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Department of Agriculture, Fisheries and Forestry

**INQUIRY INTO THE FUTURE DEVELOPMENT OF THE AUSTRALIAN
HONEY BEE INDUSTRY**

**SUBMISSION TO THE HOUSE OF REPRESENTATIVES STANDING COMMITTEE
ON AGRICULTURE, FISHERIES AND FORESTRY**

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EXECUTIVE SUMMARY

The Department of Agriculture, Fisheries and Forestry's (DAFF) role is to develop and implement policies and programmes that ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable. The honey bee industry is one of the many industries DAFF works with to achieve these goals.

The honey bee industry in Australia is a relatively small industry, with an estimated gross value of production of approximately \$65 million. Like other agricultural and non-agricultural industries, it has cross-industry links. For example, it is estimated that over 65 per cent of introduced agricultural crops in Australia require honey bees for pollination. In this way the honey bee industry provides wider benefits than just the value of honey and honey bee related products.

The honey bee industry is working in partnership with the Australian Government to improve the industry's understanding of issues and opportunities that will impact on its future profitability, competitiveness and sustainability. The industry participated in a Taking Stock and Setting Directions project with the Industry Partnerships Programme (IPP) in 2005 which culminated in a comprehensive report by the Centre for International Economics (CIE) in September 2005, titled *Future directions for the Australian honeybee industry*. This report provides a thorough analysis of the current strengths and weaknesses of the Australian honey bee industry. It also provides an in-depth analysis of key issues facing the industry, including world market conditions, product diversification and pest and disease management.

Based on the findings of the Setting Directions exercise, the honey bee industry is currently being supported to undertake an Action Partnership project. The project is assisting the industry to initiate and implement a national environmental management code of conduct, to improve the training of bee keepers on environmental issues. The project also supported a Honeybee Linkages Workshop that was held on 23-24 April 2007. A key outcome of the workshop was a commitment to forming a strong alliance between all industries that have a stake in pollination. This alliance is intended to strategically address the issues facing the honey bee industry and the industries that rely on pollination.

Australia enjoys freedom from several important disease-causing mites and other pests of honey bees. Exotic mites include the varroa mite (*Varroa destructor*), the Tropilaelaps mite (*Tropilaelaps clareae*) and the Tracheal mite (*Acarapis woodi*). Invasive (competitive) pests include several species of exotic bee such as the Asian honeybee (*Apis cerana*), the Giant honeybee (*Apis dorsata*) (a host of varroa) and the Africanised honeybee (*Apis scutellata*).

DAFF plays a crucial role in the prevention and management of incursions of pests and diseases through quarantine and risk management. Areas of DAFF involved in biosecurity issues include Biosecurity Australia, the Australian Quarantine and Inspection Service (AQIS), the Product Integrity Animal and Plant Health (PIAPH) Division (including the Office of the Chief Veterinary Officer) and the Australian Biosecurity System for Primary Production and the Environment (AusBIOSEC) Taskforce.

The work DAFF undertakes in quarantine and risk management helps to maintain Australia's reputation for producing high quality honey and bee related products. The balance of trade for honey and bee-related products is, on average, in Australia's favour.

Australia exported more than \$26.9 million of honey in 2005-06; with the largest markets being the United Kingdom, Canada, Saudi Arabia and Germany. Australia also imported honey valued at more than \$6.1 million in 2005-06 with \$4.8 million of the imports coming from New Zealand.

The key current market access issues of interest to the industry relate to access into Thailand and New Zealand. Clarification is being sought from the Thai Government on current standards for the presence of the micro-organism *Bacillus cereus* in honey. Producers (apart from those in Western Australia) do not currently have market access to New Zealand as they are facing a temporary suspension of an Import Health Standard for honey.

The industry depends on access to native trees and shrubs for a continual supply of nectar and pollen; eucalypt forests and woodlands are estimated to constitute 77 per cent of floral resources accessed by honey bees.

While recognising that land management is primarily a state government issue, access to public forests is a key issue for the honey bee industry. The change in tenure of many timber-producing state forests to nature reserve and national parks in recent years affects the access that the honey bee industry has to these areas.

The future direction of land and fire management is also of importance to the industry, as maintaining access and managing forest fuel loads to minimise the impact of large bushfires will benefit the industry. Large areas of severely burnt forest may not flower for some time, which may significantly impact on the resources available to the honey bee industry in these areas.

The continuing drought conditions may also have adverse implications for the honey bee industry. This is particularly the case given recent announcements that there is unlikely to be any water available for irrigation purposes in the Murray-Darling Basin at the commencement of the upcoming irrigation year.

The Honeybee R&D Plan is consistent with the Rural Industries Research and Development Corporation (RIRDC) Corporate Plan (2003-2008) and will be implemented in accordance with the provisions of the *Primary Industries and Energy Research and Development Act 1989*. The Australian Government matches the compulsory levy for R&D paid by the honey bee industry up to a maximum of 0.5 per cent of the Gross Value of Production (GVP) on a dollar-for-dollar basis for expenditure. In 2005-06 the matching funding was \$189,672.

DAFF has undertaken a range of work in relation to the honey bee industry. This work ranges from the National Sentinel Hive Program (NSHP) to the certification of honey and bee products for export, and includes grants under the IPP.

DAFF will continue to work with the Australian honey bee industry in a range of capacities to ensure that it remains a competitive, profitable and sustainable industry.

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INTRODUCTION

Industry details

In terms of its gross value of production, beekeeping in Australia is a relatively small industry. In addition to honey, the honey bee industry creates value from the production of beeswax, queen and package bees, pollen, royal jelly, propolis and bee venom, and from the provision of paid pollination services. The estimated gross value of production is approximately \$65 million (CIE, 2005, p9); however this figure is variable depending on the price of honey and factors affecting production, such as drought conditions.

Approximately 65 per cent of all crops introduced into Australia require insect pollination which is performed largely by managed honey bees. This issue will be further discussed under Term of Reference 2, 'Role in agriculture and forestry'.

State registration systems provide the only information available about the number of beekeepers and the number of hives they keep. Registration is compulsory in five of the six states, but not in the territories. The following table shows the number of beekeepers and number of hives:

State	Number of Beekeepers	Number of Hives
NSW	3,195	265,474
QLD	3,084	119,418
VIC	1,927	96,455
WA	880	39,000
SA	740	66,013
TAS	179	17,904
NT	4	1,500
ACT	na	na
	10,009	605,764

Source: Benecke (2007), na – not available

The Australian Honey Bee Industry Council (AHBIC) is the peak industry body, representing the Federal Council of Australian Apiarists Associations, the Honey Packers and Marketers Association of Australia, the National Council of Pollination Associations and the Australian Queen Bee Breeders Association.

Australia has an estimated 10,000 registered beekeepers. According to research approximately 17 per cent of apiarists operate 85 per cent of the total number of hives (Rodriguez, Riley, Shafron, and Lindsay, 2003). Most honey bee operations are small family businesses depending on a range of income sources, in addition to those related to apiary. According to Benecke (2007), New South Wales has the most registered apiarists with 32 per cent, followed by Queensland with 31 per cent and Victoria with 19 per cent. However, industry sources suggest there is significant movement of beekeepers between states, especially along the eastern coast (CIE, 2005, p10).

Australia's largest packer of honey is Capilano Honey Limited which supplies approximately 67 per cent of the domestic market (CIE, 2005 p10); the company has a range of branded products and it also supplies many generic brands with honey. Other major packers include Beechworth, Leabrooks and Wescobee. There are also a large number of small honey producers selling direct to the public.

Products

The Australian honey bee industry produces a wide range of products and services. Some of the main items include the following:

- Honey – Australian honey has a worldwide reputation as a premium quality product. It is produced over a large geographical area and from a wide variety of plants. About one third of honey produced is exported and Australia is the world's tenth largest exporter of honey (by value) (CIE, 2005 p9).
- Queen bees – These bees are produced by dedicated breeders who then sell them to apiarists and to export markets. Production is primarily located on the east coast, however Western Australia has its own breeding programme as it is the only state free from European foulbrood.
- Package bees - Packaged bees are used to establish new colonies and replace winter losses. A package of bees usually weighs 1 or 1.5 kg. The 1kg package contains approximately 8,000 bees; the 1.5 kg package has about 12,000 bees. The bees are shipped in a box with screened material in the front and back. An inverted can filled with sugar syrup and placed inside the box provides feed for the bees during transit. The package contains a young queen that had started laying prior to being caged and shipped. The queen is kept in a small wooden cage with one screened side. The caged queen is well-protected during transit and fed through the screen. This contact with the bees improves her acceptance when the package is hived. Package bees are also airfreighted overseas, for example to the United States and Malaysia.
- Pollination services – Renting hives of bees to the growers of plants benefiting from pollination is an important source of income for some sections of the industry. Paid pollination is undertaken in most states. The practice is particularly important in the almond orchards of Victoria and South Australia.
- Other products include beeswax; pollen (a valuable nutrient when dried and preserved); royal jelly (used as a dietary supplement); propolis (used as an antiseptic) and bee venom (used to relieve arthritic and rheumatic pains).

Native Bees and Honey Bees

Honey bees, *Apis mellifera*, were introduced into Australia in 1822 to provide honey for the new settlers. These, along with the recently arrived bumble bee, *Bombus terrestris*, compete for food supplies with Australia's own much smaller and less conspicuous native bees. The following information has been sourced from Gardening Australia (2000):

“In Australia we have about 2000 species of native bees, but only ten of these are social bees with a queen, drones and workers - like the honey bees. These social native bees are stingless, and live in colonies of up to many thousands in such places as hollow trees. They are 3-4 mm long and look like small flies. All other native bee species are solitary

and do not have a social colony structure. Each solitary female builds an individual nest for her offspring. While solitary bees do not store excess honey in their nests, they play an important role in the bush as pollinators.

The stingless social bees are tropical bees and thrive in the northern states of Australia. It is possible to transfer these colonies into boxes, like hives, in which they are more easily managed. The brood comb, containing the eggs, is often formed in a beautiful spiral and it is possible to extract a little bush honey from the clusters of honey pots. Called 'sugar bag' by Aborigines, this honey has been prized by them for centuries as an extremely important source of carbohydrate and a medical remedy. The resinous material from which the nests are made was also collected and used as glue for making tools, or for the mouthpieces of didgeridoos.

Understanding is growing on the use of Australian stingless bees for crop pollination, with some beekeepers building up large hive numbers for this purpose. For some crops, such as macadamias, mangos, chokos, coconuts, strawberries, lychees, watermelons, avocados and citrus, they may be better than commercial honey bees.

