.e. outputs that are beekeeper friendly;
- QA adoption is not the responsibility of the R&D program;
- Blue sky research can not be justified in a relatively small, applied research program; and
- A contingency fund for unplanned issues is prudent, and RIRDC have a levy reserves policy.

The plan's goal is:

To improve the productivity, sustainability and profitability of the Australian beekeeping industry through the organisation, funding and management of a research, development and extension program that is both stakeholder and market focussed.

The plan is guided by six objectives and a budget of between \$600,000 and \$700,000 pa. Plan objectives and share of budget are:

1. Pest and disease protection (45% of budget)
2. Productivity and profitability enhancement to lift beekeeper income (15%)
3. Resource access security and knowledge (10%)
4. Pollination research (10%)
5. Income diversification including new product development (10%)
6. Extension, communication and capacity building (10%)

4. Critical Issues Facing Honeybee Industry

Key Challenges for the Honeybee Industry

An Australian honeybee industry strengths, weaknesses, opportunities and threats (SWOT) analysis was completed with the industry as part of the R&D Plan preparation process in 2006. The SWOT was informed by CIE 2005.

Strengths

- Skills, enthusiasm and mobility of commercial beekeepers (perhaps the industry's greatest strengths).
- The industry is free from Varroa mite.
- Australia has diverse national flora.
- A reasonable organisational structure.
- Reputation for high quality product: some good brands have been established.
- Some honey and honey products have medicinal uses that can be better exploited.
- Through pollination services, the industry provides major benefits to the rest of agriculture: there is strong demand for these services.
- Industry has a good quality assurance program: however more beekeepers need to adopt this.
- Industry has good research capacity: there are several highly skilled researchers (but the industry needs to look to encouraging young researchers).

Weaknesses

- Public relations between beekeepers and the public and with land managers could be improved.
- The industry lacks dynamics in selling its 'good story' image to the public and policy makers.
- Many beekeepers are not vigilant on controlling endemic diseases especially American Foulbrood (AFB).
- The high mobility of the industry is conducive to spreading of pests and diseases.
- Hive productivity is not as high as it could be. There is scope for greater adoption of best management practices (BMPs) and research results.
- The industry's workforce is 'ageing'. Not many young people are attracted into the industry, and there is some reluctance to pass on skills in a formal way.
- Existing standards that are not being adopted in the provision of professional pollination services.
- The industry is having difficulties in enhancing the supply of queen bees to meet growing demand.
- Industry cohesion and cooperation is not as strong as it could be.

Opportunities

- Ensure everything possible is done to protect the industry from an exotic incursion of Varroa mite or other exotic diseases.
- Influence government to ensure that access to native flora resources is not further restricted and hopefully reversed.
- Establish industry environmental credentials through the development and adoption of an EMS plus native forest use code of conduct.
- Better hive management, increased productivity and discipline to manage the increased risk of disease spread as state governments withdraw resources from monitoring.
- Better hive management, increased productivity, discipline and QA system adoption to manage the increased risk of honey contamination from chemicals/antibiotics.
- Increase supplies to meet demand for honey products particularly in queen bees and pollination.
- Maintain/enhance reputation as a supplier of top grade honey which is clean green and commands a premium i.e. brands.
- Increase exports of branded honey in retail pack form and sell less in bulk form.
- Develop and market medicinal honey products.
- Branded promotion that emphasises positive health attributes rather than generic promotion.
- Education and training needs analysis, standards establishment and industry branding.

