Senate Rural and Regional Affairs and Transport References Committee

Inquiry into the future of beekeeping and pollination service industries in Australia

Written Questions Taken on Notice

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ANSWERS TO QUESTIONS ON NOTICE

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Department of Agriculture

Question: Written 1

Topic: Varroa mite interceptions

Proof Hansard page: Written

The Committee asked:

The committee has heard that Varroa mites were intercepted in Townsville in March this year and in Sydney in November 2012. Would you inform the committee:

- what steps were taken in those incidents?
- how does the National Sentinel Hive Program work and what is the probability that it would detect resistant and non-resistant varroa mites arriving at a port?
- how is the Commonwealth made aware of varroa incursions into Australia?
- how does the Commonwealth deal with a detected incursion of varroa mite?
- what are the chances that there is an incursion of varroa in Australia and the Commonwealth is unaware of the fact?

Answer:

1. When bees or bee swarms are detected at the border they are exterminated and submitted to the department's entomologists where they are identified and screened/dissected for the presence of varroa mite and other parasitic mites (e.g. tracheal mites). Stakeholders, including industry and state and territory governments are informed of the interception.

2. The National Bee Pest Surveillance Program, which replaced the National Sentinel Hive Program in 2012 is a risk-based surveillance program for bee pests and pests of bees at high risk ports. It is administered by Plant Health Australia and is funded jointly by the Australian government ($66,000 per annum), Horticulture Australia Limited ($75,000 per annum) and the honey bee industry ($75,000 per annum) until 30 June 2015, at which point a review will be undertaken. This builds on funding provided by the Australian Government since 2000 for surveillance activities at high risk ports to provide early warning for bee pests.

   During 2013 as part of the National Bee Pest Surveillance Program, 128 sentinel hives for bee parasites were maintained at seaports and airports across Australia that receive significant volumes of imported cargo or regular berthing of vessels from international locations where exotic pests of honey bees are known to occur (Table 1). This is an increase from the 26 sentinel hives that were managed throughout Australia in 2011, and 92 sentinel hives that were managed throughout Australia in 2012.

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Department of Agriculture

Question: Written 1 (continued)

Table 1: Locations of sentinel hives included in the National Bee Pest Surveillance Program

State/territory	Name of area (number of sentinel hives)	State/territory	Name of area (number of sentinel hives)
New South Wales	Port Botany (6)	South Australia	Port Adelaide (6)
	Newcastle (6)		Port Pirie (6)
	Wollongong/Port Kembla (6)	Tasmania	Hobart (8)
	Richmond (1)		Devonport (4)
	Goodward Island (1)		Bell Bay (4)
	Darling Harbour (1)		Burnie (4)
	Kurnell (1)	Victoria	Melbourne (5)
	Chifley (1)		Geelong (10)
	Jervis Bay/HMAS Creswell (1)		Portland (2)
Northern Territory	Darwin (4)		Westernport (5)
	Darwin Airport (4)	Western Australia	Fremantle (6)
	Berrimah Farm (4)		Kwinana (1)
Queensland	Brisbane (6)		Perth Airport (4)
	Cairns (6)		
	Townsville (6)		

Additionally, during 2013 more that 54 catch boxes (empty hives) were deployed as an additional surveillance measure for detecting swarms of exotic bees, as well as an effective means of continually testing the local population of European honey bees. Trials on remote surveillance catchboxes are currently being undertaken, with five remote surveillance boxes being placed in Brisbane, Gladstone and Weipa (Queensland) and Darwin (Northern Territory).

Diagnostics are used to determine whether varroa mite and other parasitic mites are present but not whether they are resistant or non-resistant.

3. In addition to the Commonwealth's inspection and mandatory reporting activities, it could be informed of the presence of exotic bees which may be carry varroa mite by workers at the ports, state and territory governments, industry and the general public.

4. Nationally agreed arrangements are in place which formalise the management and funding of responses to emergency plant pests, including varroa, should they be detected in Australia. The honey bee industry is signatory to the Emergency Plant Pest Response Deed which is the legally binding agreement between Plant Health Australia, the Australian Government, all state and territory governments and national plant industry body signatories. Industries that stand to be affected or benefit by the eradication of a honey bee pest can now contribute to the decision making and funding processes of any agreed emergency response actions.

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Question: Written 1 (continued)

5. Experience from New Zealand suggests that varroa could be present for an extended period before it is detected. From an Australian perspective, if eradication was to be technically successful, it is generally accepted that it would need to be detected and destroyed early near the source of infestation (Animal Health Australia 2010). Surveillance and awareness amongst bee keepers of the symptoms of varroa and other bee pests increases the opportunity for early detection.

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Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 2

Topic: Varroa mite interceptions

Proof Hansard page: Written

The Committee asked:

Beechworth Honey Group indicated in their submission that bee pests are classified as category 3. Could you tell the committee:

- how Varroa mite is categorised?
- how is industry is consulted when determining the category?
- when and how was the decision made on the varroa mite categorisation?
- what independent assessment of the economic value of bees was used as an input to the decision on varroa mite?
- What are the thresholds for varroa mite to be classified at category 2 or category 1?

Answer:

Nationally agreed response arrangements are in place with livestock and plant industries, the Australian, state and territory governments and Animal and Plant Health Australia which formalise the governance and cost sharing arrangement for a response to an emergency plant or animal pest or disease.

In April 2010 the honey bee industry became signatory to the Emergency Plant Pest Response Deed (EPPRD) managed by Plant Health Australia following acceptance by all EPPRD parties, reflecting the importance of honey bees to plant industries. As such, plant industries that stand to be affected or benefit by the eradication of a honey bee pest can now co-fund future agreed emergency response actions. The honey bee industry is also signatory to the Emergency Animal Disease Response Agreement (EADRA), managed by Animal Health Australia but is currently reconsidering its signatory status.

- Under EADRA, *Varroa destructor* is categorised as a Category 2 and *Varroa jacobosoni* is a Category 4 emergency animal disease. Pests of bees have not yet been categorised under the EPPRD; however the department has been advised that the Australian Honey Bee Industry Council has indicated to Plant Health Australia that it wishes to pursue the categorisation of emergency plant pest of bees as a priority, to formalise the transition from the EADRA to the EPPRD.
- The EPPRD stipulates a formal categorisation process which includes a nominee from each Industry Party affected by the emergency plant pest being categorised, in addition to a technical expert nominated by the Industry Party(s).