Certain bees, such as the Blue Banded Bee and the Carpenter Bee, are attracted to plants the pollen of which is contained in tubes (eg flowers of the *Solanaceae* family). They use a method called 'buzz pollination' to access the pollen, vibrating the flower to make the pollen spurt out. A static electricity charge then draws the pollen back to cover their bodies. As they move from flower to flower the process is repeated, resulting in correct pollination.

In times of food scarcity the honey bee and bumble bee can out-compete native bees. Introduced bees can fly at lower temperatures than native bees enabling them to forage earlier in the day and may leave little pollen or nectar for the native bees.”

Feral Bees

The term feral honeybees does not include managed honeybees. Feral honeybees are honeybees that occur in colonies independent of the hives that are managed by beekeepers. Feral honeybees are introduced bees which originally escaped from hives and have subsequently established in the wild, usually centred on tree hollows. Little data is available on the distribution or abundance of feral bees (NSW NPWS, 2002).

1. CURRENT AND FUTURE PROSPECTS

Current prospects for the honey bee industry

It is estimated that total Australian honey production in 2000-01 was 27,800 tonnes (Rodriguez et al, 2003). In addition, the gross value of production of the honey bee industry in 2000-01 is estimated to have been approximately \$63 million (Rodriguez et al, 2003). More recent statistics for the industry are not available. In recent years, honey production volumes have been reduced due to the combination of both drought and bushfires.

The key issues relating to the honey bee industry's current prospects have been identified within this Inquiry's Terms of Reference. This submission will provide information relating to these issues when addressing each Term of Reference.

The report, *Future directions for the Australian honeybee industry*, prepared by CIE for the honey bee industry and DAFF in September 2005 through the IPP, provides a thorough analysis of the current strengths and weaknesses of the Australian honey bee industry. It also provides an in-depth analysis of key issues facing the industry, including world market conditions, product diversification, and pest and disease management.

Research papers published by RIRDC are also available. A research and development (R&D) plan, *Honeybee R&D Plan 2007-2012*, has also recently been released which identifies six key industry objectives to drive the R&D programme. In April 2007 a report was released by RIRDC, *Commercial Beekeeping in Australia*, providing a snapshot of the Australian beekeeping industry. Copies of these documents are available on request to the Committee.

Future prospects for the honey bee industry

There are a number of issues which will impact on the future prospects of the Australian honey bee industry. Many of these issues will be discussed throughout this submission.

Key opportunities for the industry include:

- Promotion of the high quality of Australian honey on international markets to build on the current good reputation;
- Promotion of the industry-developed quality assurance programme, B-Qual;
- Continuation of research on production on pest and disease control, undertaken through RIRDC; and
- Diversification of sources of income through a wider range of products.

Key challenges to the industry include:

- The risk of exotic incursions of varroa mite or other serious exotic pests;
- Reduced access to native flora;
- Impacts of bushfires on production;
- Loss of skills and talent as current beekeepers and researchers retire (see below); and
- Increased competition from other honey producing countries in domestic and international markets.

Education and training

Commercial beekeepers are generally family businesses that have in many cases, existed for generations. Like many agricultural industries, there are reports of skill shortages. The CIE indicated that the average age (54 years) and experience (25 years) of beekeepers is an issue for the long term sustainability of the industry (CIE, 2005, Chapter 3).

The AHBIC wants to establish a nationally coordinated programme that can deliver industry training and development requirements.

The industry undertook an evaluation of its training and development needs in 2005. Four broad training need categories were identified: business management, quality assurance, technical skills and disease mitigation. The industry also identified a lack of adequate training material to assist in the development of technical and operational skills in their industry.

The evaluation found that business management training (identified as Certificate IV level or above in the Australian Qualification Framework), including financial management, marketing and quality assurance are training needs for the industry. These areas are eligible for support under DAFF's Agriculture Advancing Australia FarmBis programme.

The Agri-Food Industry Skills Council, in consultation with the honey bee industry, has successfully extended the Rural Production Training Package to include specialist qualifications in beekeeping. This will allow portability of qualifications across Australia. New Certificates in Agriculture specialising in Beekeeping have also been developed at the Certificate II, III and IV levels.

- The National Quality Council endorsed the approach to adopt these qualifications in March 2007.
- The Agri-Food Industry Skills Council will be working with the Honey Bee Industry to develop resources to facilitate the implementation of the new certificate courses.

2. ROLE IN AGRICULTURE AND FORESTRY

The honey bee industry's role in agriculture

Value of pollination services to agricultural industries

Honey bee pollination is essential for many horticultural crops including almonds, apples, pears, cherries, berries, nashi, kiwi fruit and some vegetables; and broadacre crops of buckwheat and lucerne. In other crops it raises yield and quality, for example lucerne and faba beans (Somerville, 2002a, 2002b). It is estimated that over 65 per cent of agricultural crops introduced into Australia require honey bees for pollination (Gordon and Davis, 2003).

Bees need access to nectar and pollen to survive and thrive. Although the honey bee is an exotic species, apiarists depend on native trees and shrubs for a continual supply of nectar and pollen. Floral resources used by honey bees are shown below:

Floral Resource	Percentage
Eucalypt forests and woodlands	77
Banksia scrubland and coastal heathland	7
Weed species	10
Crops (for example oilseeds and clovers)	5
Roadside vegetation	1

Source: As reported in Gill. R (1997)

Through pollination services, the industry provides major benefits to agriculture. In terms of the gross value of honey products and pollination services, beekeeping in Australia is a relatively small industry but through the economic value of pollination services it provides, the industry has an important impact of the rest of agriculture.

A significant portion of honey bee pollination services in Australia are provided free to agriculture through the coincidental location of honey bees sites near agricultural enterprises (feral bees also provide growers with pollination services) (CIE, 2005, p13).

Pollination for agricultural crops occurs from both feral and honey bees. In the case of honey bees this often occurs when the bees are located near agricultural enterprises for the purpose of honey production. In most cases, there is not a fee either paid or received by the owner of the farm.

A report for RIRDC, *Valuing honeybee pollination* (Gordon et al, 2003), provides the most recent estimates of the value of honey bee pollination to other agricultural industries and an in-depth analysis of the estimated cost to Australia of a sudden and complete loss of the pollination services provided by honey bees.

The RIRDC report estimates that pollination services are potentially valued at \$1.7 billion per year. This is the cost if farmers were unable to adjust and if the loss of pollination services was total. There would also be an impact on Australian consumers with a decline in the availability of fresh fruits and nuts and some major vegetables such as carrots and onions. Studies have been

conducted including an examination of the economic impact of the varroa mite incursion in New Zealand (for further detail see Term of Reference 3).

A typical charge for pollination services is about \$40 per hive; however this varies from state to state, as do hive stocking rates for different crop varieties. For example, almond groves average about six hives per hectare (CIE, 2005, p13) whereas a stocking rate of two to three hives is considered adequate for pollinating apples (Somerville, 1999). Apiarists currently receive payment for approximately \$3.3 million of pollination services per year.

The report by CIE (2005, p71) identifies several reasons why the industry fails to capture greater value from pollination services:

- pricing - some part-time pollinators are not properly costing their pollination services and are therefore discounting their prices;
- quality - some pollinators do not have the skills required to maximise the benefits of pollination to growers, and growers cannot differentiate between those beekeepers who do have the skills and those who do not; and
- education - growers do not recognise the value pollination can provide to the quality and volume of their crop.

The report also recommends several strategies to address this issue including education within the industry and the development of competency standards, continued research into the economic benefits at the crop level and the communication of these findings to growers (CIE, 2005, Chapter 5).

Also worth noting is a survey conducted by the Northern Territory Government in September 2006 to gauge the requirement for pollination services by bees over the next five years (Rock, 2006). The survey indicated that the requirement for honey bees for pollination will increase in the next five to ten years by an estimated 1000-1500 hives per year. Most growers surveyed indicated that the ideal situation for pollination services would be to rent from a skilled and reliable beekeeper.

Pollination research has been identified as a key objective in the RIRDC *Honeybee R&D Plan 2007-2012*. It is intended that projects will aim to better understand the cost and value of pollination services provided by beekeepers, and to generate industry value through shared learning with crop producers including the almond industry.

Apiary Management Strategies

In general, agreements between growers and apiarists for pollination services include stocking rates, placement of hives and payment of fees. The strength of honey bee colonies will vary according to a number of factors including the crop species to be pollinated, physical location of the crop, climatic factors, time of the year, usage patterns of pesticides, competing crops and the attractiveness of the crop to be pollinated.

Care needs to be taken when placing bees near any agricultural crop as there is a possibility of colonies of bees being sprayed by pesticides. Most poisoning occurs when pesticides are applied to flowering crops, pastures and weeds.

The honey bee industry's role in forestry

The honey bee industry does not have the same role in forestry that it has in pollinating agricultural crops. Instead, forests are generally a resource base for the honey bee industry.

As mentioned, honey bees need access to nectar and pollen to survive and thrive; eucalypt forests and woodlands represent about 77 per cent of the floral resources accessed by bees.

The CIE report provides a detailed analysis of forests as an industry resource base and issues concerning access rights.

All states have experienced increasing areas of public lands transferred into various state conservation reserves, such as national parks and nature reserves. Conservation reserves have been progressively increasing and now take approximately five per cent of Australia's land area. This land management issue will be discussed further under Term of Reference 5.

Other challenges to the floral resources accessed by beekeepers include:

- land clearing for agriculture;
- forestry activities that remove flowering trees;
- replacement of felled trees with pine and low pollen yielding eucalypt plantations;
- fire, including back burning and natural bushfires; and
- drought conditions (see Term of Reference 5).

3. BIOSECURITY ISSUES

Many of the serious pests and diseases that affect honey bees are present in Australia, including American foulbrood, European foulbrood and small hive beetle (*Aethina tumida*). However Australia is free of several important disease-causing mites and other pests of honey bees. Exotic mites include the varroa mite (*Varroa destructor*), the Tropilaelaps mite (*Tropilaelaps clareae*) and the Tracheal mite (*Acarapis woodi*). Invasive (competitive) pests include several species of exotic bee such as the Asian honeybee (*Apis cerana*), the Giant honeybee (*Apis dorsata*) (a host of varroa) and the Africanised honeybee (*Apis scutellata*).