Threats

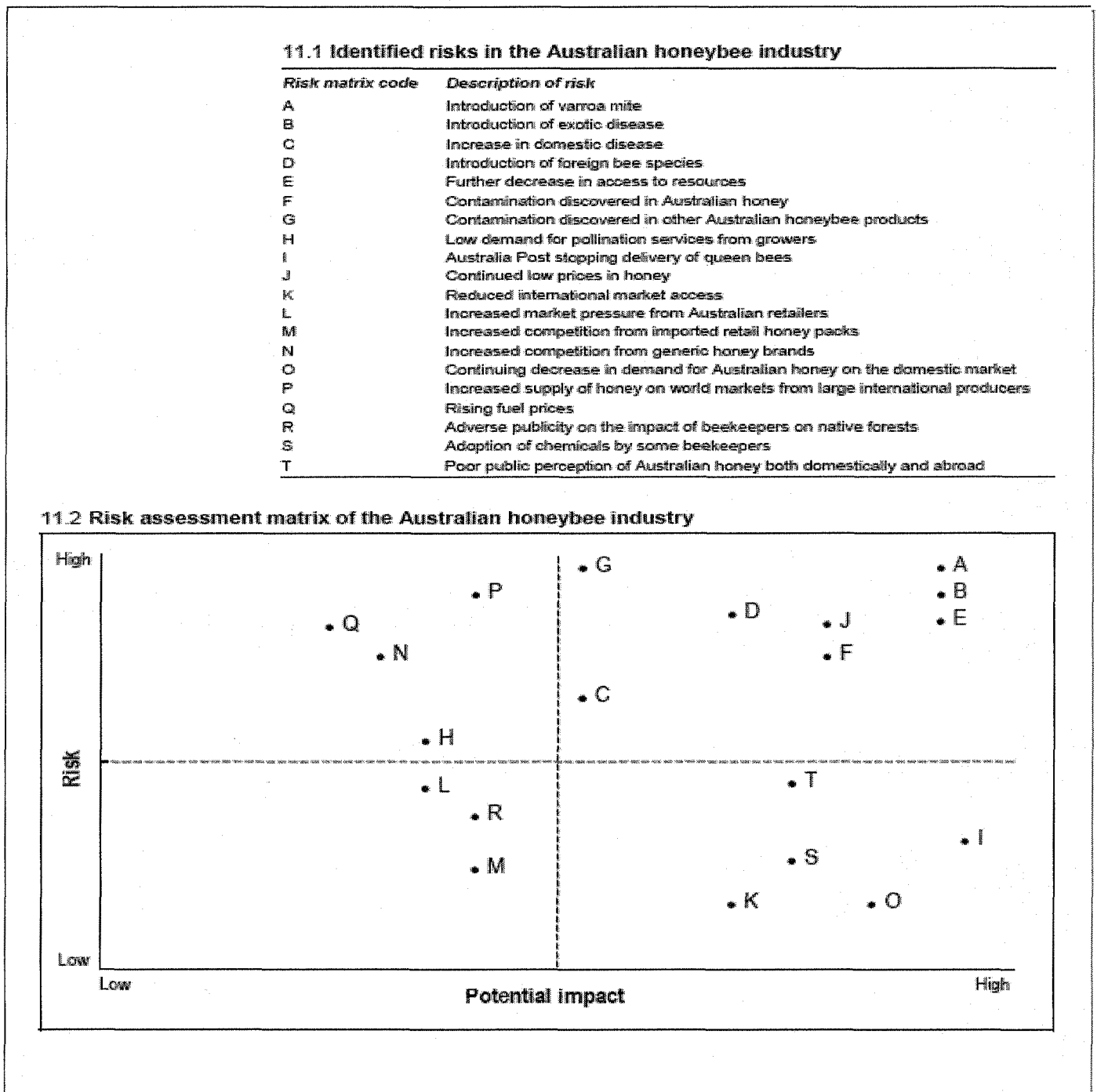
- An incursion of Varroa mite or other serious exotic pest would devastate the industry (the major threat to the industry)
- Production is 70% reliant on native flora and there has been a strong trend in declining access as the resource has been harvested by the timber industry or moved into conservation. The industry's scope for alternatives is somewhat limited (major industry threat)
- Spread of AFB through bad hive management and state government agencies withdrawing resources from enforcing state legislation and regulations which aim at controlling AFB
- Greater inappropriate use of antibiotics and chemicals to control foulbrood diseases could cause contamination and severely tarnish Australia's 'clean green' image
- Beekeepers' image in managing environmental issues could be tarnished unless the industry adopts environmental management systems (EMS)
- Threat of exotic incursions from some beekeepers illicitly importing material
- Rising fuel prices will affect profitability
- Loss of skills and talent as current generation of beekeepers and researchers retire

Industry Risks

CIE 2005 prepared a honeybee industry risk assessment, which has been reproduced in Figure 2 over page. High probability/high impact events for the Australian honeybee industry are:

- Introduction to Australia of the Varroa mite (*Varroa destructor*);
- Introduction to Australia of exotic diseases; and
- Further decrease in access to native flora resources.

Figure 2 Risk Assessment of the Australian Honeybee Industry (CIE 2005)



Source: CIE 2005

The Honeybee Pollination Industry

The Australian honeybee industry provides paid and incidental pollination services to Australian plant and crop industries.