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Question: Written 2 (continued)

- Categorisation of *Varroa destructor* and *Varroa jacobsoni* has not yet occurred under the EPPRD. On receipt of a substantiated request from an Affected Party, Plant Health Australia will commence a categorisation process in accordance with the requirements set out in the EPPRD (Schedule 3 – Categories of Emergency Plant Pests and Schedule 8 – Consultation).
- The EPPRD stipulates that membership of a categorisation process should include a person with relevant economic expertise, nominated by the Chairman of Plant Health Australia.
- The EADRA and EPPRD have comparable categories of cost sharing, as follows:

Category	Cost Sharing split	EADRA Description	EPPRD Description
1	100% Government: 0% Industry	These are Emergency animal Diseases (EADs) that predominantly seriously affect human health and/or the environment (depletion of native fauna) but may only have minimal direct consequences to the livestock industries.	These are Emergency Plant Pests (EPPs) which if not eradicated would: • cause major environmental damage to natural ecosystems; and/or • potentially affect human health or cause a major nuisance to humans; and/or • cause significant damage to amenity flora; and • have relatively little impact on commercial crops. This category also covers situations where the EPP has a wide range of hosts including native flora and there is considerable uncertainty as to the relative impacts on Crops. In short, it is almost impossible to properly determine which cropping sectors benefit from eradication and to what extent, and in any case the incursion primarily affects native flora and/or amenity plants, and/or is a major nuisance if not a health risk to humans. The eradication of Category 1 EPPs would have very high public benefits.
2	80% Government: 20% Industry	These are EADs that have the potential to cause major national socio-economic consequences through very serious international trade losses, national market disruptions and very severe production losses in the livestock industries that are involved. This category includes diseases that may have a slightly lower national socio-economic consequences, but also have significant public health and/or environmental consequences.	These are EPPs which if not eradicated would: • cause significant public losses either directly through serious loss of amenity, and/or environmental values and/or effects on households, or indirectly through very severe economic impacts on regions and the national economy, through large trade losses with flow on effects through the economy; and • impose major costs on the affected cropping sectors such that the cropping sectors would benefit significantly from eradication. The eradication of Category 2 EPPs would have high public benefits

Question: Written 2 (continued)

3	50% Government: 50% Industry	These are EADs that have the potential to cause significant (but generally moderate) national socio-economic consequences through international trade losses, market disruptions involving two or more states and severe production losses to affected industries, but have minimal or no affect on human health or the environment.	These are EPPs which if not eradicated would primarily harm the affected cropping sectors but there would also be some significant public costs as well (that is, moderate public benefits from eradication). The EPP could adversely affect public amenities, households or the environment, and/or could have significant, though moderate trade implications and/or national and regional economic implications. The eradication of Category 3 EPPs would have moderate public benefits.
4	20% Government 80% Industry	These are EADs that could be classified as being mainly production loss diseases. While there may be international trade losses and local market disruptions, these would not be of a magnitude that would be expected to significantly affect the national economy. The main beneficiaries of a successful emergency response to an outbreak of such a disease would be the affected livestock industry(s).	These are EPPs which if not eradicated would: • have little or no public cost implications and little or no impacts on natural ecosystems. The affected cropping sectors would be adversely affected primarily through additional costs of production, extra control costs or nuisance costs; and • generally there would be no significant trade issues that would affect national and regional economies. The eradication of Category 4 EPPs would have mainly if not wholly private benefits.

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ANSWERS TO QUESTIONS ON NOTICE

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Department of Agriculture

Question: Written 3

Topic: Implementation of the honey bee and pollination continuity strategy

Proof Hansard page: Written

The Committee asked:

In 2010 the Department released a document titled 'A honey bee industry and pollination continuity strategy should varroa become established in Australia'. The strategy had 10 proposed actions. Can you update the committee on the progress of implementing these actions?

Answer:

Action 1: Those parties with an interest in implementing the strategy, including industry bodies, government biosecurity, and industry development staff and scientists, should decide on an arrangement to ensure the strategy is implemented in a timely and efficient manner.

Progress: Parties with an interest in the strategy agreed on 16 March 2011 that Plant Health Australia (PHA) coordinate, monitor and report on the strategy's implementation. PHA established the Varroa Continuity Strategy Management Committee (VCSMC) to assist with the task and the Department of Agriculture contributed $75,000 over two years (2011-12 and 2012-13) to PHA to undertake this work. The committee met four times between July 2011 and June 2013. Membership of the VCSMC consisted of representatives from:

- PHA (secretariat and Chair)
- Australian Government Department of Agriculture
- Australian Honey Bee Industry Council (AHBIC)
- Horticulture Australia Limited (HAL)
- CSIRO
- A commercial pollination specialist
- Department of Agriculture and Food Western Australia
- New South Wales Department of Primary Industries
- Victorian Department of Environment and Primary Industries

Members of RIRDC's Honey Bee Advisory Committee and the RIRDC-HAL Pollination Program Advisory Committee attended meetings of the VCSMC as observers.

The VCSMC monitored and reported on progress of actions 2-10 (below). An update on the implementation of the strategy was provided to National Biosecurity Committee on 8 August 2013.

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Question: Written 3 (continued)

AHBIC identified the need for it to take a leadership role on honey bee biosecurity. The department provided AHBIC with seed funding of $73,700 (GST incl.) to develop its biosecurity management strategy. AHBIC's overarching *National Bee Biosecurity Program* will incorporate the outcomes of finishing programs (varroa continuity strategy and the Asian honey bee transition to management program), as well as those that are continuing (surveillance, research and development and preparedness, response and management activities) and provide a framework for industry to agree on future biosecurity actions.

Action 2: A communication plan should be developed and implemented to ensure consistent information on varroa is available through all Australian government agencies and industry bodies regarding the steps that can be taken to prepare for, and respond to, the pest. The target audience should include beekeepers, farmers and the public. The plan would be separate from the communication plan put in place during the emergency response phase.

Progress: The VCSMC developed two communication plans and a recommendations report.

- *Varroa Continuity Strategy Communication Plan*: aims to ensure that all audiences are prepared for, and can respond quickly and calmly to an incursion of varroa and its possible establishment.
- *Varroa Mite Emergency Communication Framework*: provides guidance on key messages and stakeholders to be contacted during an emergency response to an incursion of varroa.
- *Emergency Communication Framework Recommendations*: recommendations on preparing an emergency communication framework for other Emergency Plant Pests, or Emergency Animal Diseases which fall under similar criteria to varroa.

Drafts of the *Varroa Mite Emergency Communication Framework* and *Emergency Communication Framework Recommendations* were presented by PHA at the National Communication Network (NCN) meeting on 11 April 2013. Comments provided by the NCN and the Department of Agriculture's Communications Branch were incorporated into the final reports.

PHA is continuing to work with RIRDC, HAL and AHBIC on developing and implementing the *Varroa Continuity Strategy Communication Plan* through the RIRDC Honey Bee Advisory Committee and the RIRDC-HAL Pollination Program Advisory Committee. The communication plan was incorporated into the RIRDC-HAL Pollination Program's contract with CoxInall, who conduct extensive communication in this area on recently completed research projects.

Action 3: Industry, state and territory government agencies and other education organisations should continue to conduct training workshops for beekeepers on business management; integrated pest management practices, including husbandry practices, chemical handling, including correct use and withholding periods (e.g. Chemcert training); and other management practices to control varroa.

Question: Written 3 (continued)

Progress: The VCSMC decided that it would be better to conduct training workshops on varroa management after varroa mite establishes in Australia. These workshops had been conducted in the past, with very little return for investment (i.e. an incursion of varroa did not occur, and the benefits of conducting the training were not delivered). The VCSMC considered that a website was a more appropriate and cost-effective communication tool, given varroa was yet to establish here and the limited resources available.