DAFF plays an important role in the prevention and management of incursions of pests and diseases through quarantine and risk management. Areas of DAFF involved in biosecurity issues include Biosecurity Australia, AQIS, PIAPH Division (including the Office of the Chief Veterinary Officer) and the AusBIOSEC. Areas of work and issues that will be discussed include:

- National Sentinel Hive Program;
- Emergency Animal Disease Response Agreement;
- National Residue Survey; and
- Quarantine issues related to managing imported bees and bee products.

The Australian and state and territory governments are currently engaged in improving the nation's biosecurity status through the enhancement of AusBIOSEC. AusBIOSEC establishes an overarching national framework of common principles and guidelines so biosecurity arrangements can be implemented consistently across sectors and jurisdictions. Whilst AusBIOSEC does not address industry-specific biosecurity issues, it does provide an opportunity for stronger integration of the primary production (both animal and plant) and environmental aspects of the honey bee industry's biosecurity measures. A major objective of the enhancement of AusBIOSEC is a coordinated, whole-of-government approach to biosecurity management, which will benefit all 'resource-based' industries.

National Sentinel Hive Program

Key Issues

The National Sentinel Hive Program (NSHP) was established in 2000 and until July 2006 was managed by Biosecurity Australia. Responsibility for the NSHP was then transferred to the Office of the Chief Veterinary Officer (OCVO) within DAFF. Many essential contributions from personnel in the programme are currently provided as uncosted in-kind contributions.

In February 2007, the Primary Industries Health Committee (endorsed by the Primary Industries Standing Committee (PISC)) agreed that DAFF should develop a business plan to detail and formalise the current operating arrangements for the NSHP. A draft version of the business plan is currently being prepared and will outline:

- a proposed funding model for the future;
- roles and responsibilities for jurisdictions and industries within the proposed revised NSHP that will be administered by Animal Health Australia (AHA);

- a work plan targeted at maintaining and enhancing activities conducted under the existing NSHP; and
- management (operational and funding) arrangements to achieve those ends.

Securing the future of the NSHP will require the adoption of the proposed business plan and a commitment to participation and funding by state and territory governments, AHA, and both the honey bee and horticultural industries.

Varroa mite

It would be damaging if the varroa mite was to become established in Australia. The mite is a parasite of adult honey bees and the brood. The mites feed on the blood of adult bees, larvae and pupae, and seriously weaken the bee colonies. This, coupled with the effects of the viruses that the mites spread or activate, can be lethal to colonies (Anderson, 2006, p2).

Due to the travel of beekeepers and the difficulty of detecting the mite in early stages of infection, the disease, once introduced, is likely to spread rapidly perhaps even before detection. If an eradication attempt were successful, it would be the first time any country would have achieved this.

For beekeepers living with the varroa mite, reliance on expensive acaricides to keep their honey bee colonies alive has increased the cost of operation (Anderson, 2006, p1). Many horticultural, seed grain and pastoral industries would also be affected by reduced pollination of plants by commercial and/or feral honey bees (Cook, Thomas, Cunningham, Anderson and DeBarro, 2007).

Biosecurity New Zealand has conducted economic impact assessments to estimate the impact of the direct effects of varroa mite on the honey bee industry, as well as the increased costs of production and production losses to the horticultural, pastoral and arable industries that depend on honey bees for pollination. The economic impact assessment suggested that varroa mite is likely to cost New Zealand agriculture from \$400 million to \$900 million, in present value terms, over the next 35 years (MAF, 2000).

This estimate included broad impacts such as the following:

- increased hive management costs offset by potential increases in pollination charges (received by beekeepers, paid by farmers)
 - In this regard there is a potential shift away from keeping hives for honey production to keeping hives for pollination;
- a reduction in horticulture crop yields; and
- increased nitrogen fertiliser application and clover reseeded of pastures.

If varroa mite was to become established in Australia the feral colonies of bees and native bee colonies would be impacted and this would have implications for pollination of many horticultural and agricultural crops. Whilst this may increase pollination services for managed bees, the price of such services would be likely to rise.

There have been several instances of detection of swarms of Apis bees, both *A. mellifera* and *A. cerana*, in ships at Australian seaports in recent years (Boland, 2005). This illustrates the risk that exotic bees (or overseas honey bees) could be introduced to Australia via cargo movements. These bees may also introduce varroa or other disease-causing mites. Varroa mite is now endemic in large parts of the world, including areas of New Zealand. The recent introduction of varroa mite into New Zealand increases the risk of its introduction to Australia because of the high volume of sea traffic between Australia and New Zealand.

The NSHP was established in 2000 to enhance early detection of incursions of varroa mite, *Tropilaelaps* mite, Tracheal mite and the Asian honeybee. Early detection of these pests provides the best opportunity to successfully contain and eradicate bee parasites or exotic bee species with the least cost involved. This programme operates by locating sentinel hives in the vicinity of identified 'high risk' sea ports. The programme was the result of consultation between Biosecurity Australia, state departments of agriculture/primary industries and the honey bee industry.

In 2006, the NSHP operated and inspected hives and log traps on a quarterly basis. Throughout the year, there were 37 inspections of log traps at seven different locations throughout Australia for Asian honeybees, 105 hive inspections at 37 sites for external mites (*Varroa destructor* and *Tropilaelaps clareae*) and 116 hive inspections at 34 sites for Tracheal mites (*Acarapis woodi*). No exotic insects or mites were detected (AHA, 2006).

Background

Since the establishment of the NSHP, two incursions have highlighted the need for an effective and efficient programme of bee surveillance. In April 2000, varroa mite was detected in Auckland, New Zealand. This demonstrated the ability of the mite to enter a country despite the existence of advanced quarantine policies and procedures. Since 2000, varroa has spread throughout the north island of New Zealand and is now present in the northernmost section of the South Island. Not only does this incursion highlight the potential for varroa to establish in a country, but it also increases the risk to Australia by having varroa present in a country close to Australia with which there is a substantial amount of sea traffic.

In late 2002, an incursion of small hive beetle (*Aethina tumida*) was detected around Sydney. At the time of detection, it was already widespread and eradication was not considered a feasible objective. The incursion has continued to spread and now affects substantial areas of New South Wales. The presence of small hive beetle has already affected the industry, with some countries requiring AQIS certification that bees exported from Australia were sourced from an area free of small hive beetle.

In 2005, the NSHP was reviewed by Biosecurity Australia (Boland, 2005). The key recommendations arising from the report were:

- a comprehensive analysis of the benefits of the programme should be conducted by the honey bee industry, pastoral industries and horticultural and seed crop and identified as significant beneficiaries of pollination;
- a review of the long-term funding and coordination of the programme should occur, including the actual costs;

- surveillance for the Asian honey bee should be extended to all ports on the eastern seaboard as far south as Brisbane;
- an investigation should occur of the feasibility of establishing or re-establishing hives at various locations; and
- increasing the intensity of surveillance should increase by more regular sampling of hives at certain locations.

In February 2007, PISC agreed that DAFF should develop a business plan to detail and formalise the current operating arrangements for the NSHP. A draft version of this business plan is currently being prepared and will outline:

- a proposed funding model;
- roles and responsibilities for jurisdictions and industries within the proposed revised NSHP that will be administered by AHA;
- a work plan targeted at maintaining and enhancing activities conducted under the existing NSHP; and
- management (operational and funding) arrangements to achieve those ends.

Following the Biosecurity Australia review, AHBIC, AHA and DAFF agreed on interim administrative arrangements for management of the NSHP. In the short term, DAFF has provided a national coordination role to oversee implementation of the various recommendations made during the 2005 review and developed the business plan for future operation of the NSHP. After completion and implementation of the business plan, responsibility for management of the NSHP will transfer to AHA. The business plan incorporates plans to:

- provide consistency across jurisdictions in commitment of resources;
- engage relevant plant industry sectors in the resourcing of the NSHP; and
- ensure the on-going availability of diagnostic and administrative services to underpin the NSHP.

Emergency Animal Disease Response Agreement

Key Issues

AHBIC is a party to the Emergency Animal Disease Response Agreement (EADRA) which commenced in 2002. The EADRA provides certainty in funding for emergency animal disease threats to Australia and the infrastructure to facilitate rapid and effective responses. The Australian Government, state and territory governments and affected animal industry members share the eligible costs incurred in responding to emergency animal diseases. Other industries party to the EADRA include: sheep, cattle, dairy, egg, chicken, goat, and pig.

AHBIC's funding liabilities under the EADRA are met through a statutory levy on honey – the Emergency Animal Disease Response levy (EADR levy). The operative rate for this levy is currently 0.5c/kg on honey, which is held in reserve by AHA on behalf of the industry.

The costs of responding to emergency animal diseases (EADs) are shared by the affected parties. Under the EADRA, EADs are classified into four categories and a cost sharing formula is applied to each category ranging from Category 1 (very high public benefits with 100 per cent

government funding) to Category 4 (low public benefits with 20 per cent government funding and 80 per cent industry funding).

The EADRA is currently being reviewed in accordance with a requirement under its provisions. Issues being addressed include whether the EADRA is meeting its objective, coverage, and whether any changes are needed to address present and future needs. The AHBIC has asked that consideration be given to expanding the provisions of the arrangements to include honey bee pests. Currently the EADRA only covers emergency animal diseases, not pests.

The consultant carrying out the review is to report to all parties to the EADRA with recommendations. These recommendations will be considered by the parties in late May 2007 at a meeting convened by AHA.

Background

AHBIC is a member of AHA and Plant Health Australia (PHA) which are the custodians on behalf of the parties of the EADRA and the Emergency Plant Pest Response Deed (EPPRD) respectively.

AHA and PHA were established to coordinate national animal and plant health matters. Their members consist of the Australian Government, all state and territory governments and a wide cross section of representative industry bodies.

The EPPRD has corresponding arrangements to the EADRA covering the plant sector however the honey industry is not a party.

National Residue Survey

Key Issues

The National Residue Survey (NRS) programme for honey, together with the increasing use of quality assurance testing by the industry and the establishment of a code of practice, provide assurance to Australia's trading partners and domestic consumers of the high level of compliance of Australia's honey with national and international standards. NRS results are the basis for the AQIS certification for compliance with the residue requirements of importing countries and Australian standards.

The NRS honey residue testing programmes cover a range of pesticides, metals, nitrofurans and chloramphenicol. Approximately 170 samples of honey will be collected in 2006-07. Sampling is conducted in each state on the basis of production volumes.

Residue testing programmes are managed in accordance with agreed arrangements between AHBIC, AQIS and NRS.

Background

By 30 June 2007, the NRS honey industry equalisation account (reserve) will be approximately \$224,000, an increase of \$35,000 on the reserve figure at 30 June 2006. For the past four years, the levy revenue has been greater than the programme expenditure.