Honeybee pollination of plants and crops can occur through paid pollination services and/or incidental pollination and feral honeybees. Paid pollination involves employing an apiarist to place bees on the grower's land in order for the bees to pollinate crops. Honey production is a secondary objective for the apiarist. With incidental pollination, the apiarist's specific purpose is to produce honey, and pollination of crops is a positive externality received by growers. Feral honeybees also pollinate plants and crops, representing a significant unpaid resource to agriculture.

Honeybee pollination is essential for some crops, while for others it raises yield and quality. Honeybee pollination also reduces flowering time (hence reduced risks and reduced water and pesticide usage) and in some cases has had a beneficial effect on soil fertility. Through these impacts, honeybee pollination provides significant value to Australian horticulture and agriculture, with services being valued at \$1.7 billion per annum in 1999-2000 for the 35 most important honeybee dependent crops. When other crops, including pastures such as lucerne, canola, and clover are added this estimate becomes even larger. If honeybee pollination were to stop completely, large losses would be felt across Australian agriculture and especially in the horticulture sector, which produces around \$3.8 billion per annum. This is because approximately 65 per cent of horticultural crops produced in Australia require pollination services from honeybees.

Issues Facing the Industry

In Australia, the benefits of honeybee pollination are felt through the whole agricultural system. This means that risks to honeybee pollination services concerns the honeybee industry and all other industries that rely on honeybee pollination.

An independent report by the Centre for International Economics in DAFF's Industry Partnership Program (CIE 2005) identified two main threats to the honeybee industry and its resultant capacity for pollination services - an incursion of the exotic Varroa mite, and a reduction in access to native flora for maintaining a diverse source of pollen and nectar for hive health.

Varroa is already in all Australia's neighbouring countries and it is almost certainly only a matter of time before it arrives here. If, or when, it does the effects on our European honeybees will be devastating. It is expected that the Varroa mite will virtually wipe out all feral European honeybees and cause significant damage to the managed honeybee industry. This means there will be large costs to agriculture in terms of loss of output and quality of production.

Varroa has never been successfully eradicated from any country it has invaded (apart from the countries of Semily, Jablonec and Liberec in Czechoslovakia in 1982). It is essential that Australia have a viable, well-organised, well-supported honeybee industry that can cope with a Varroa incursion and be there when feral bees are no longer around.

There are also significant other threats to the beekeeping industry, which have not been adequately addressed. Beekeepers are an ageing group and it is difficult to attract people into the industry. There is also a lack of skills and training.

A 23 and 24 April 2007 workshop convened to respond to recommendations from the Australian Parliament Inquiry into Rural Skills, Training and Research was the first time that all key stakeholders in pollination (horticulture, crops and pasture industries) and the honeybee industry had been brought together on a national basis. The workshop provided a unique opportunity for stakeholders to develop solutions to address priority issues and to provide these solutions to the Department of Agriculture Fisheries, and Forestry (DAFF) and RIRDC.

Problems with the Honeybee Pollination Industry

In addition to the risk imposed by the Varroa mite and reduced access to natural resources for the honeybee industry, the workshop identified a number of problems with the pollination industry that reduces its ability to mitigate these risks. In particular, it was agreed that the current response plan to a Varroa mite incursion is inadequate and that the honeybee industry cannot, and should not, manage the risks alone. This is because current resources available for R&D into the honeybee industry are inadequate (particularly for addressing strategic issues underpinning the industry's viability).

A collaborative approach needs to be developed throughout the honeybee pollination supply chain.

In addition, the workshop identified a number of areas where honeybee pollination services could be improved in order to increase the value of pollination to the agricultural industry. Firstly, there is a poor understanding on the role of honeybees in the pollination of crops. The honeybee industry and agricultural industry representatives need to educate growers on the benefits honeybee pollination can provide.

The workshop also recognised that there is a need for more professionalism in the provision of pollination services by beekeepers. This is because some pollinators provide poor quality services to growers, which reduces the reputation of the industry. It was suggested that the pollination industry should adopt pollination industry standards and quality control measures.

It was also agreed that paid pollination needs to become more of a cooperative venture between apiarists and growers. Beekeepers have a responsibility to provide the right hives when required, and growers have a responsibility to making their crops 'bee friendly' by protecting the hives, reducing the risk from insecticide use, and managing pollen sources.