PHA has received funding from the RIRDC-HAL Pollination Program to develop an Australian Bee Health and Management website, called BeeAware. This website will contain information on established and exotic pests and diseases (20 in total), including aspects of varroa biology, management practices, videos on varroa treatments and chemical information. It will also provide pollination training materials for pollinator reliant plant industries, and a best practice guideline for receiving and delivering pollination services.

The Australian Bee Health and Management website will be formally launched by the PHA Chairman (Dr Tony Gregson AM) at the Victorian Apiarist Association conference on the 7th of July.

NSW DPI has developed a two-day accredited training course, '*Pests and Diseases of Honey Bees'*, which covers many aspects of Action 3. Information relating to this accredited training course and others will be advertised on the BeeAware website as an incentive for beekeepers to attend these workshops. NSW DPI has recently published the new AgGuide 'Healthy bees', which is based on its training course. NSW DPI is also working with TOCAL Ag college on delivering this as an e-book, as well as an i-book, which links to videos on key issues, such as pest and disease management and surveillance techniques for varroa.

Action 4: Industry and government agencies should maintain and progress the provisional registration of chemicals, including complementary chemicals (organic acids and essential oils) and biological controls, to treat varroa, and regularly review their status as new treatments become available overseas.

Progress: The Department of Agriculture holds emergency use permits for Bayvarol (Flumethrin) and Apistan (Tau-fluvalinate) through PER11761. The department also holds an emergency use permit for Apiguard (Thymol gel) through PER12920. All three chemicals can be used for varroa mites. The permits are due to expire on 30 September 2015. PHA is working with BASF to pursue an Emergency Use permit for Mite Away Quick Strips (Formic Acid). This application will be provided to the APVMA in June 2014.

A private company is seeking registration for both Apistan and Apiguard through the APVMA.

Question: Written 3 (continued)

In 2011 HAL funded minor use applications for Bayvarol, Apistan and Apivar (Amitraz), but the applications stalled as chemical manufacturers declined to provide evidence of Good Manufacturing Practice to the consultant employed by HAL. For reasons of competitive neutrality, HAL has decided to not contribute funding to further applications, given a private company is proceeding with a privately funded application.

Action 5: Crop and honey bee industry agencies, with the assistance of government agencies, should develop suitable pollination management training materials and quality assurance standards.

Progress: The RIRDC-HAL Pollination Program has funded the development of many pollination management training materials, and this has been collated by the VCSMC. This includes:

- *Honeybee pesticide poisoning: A risk management tool for Australian farmers and beekeepers* by Daryl Connelly (2012) RIRDC Publication No. 12/043. This report covers the risk of beekeepers providing hives for pollination services and list chemicals that may be used by growers which are harmful for honey bees. It effectively covers many of the risk of horticultural chemicals during pollination.
- *Pollination of Crops in Australia and New Zealand* by Mark Goodwin (2012) RIRDC Publication No. 12/059. This was completed by Dr Mark Goodwin of Plant and Food Research, a notable expert in this area. It is an authoritative text for every beekeeper and plant industry that relies on honey bees for pollination. This report covers pollination contracts, what is required of beekeepers and growers of crops, chemicals that are harmful to bees as well as stocking and placement rates for a wide variety of crops.
- *Bee Friendly: A planting guide for European honeybees and Australian native pollinators* by Mark Leech (2012) RIRDC Publication No. 12/014. This report highlights an alternative scenario for increasing pollination levels, by planting melliferous flora in the surrounding area to keep a stable level of pollinators in the natural landscape.

Apart from these three main reports, a variety of other pollination reports have been published by the RIRDC-HAL Pollination Program and these have been collated by the VCSMC. This includes the *Pollination Aware* fact sheets on more than 25 crops, as well as quality assurance standards as developed through the industry accredited scheme B-QUAL.

Much of the already available information will be collated on the Australian Bee Health and Management website (BeeAware.org). The website will also contain detailed checklists on the responsibility of the beekeeper when providing pollination services, and for the grower when receiving pollination services.

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Department of Agriculture

Question: Written 3 (continued)

Action 6: Farmers producing crops that respond to honey bee pollination, and industry groups representing these farmers, should work with their pollination providers to develop enterprise and industry level continuity arrangements should farmers become wholly reliant on managed honey bees for pollination. These arrangements should be designed to lessen the impact of potential border and regional control measures that may limit the movement of hives.

Progress: PHA is undertaking a project for the almond industry, with input from the apple and pear, avocado, vegetable, canning fruit, cherry, dried prune, melon and onion industries. This project will develop a broad industry continuity strategy in the event of a varroa incursion, including a pollination simulation workshop (Workshop Acari will be held at Mildura on 11-12 June 2014), which will explore the potential affect of a lack of hives, due to a standstill or control/management zones, on the industries; the ability for the industries to take preventative measures to avoid this from happening; and, the industries eligibility for Owner Reimbursement Costs for such an event. This project will be completed by the end of 2014.

Crop industries differ in their reliance of honey bees for pollination. The almond industry, which is strongly reliant on honey bee pollination and strongly geographically concentrated in northern Victoria, is the industry most at risk in the event that the interstate movement of hives was not possible in the lead up to flowering. The VCSMC considers that the lucerne seed industry, which is concentrated in South Australia, could have its needs for hives met from within state borders in the event that the interstate movement of hives was not possible.

Action 7: Farmers producing crops that are insect-pollinated should investigate using or increasing their use of paid pollination services that may lead to improved yields and returns, and encourage the crop pollination industry to provide additional services.

Progress: The RIRDC-HAL Pollination program has used the rural and industry press to communicate to farmers the need to explore the use of paid pollination services now, before varroa arrives in Australia. Relevant crop industries (e.g. blueberries, macadamias) have participated in honey bee industry conferences. The CSIRO has supported field trials in the faba-bean and almond industries.

Action 8: At risk industries and state and territory governments should build on the outcomes of the Plant Health Australia varroa incursion scenario workshop of 2009 (Turner, 2010). They should cooperate on developing in-principle regulatory arrangements and guidelines to delineate control and management zones, before an incursion, to optimise the twin objectives of controlling the spread of varroa and minimising the disruption to the honey bee and honey bee pollination-responsive crop industries.

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Department of Agriculture

Question: Written 3 (continued)

Progress: PHA has drafted a *Varroa Mite Control and Management Zone Recommendations Report*. The report provides information to help support future decisions about management and control zones for a varroa incursion in Australia. This includes information on the movement of hives throughout Australia (in response to honey flows and pollinating crop requirements); the responses undertaken and lessons learned from varroa incursions in Canada and New Zealand; and factors to be considered in designing effective control and management zones in Australia.The report was provided to National Biosecurity Committee on 8 August 2013.