AHBIC is fully aware of the increasing NRS honey reserve and has approached NRS on several occasions seeking to draw on the reserves for auxiliary projects such as publication of a newsletter, brochures and other information sources on industry quality assurance programmes. To date, NRS has not approved any submissions on the basis that the auxiliary projects do not relate directly to residue testing programmes.

Following the receipt of these submissions, NRS has written to AHBIC indicating that further consideration will be given to auxiliary projects when NRS receives draft newsletters, brochures and the like, which can then be assessed against agreed NRS criteria for the expenditure of specific industry reserves.

AHBIC has previously raised the possibility of having a residue testing programme independent of NRS. This has been based on AHBIC's concerns that the Government's full cost recovery policy has resulted in high costs for small NRS programmes such as the honey programme. Following meetings between NRS, AQIS and AHBIC, a decision was made to continue with the NRS, noting the requirement of key export markets for a robust and scientifically rigorous residue testing programme.

Quarantine issues related to managing imported bees and bee products

Key issues

AQIS is responsible for implementing appropriate measures as advised by Biosecurity Australia to minimise the quarantine risks associated with imported bees and bee products.

There is currently one facility approved for holding imported bees in post-entry quarantine at the Eastern Creek Quarantine Station in New South Wales, to ensure they meet import conditions prior to release.

AQIS conducts surveys in coastal areas from Cairns to Broome and in Indonesia, Papua New Guinea and Timor Leste to identify natural movements of exotic bees and bee parasites in Australia's north.

Background

In managing imported bees and bee products, AQIS is responsible for:

a) Assessing import permit applications for live bees and relevant bee products and issuing import permits with appropriate conditions as advised by Biosecurity Australia

Bee pollen and products containing bee pollen require an import permit.

In the last two years, AQIS has issued five import permits for live bees. Two of these were for consignments from Italy and the remaining permits were for consignments from France, the United States and China.

All consignments of live bees are held at the Eastern Creek Quarantine Station where they are checked for the presence of varroa (*Varroa destructor*) and tracheal mites (*Acarapis woodi*). Day-to-day husbandry of the consignments is managed by appropriately qualified officers from the NSW Department of Primary Industries under a Memorandum of Understanding with AQIS.

Of the five import permits issued, the permit for the United States consignment was withdrawn on advice from Biosecurity Australia, three consignments were destroyed in quarantine (two due to the presence of mites, one due to inadequate certification and the consignment not meeting import conditions) and there was one successful import from Italy.

Since October 2005, AQIS has issued thirteen import permits for bee products (two for complex products that contain some beeswax, ten bee pollen products (various), and one dead fixed bee specimen).

The relevant conditions for import permits relevant to the honey bee industry are publicly available on the AQIS Import Conditions (ICON) database, at www.aqis.gov.au/icon32/asp/homecontent.asp. The following is a list of the import conditions relevant to the honey bee industry:

- Import Case details - Honey;
- Import Case details - Bee products (excluding pollen and honey) - Honeycomb, royal jelly, propolis, beeswax & bee venom;
- Import Case details - Bee pollen - Powder; and
- Import Case details - Live Honey Bees (*Apis mellifera*).

Laboratory specimens of bees, because of the risks associated with mites and other parasites, require an import permit.

b) Screening imported bees and bee products at the border to ensure compliance with Australian import conditions

Bee products other than pollen including honey, bee venom, honeycomb, propolis and royal jelly do not require an import permit provided they are either packaged for retail sale, commercially processed to remove all contaminants or packaged samples for laboratory analysis.

Since October 2005, there have been 850 import consignments of bee products into Australia, comprising:

- 462 honey consignments;
- 163 consignments of royal jelly and propolis; and
- 225 consignments of other bee products, mainly comprising beeswax products.

All consignments are subject to quarantine and are assessed for compliance with Australia's quarantine requirements.

All imported new bee hives and other beekeeping equipment is inspected on arrival for insect infestation or any other form of contamination. If the goods are found to be infested or contaminated, they are directed for treatment, re-exported or destroyed.

Used beekeeping equipment, including hives, is prohibited from all sources except New Zealand. Any equipment imported from New Zealand is subject to mandatory irradiation at 10kGray.

c) Managing imported bees in post-entry quarantine

The Eastern Creek Quarantine Station has been leased by AQIS since 2001 and the current lease is due to expire in 2010. There is a further five year option available to AQIS after 2010, but AQIS has been advised by the lessor that a further lease beyond 2015 will not be possible.

In light of these developments, AQIS is developing a range of alternatives for the future provision of post-entry quarantine facilities for consideration by the Australian Government. A meeting between AQIS and AHBIC was held in late 2006 and the views of AHBIC have been taken into consideration as part of this process.

d) Conducting surveys in coastal areas of northern Australia and neighbouring countries for exotic bees and bee parasites

The Northern Australia Quarantine Strategy (NAQS) programme carries out surveys in coastal areas from Cairns to Broome and overseas in Indonesia, Papua New Guinea and Timor Leste to identify targeted pests and diseases that may enter through natural movements. Exotic bees, *Apis cerana*, *Apis dorsata* and *Apis florea* and exotic bee parasites *Varroa destructor*, *Tropilaelaps clareae* and *Acarapis woodi* are included on the NAQS targeted list.

Surveillance for exotic bees and bee parasites is usually conducted in the course of general plant health surveys. During these surveys, bees are sampled when they are foraging flowering plants to check for exotic species and any parasitic burden. Bee swarms and tended hives are checked for bee parasites.

Import Risk Analysis

Key issues

Biosecurity Australia is responsible for developing and reviewing biosecurity policies for the importation of bees and bee products. Biosecurity Australia is required to ensure policies are based on the latest available scientific information in accordance with the Government's approach to quarantine.

Current policies for the importation of bees and bee products were established many years ago. These are kept under review in terms of developments in scientific knowledge and changes in the pest and disease status of overseas countries. Biosecurity Australia provides technical advice to AQIS on specific import applications that do not meet current policy on a case-by-case basis.

Biosecurity Australia is currently conducting an import risk analysis (IRA) of honey bee semen. This is in response to access requests from AHBIC for access to overseas genetics.

Background

Biosecurity Australia is a prescribed agency within DAFF. Longstanding policies are in place for a range of bees and bee products. AQIS is responsible for implementing these policies, and details of the current import conditions including those countries able to export bees and bee products to Australia are available on the AQIS ICON database, as mentioned earlier.

The IRA of honey bee semen commenced in June 2002. An issues paper was released in August 2002. An update on the hazard list was provided to stakeholders in March 2006. Work has commenced on a draft IRA report but resources have been regularly diverted to other higher priority issues, including responses to the incursion of the small hive beetle (*Aethina tumida*).

In addition, Biosecurity Australia has received access requests for the importation of bumblebees, which are not permitted on both quarantine and environmental grounds. An IRA would be required to assess the quarantine risks and, where appropriate, recommend risk management measures. Biosecurity Australia is not in a position to commit resources to an IRA until the Australian Government Department of the Environment and Water Resources (DEW) allows importation under the *Environment Protection and Biodiversity Act 1999*. An application for bumblebees is under consideration by DEW.

4. TRADE ISSUES

Agriculture is critical to the Australian economy. The Australian farm sector has long had a strong export focus, with around two thirds of total production being exported.

DAFF (International Division, Biosecurity Australia, AQIS, PIAPH and Food and Agriculture Division) works to remove trade barriers and improve access in key markets for Australia's primary and processed food industries by:

- identifying and addressing trade barriers through bilateral consultation at ministerial and senior official level, including through representatives in overseas missions;
- supporting programmes developed through the National Food Industry Strategy, including the Technical Market Access Program, to reduce or remove non-tariff barriers for Australian primary products, particularly food, into Asia;
- reducing trade distortions by participating in World Trade Organization negotiations;
- maintaining and improving market access opportunities through Free Trade Agreements and other bilateral agreements;
- facilitating technical assistance and agricultural cooperation with other countries;
- mitigating external risks to our plant and animal health status; and
- working through international organisations to develop international trade standards that facilitate trade in Australian products and reflect Australian policy positions and interests.

Trade information

The balance of trade in honey and bee-related products is, on average, in Australia's favour. However, in 2002 and 2003 Australian imports increased dramatically due to low domestic production levels caused by drought and bushfires along the eastern states (see Appendix 1, Graph 3).

Australia exported more than \$26.9 million of honey in 2005-06; the largest markets were the United Kingdom, Canada, Saudi Arabia and Germany. Australia also imported honey valued at more than \$6.1 million in 2005-06 with \$4.8 million of the imports coming from New Zealand (see Appendix 1, Table 1 and 5).

Australia also exported more than \$3.8 million of beeswax in 2005-06 with the largest market being Germany (\$1.2 million). Australia also imported more than \$347,000 of beeswax, primarily from France (\$59,000) (see Appendix 1, Table 4).

North America is a significant market for Australian honey and bees. Canada is currently the second largest export destination for Australian honey. In previous years, honey exports to the United States have been worth as much as \$6.6 million (see Appendix 1, Table 2).

The United States and Canada are major importers of Australian queen and packaged bees, a trade that has expanded in recent years. Unfortunately, it is difficult to estimate the value of live bee exports due to undefined tariff categories. Future expansion in live bee exports is likely to be influenced by United States domestic bee supplies, quarantine restrictions and export logistic arrangements.

Despite demand for Australian packaged bees (a shipment consists of approximately 400 packages), exports are currently limited by the low amount of freight space available on airlines flying directly to the United States (Agriculture Today, 2007). In addition, exports from the eastern states of Australia have been hindered by the presence of small hive beetle (*Aethina tumida*), in comparison to Western Australia, South Australia, the Northern Territory and Tasmania, which enjoy freedom from this pest.

For a more comprehensive look at Australia's honey and beeswax export and import trade statistics, see Appendix 1: Australian honey bee industry trade statistics.

Market access

There are currently two market access issues of concern to the Australian honey bee industry. DAFF is attempting to resolve these issues with the Governments of Thailand and New Zealand.

- In November 2006, Australian honey was recalled from sale by Thai officials due to the presence of the micro-organism *Bacillus cereus*. Australian honey exporters are reluctant to send further shipments to Thailand while the zero tolerance for *B. cereus* in honey remains. DAFF has made representations to the Thai Government seeking clarification of the current standard for *B. cereus* in honey and Thailand has agreed to examine the issue and respond to Australia.
- Australian honey producers, apart from those in Western Australia, do not currently have market access to New Zealand. Future access is contingent upon a court challenge in the New Zealand High Court brought by the New Zealand Beekeepers Association. Australia negotiated the Import Health Standard (IHS) for honey over a long period of time and despite containing onerous import conditions, Australian producers are keen to export to the New Zealand market given the perceived imbalance of access over the years. In December 2006, a temporary suspension of the IHS was put in place and will continue until the appeal is heard, most likely to be in July 2007.