There also needs to be more education within the honeybee industry, and particularly in the pollination industry. Beekeepers need to understand the intricacies of pollination and be more consistent in their business operations, especially in pricing their services. Growers need to be able to recognise paid pollination services that are managed well, and the additional benefits paid pollination can provide over feral bee pollination.

5. The Response Plan Proposed

The 23 and 24 April 2007 pollination industry workshop developed a 'way ahead' to address threats to pollination industry stakeholders (horticulture, crops and pasture industries) and the honeybee industry. Stakeholders formed seven key strategic directions for the honeybee pollination industry, which are presented below (from most important to least important as noted by the workshop).

1. Establish an Entity

The primary strategy to address the issues discussed within the workshop was to establish an entity that represents all interests and beneficiaries across the value chain in order to form a co-ordinated and collaborative approach. The entity should have an R&D focus and set R&D priorities. The key stakeholders should be collaborators and deliverers such as:

- Beekeepers and pollination providers;
- Horticulture, grains, pasture industries, and plant breeders;
- RIRDC, Grains Research and Development Corporation, Cotton Research and Development Corporation, Land and Water Australia, Meat and Livestock Australia, Australian Wool Innovation and Horticulture Australia Limited;
- The Australian Government Departments of Agriculture, Fisheries and Forestry and Environment and Water Resources, and relevant state departments;
- CSIRO;
- Universities, TAFEs, and Registered Training Organisations (RTOs);
- Quarantine and biosecurity sectors; and
- The New Zealand honeybee industry.

A committee should be established to design a working model and gather funding commitments. Other duties should include the establishment of guidelines and scope for the entity, development of a timetable for its creation and submission of a case, resolve education and training model needs, and determine where the entity should fit in the current research and development structure.

2. Increase Access to Floral Resources

It was agreed by workshop participants that increasing access to floral resources in order to improve the profitability and sustainability of the honeybee and pollination industry, and to improve hive health in order to supply pollination service, is absolutely critical.

In order to achieve this, it was suggested that beekeepers should head up communication to the Federal Minister with the assistance of pollination stakeholders. They should also continue with their development of a national code of conduct for beekeepers on public land, lobby for bees to be included in ecological services for remnant woodland, and develop a honeybee industry profile through membership on Catchment Management Authorities (CMAs) and similar land management strategies. Beekeepers should move forward on these issues through a consensus position with other stakeholders.

3. Develop the Business Skills of the Honeybee Industry

Develop the business skills of the honeybee industry through management education and training and benchmarking of the industry. Although it was recognised that additional funding is required to undertake this strategy, workshop participants also suggested that the honeybee industry should try and gain some funding from education programs that have already been established.

4. Establish Public and Political Support

Establishing public and political support for the honeybee industry and pollination services needs to be driven by all honeybee pollination stakeholders, including industries, research and development organisations, research funders, and federal and state government departments and agencies. It was also suggested that a working group should be established to develop the economic case for the creation of a research and development entity.

5. Determine Additional R&D Priorities

Workshop participants noted that an entity supported by all stakeholders should determine research and development priorities to reduce the impact of honeybee pests and disease on the honeybee industry. Other avenues include research and development into breeding Varroa mite resistant bees and to reduce the development of resistance by mites to insecticides.

Workshop participants suggested the following areas should be investigated:

- Beehive health, production, ecology (environment), climate change, and pollination;
- Higher education - Undergraduate/Postgraduate;
- Training Vocational, RTOs, and other;
- Extension -Staff development, employment opportunities;
- Biosecurity, including quarantine, state issues, and policy development; and
- Industry development and value adding.

6. Increase Communication and Extension between Pollination Dependent Industries

Workshop participants noted that communication and extension between pollination dependent industries needed to be improved. Issues that should be focused on include the value of honeybee pollination to industry, community, economy, environment, the creation of pest and disease awareness, and building of political and public support for the honeybee industry.

It was also noted that communication resources needed to be developed such as websites and public relations capabilities. This is to ensure news and stories can be effectively communicated on topics such as science, business, and human interest.

7. Increase the Viability of the Honeybee Industry

Throughout the workshop, it was noted on a number of occasions that to develop a honeybee pollination industry that has the capacity to meet pollination demand in the future, the honeybee industry itself needed to be viable. This is because most beekeepers cannot survive on the revenue earned from supplying pollination services alone.

In order to increase the viability of the industry, workshop participants developed a strategy that first required the discovery of what was stopping beekeepers from being viable. Once this had been achieved, research and development, and education should be used to solve the problems, although workshop participants did note that the solutions would depend on the industry priorities for viability being addressed.