This report builds on other reports that have been conducted in this area, including:

- Hafi A, Millist N, Morey K, Caley P, Buetre B (2011) A benefit-cost framework for responding to an incursion of Varroa destructor. ABARES report to client prepared for the National Biosecurity Committee, Canberra.
- Bresolin N and Peterson S (2009) Collection of data and information about pollination-dependent agricultural industries and the pollination providers. Plant Health Australia – Final Report to the Department of Agriculture, Fisheries and Forestry (DAFF).
- Gordon R, Bresolin-Schott N, East IJ (submitted) A network analysis of beekeeper movements to map the potential for disease spread in the honeybee industry.

The broader issue of management and control zones for varroa will be explored in the broader context of appropriate control and management zones for all exotic and endemic bee pests and diseases, which will be further discussed during the establishment of the National Bee Biosecurity Program.

Action 9: Before varroa becomes established, governments should develop a detailed transition-into-management plan, with the participation and support of industry and other stakeholder groups.

Progress: A *Varroa Transition to Management Program* was prepared by PHA in consultation with the VCSMC. The final version of the plan was endorsed by the fourth meeting of the VCSMC. The report was modelled on the Asian Honey Bee and Myrtle Rust Transition to Management Program reports.

Action 10: Relevant industry and government organisations should coordinate their research, development and extension efforts to focus on gaps in understanding the economic benefits of crop pollination, determining and supporting the uptake of best management crop pollination practices, understanding the role of native (alternative) pollinators in providing pollination services and ways to enhance this contribution, bee breeding and honey bee pest and disease management. This should be directed towards:

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Department of Agriculture

Question: Written 3 (continued)

- improving the efficiency of crop pollination by managed honey bees (more pollination by fewer bees)
- maintaining or increasing the level of free pollination from wild insects when feral honey bees are lost
- quantifying the current role of feral honey bees and other insect pollinators in the pollination of Australian crops under Australian field conditions and the benefit of using commercial pollination services
- better understanding the biology and pathology of the varroa honey bee interactions at a genetic and physiological level
- better understanding the role of secondary pathogens (e.g. viruses) in bee mortality, and the scope for directly reducing the impact of secondary infection.

Progress: The VCSMC, which had shared membership with RIRDC's Honey Bee Advisory Committee and the RIRDC-HAL Pollination Program Advisory Committee (and further members from these two committees present as observers), was a useful coordination mechanism.

The Department of Agriculture worked with the VCSMC to develop an *R&D Priority Statement*, which was endorsed by the members of the VCSMC. This document sets out a series of broadly agreed priorities, and aims to provide direction to current R&D work and to influence funding agencies in their consideration of funding proposals aligned with the *R&D Priority Statement*. The statement highlights four key research and development overarching priorities, including:

- improving the efficiency and effectiveness of crop pollination under Australian conditions
- keeping managed honey bee healthy
- improving the cost efficiency of beekeeping businesses and overcoming barriers to the expansion of the paid pollination services sector
- refining surveillance and monitoring systems.

The *R&D Priority Statement* was launched by the Minister for Agriculture in February 2014 and is available on the department's website.

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Department of Agriculture

Question: Written 4

Topic: Implementation of the honey bee and pollination continuity strategy

Proof Hansard page: Written

The Committee asked:

Would you provide the committee with a summary of the finding of the tests conducted on imported honey over the past 5 years, including trends in the numbers of tests and detections of:

- chemical residues
- antibiotic residues
- microbes resistant to antibiotics
- substances other than honey in packages claiming to be honey

Answer:

Since October 2005, there have been 53 consignments referred to the Imported Food Inspection Scheme that have been declared to the Customs and Border Protection Services as 'Natural honey' under tariff code 04090000(25) and subject to analytical testing.

Chemical and antibiotic residue test results are as follows:

NOTE: the number of times each test is applied is subject to variation due to the application of holding orders following a test failing.

Chemical	**Tests applied***	**Pass**	**Fail**	**Compliance**
Chloramphenicol	54	53	1	98%
Nitrofurans	51	49	2	96%
Pesticides	49	49	0	100%
Streptomycin	46	46	0	100%
Sulphonamides	45	45	0	100%
Tetracyclines	51	50	1	98%

NOTE: testing of imported honey for pesticide residues ceased during March 2013 following a review of tests applied at the surveillance rate. A list of the chemicals that were previously included in the pesticide screen is at Attachment A.

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Department of Agriculture

Question: Written 4 (continued)

The following table contains information on the antimicrobial residues detected.

Chemical	**Level**	**Units**	**Origin**
Chloramphenicol	0.8	ug/kg	China
Nitrofurans	1.5	ug/kg	China
Nitrofurans	3.3	ug/kg	Bulgaria
Tetracyclines	0.027	mg/kg	Yemen

Microbes resistant to antibiotics and other substances:

The department does not test for presence of microbes resistant to antibiotics or the presence of other substances in imported honey products.

Attachment A

Chemicals included as part of the pesticide screen applied to imported honey (prior to testing of imported honey for pesticide residues being ceased in March 2013).

- Acephate
- Aldrin
- Azinphos-methyl
- Benalaxyl
- Captan
- Carbaryl
- Chlorfenvinphos (cis & trans)
- Chlorpyrifos
- DDD (2,4- and 4,4-)
- DDE (2,4-and 4,4-)
- DDT (2,4- and 4,4-)
- Deltamethrin (cis, trans)
- Diazinon
- Dichlorvos
- Dicofol
- Dieldrin
- Difenoconazole
- Dimethoate
- Disulfoton
- Endosulfan (α, β & sulfate)
- Endrin
- Ethoprofos
- Fenamiphos
- Fenarimol
- Fenitrothion
- Fenoxycarb
- Fenthion
- Fipronil
- Heptachlor epoxide
- Imazalil
- Malathion
- Metalaxyl
- Methidathion
- Mevinphos
- Monocrotophos
- Omethoate
- Oxyfluorfen
- Parathion-ethyl
- Parathion-methyl
- Permethrin (cis, trans)
- Phorate
- Phosmet
- Piperonyl butoxide
- Pirimicarb
- Pirimiphos-methyl
- Procymidone
- Prothiophos
- Tebufenpyrad
- Triadimefon

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 5

Topic: Testing of imported honey

Proof Hansard page: Written

The Committee asked:

Could you tell the committee whether:

- there have been any adjustments in the testing of imported honey in light of incidences of honey contaminated by antibiotics in the UK in 2013?
- do existing testing laboratories have the capability to test for more contaminants in imported honey than is currently tested for?
- what preventative measures does the department take where there is information a country has exported contaminated honey to other locations?

Answer:

Please refer to our response to question on notice seven.

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 6

Topic: Imported Food Program Testing Guidelines

Proof Hansard page: Written

The Committee asked:

The Imported Food Program Testing Guidelines provide laboratories a list of contaminants to test for in imported honey. Could you tell the committee:

- do all laboratories have equal capabilities when testing for contaminants in honey?

- why have these guidelines not been updated to reflect those used in the EU, which tests for a far larger number of contaminants?

Answer:

Not all testing laboratories appointed by the department have laboratory capability to test for contaminants in honey. Current testing under the inspection scheme is offered to importers by only six appointed laboratories. Three of these laboratories conduct the testing at their facility with the remainder sub-contracting the work to those three laboratories.