In 2006 Australian exports of packaged bees to Canada were suspended due to a detection of the small hive beetle (*Aethina tumida*) in one consignment. Australian officials have since re-negotiated access conditions and restored market access for Australian producers.

Australian honey exports face tariffs ranging from zero to 248.4 per cent. The table below shows the tariff rates for Australia's main honey export destinations in 2005-06.

Country	Ad valorem tariffs %
United Kingdom	17.3
Canada	0
Saudi Arabia	5.0
Germany	17.3
Malaysia	2.0
Singapore	0
Indonesia	5.0
UAE	0
USA	1.3

Source: (CIE, 2005, p29).

The role of AQIS in honey and bee product exports

Key issues

There are currently no mandatory export controls over honey and other bee product exports.

To assist exports of honey and other bee products, a system is in place that allows for the certification of honey and other bee products both at the request of an exporter or where AQIS is required to issue export documentation for trading partners. Documentation is currently required for exports to the European Union, Canada, Papua New Guinea, Brazil, China and New Zealand. For these markets, AQIS maintains a register of interested exporters and provides export certificates and letters of facilitation.

For the purposes of issuing export certification, AQIS requires assurances that the honey for export is fit for human consumption and has been manufactured according to good manufacturing practices and meets overseas country import requirements.

AHBIC is working with AQIS to develop export controls under the *Export Control Act (1982)* which, where possible, build on existing food safety programmes developed by industry. This is due to pending changes in the certification requirements for honey exported to the European Union. Another reason is the increasing expectation from import authorities in other markets that AQIS has greater oversight of honey and bee product exported for human consumption.

Background

In the mid 1980s, mandatory export controls over honey and other bee products were removed. Exports of products such as honey, royal jelly, pollen and beeswax do not require AQIS oversight of production or the issuing of export documentation unless requested by the exporter or where a particular market required the product to be accompanied by AQIS export documentation. Export documentation is issued where it is ascertained that the exporter has met importing country requirements.

Recently the Australian honey industry developed quality assurance based programmes to meet customer requirements to fulfil its domestic regulatory obligations under the various state and territory food laws. These programmes include, for the most part, third party auditing of the programme.

Recently introduced import requirements for honey to Papua New Guinea, China and Canada and impending certification changes for honey imports to the European Union require AQIS to have greater control over honey exports.

In order to meet its obligations in regard to issuing export documentation and to ensure continued access to those markets requiring AQIS oversight of honey and bee product exports, AQIS in consultation with AHBIC agreed to develop new export controls. These will be based on the industry quality assurance arrangements and third party auditing mechanisms where possible.

The honey bee industry supports the development of legislation for honey exports and is actively participating in the policy development and legislative drafting process.

Technical support for the export of bees

Key Issues

Biosecurity Australia is responsible for providing technical support for the export of bees and is in regular contact with the honey bee industry to discuss its export activities and priorities.

Due to counter-seasonal benefits, Australia is an important supplier of bees to northern hemisphere countries. Australia currently exports honey bees to Japan, Korea, Fiji, and the European Union, and honey bees and packaged bees to Canada. Following a protracted risk assessment and legal processes, the United States granted access to Australian bees in 2005.

Biosecurity Australia works closely with industry, DAFF International Division, overseas posts and counterpart overseas organisations in gaining, maintaining and improving access to markets for Australian bees. Scientific information is provided to ensure access conditions reflect Australia's pest and disease status. Should overseas markets require export certification this is undertaken by AQIS as explained above.

Marketing Opportunities

Key issues

Key market opportunities for the Australian honey bee industry include:

- the domestic consumer market;
- the international consumer market;
- differentiating Australian honey from imported honey;
- the industrial market; and
- the medicinal uses and health effects of honey.

Domestic consumer market

The report *Commercial Beekeeping in Australia* (Benecke, 2007) indicates that unusually low prices for bulk honey has encouraged more beekeepers to enter the retail trade, either through farm gate sales, producer markets or through regular retail markets. The number of smaller packers throughout Australia appears to be increasing.

International consumer market

The overall demand for honey internationally is fairly stable, as most markets are relatively mature. Anecdotal evidence suggests there are some countries experiencing increasing demand for honey (including China), mainly due to rising income levels.

The largest consumer of honey is the United States. Even though they are the second biggest producer of honey, they are the third largest importer. This is primarily due to their decreasing

supply of honey over the last ten years, set in motion by the incursion of the varroa mite which has destroyed nearly two thirds of their bee colonies.

China is currently the world's largest net exporter of honey. Although China's honey bee industry has been tainted by contamination issues in the last five years, government legislation and demand from international markets have forced Chinese honey producers to start cleaning up their product in order to retain their competitiveness against foreign products.

Differentiating Australian honey from imports

The Australian honey industry is under constant pressure from imports. As the Australian honey industry cannot compete on price with low cost producers such as China and Argentina, it must differentiate its products. For example, in regard to quality, Wescobee Honey claims that the clean unpolluted environment of Western Australia, free from acid rain and industrial pollutants, brings a unique health advantage to the consumer. In addition, short mild winters enable the bees to exist without the need for artificial feeding, ensuring that a genuine 100 per cent pure and natural honey is harvested. Artificial feeding increases the sucrose content found in honey; tested Wescobee honey recorded a level of less than 1.5 per cent sucrose against an international standard of 5-15 per cent. (Wescobee Limited).

There are more floral sources ideal for honey making in Australia than any other country, giving Australia the widest range of tastes and colours. For example, honey from blue gum is a light amber whilst leatherwood honey from Tasmania is quick to candy and extra light in colour with a distinctive taste; honey from stringy bark is strong flavoured and a medium amber colour.

Industrial market

Rather than trading in individual packages for honey, the industrial market trades in bulk. This is usually achieved through moving honey in large 200 litre drums. It is thought that the future of the Australian honey market is not in the industrial bulk market but in the pre-packaged retail market due to the relatively low price for international bulk honey compared to pre-packaged retail prices.

Medicinal uses and health effects of honey

Australia's ageing population and the increased amount spent on health care provide opportunities for the industry to promote the use of honey as a therapeutic product. Australian producers may be able to command a price premium over generic honey imports by promoting therapeutic properties. Continual promotion of the product's healing capabilities compared to conventional medicines within large, high income markets such as Europe and North America provides the industry with the opportunity to diversify its farm income and tap into a potentially huge health care market.

5. THE IMPACT OF LAND MANAGEMENT AND BUSHFIRES

Land management and bushfires are both key issues for the honey bee industry. Another important issue that will be discussed in this section is the impact that the ongoing drought conditions may have on the industry.

Land management

While recognising that land management is primarily a state government issue, it should be noted that access to public forests is a key issue for the honey bee industry. The change in tenure of many timber producing state forests to nature reserve and national parks in recent years may also affect the access that the honey bee industry has to these areas.

Access to public forests is particularly critical in Tasmania, where the apiary industry is characterised by its leatherwood honey production. Approximately two-thirds of Tasmania's honey production is from leatherwood blossom which grows in rainforests in the southern and western half of the state within regions managed and controlled by state government authorities as either production forests or World Heritage Areas. The majority of beekeepers are dependent on land managed by Forestry Tasmania to access the leatherwood resource located within Special Timber Management Units.

In state forests, there are an estimated 17,000 hectares of leatherwood forests available for southern beekeepers. Forestry Tasmania is maximising access to this resource by working with beekeepers and through active management which excludes harvesting operations over two-thirds of this area.

Under the Tasmanian Community Forest Agreement (TCFA) announced on 13 May 2005 by the Prime Minister, the Hon John Howard, and the Premier of Tasmania, the Hon Paul Lennon, the Tasmanian Government agreed to contribute \$11.4 million to support the special species timber and the leatherwood honey industries. This included "low-impact access roading to special timbers management units, including leatherwood-rich stands" and to "provide beekeepers with rotating access to apiary sites to maintain sustainable supplies of leatherwood honey".

AHBIC was awarded an Action Partnership grant in August 2006 as part of the IPP. The project aims to develop and implement a National Environmental Code of Conduct. The project is due for completion in August 2007. The project objectives include:

- improve access to public lands and important honey supplies through improving the public perception of environmental practices;
- improve training of beekeepers on environmental issues and activities;
- initiate and implement an environmental management strategy which is expected to lead to greater profitability through further access to 'clean and green' markets; and
- identify an approach to respond to the research, skills and training needs of the beekeeping industry, pollination industries and support services.

Bushfires

The 2006-07 bushfire season has been particularly severe, with over 1.1 million hectares burnt in Victoria and large fires in New South Wales and Tasmania. The impact on many rural communities has been significant, with loss of life, homes, damage to agricultural assets and impacts on tourism. Large areas of severely burnt forest may not flower for some time, which may significantly impact on the resource available to the honey bee industry in these areas.

The future direction of land and fire management is of importance to the industry, as maintaining access and managing forest fuel loads to minimise the impact of large wildfires will benefit the industry. Conversely, poor land management and the resultant higher risk of unplanned bushfires will adversely impact on the industry through loss of floral resource. PISC and the Natural Resource Management Standing Committee (NRMSC) had a joint meeting recently in which they considered a paper on the 'Effects and Impacts of Bushfire'.

As a result of the discussion, the PISC and NRMSC joint meeting requested that the Forestry and Forest Products Committee and the Natural Resource Management Policies and Programs Committee prepare a paper on the future development of a forest fire management policy at a national level and to provide advice on the implementation of any outstanding recommendations from the COAG Inquiry on Bushfire Mitigation and Management.

This work is being done in the context of significant public debate which is centred on maintaining access for suppression activities and the amount of prescribed burning required to adequately manage fuel loads.

Drought conditions

Although not included in the Terms of Reference for this Inquiry, the ongoing drought and low availability of irrigation water will have important ramifications for the Australian honey bee industry.

Apiarists must ensure that honey bees kept in hives have adequate water supplies available. Some honey bees' main task in life is carting water: each bee may make up to 50 trips a day, each time collecting about 25mg of water. When the colony is very short of water other foragers will divert from collecting nectar and pollen to collect water.

