



Appendix A – Honeybee R&D Five Year Plan 2007–2012

- 1.1 In its *Honeybee R&D Five Year Plan 2007–2012*, RIRDC outlined the following research objectives:
- Pest and disease protection;
 - Productivity and profitability enhancement to lift beekeeper income;
 - Resource access security and knowledge;
 - Pollination research;
 - Income diversification including new project development; and
 - Extension, communication and capacity.¹
- 1.2 The first objective, with 45% of the allocated funding, is pest and disease protection. The proposed outcomes within this objective are:
- To be prepared for exotic pest and disease incursion before they occur and to evaluate and have in place management strategies prior to any such incursion (including an emergency and surveillance response);
 - To prevent the establishment of exotic pests and diseases of economic significance; and

¹ RIRDC, *Honeybee R&D Five Year Plan 2007–2012*, RIRDC Publication no. 07/056, April 2007, p. 21.

- To manage endemic pests and diseases that impact on beekeeper profitability.

1.3 Identified strategies to meet these objectives include:

- Research New Zealand's experience with *Varroa destructor* incursion and ensure response strategies for Australia are appropriate/best practice;
- Undertake appropriate genetic research to improve resistance/tolerance to *Varroa destructor*;
- Undertake *Tropilaelaps clareae* mite research and ensure incursion response strategies are appropriate/best practice;
- Research the implications of Africanised gene establishment in Australia;
- Invest in Small Hive Beetle (*Aethina tumida*) control to arrest its spread and economic impact;
- Increase awareness of the need to manage and control endemic pests and diseases including *Nosema apis*, American Foulbrood, European Foulbrood, Chalkbrood and sacbrood virus;
- Develop American Foulbrood scent detection equipment;
- Encourage beekeeper participation and commitment to the honey bee industry's quality assurance program with its requirements for pest/disease control and chemical residue management; and
- Develop non-chemical controls for pest and diseases to ensure Australian apiary products are contaminant free.

1.4 Performance indicators for these measures include:

- Early detection of *Varroa* and *Tropilaelaps* incursions should these occur;
- Cost effective non-chemical controls for Small Hive Beetle and other pests and diseases of economic significance by 2010;
- Reduction in production losses caused by pests and diseases;
- Increased industry participation in the industry's quality assurance program to stem the spread of pests and diseases.²

² RIRDC, *Honeybee R&D Five Year Plan 2007-2012*, RIRDC Publication no. 07/056, April 2007, p. 23.

- 1.5 The second objective, with 15% of the allocated funding, is productivity and profitability enhancement. The proposed outcomes within this objective are:
- To encourage a culture of constant improvement in bee husbandry and bee management in the Australian beekeeping industry;
 - To provide an across-the-board lift to Australian beekeeping industry productivity and profitability and address the industry's declining terms of trade; and
 - To focus productivity improvement on bee genetics, best management practices and industry benchmarking.
- 1.6 Strategies to achieve these objectives include:
- Facilitate genetic improvements to increase hive productivity and disease resistance;
 - Prepare and communicate a comprehensive set of industry Best Management Practice guides; and
 - Undertake industry production and financial benchmarking to raise average industry yield and reduce yield spread for beekeepers working under similar conditions.
- 1.7 Performance indicators for these measures (using 2003 data as a comparison) include:
- 10% increase in average hive yield by 2012 allowing for seasonal variability;
 - 10% reduction in yield spread for beekeepers working under similar conditions at the same time;
 - 20% increase in beekeeper profitability.³
- 1.8 The third objective, resource access security and knowledge, with 10% of allocated funding, targets the following outcomes:
- To ensure adequate resources are available to sustain a profitable and productive honey bee industry;
 - To win back a share of native forest access lost in previous resource allocation decisions;

3 RIRDC, *Honeybee R&D Five Year Plan 2007-2012*, RIRDC Publication no. 07/056, April 2007, p. 24.

- To better understand the native floral resource on which the industry depends; and
- To address the implications of climate change on the Australian apiary industry.

1.9 Strategies to achieve these objectives include:

- Communication to policy makers of the importance of public forest access to the continued viability of the Apiary industry;
- Invest R&D funds in research to better understand the interaction between native flora/fauna and honey bees;
- Support the development of a national code of conduct for public native forestry use;
- Communicate the importance of bushfire control in maintaining the floral resource;
- Develop technologies and techniques for determining floral resource yields;
- Invest in research to determine native flora flowering cycles;
- Update and improve the accuracy of the Queensland Floral database, examine the needs for similar resources in other states; and
- Determine climate change impact on honeybee production by assembling up to date climate research findings and drawing out implications for floral production.