Different laboratories would have different laboratory capabilities based upon the commercial decisions that each laboratory make with regard to the services they will provide.

The tests applied to honey were reviewed during 2012 with changes taking effect in March 2013. The tests applied by the European Union were not considered as part of this review.

The Imported Food Inspection Scheme is a risk based inspection scheme. As a risk based scheme, for surveillance foods such as honey, the focus has been on those chemical residues that are considered of greater significance rather than apply a broad residue screen.

Other considerations are taken into account when considering what tests are applied, such as the total cost for the testing applied to a consignment. The current cost for testing one honey sample for the presence of five antibiotics is approximately $1800, impacting significantly on the commercial viability for small consignments.

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 7

Topic: National Residue Survey

Proof Hansard page: Written

The Committee asked:

Australian producers are subjected to a National Residue Survey before exporting honey other countries. Could you tell the committee why does Australia not subject other countries who seek to import into Australia to the same survey?

Answer:

Please refer to our answer to question on notice eight.

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 8

Topic: Database of all managed hives

Proof Hansard page: Written

The Committee asked:

Could you tell the committee what would be required to create a 'live map' electronic database of all managed hives in Australia for the purpose of biosecurity?

Answer:

State and territory governments have responsibility for registering beekeepers and their hives. The Australian honey bee industry has identified implementation of a nationally consistent beekeeper registration system as a priority action area in its proposed National Bee Biosecurity Program. While this would enable rapid identification of beekeepers, there remains the challenge of knowing the exact location of managed hives at any given time given the mobile nature of the industry. Global positioning system identification of individual hives linked to a national database of registered beekeepers would enable such a ‘live map’, subject to consideration of privacy issues and cost effectiveness.

Senate Rural and Regional Affairs and Transport References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 9

Topic: Post-entry quarantine services

Proof Hansard page: Written

The Committee asked:

Could you tell the committee:

- has the Department looked into the possibility of using the Elizabeth MacArthur Institute at Camden for bee quarantine services?
- what qualifications are officers who work in the bee quarantine section at Eastern Creek, and the new facility in Victoria, required to hold when caring for bees in quarantine?

Answer:

1. No. Refer to page 66-67 of the *Hansard* transcript of the hearing where this issue was discussed.
2. There are no specific qualifications that will give an officer all the skills and experience to be able to successfully maintain bee colonies in an artificial environment like a flight room.

   Department of Agriculture apiary officers are required to be skilled in basic bee husbandry and colony management and all have a background in beekeeping, including commercial beekeeping businesses and managing/studying bee colonies at university.

   They have also all received training from the NSW Department of Primary Industries in beekeeping and on-the-job training from the department prior to working with imported bees in quarantine.

   Additionally, when required, the department calls on the skills of industry specialists and the importer to undertake certain tasks such as grafting.

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 10

Topic: Database of all managed hives

Proof Hansard page: Written

The Committee asked:

It has been suggested that importing varroa resistant honey bee semen will assist in the event of a varroa incursion. Could you tell the committee what is the status of the Import Risk Assessment for Honey Bee Semen?

Answer:

An import risk analysis of honey bee semen was commenced in 2002. It was determined there was a lack of scientific information on how honey bee diseases are transmitted through genetic material. This meant it was not possible to develop workable biosecurity management conditions to allow honey bee semen to be imported into Australia.

In response to continuing interest from the honey bee industry to import diverse new genetic material into Australia to improve the productive and disease resistant qualities of local honey bee colonies, the department completed a *Review of the importation of queen honey bees* in 2012. The work done in reassessing the risks posed in importing queen honey bees means that some of the risks for bee semen are now better understood.

The department has again been requested to undertake an analysis of the biosecurity risks associated with importing bee semen. This analysis will be considered for inclusion in the department's future work program, subject to competing priorities and the availability of resources.

Senate Rural and Regional Affairs and Transport
References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 11

Topic: Process for importing queen bees

Proof Hansard page: Written

The Committee asked:

What is the process in Australian quarantine for imported bees? I understand that the progeny of imported queen bees are released from quarantine but not the queen bee herself. What is the reasoning behind this method? Why are queen bees which are declared free of disease and pests destroyed instead of being released to the importer?

Answer:

Queen bees imported into Australia are held at the government quarantine facility at Eastern Creek. The consignment of queen bees and associated escort bees are inspected (including dissection and internal examination of the escort bees) immediately after arrival. The queens are then placed in new queen cages, introduced to new Australian escort bees and held in hibernation for a minimum of 14 days. After this time the queens and escort bees are again inspected/. If no pests or diseases are identified the queen is introduced into a nucleus colony inside a flight room at the quarantine facility. The nucleus colony is continually treated with an acaricide and is subject to weekly hive debris examination while in the flight room. When suitable quantities of brood are available, an entire frame of brood is removed from the colony and examined for signs of pests and diseases. When available, 10 pupae derived from the imported queen are removed and subjected to mitochondrial DNA analysis to test for Africanisation. Queens imported from Canada also have their progeny tested morphometrically for signs of Africanisation. If the test results establish that there are no pest or disease concerns, the importer is given permission to graft eggs or young larvae from the nucleus colony and remove the grafted material from the quarantine facility.

The *Review of the importation of queen honey bees* (2012) recommended risk management measures for four hazards - Africanised honey bees (*Apis mellifera scutellata* and its hybrids), varoosis, acarapisosis (tracheal mite) and *Tropilaelaps*.

The review recommended the progeny of imported queen honey bees are released from quarantine but not the queen honey bee herself. This is consistent with currently available, published scientific information and international standards developed by the World Organisation for Animal Health (OIE *Terrestrial Animal Health Code*). The reasons are as follows:

1. Tracheal mites are minute and reside within the respiratory system of the honey bee. The mites can only be reliably detected using laboratory methods that require maceration of (killing) the queen honey bee.

Question: Written 11 (continued)

2. Some queen honey bees that are infected with these disease agents may not show clinical signs of infection and/or they may carry undesirable genetics (e.g. Africanisation) that may not be immediately evident. Therefore detection of disease through diagnostic tests, visual observation and examination of the live queen honey bee is unreliable. The larval stages are much more susceptible to disease and clinical signs are more reliably observed, and diagnostic tests are considered to be more sensitive.
3. Treatments for some of these diseases are not always effective in preventing or stopping shedding of disease agents. Other options such as heat treatments are also fatal to queen honey bees.

The review determined that releasing live imported queen honey bees with the limitations described above would not be a reliable means of preventing the introduction of exotic honey bee diseases and pests.

Senate Rural and Regional Affairs and Transport References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 12

Topic: Application of the *Imported Food Control Act 1992*

Proof Hansard page: Written

The Committee asked:

The submission by the Department of Agriculture indicates on page 11 that:

- the ACCC and the state and territory enforcement agencies have powers to enforce Country of Origin Labelling requirements; and
- the Department of Agriculture administers the *Imported Food Control Act 1992* (IFC Act) at the border.