Honey bees cannot survive without water for the following reasons:

- Temperature and humidity control - honey bee colonies must maintain their nest temperature at approximately 35°C. Young bees developing in the brood nest need to be kept at the right temperature and humidity. If the nest temperature was allowed to rise uncontrolled, wax combs would melt and the colony would be reduced to chaos.
- Brood rearing - water is also needed for feeding developing bees. The brood food they receive is secreted by worker bees and contains 70 per cent water. To produce this brood food, worker bees need to have access to honey, pollen and water.
- The dilution of food sources - when bees feed on honey, sugar syrup or nectar supplies (containing more than 50 per cent sugar) water is needed for dilution (Bees for Development Trust, 2006).

The ideal source of water is a permanent supply of clean, flowing water. Of course this is not always possible and if there is no permanent water source nearby (within 0.5km of the hive) then beekeepers need to provide water for their bees.

Water sources should be as near to the colony as possible. The further it is from the hive, the greater the energy used by bees in obtaining water and the smaller the honey surplus available to the apiarist at the end of the season.

Providing water for bees in relatively remote areas is time consuming and hence expensive. It can be more laborious if the need only arises occasionally and the beekeeper does not have the right equipment for the job (Benecke, 2003, p31).

Beekeepers are currently eligible to apply for drought assistance under the Exceptional Circumstances arrangements. Further detail is found under Term of Reference 7.

6. THE RESEARCH AND DEVELOPMENT NEEDS OF THE INDUSTRY

Honey bee industry R&D levy

The R&D Plan for the Honey Bee Program is consistent with the RIRDC Corporate Plan (2003-2008) and will be implemented in accordance with the provisions of the *Primary Industries and Energy Research and Development Act 1989*.

The Australian Government matches the compulsory levy for R&D paid by the honey bee industry up to a maximum of 0.5 per cent of Gross Value of Production (GVP) on a dollar-for-dollar basis on expenditure. In 2005-06 this figure was \$189,672.

R&D investment by RIRDC is intended to improve the productivity, sustainability and profitability of the Australian beekeeping industry. RIRDC has recently released a plan titled *Honeybee R&D Plan 2007-2012*, which follows on from previous R&D plans, the previous plan ran from 2002-2007. The R&D Plan for the Honey Bee Program identifies research on pollination services as an objective.

Honey levy and export charge

A domestic levy, or alternatively an export charge, is payable on honey to provide funding for research and development and residue testing programmes for the honey industry.

The domestic honey levy is payable on:

- honey produced in Australia; and
- honey produced in Australia and used in the production of other goods.

The honey export charge is payable on honey produced in and exported from Australia. No export charge is payable if domestic levy has already been paid on the honey to be exported.

The rate of the domestic levy/export charge for honey sold or used in the production of other goods from 1 July 2006 is 2 cents per kilogram. The rate prior to 1 July 2006 was 1.6 cents per kilogram. The rate will increase again on 1 July 2009 to 2.3 cents per kilogram.

The domestic levy/export charge rate of 2 cents per kilogram is split and distributed as follows:

- 1.2 cents per kilogram for research and development (RIRDC);
- 0.5 of a cent per kilogram for Emergency Animal Disease Response (EADR) levy; and
- 0.3 of a cent per kilogram for the National Residue Survey (NRS).

The following table shows levy collections for the domestic honey levy and the honey export charge.

Levy Collected	2005-06 \$	2006-07 \$	Levy Distribution \$		
			Levy	2005-06	2006-07
Honey Domestic	267,804	201,085	RIRDC	134,049	113,922
			NRS	50,293	32,709
			EADR	83,462	54,454
Honey Export	112,660	88,432	RIRDC	56,330	49,118
			NRS	21,124	14,743
			EADR	35,206	24,571

See Term of Reference 3 for further information on the EADR levy and the NRS levy.

Queen bee levy and export charge

A levy or an export charge is payable on queen bees to provide funding for research and development programmes for the queen bee breeding industry.

The queen bee levy is payable on queen bees that are produced in Australia and sold by the producer. The export charge is payable on queen bees produced in and exported from Australia. No export charge is payable if the domestic levy has already been paid on the queen bee to be exported.

The rate of levy/export charge for queen bees is calculated as follows:

- Queen Bees (Sold for \$20 & under) - 0.5 per cent of the sale price (excluding GST)
- Queen Bees (Sold for over \$20) - 10 cents per queen bee

The whole amount of queen bee levy/export charge is directed to research and development conducted by RIRDC.

Levy Collected	2005-06 \$	2006-07 \$
Queen Bee - domestic	5,613	4,544
Queen Bee - export	1,933	2,415

7. EXISTING GOVERNMENT WORK THAT HAS BEEN UNDERTAKEN FOR THE HONEY BEE INDUSTRY

DAFF's role is to develop and implement policies and programmes that ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable.

Our policies and programmes:

- encourage and support sustainable natural resource use and management;
- protect the health and safety of plant and animal industries;
- enable industries to adapt to compete in a fast-changing international and economic environment;
- help improve market access and market performance for the agricultural and food sector;
- encourage and assist industries to adopt new technology and practices; and
- assist primary producers and the food industry to develop business and marketing skills and to be financially self-reliant.

AQIS undertakes a major role in relation to honey bee issues. This includes assessing import permit applications for live bees and relevant bee products and issuing import permits for appropriate conditions. It also screens imported bees and bee products at the border to ensure compliance with Australian import conditions. These activities are undertaken on a fee-for-service basis.

As set out in relevant parts of the submission, the DAFF IPP has funded several initiatives for the honey industry. These include a Taking Stock and Setting Directions project and the current initiatives which aim to develop and implement a National Environmental Code of Conduct.

The IPP also co-funded with RIRDC a Honeybee Industry Linkages Workshop in April 2007. A report of the workshop is available from RIRDC.

The National Sentinel Hive Program is responsible for the provision, maintenance and quarterly examination of parasites at bee hives at 37 sites at/adjacent to high risk seas ports.

Appendix 2 has a detailed catalogue of existing work undertaken by DAFF in relation to the Australian honey bee industry.

CONCLUSION

DAFF's role is to develop and implement policies and programmes that ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable. The honey bee industry is one of the many industries DAFF works with to achieve these goals.

The honey bee industry creates value through the production of honey, queen and package bees, paid pollination services and other products including beeswax and bee venom.

Issues of importance for the industry that need to be dealt with include:

- a possible future skills shortage, as experienced people retire from the industry;
- maintenance of Australia's current pest and disease free status;
- land management and access rights, to secure the industry's resource base for the future; and
- continued research and development through the RIRDC programme on issues such as the value of pollination services.

DAFF plays an important role in developing and implementing the following policies and programmes which assist the Australian honey bee industry:

- Quarantine services and export certification;
- Biosecurity risk management;
- Market access assistance;
- Levy collection services; and
- Industry development grants.

DAFF will continue to work with the Australian honey bee industry in a range of capacities to ensure that it remains a competitive, profitable and sustainable industry.

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ACRONYMS

ABARE	Australian Bureau of Agricultural and Resource Economics
AHA	Animal Health Australia
AHBIC	Australian Honey Bee Industry Council
AQIS	Australian Quarantine and Inspection Service
AusBIOSEC	Australian Biosecurity System for Primary Production and the Environment
BA	Biosecurity Australia
CIE	Centre for International Economics
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries & Forestry
DEW	Department of the Environment and Water Resources
EAD	Emergency Animal Disease
EADRA	Emergency Animal Disease Response Agreement
EADR levy	Emergency Animal Disease Response levy
EPPRD	Emergency Plant Pest Response Deed
GVP	Gross Value of Production
ICON	Import Conditions database (AQIS)
IHS	Import Health Standard
IPP	Industry Partnerships Programme (DAFF)
IRA	Import Risk Analysis
LRS	Levies Revenue Service (DAFF)
NAQS	Northern Australia Quarantine Strategy
NRMSC	Natural Resource Management Standing Committee
NRS	National Residue Survey
NSHP	National Sentinel Hive Program
OCVO	Office of the Chief Veterinary Officer
PHA	Plant Health Australia
PIAPH	Product Integrity Animal and Plant Health Division (DAFF)
PISC	Primary Industries Standing Committee
R&D	Research and development
RIRDC	Rural Industries Research and Development Corporation
TCFA	Tasmanian Community Forest Agreement

APPENDIX 1: AUSTRALIAN HONEY BEE INDUSTRY TRADE STATISTICS

Statistics presented in this Appendix have been sourced from the Australian Bureau of Agricultural and Resource Economics (ABARE). Please note that the 'Total' columns presented in the tables represent the total export or import trade for a commodity; the columns are not the sum of the other 'country' columns in the table, which instead are a representation of the industry's largest trading partners. Please also note that the years used for the statistics are financial years and thus the year included in the tables are the end of financial year (i.e. 2006 is 2005-06).

Trade statistics

Table 1: Value of Australia's honey exports: total exports and main destinations (A\$)

Table 2: Volume of Australia's honey exports: total exports and main destinations (kg)

Table 3: Value of Australia's beeswax exports: total exports and main destinations (A\$)

Table 4: Value of Australia's beeswax imports: total imports and main destinations (A\$)

Table 5: Value of Australia's honey imports: total imports and major sources (A\$)

Table 6: Volume of Australia's honey imports: total imports and major sources (kg)

Graph 1: Australia's honey exports: average price (A\$/kg)

Graph 2: Australia's beeswax exports: average price (A\$/kg)

Graph 3: Balance of trade: imports versus exports (A\$)

Graph 4: Australia's honey exports: \$A value of the four largest markets in 2005-06 (%)

Table 1: Value of Australia's honey exports: total exports and main destinations (A\$)

Fin. Year	Total	UK	Canada	Saudi Arabia	Germany	Malaysia	Singapore	Indonesia	UAE	USA
1996	20,200,440	2,375,248	42,773	2,578,599	2,384,041	2,093,400	1,786,709	348,524	1,141,744	2,394,237
1997	28,577,835	4,577,055	53,299	3,591,699	4,513,799	2,820,101	3,551,940	897,261	847,769	2,341,605
1998	26,317,344	6,018,623	2,984	4,503,347	3,286,529	2,670,188	2,085,356	608,742	1,088,911	831,131
1999	24,682,625	4,099,351	8,080	3,506,310	3,771,737	2,622,773	2,333,675	1,138,322	1,322,883	691,060
2000	25,898,008	3,068,052	48,214	4,723,749	3,275,456	3,186,473	2,293,224	1,452,628	1,376,734	285,755
2001	23,042,194	3,535,728	151,944	4,010,311	1,534,397	2,809,847	2,416,715	1,495,535	1,791,044	648,402
2002	31,239,707	5,616,333	197,723	3,798,127	799,390	2,682,996	2,832,853	2,172,159	1,099,287	6,628,739
2003	27,023,852	8,388,626	443,028	1,914,226	196,374	2,629,342	2,541,050	5,306,051	969,949	539,547
2004	27,985,340	7,386,076	3,170,647	2,527,609	170,111	2,103,843	1,399,887	4,227,658	768,157	1,569,082
2005	30,399,627	6,216,467	5,547,289	3,449,903	685,039	1,550,444	1,146,118	3,292,217	727,641	1,511,521
2006	26,915,824	5,861,013	5,153,366	3,390,877	2,838,289	1,443,957	1,379,250	1,190,827	704,645	328,463

