Australian Government
Rural Industries Research and Development Corporation

# Honeybee R&D News

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*RIRDC Honeybee R&D News is the official newsletter of the Rural Industries Research and Development Corporation Honeybee Program*

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## Chairman's Foreword

*Des Cannon, Chairman*

Research has commenced on the following new projects, to be funded during 2010-2011 and beyond:

- A project looking at the threats to the Australian honeybee industry of sexually-transmitted diseases of honeybees
- Research into the susceptibility of our honeybee stock to Varroa. This project involves us sending our stock to the USA for evaluation – do we have any resistant stock?
- Honey industry training videos
- Geographic Flowering Calendar – using the internet to deliver real-time data on floral conditions and to assess prospects
- Value-adding to Honey – developing a coordinated approach to using the characteristics of floral-based honeys as a marketing tool.
- Jointly funding with CSIRO a Post Doctorate Fellowship in Molecular Biology. The successful applicant will work with and be trained by Dr Denis Anderson in bee virology. The selection interviews for this position have been held, and it is hoped the candidate chosen will be able to start work in September or October.

Within the Pollination R&D Programme, under the joint-funding arrangements with HAL (Horticulture Australia), the following research projects are being undertaken:

- To submit a bid for a Honeybee Cooperative Research Centre (CRC)
- Registration of chemicals for the management of Varroa
- Workshop on non-chemical and minimum chemical use options for management of Varroa. Key Researchers and Industry leaders have been invited to this workshop, to be held in Canberra in August. A full report on the Workshop will be included in the next R&D News.
- Preparation of a Pollination Manual – a Users Guide for preparation and use of hives in pollinating crops – for New Zealand and Australia
- Bee Force – to develop and strengthen surveillance to prevent incursions at ports of high risks factors such as Varroa.

For further information about the RIRDC Honeybee Research and Development Program, feel free to browse the RIRDC website (www.rirdc.gov.au) or contact the new Program Co-ordinator, Helen Moffett, on 02 6271 4145, or email Helen.Moffett@rirdc.gov.au

## Overseas Application of Technology to the Honeybee Industry

From the Apis Newsletter of June 2010, Malcolm Sanford reports that GPS is being put to a new use to track stolen hives. CCTV is also being utilised for the same purpose.

German beekeepers have begun installing satellite tracking systems in their hives as thefts of entire honeybee colonies are now being reported throughout the country. Beehive banditry has outstripped robberies of television sets and cars in some rural regions. Bee populations are in sharp decline and the insects' value has soared. Gaede & Glauerdt, a Hamburg-based insurer specialising in apiculture, reported more than 300 hive thefts last year, an 85-per-cent increase. The long, harsh winter in Germany has reduced the number of colonies by 30 per cent, making working colonies even more attractive to thieves.

Germany's Apicultural State Institute in Stuttgart has had 72 colonies stolen over the past few years. A few weeks ago, the institute caught a 71-year-old apiarist in the act of bee burglary after installing CCTV cameras in its apiaries.

Along the same lines, from the University of California Apis Newsletter, Eric Mussen reports that a Canadian company is selling a new technology for "branding" personal items, vehicles, bee equipment, etc. The name of the product, MicroDot DNA® Identification, suggests it is somehow related to deoxyribonucleic acid, but it isn't.

The company has patented a process by which it can laser etch identification codes on the outsides of sand grain sized particles. The particles, suspended in an adhesive, can be painted or sprayed on the item to be protected. The particles fluoresce under UV light. Once located, they can be read with a strong dissecting microscope. The code is reported to the company and the company provides information to the owner.

The company sells various specialty kits, depending on the customer's needs. They suggest their 7,000 dot Rural Kit (about $250) (presumably $CAD) for beekeepers. Each kit contains two window decals, two warning decals, 150 oval decals and two free all-weather, reflective Gate Warning Signs that are supposed to deter most thieves.

Individuals interested in more specifics on this product can visit the company's web site: www.microdotdna.com To obtain a 10% discount, quote the promotional code "BEE1."

# Update on the Pollination R&D Program

## The Pollination Program

*Website address: www.rirdc.gov.au/programs/established-rural-industries/pollination/pollination_home.cfm*

The Pollination R & D Program now has its own page on the RIRDC website, and has an impressive sub-menu, with sections on each of the following crops.