Can the Department advise the committee:

a. Whether the *Imported Food Control Act 1992* (IFC Act) has any application in the circumstances described in the Hansard excerpts (attached) for imported corn syrup being sold as honey, specifically but not limited to, the application of the offences set out in *Division 1 of Part 2 of the Act: Controls on the importation and movement of food*?

b. Where relevant provisions of the IFC Act could apply to the products referred in the Hansard excerpts, for example: Victoria Honey, Hi Honey, Sunshine Honey and Hecham, were these matters ever raised with or considered by the Minister, Secretary or authorised officer, following enquiries by industry about their concerns?

c. If so, please provide the committee with the advice provided to the Minister, Secretary or authorised officer and a summary of the considerations and decisions.

Answer:

1. Section 3 of the *Imported Food Control Act 1992* defines what a failing food is and that the applicable standards are the national standards as adopted by the Australia New Zealand Food Standards Council or included in the Australia New Zealand Food Standards Code.

   Where the goods description is false, such as labelling synthetic honey as natural honey, this would contravene the applicable standards and where proven, the goods would be considered a failing food (Sections 16, 14 and 3). Failing food may be treated to be brought into compliance (re-label with appropriate goods description), exported or destroyed (Section 14) and a holding order issued to increase border inspection of subsequent imports (Section 15).

   Where the product is already in the market place it is subject to the relevant state or territory legislated requirements.

Question: Written 12 (continued)

The issues detailed in the Hansard are about product in the market place and the department understands these concerns have been raised with the relevant state or territory authorities and the Australian Competition and Consumer Commission.

If these agencies were to take action and prove that the importer was deceiving the consumer through misrepresenting synthetic honey, the department could consider additional action under the Imported Food Control Act on provision of this evidence, such as where the importer knowingly imported synthetic honey but labelled it as natural honey (Section 8A labelling offence and/or Section 15).

2. On 1 July 2013, an industry association wrote to the then Minister for Agriculture advising of their concerns and actions taken with respect to honey that was being imported from Turkey under the brand name 'Victoria Honey'. The association further advised that subsequent testing by the association had identified it as most likely to be maize sugar syrup, not honey.

   On the 8 April 2014, the same industry association met with officers from the Department of Agriculture, Imported Food section to raise the similar concerns and advise of actions taken.

3. In both cases, the department assessed the concerns and nature of the complaint being raised. There were no food safety concerns raised and as the matters related to misrepresentation through use of brand names and mislabelling to deceive the consumer (labelled as honey when the product was not honey), the issue was considered primarily a consumer law matter, which the industry association had already referred to the appropriate consumer law agencies (including the Australian Competition and Consumer Commission). The department considered no further action was required. However, this would change if food safety issues were raised, at which point the matter would be reconsidered.

Senate Rural and Regional Affairs and Transport References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 13

Topic: Biosecurity arrangements for vessels arriving in Australia

Proof Hansard page: Written

Senator XENOPHON asked:

So the highest risk is by boat. What is your understanding of the level of inspection by AQIS or Customs of boats at the moment in relation to swarms of bees?

So that is a question to ask the department—the level of compliance and enforcement?

Answer

The department takes a risk-based approach to managing biosecurity risks and this is reflected in the management of vessels.

Commercial vessels are managed through the Master being legally required to lodge a Quarantine Pre-arrival Report (QPAR) for all first port arrivals in Australia. The responses to biosecurity questions in this report inform the biosecurity risk approach for the vessel.

The QPAR contains a specific question about bees on the vessel, as shown below:

- *Were any insects, including bees, discovered on board during this current voyage?*
- *If YES, describe the insects and their location when discovered on the vessel?*

All international vessels are subject to risk assessment that takes into consideration the QPAR, previous history of compliance by the entity and other intelligence that is available to the department. Vessels that are considered higher risk, such as those that are likely to harbour pests of significance such as bees, are subject to inspection on arrival at the first port.

The department works closely with the vessel Master and shipping agents to mitigate the known risks prior to arrival at an Australian port. They are then inspected upon arrival to verify that any directed control measures have been applied and to determine the level of residual risk that may still exist. This includes inspection of areas where bees were detected by crew and a general inspection of deck areas for pests.

Compliance of QPAR lodgement and the accuracy of the information contained in these reports are monitored and enforceable:

1. Incidents of failure to lodge the QPAR may be referred for investigation with a view to prosecution as an offence under the *Quarantine Act* with a maximum penalty of imprisonment for 2 years (s27A(5)).

Senate Rural and Regional Affairs and Transport References Committee

ANSWERS TO QUESTIONS ON NOTICE

Inquiry into the future of beekeeping and pollination service industries in Australia

Department of Agriculture

Question: Written 13 (continued)

2. Providing false or misleading information to an officer in a QPAR is also an offence under the *Quarantine Act* with a maximum penalty of imprisonment for 1 year (s27A(6)).

3. Persons providing false or misleading answers to a quarantine officer's questions about a biosecurity matter may be an offence under s70A of the *Quarantine Act,* with a maximum penalty of imprisonment for 2 years.

Senate Standing Committee on Rural and Regional Affairs and Transport

Answers to Questions on Notice

Brisbane, 20 May 2014

Type of Question: Written

Question:

Has consideration been given to aligning the Food Standards Code with those in the EU, thus creating easier trade conditions?

Answer:

The European standard for honey contains a number of compositional and quality parameters which are not appropriate for a standard in the *Australia New Zealand Food Standards Code* (the Code) as they do not relate to issues of public health and safety or to misleading or deceptive conduct. These include free acidity, diastase activity, hydroxymethylfurfural content and electrical conductivity.

The European honey standard is more prescriptive than deemed appropriate for the Code, which was created on the basis of 'minimum effective regulation' to remove unnecessary prescription that could stifle innovation whilst ensuring the protection of public health and safety and preventing misleading or deceptive conduct.

Senate Standing Committee on Rural and Regional Affairs and Transport

Answers to Questions on Notice

Brisbane, 20 May 2014

Type of Question: Written

Question:

Submitters to the inquiry including the South Australian Apiarists' Association and the Australian Honey Bee Industry Council have raised concerns that food standards and labels do not adequately cover imported products claiming to be honey, such as blended honey which may contain synthetic honey such as corn syrup and other additives.

Could the Australian food standards and labelling requirements be changed to make it clearer to customers what the blended contents are?

Answer:

Products from overseas that are imported into Australia need to comply with the compositional and labelling requirements of the *Australia New Zealand Food Standards Code* i.e. there is no difference between the standards applying to imported or domestically produced honey. A product that is a blend of honey and other ingredients such as corn syrup cannot be called honey.

Senate Standing Committee on Rural and Regional Affairs and Transport

Answers to Questions on Notice

Brisbane, 20 May 2014

Type of Question: Written

Question:

The honey food Standard is very short (1 page) and therefore provides very little constraint on what can be included in a product called honey. Would you tell the committee:

(a) Could the honey Standard be made more specific?
(b) Do the honey standards of other countries have more detail?

Answer:

(a) The *Australia New Zealand Food Standards Code* (the Code) was created on the basis of 'minimum effective regulation' to remove unnecessary prescription that could stifle innovation whilst ensuring the protection of public health and safety and preventing misleading or deceptive conduct.