Source: ABARE Trade Statistics

Table 2: Volume of Australia's honey exports: total exports and main destinations (kg)

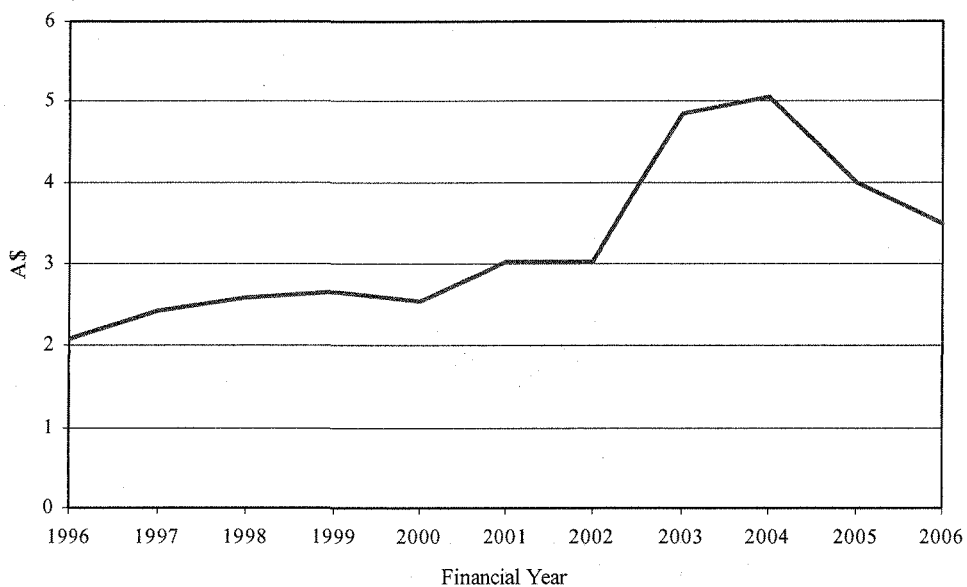
Fin. Year	Total	Germany	Canada	UK	Saudi Arabia	Singapore	Indonesia	Malaysia	UAE	USA
1996	9,756,353	1,351,096	21,445	1,366,389	1,170,023	875,082	184,344	814,268	420,323	1,236,107
1997	11,842,372	2,148,168	21,152	2,107,320	1,415,101	1,467,782	388,857	898,109	277,167	1,034,364
1998	10,227,672	1,707,850	960	2,625,966	1,625,730	781,265	244,494	900,632	318,311	342,821
1999	9,307,737	1,772,806	1,029	1,863,166	1,147,874	818,188	426,551	885,985	345,423	303,159
2000	10,205,757	1,633,848	8,562	1,600,890	1,774,076	889,858	655,648	1,061,161	364,014	108,140
2001	7,651,078	714,853	33,250	1,477,375	1,166,507	859,118	574,151	869,837	436,002	168,403
2002	10,337,740	314,987	48,549	1,597,618	1,088,558	841,458	1,116,267	757,100	258,095	2,857,136
2003	5,584,685	61,469	75,445	1,838,862	427,782	606,472	1,002,237	494,207	200,840	101,266
2004	5,540,533	21,162	626,829	1,303,891	681,347	247,154	762,314	354,321	176,802	461,581
2005	7,633,776	413,300	1,310,712	1,244,798	1,149,170	238,795	828,013	290,175	143,602	570,961
2006	7,735,948	1,384,506	1,383,014	1,357,225	1,172,207	432,375	387,706	315,713	156,178	66,237

Source: ABARE Trade Statistics

Note 1: Volumes and values may appear inconsistent when destinations are compared due to exchange rates and differences in prices.

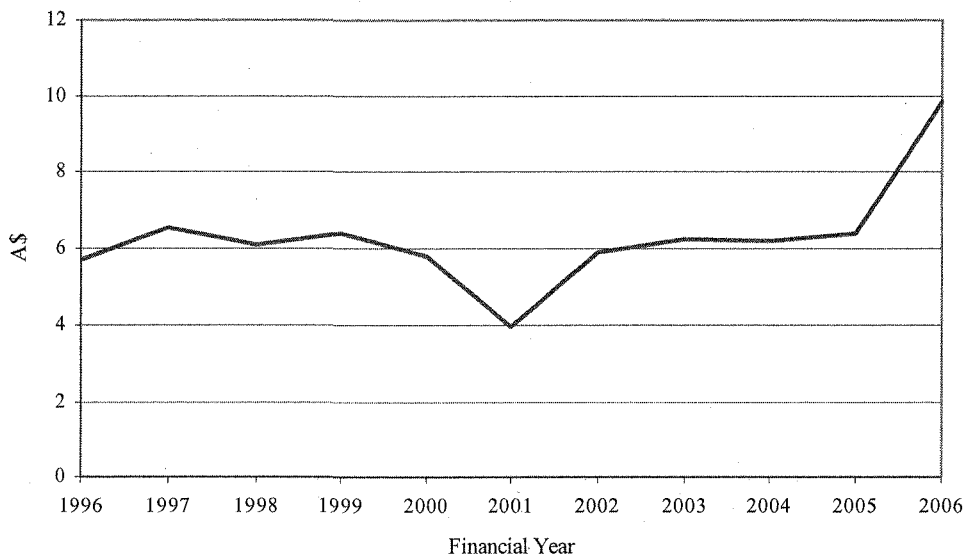
Note 2: All monetary terms are in nominal terms

Graph 1: Australia's honey exports: average price (A\$/kg)



Source: ABARE Trade Statistics

Graph 2: Australia's beeswax exports: average price (A\$/kg)



Source: ABARE Trade Statistics

Note: All monetary terms are in nominal terms

Table 3: Value of Australia's beeswax exports: total exports and main destinations (A\$)

Fin Year	Total value	Germany	France	USA	NZ	Singapore	Japan	UK
1996	1,922,525	397,491	479,192	334,709	27,445	3,484	35,146	300,931
1997	2,132,654	na	94,811	1,668,545	28,886	3,506	90,171	166,348
1998	2,314,152	104,762	499,892	724,839	1,152	na	2,941	328,023
1999	2,638,064	429,592	315,719	888,257	3,079	5,661	14,440	141,686
2000	1,729,202	275,523	202,491	773,148	19,364	8,358	7,260	244,769
2001	2,624,303	618,692	175,931	738,069	5,154	3,135	16,204	214,882
2002	2,002,518	237,672	173,079	579,521	142,555	3,017	15,800	258,375
2003	1,689,496	251,110	180,480	447,594	53,135	3,316	2,480	94,348
2004	1,467,589	379,366	190,500	371,127	118,236	6,755	20,105	na
2005	3,029,250	1,203,411	221,500	712,607	36,919	46,469	na	114,565
2006	3,806,908	1,031,040	235,283	687,538	68,544	298,244	85,798	400

Source: ABARE Trade Statistics, na = data not available

Table 4: Value of Australia's beeswax imports: total imports and main destinations (A\$)

Fin. Year	Total	France	Germany	NZ	UK	USA
1996	633,387	302	18,861	120,336	60,657	119,765
1997	378,772	3,324	76,078	91,821	8,565	15,000
1998	382,868	2,378	18,186	38,635	59,308	44,231
1999	286,542	na	255	96,395	32,537	30,522
2000	492,978	2,425	55,392	163,429	10,743	68,230
2001	347,026	5,650	314	93,842	2,267	76,827
2002	345,524	6,302	na	69,131	50,654	85,827
2003	597,763	49,300	21,108	101,067	5,337	52,474
2004	303,191	44,459	27,393	52,440	21,495	6,336
2005	654,919	9,996	127,788	53,267	33,942	47,238
2006	347,981	59,562	85,088	32,113	2,800	3,331

Source: ABARE Trade Statistics, na = data not available

Note: All monetary terms are in nominal terms

Table 5: Value of Australia's honey imports: total imports and major sources (A\$)

Fin. Year	Total value	NZ	USA
1996	79,753	37,948	417
1997	114,740	48,927	125
1998	96,705	70,545	151
1999	273,568	197,859	na
2000	764,691	471,208	169,863
2001	2,059,026	1,536,790	100,987
2002	8,310,132	2,712,129	2,871
2003	28,963,975	3,115,673	9,974
2004	23,621,116	4,585,813	5,908
2005	8,908,483	3,918,077	14,911
2006	6,194,407	4,800,900	32,937

Source: ABARE Trade Statistics, na = data not available

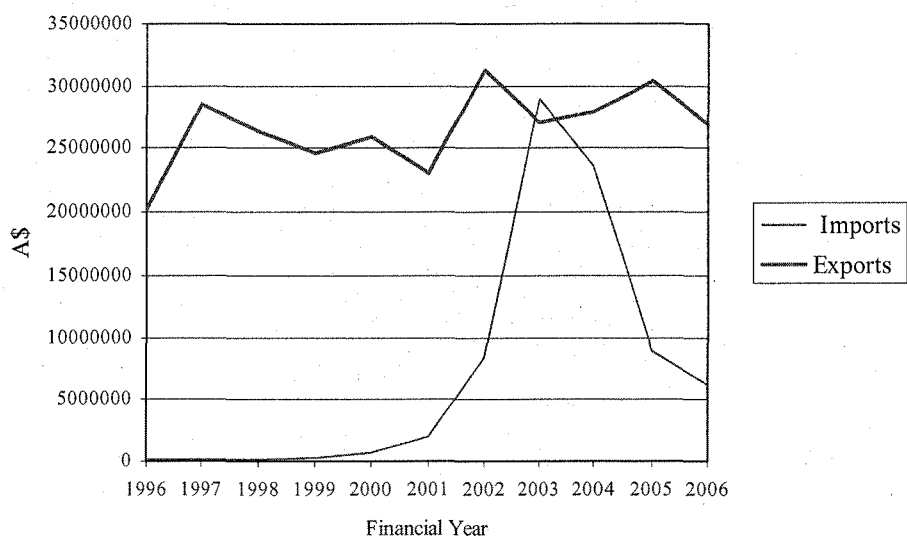
Table 6: Volume of Australia's honey imports: total imports and major sources (kg)