1.10 Performance indicators for these measures include:

- No further loss in bee sites in public lands;
- 10% increase in bee sites on public lands by 2012;
- Improved understanding of native resources and trends in their production by 2012; and
- All key performance indicators to be measured in an industry survey in 2012.⁴

1.11 The fourth objective, pollination research, with 10% of allocated funding, targets the following outcomes:

⁴ RIRDC, *Honeybee R&D Five Year Plan 2007–2012*, RIRDC Publication no. 07/056, April 2007, p. 25.

- To better understand the cost and value of pollination services provided by beekeepers; and
- To generate industry value through shared learning with crop producers, especially the Australian almond industry.

1.12 Strategies to achieve these objectives include:

- Assess the value to crop producers of pollination services on an individual crop basis to assist beekeepers with the pricing of their services;
- Research and communicate the cost of pollination service provision to beekeepers to assist them with the pricing of pollination services (costs to include beekeeper investment in hive preparation);
- Extend the Tasmanian Crop Pollination Association Code of Practice to all states; and
- Investigate the feasibility of investment in joint R&D projects with the Australian almond industry.

1.13 Performance indicators for these measures include:

- Information guides available on cost of pollination service provision and value generated for each of the most important horticultural/agricultural crops by 2012;
- Six state based codes of practice for pollination to be published by 2012. Codes to be published at the rate of one per annum; and
- One joint R&D project with the Australian almond industry by 2010.⁵

1.14 The fifth objective, with 10% of the allocated funding, is income diversification and new product development. The proposed outcomes within this objective are:

- To provide a major boost to packaged bee sales, an area of strong competitive advantage for the Australian industry; and
- To develop new Australian apiary products such as medicinal honey, organic wax for the cosmetics industry, royal jelly, bee venom, pollen and propolis sales, secondary priorities for niche products.

5 RIRDC, *Honeybee R&D Five Year Plan 2007-2012*, RIRDC Publication no. 07/056, April 2007, p. 26.

- 1.15 Strategies to achieve these objectives include:
- Support R&D to facilitate the growth of Australian packaged bee sales; and
 - Support R&D to facilitate the development of at least one new Australian apiary product.
- 1.16 Performance indicators for these measures include:
- 20% growth in packaged bee sales from 2010 to 2012; and
 - A single viable enterprise producing commercial quantities of a new Australian apiary product – with the support of the Honeybee R&D program – to be in place by 2012.⁶
- 1.17 The sixth objective, extension, communication and capacity building, with 10% of allocated funding, targets the following outcomes:
- To improve industry performance through the adoption of relevant R&D project outcomes and beekeeper participation in vocational training;
 - To educate the public and policy makers on the economic contribution made by the honeybee industry; and
 - To build capacity in the Australian honeybee industry by encouraging the next generation of industry leaders and researchers.
- 1.18 Strategies to achieve these objectives include:
- Ensure honeybee R&D outputs are in a form that is suitable for beekeeper use;
 - Increase uptake of R&D outcomes through delivery via appropriate well funded channels;
 - Support initiatives to increase beekeeper participation in vocational training, especially business management training;
 - Preparation and distribution of easily digested compendiums of up-to-date and relevant research;
 - Engage with policy makers and public opinion leaders to explain the economic contribution beekeeping makes through pollination and the importance of ongoing access to public forests;

⁶ RIRDC, *Honeybee R&D Five Year Plan 2007–2012*, RIRDC Publication no. 07/056, April 2007, p. 27.

- Educate the public and policy makers on the need to avoid pest/ disease incursions;
- Educate crop producers on the economic contribution made by pollination services; and
- Develop scholarship opportunities and or travel grants for young industry leaders and researchers to ensure the next generation of talent is available to the industry.

1.19 Performance indicators for these measures include:

- Participation by 20% of the industry in targeted vocational training by 2010;
- A compendium of international research prepared and distributed by 2008;
- A greater understanding of apiary issues by policy makers/opinion leaders/crop producers – to be established by survey in 2012; and
- One new annual industry scholarship/travel grant in place by 2009.⁷

⁷ RIRDC, *Honeybee R&D Five Year Plan 2007-2012*, RIRDC Publication no. 07/056, April 2007, p. 287.