There are also additional requirements relevant to honey in other standards in the Code other than those in Standard (2.8.2) e.g. maximum residue limits for honey, tutin contaminant limits and various labelling requirements.

(b) Honey standards in Europe and Canada and the Codex honey standard are more detailed. The European standard and the Codex alimentarius standards for honey are very similar. They contain a number of additional compositional and quality parameters which are viewed as not being appropriate or necessary for a standard in the Code as they do not relate to issues of public health and safety, or to misleading or deceptive conduct.

The Codex honey standard specifically states that some of its additional compositional and quality factors are "intended for voluntary application by commercial partners and not for application by governments".

Canada has very detailed Honey Regulations (C.R.C.; c287) which detail aspects such as grades, registration of establishments, package sizes, labelling, inspection and certification, import and export requirements. However, the compositional parameters (moisture, reducing sugars) are essentially the same as those in the Code, with extra requirements for apparent sucrose, water-insoluble solids, ash and acid comparable to the Codex honey standard.

In the USA, there is no specific standard for honey. The US Food and Drug Administration (USFDA) has recently rejected a request from the US honey industry to produce such a standard. The USFDA has proposed a draft guidance document relating to the labelling of honey and honey products. The USFDA response to the industry request for a honey standard is explained in this extract from the draft guidance document:

In a letter of October 5, 2011, we denied the petition because the petition did not provide reasonable grounds for FDA to adopt the Codex standard for honey. We also concluded that the petitioners' goals can be achieved by our existing authorities and a standard of identity for honey would not promote honesty and fair dealing in the interest of consumers. To address the labeling issues relevant to the petition and to reinforce existing laws and regulations to the industry, we are issuing this guidance document, which includes a summary of the current legal authorities that are most relevant to the labeling of honey and questions and answers on the labeling of honey.

Senate Standing Committee on Rural and Regional Affairs and Transport

Answers to Questions on Notice

Brisbane, 20 May 2014

Type of Question: Written

Question:

In January 2011, the independent Panel for the Review of Food Labelling Law and Policy, commissioned by the Australia and New Zealand Food Regulation Ministerial Council, recommended in its Labelling Logic report that:

> *Recommendation 12: That where sugars, fats or vegetable oils are added as separate ingredients in a food, the terms 'added sugars' and 'added fats' and/or 'added vegetable oils' be used in the ingredient list as the generic term, followed by a bracketed list (e.g., added sugars (fructose, glucose syrup, honey), added fats (palm oil, milk fat) or added vegetable oils (sunflower oil, palm oil)).*

Could a similar approach be taken to the ingredients in honey products such as corn syrup and additives?

Answer:

The *Australia New Zealand Food Standards Code* currently requires honey products containing ingredients, such as corn syrup and additives, to include a statement of ingredients which lists the ingredients in the product. Ingredients must be declared in descending order of ingoing weight using a common name or a name that describes the true nature of the ingredient.

FSANZ's work on Recommendation 12 is considering the technical aspects of applying the proposed approach to ingredients lists to all foods including honey products. FSANZ expects to provide its technical evaluation and advice to the COAG Legislative and Governance Forum on Food Regulation in mid-2015.

Senate Standing Committee on Rural and Regional Affairs and Transport

Answers to Questions on Notice

Brisbane, 20 May 2014

Type of Question: Written

Question:

Submitters to the inquiry including Beechworth Honey and the Australian Honey Bee Industry Council have raised concerns about the country of origin labelling and nutritional information not adequately reflecting where honey is from.

Could a system be implemented where the food labels indicate what percentage of the product is from Australia and whether it is the main product or an additive?

Answer:

The *Australia New Zealand Food Standards Code* (the Code) currently requires that most packaged foods, including packaged honey or honey products, are labelled with a statement on the package indicating the country where the food was:

- made, produced, or grown; or
- manufactured or packaged and to the effect that the food is constituted from ingredients imported into that country or from local and imported ingredients.

In December 2003, the then Australia and New Zealand Food Regulation Ministerial Council approved a policy guideline for country of origin labelling of food which states that country of origin labelling should apply to whole foods, not individual ingredients. FSANZ is required to have regard to policy guidance when developing, reviewing or varying food regulatory measures. Food producers or suppliers can however voluntarily label food to indicate what percentage of the product is from Australia and whether it is the main product or an additive, as long as such labelling is not misleading or deceptive, in accordance with Australian Consumer Law.

Senate Rural and Regional Affairs and Transport References Committee

Inquiry into the future of beekeeping and pollination service industries in Australia

ANSWERS TO QUESTIONS ON NOTICE

Public Hearing 20 May 2104

Australian Pesticides and Veterinary Medicines Authority

Question: 1

Division/Agency: Australian Pesticides and Veterinary Medicine Authority

Topic: Toxicity of chemicals to bees

Proof Hansard page: Written

The Committee asked:

In relation to the toxicity of chemicals to bees, could you tell the committee:

1) whether the combined effects on pollinators of neonicotinoids, organophosphate insecticides, pyrethroids, carbamates and wetting agents have been properly investigated in Australia?
2) what work has been done to determine safe combinations of old, new, neonic and non-neonic agricultural chemicals for pollinators?
3) has the toxicity of various combinations of pesticides with organophosphate or carbamate insecticides and other agricultural chemicals been tested?
4) have the combination of hive treatments and pesticides been tested in light of international research suggesting combinations may be fatal to bees?
5) what areas of research into agricultural chemicals and the effects on pollinators are most urgent for Australia to undertake?

Answer:

1) The design of studies on the combined effects of a range of insecticides and wetting agents is complex as growers may combine a range of pesticide sprays to apply to any particular crop. While it is not realistic to test every possible combination, from a regulatory perspective the APVMA monitors domestic and international research and considers new concerns that are raised to ensure the science-based risk assessments conducted on applications for registration of chemical products remain current. The APVMA is aware that some laboratory-based studies have been conducted on interactions between different insecticides to which bees may be exposed. However the APVMA is not aware that any research of this nature has been conducted in Australia.

   Available published research suggests that organophosphate and carbamate insecticides can adversely affect bee behaviour in a similar manner to neonicotinoids, either alone or in combination with the neonicotinoid.

   Wetting agents (surfactants) - including soapy water - can cause harm to bees if they come in contact with the spray before it has dried. Like a range of different pesticides (including some pyrethroids, insect growth regulators, fungicides, fipronil and neonicotinoids), organosilicone surfactants can adversely affect learning in bees. There are also studies

Question: 1 (continued)

showing that the oral toxicity of formulated products may be more toxic to bees than the active constituent itself, possibly because of the surfactants in the formulation.

2) Laboratory studies indicate the possibility of synergistic effects occurring between fungicides and neonicotinoid insecticides in honey bees. In the UK, for example, advice has been issued not to spray pyrethroid insecticides together with some fungicides which act by inhibiting ergosterol synthesis (in moulds and fungi) because these so-called EBI fungicides reduce the activity of enzymes in bees that metabolise the pyrethroids.