Fin Year	Total volume	NZ	USA
1996	16,548	9,832	5
1997	15,764	8,188	26
1998	18,090	14,110	27
1999	40,354	29,544	na
2000	167,227	56,792	68,263
2001	305,280	172,826	35,757
2002	3,045,899	258,705	330
2003	6,709,292	288,158	2,660
2004	5,500,232	369,999	1,220
2005	1,747,574	308,372	2,266
2006	1,025,074	300,954	7,678

Source: ABARE Trade Statistics, na = data not available

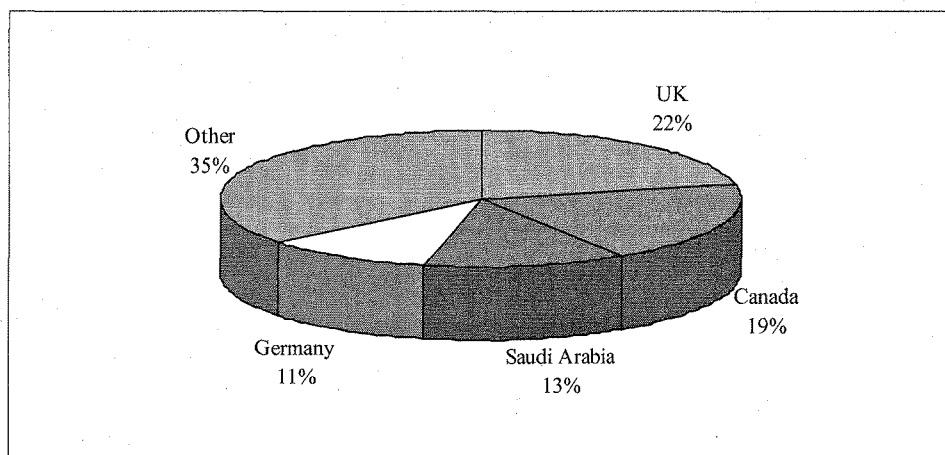
Note: All monetary terms are in nominal terms

Graph 3: Balance of trade: imports versus exports (A\$)



Source: ABARE Trade Statistics

Graph 4: Australia's honey exports: \$A value of the four largest markets in 2005-06 (%)



Source: ABARE Trade Statistics

Note: All monetary terms are in nominal terms

APPENDIX 2 - EXISTING DAFF WORK THAT HAS BEEN UNDERTAKEN FOR THE HONEY BEE INDUSTRY

Area of existing government work	Are there other jurisdictions/agencies involved?	Description of programme/policy
AQIS (Animal and Plant Quarantine Group): Assessing import permit applications for live bees and relevant bee products and issuing import permits with appropriate conditions	Biosecurity Australia has provided AQIS with advice on risks and recommended conditions that will limit the risk to an acceptably low level. These conditions are publicly available through the ICON database on the AQIS website	This involves considering applications for import permits for bees and bee products, in accordance with the requirements of the relevant quarantine legislation, including consideration of what conditions are available to limit the quarantine risk to an acceptably low level.
AQIS (regional staff): Screening imported bees and bee products at the border to ensure compliance with Australian import conditions	AQIS utilises the Customs Integrated Cargo System (ICS) to target consignments of imported bees/bee products for quarantine intervention	Commercially imported consignments of bees and bee products must be inspected or assessed at the border to ensure that they comply with Australia's quarantine import conditions. These activities may involve the physical examination of import consignments or the assessment of documentation.
AQIS (NAQS): Conducting surveys in coastal areas of northern Australia and neighbouring countries for exotic bees and bee parasites	No	The NAQS programme carries out surveys in coastal areas from Cairns to Broome and in Indonesia, Papua New Guinea and Timor Leste to identify targeted pests and diseases that may enter through natural movements.
AQIS: Managing imported bees in post-entry quarantine. Government funding of \$23,000 (anti-smuggling subsidy) in 2005-06	No. However, AQIS contracts NSW Department of Primary Industries (DPI) to provide husbandry for maintaining the bees during quarantine	Imported bees are held in post-entry quarantine at a purpose built facility at Eastern Creek Quarantine Station, in New South Wales.
AQIS: Provision of export documentation	Yes, export certificates are issued when supported by animal health and/or food safety declarations made by applicable state/territory government agencies such as state Departments of Primary Industries and/or Food Safety Authorities	Export certificates are issued where requested by the exporter or required by an importing country authority. Certificates are only issued where requested declarations and statements are supported by objective evidence.

AQIS: Development of export controls for honey and bee products to specific markets	No	In consultation with the honey bee industry, AQIS develops mandatory export controls for honey and other bee products for human consumption to specific markets including the European Union, Canada, Papua New Guinea, Brazil and China.
Drought Assistance under the Exceptional Circumstances arrangements.	<p>The Exceptional Circumstances Relief Payment (ECRP) is administered by Centrelink, and is paid fortnightly at a rate equivalent to the Newstart Allowance.</p> <p>The Exceptional Circumstances Interest Rate Subsidy (ECIRS) is administered by the state rural adjustment authorities.</p>	<p>Beekeepers located in EC declared areas are eligible to apply for income support, in the form of ECRP, and business support, in the form of ECIRS.</p> <p>The Department has limited information available on the number of beekeepers in receipt of EC assistance.</p> <ul style="list-style-type: none"> • In the 2006-07 financial year (as at 6 April 2007), 41 beekeepers are receiving the ECRP, at a total cost of over \$296,600. • As at 6 April 2006, 17 beekeepers had received at least one ECIRS payment, at a total cost of \$169,006 (total since July 2001). It should be noted that ECIRS figures do not contain statistics from Western Australia or South Australia, so there may be further beekeepers in receipt of business support.
Emergency Animal Disease Response (EADR) levy	No	The EADR levy is imposed on honey at the rate of 0.5c/kg to fund the honey industry's share of the costs of agreed responses to emergency animal disease incursions under the provisions of the Emergency Animal Disease Response Agreement (EADRA).
Import Risk Analysis – honey bee semen	No	Biosecurity Australia develops quarantine policies based on sound scientific principles to protect Australia's bees and their natural environment from exotic pests and diseases, and also to enhance Australia's access for bees to overseas markets. The IRA of honey bee semen is being conducted in response to an access request from AHBIC.

<p>Industry Partnerships Taking Stock and Setting Directions project (2005) \$89,650 (GST inc)</p>	<p>No</p>	<p><i>Taking Stock and Setting Directions</i> projects provide national agriculture, fisheries and forestry sectors the opportunity to evaluate their current situation and performance, as well as identify opportunities and threats that are likely to confront them over the next five to ten years. Industry supported strategies are developed as a result of this analysis. The outcomes of the projects are better positioned industries which have the skills and strategies to take advantage of opportunities and address threats.</p> <p>An independent consultancy was engaged to undertake the Taking Stock and Setting Directions project which involved:</p> <ul style="list-style-type: none"> • a comprehensive economic overview of all facets of the honey bee industry; • an assessment of the strengths, weaknesses, opportunities and threats (SWOT Analysis) of the individual industry segments of the honey bee industry; • a detailed assessment of the industry structure and other issues; • a strategic risk assessment including impact matrix, sources and categories of risk; and • information to support an industry shared vision for future options to move forward. <p>The resulting document was: Centre for International Economics (CIE) (2005) <i>Future directions for the Australian honeybee industry</i>, CIE, Canberra</p>
<p>Industry Partnerships Action Partnership project \$164,450 (GST inc)</p>	<p>No</p>	<p><i>Action Partnerships</i> projects provide funding support (a grant) for industry organisations at the national level to undertake short term catalytic projects that have been identified as imperative to the future performance and positioning of their industries. The projects focus on major</p>

		<p>issues or opportunities that need to be addressed by industries and government working together.</p> <p>AHBIC was awarded an Action Partnership grant in August 2006. The project aims develop and implement a National Environmental Code of Conduct. The project is due for completion in August 2007. The project objectives are to:</p> <ul style="list-style-type: none"> • improve access to public lands and important honey supplies through improving the public perception of environmental practices; • secure honey supply for future industry expansion, increase sustainability within the industry, and increase resilience to adverse weather and market conditions; • improve training of beekeepers on environmental issues and activities; • initiate and implement an environmental management strategy which is expected to lead to greater profitability through further access to 'clean and green' markets; and • identify an approach to respond to the research, skills and training needs of the beekeeping industry, pollination industries and support services.
National Residue Survey (NRS) Honey Residue Testing Programme	AQIS	DAFF has management of residue testing programmes.
National Sentinel Hive Program (NSHP)	Yes, all state and territory Departments of Primary Industries, CSIRO and AHBIC	<ul style="list-style-type: none"> • Provision, maintenance and quarterly examination for parasites of bee hives at 37 sites at/adjacent to high risk sea ports. • Provision, maintenance and quarterly examination for exotic bees of log traps at 7 sites at/adjacent to high risk sea ports.

<p>Research and development model – matching government contributions. \$189,672 (2005-06)</p>	<p>The R&D levy is collected by the DAFF Levies Revenue Service.</p>	<ul style="list-style-type: none"> • The honey bee industry is included under the established industries programme of RIRDC. • The Australian Government matches the compulsory levy for R&D paid by the honey bee industry up to a maximum of 0.5 per cent of Gross Value of Production (GVP) on a dollar-for-dollar basis on expenditure. In 2005-06 this figure was \$189,672. • R&D investment by RIRDC is intended to improve the productivity, sustainability and profitability of the Australian honey bee industry. Under the <i>Honeybee R&D Plan 2007-2012</i>, six objectives have been identified.
<p>RIRDC Honeybee Industry Linkages Workshop, 23-24 April 2007 IPP funding: \$13,200 (GST inc)</p>	<p>RIRDC</p>	<p>The IPP contributed funding to RIRDC to support a national workshop that aims to examine:</p> <ul style="list-style-type: none"> • future honey bee and pollination research and development capability and funding; • education and training requirements to support honey bee and pollination production, research and extension; and • information dissemination amongst the honey bee and pollination reliant industries. <p>A workshop report has been produced following the event which was held 23-24 April 2007. This report is available from RIRDC. Attendees included representatives from the honey bee industry, pollination reliant industries, government departments and research and development organisations.</p>