Each sub-section has an Introduction to the crop, its production in Australia (including a map of the areas in Australia), information on pollination research done, and Pollination requirements (including crop layout, hive density, density of bees and suggested layout of hives within the crop, preparation of hives, timing required, attractiveness, and nutritional value of pollen and nectar, availability of bees at the time required, feral bees, risks to the pollinating hives and details on optimal weather conditions for pollination.)

In short, this website provides an invaluable source of information, not only for beekeepers considering pollinating a particular crop, but also for growers wishing to utilise managed pollination services and maximise their crop.

The crops covered are:

- Almonds
- Apples
- Apricots
- Avocado
- Blueberry
- Canola
- Capsicum
- Cherry
- Citrus
- Clover
- Coffee
- Cotton
- Cucurbits
- Faba beans
- Kiwifruit
- Lucerne
- Lupins
- Lychee and Longan
- Macadamia
- Mango
- Melon
- Papaya
- Passionfruit
- Paterson's curse
- Peaches and Nectarines
- Pear and Nashi
- Persimmons
- Plums and Prunes
- Pomegranate
- Rubus
- Soya beans
- Strawberries
- Sunflower
- Tomatoes

# Port surveillance vital to keeping Australia free of bee pests

Australia is the only major honey-producing country free of the deadly bee pest Varroa mite, and a report released today highlights the importance of surveillance efforts around ports to keep it that way.

Future Surveillance Needs for Honeybee Biosecurity has confirmed the most likely way for exotic bee pests to reach Australian shores is hitching a ride in ships and their cargoes. It reviews current methods and provides a framework for assessing any proposed future surveillance systems against their cost.

Pollination services to agriculture are worth close to $4 billion dollars, so even a 10 per cent cut in production as a result of pests or disease would result in losses in excess of $350 million a year.

The report has been released by the Pollination Program, a research and development strategy jointly funded by the Rural Industries Research and Development Corporation (RIRDC) and Horticulture Australia Limited (HAL).

Gerald Martin, the Chairman of the Pollination Program, says everyone agrees that surveillance is vital, but it comes at a price.

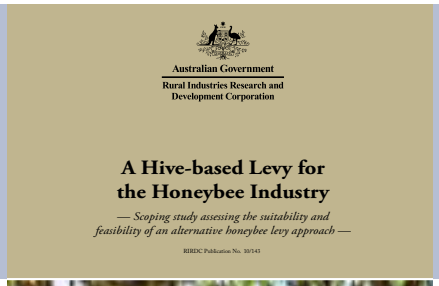
"You have to weigh up the likelihood of the pest getting in where you're watching; whether it can be detected fast enough to stop significant damage; what you can actually do once it's found; and the amount of damage versus the cost of surveillance," Mr Martin said.

*Gerald Martin, Chairman of the Pollination Program*

The Pollination Program is a jointly funded partnership with the Rural Industries Research and Development Corporation (RIRDC), Horticulture Australia Limited (HAL) and the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF). The Pollination Program is managed by RIRDC and aims to secure the pollination of Australia's horticultural and agricultural crops into the future on a sustainable and profitable basis. Research and development in this program is primarily to raise awareness to protect pollination in Australia. RIRDC funds for the program are provided by the Honeybee Program, with industry levies matched by funds provided by the Australian Government. Funding from HAL for the program is from the apple and pear, almond, avocado, cherry, vegetable and summerfruit levies and voluntary contributions from the dried prune and melon industries, with matched funds from the Australian Government.

# New RIRDC Honeybee related publications

**All RIRDC publications can be purchased in hard copy online from www.rirdc.gov.au, or may be downloaded for free from the same site. Books can also be purchased by phoning 1300 634 313**

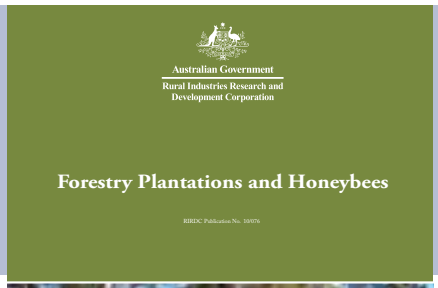



## A Hive-based Levy for the Honeybee Industry

**by by Robert Granger, Vicki Woodburn. Pub. No. 10/143.**

The honeybee industry currently enjoys the benefits of compulsory legislated levies for research and development, managing emergency animal disease threats and supporting residue testing services for honey. These levies help the honeybee industry to maintain and improve its productivity and profitability. The industry currently pays levies on sales of honey and queen bees.