In Summary

Workshop participants collectively developed a set of key outcomes and recommendations. These are presented below:

Key outcomes and recommendations from the workshop

- Establish a new national alliance for management of these issues:
 - A national alliance to support the strengthening of pollination industry R&D, training and communication had strong buy-in from all present; and
 - Horticulture is the fastest growing Australian agricultural sector. A secure and strong pollination industry has the ability to enhance this industry's productivity and profitability.
- The need for action to protect pollination services is urgent - beekeeping and pollination dependent industries are under prepared:
 - Varroa mite is a food security issue that is on our doorstep. When present in Australia it will devastate the honeybee industry, as well as many horticulture, crop and pasture industries dependent on honeybee pollination valued at more than \$3.8 billion;
 - Australia must increase its beekeeping and grower skills and viability. The honeybee industry is poorly resourced to manage Varroa mite, it has low profitability levels and low capacity to respond to external shocks; and
 - Quarantine is vital for the pollination industry and a replacement quarantine facility is required for Eastern Creek in Sydney.
- The public and private economic benefits of pollination services and their protection are compelling and the threats to these goods are real and immediate;
- A national alliance to advance key agreed workshop outcomes was proposed;
- The workshop's leaders (RIRDC) will obtain interim government and new industry funding to develop a considered proposal:
 - The workshop's leaders will seek engagement of pollination-dependent industries and other public interests as represented at the workshop.
- A full strategic plan will be developed it will include:
 - a comprehensive risk management strategy;
 - business delivery model development;
 - research and development strategies;
 - education and training strategy; and
 - common messages and communication.
- Workshop leaders will then secure longer term funding for the proposal; and
- Agreement that public benefit warrants public investment to leverage further private resources.

Next Steps Needed

In closing off the workshop, participants agreed that the next step was to get RIRDC to seek formal letters of support for the above proposal from pollination dependent industries that were in the room and others (for example, almonds, apples/pears, melons, macadamia, seeds, canola, lucerne, cotton, honeybees, etc).

These letters of support have now been received by RIRDC.

In addition, it was agreed that an immediate step was to develop a funding application in order to create a full proposal. In the first instance it was proposed that funding be sought through DAFF's Industry Partnerships Programme. A Pollination Industry Taking Stock and Setting Directions project was deemed to be appropriate.

This application has also been prepared by RIRDC and lodged with DAFF.

6. RIRDC Capacity to Manage this Process

RIRDC is the natural entity to take forward the development of the pollination industry:

- RIRDC is well placed to manage the type of R&D program proposed as it is cross sectional in its coverage.
- RIRDC works cooperatively with other Research and Development Corporations with responsibility for plant and animal industries and already manages a number of joint venture programs on their behalf.
- RIRDC has the support of the pollination industry representatives in the room for the development of the proposal and has received subsequent written support from those who were not present.
- RIRDC has an established track record of managing research related to honeybees and pollination including work on the Varroa mite.

7. Submission Recommendations

RIRDC recommends that the Inquiry recognise:

1. The soundness of R&D processes put in place by the industry, the history of effective R&D delivery and the appropriateness of the new 5-year R&D strategic plan given the modest funding resources available to the honeybee industry.
2. The need to think of the industry as being a \$1.7 billion 'pollination industry' rather than a \$60 million dollar honeybee industry. A \$1.7 billion pollination industry includes most major Australian plant, crop and pasture industries.
3. Recognise that the pollination industry faces an imminent serious threat to its future from a Varroa mite incursion and other industry pressures.
4. A plan has been formulated to tackle pollination industry threats and funding support is needed for development of a strategic plan and its consequent implementation.
5. RIRDC is well placed to manage the strategic plan process and the way ahead for the Australian pollination industry.

References

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- CIE (Centre for International Economics), 2005, Taking stock and setting directions, *The Centre for International Economics*, Report prepared for the Department of Agriculture, Fisheries, and Forestry, September
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- RIRDC (Rural Industries Research and Development Corporation), 2007, Honeybee Industry Linkages Workshop, April 2007

ADDITIONAL INFORMATION HELD BY THE COMMITTEE

ATTACHMENT TO SUBMISSION NO. 54

ATTACHMENT:

- Honeybee Industry Linkages Workshop April 2007.
- Honeybee R&D Plan 2007-2012.