In order to keep the honeybee industry as productive, profitable and sustainable as possible, the peak body for the industry, the Australian Honey Bee Industry Council, has proposed that an investigation occur into whether there would be benefits in replacing the existing levies with a unified hive-based levy paid by all beekeepers.




## Forestry Plantations and Honeybees

**by Doug Somerville. Pub. No. 10/076.**

The Australian beekeeping industry is suffering from a decline in the available and suitable apiary sites with access to beneficial floral species. Without a range of suitable flowering events for the bees to obtain their necessary nutritional requirements, the bees won't survive. This research is designed to investigate the potential capacity of plantation forestry to contribute to the Australian honey bee floral resource base.

This report will assist the beekeeping industry in clearly identifying the systems and issues under which they operate with a varied audience, including foresters and those with a concern for the future viability of the Australian beekeeping industry.


## Estimating the Potential Public Costs of the Asian Honeybee Incursion

**byTerry Ryan. Pub. No. 10/026.**

The current Asian Honey Bee (AHB) incursion in Cairns is being managed by Biosecurity Queensland and has involved an investment of over $1 million, from initial detection in May 2007 up to 31 December 2009.

One of the crucial issues in developing a response to the Asian Honey Bee incursion in Cairns is determining the appropriate level of industry contributions towards the total cost. The proportion of the costs to be borne by industry can vary between 20 percent and 80 percent, dependent upon the benefit cost analysis. To ensure appropriate proportions of the response are paid it is necessary to identify the public benefits and costs as well as industry benefits and costs.


# Pollination Simulation - A report on two scenario driven workshops

**by Turner, R. Pub. No. 10/070.**

These workshops provided a forum to explore existing arrangements for the eradication of bee pests and to examine possible alternatives to lessen the impact on industry. They also provided an opportunity for all stakeholders to engage and gain an understanding of each other's perspectives on the issues around eradication efforts for bee diseases.

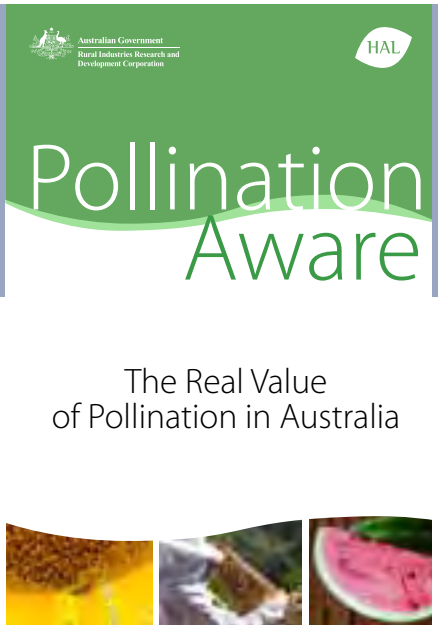
The beneficiaries of these workshops were the participants, who came from diverse backgrounds including Australian and State and Territory governments, research organisations, the Australian Honeybee Industry Council and a subgroup of pollination reliant plant industries, and also the organisations they work within.


# Future Surveillance Needs for Honeybee Biosecurity

**by Simon Barry, David Cook, Rob Duthie, David Clifford, Denis Anderson. Pub. No. 10/107.**

The Australian honeybee industry produces honey and other bee products for domestic consumption and export, through apiculture of *Apis mellifera*. The industry has an estimated GVP of A$80 million. In addition, the annual benefit of apiculture to general agriculture through plant pollination in Australia is estimated to range from A$4 to 6 billion.

Because of the significant value of this industry there is a need for effective biosecurity. A component of this is the use of surveillance. This report considers a risk-based framework for exploring the costs and benefits of surveillance for exotic honeybee pests and diseases.




# Pollination Aware –The Real Value of Pollination in Australia

**by Robert Keogh, Anthony Robinson, Ian Mullins. Pub. No. 10/081.**

This report consolidates the available information on pollination in Australia at a number of different levels: commodity/industry; regional/state; and national.

The report, including 35 case studies describing individual crops and commodities, provides a base for more detailed decision making on the management of pollination across a broad range of commodities.