   There is extensive literature on the interactions between pesticides and their effects on honey bees e.g. an extensive recent review was published in 2013 (G Glavan & J Božič. Acta Biologica Slovenica 56: 11-25).

   Considering residues monitoring data, field observations of bee colonies, and investigations of pesticide poisoning incidents, neonicotinoids appear to be less frequently involved in bee poisoning incidents than many other insecticide classes e.g. pyrethroids, carbamates and organophosphorus insecticides.

3) Please refer to the answers to 1) and 2) above.

4) Laboratory studies, conducted, for example, by RM Johnson et al. in 2013 (USA) tested interactions between hive-treatment miticides, various agricultural pesticides (both insecticides and fungicides) and hive-treatment antimicrobial drugs used to control bacterial and microsporidial pathogens of bees. Mortality rates in adult worker bees demonstrated interactive effects:

   - among acaricides alone (tau-fluvalinate, coumaphos, fenpyroximate, amitraz, thymol, and oxalic acid)
   - between acaricides and crop fungicides (boscalid, pyraclostrobin, chlorothalonil, and prochloraz), and
   - between acaricides and antimicrobial drugs (oxytetracycline, tylosin, and fumagillin).

   These authors noted that under field conditions, bees are likely to encounter doses lower than those used in laboratory studies that cause acute mortality in bees.

Question: 1 (continued)

5) APVMA's overview report (Neonicotinoids and the Health of Honey Bees in Australia), published on 19 February 2014 (which can be found at http://www.apvma.gov.au/news_media/chemicals/bee_and_neonicotinoids.php), recommended that:

> "a research project be established and funded to analyse pesticide residues in various plant (nectar, pollen, guttation fluid) and bee (collected pollen, comb and foundation wax, bee bread, honey) media. It should be conducted in such a way to allow comparison with the quite extensive results collected in North America, in order to clarify whether conditions (climate, landscape), the absence of certain bee diseases, and different agricultural/ horticultural practices in Australia mean that there is a similar, or less of an issue with respect to pesticides. Such a project could involve RIRDC, State departments of agriculture, and agricultural/ horticultural research institutions".

Another suggested area of research relates to differing reports from Australian apiarists about canola. While most reports received by the APVMA indicated that canola is an excellent crop for apiarists, a few suggested that there is a problem in Australia from bees feeding on canola grown from neonicotinoid-treated seed. It would be useful to know whether there are differences in the output and quality of the nectar and pollen from the different varieties/ cultivars grown in different regions of Australia which might help explain these different reports.

Senate Rural and Regional Affairs and Transport References Committee

Inquiry into the future of beekeeping and pollination service industries in Australia

ANSWERS TO QUESTIONS ON NOTICE

Public Hearing 20 May 2104

Australian Pesticides and Veterinary Medicines Authority

Question: 2

Division/Agency: Australian Pesticides and Veterinary Medicine Authority

Topic: Registering pesticides and chemicals

Proof Hansard page: Written

The Committee asked:

In relation to registering pesticides and chemicals, could you tell the committee:

1) what sorts of tests on pollinators does APVMA conduct before granting registration of agricultural chemicals?
2) are field tests conducted in simulation of real life chemical practices on farms, before registration of pesticides?
3) does the APVMA issue guidance on the implementation of no-spray zones around existing apiaries?
4) is there a time frame in which pesticide users must notify surrounding land users or beekeepers, if they anticipate chemical spray applications to occur?

Answer:

1) Applicants seeking to register agricultural chemicals in Australia apply to the APVMA and include relevant data and scientific argument to address the statutory criteria in the Agvet Code, including concerns regarding safety and the environment. The functions and powers of the APVMA do not include conducting tests. Assessment of applications is based on studies provided by applicants that have been generated according to established guidelines, such as the OECD test guidelines for bees and pollinators. These studies include tests for:

    - Acute Adult Oral Toxicity;
    - Acute Adult Contact Toxicity;
    - Honey bee Larval Toxicity;
    - Toxicity to honey bees of pesticide residues on foliage; *and*
    - Bee Brood Feeding Test.

    The APVMA is aware that new tests to investigate effects of repeated exposures to low doses of residues for both adult bees and larvae are being developed.

Question: 2 (continued)

2) Field tests are not a mandatory data requirement for registration by the APVMA. Higher-tier tests move the focus from individual bees to the colony level. Prior to conducting full field tests, more controlled "semi-field" tests may be undertaken. These tests are increasingly complex and are performed only if initial assessments indicate a risk. Generally, these field tests have been conducted after products are marketed, in order to follow-up concerns identified through use, or findings reported in laboratory-based studies.

3) Yes, if hives are identified or interpreted as 'sensitive areas'.

4) Under the National Registration Scheme, the APVMA regulates chemical products up to the point of retail sale. Control-of-use of chemical products is the responsibility of the states and territories. The APVMA does provide statements for inclusion on labels with instructions about notifying if anticipated chemical spray application where appropriate. An example of an existing label statement with such an instruction is as follows: 'Beekeepers who are known to have hives in or nearby the area to be sprayed should be notified no less than 48 hours prior to the time of the planned application so that bees can be removed or otherwise protected prior to spraying.'

Senate Rural and Regional Affairs and Transport References Committee

Inquiry into the future of beekeeping and pollination service industries in Australia

ANSWERS TO QUESTIONS ON NOTICE

Public Hearing 20 May 2104

Australian Pesticides and Veterinary Medicines Authority

Question: 3

Division/Agency: Australian Pesticides and Veterinary Medicine Authority

Topic: Warning labels

Proof Hansard page: Written

The Committee asked:

In relation to registering pesticides and chemicals, could you tell the committee:

1) is there or could there be a standardised warning label on all registered agricultural products regarding toxicity to bees?

2) do existing labelling laws require agricultural chemical products to give warning on both active and minor ingredients or only active ingredients?

3) what are the penalties for spraying against label directions?

4) whether chemical labels could be more than only advisory in nature for situation where their use is harmful to bees?

Answer:

1) There are various standardised warning/hazard statements which are required to be included on the label as part of the registration process by the APVMA depending on the bee toxicity of the pesticide.

2) The focus of requirements for labels is generally on the active ingredient, unless there is information to support a statement regarding a solvent or co-formulant. For human health and safety, first-aid instructions and safety directions will take into account the toxicity of the formulation.

3) Under the National Registration Scheme, the APVMA regulates chemical products up to the point of retail sale. Control-of-use of chemical products is the responsibility of the states and territories and penalties fall within the legal remit of each state and territory and vary in each jurisdiction.

4) Yes, statements for use on labels can be worded so that they are mandatory in state/territory jurisdictions. An example of a mandatory statement on a product label is as follows: 'DO NOT apply this product while bees are foraging in the crop to be treated. DO NOT spray any plants in flower while bees are foraging'.

Senate Rural and Regional Affairs and Transport References Committee

Inquiry into the future of beekeeping and pollination service industries in Australia

ANSWERS TO QUESTIONS ON NOTICE

Public Hearing 20 May 2104

Australian Pesticides and Veterinary Medicines Authority

Question: 4

Division/Agency: Australian Pesticides and Veterinary Medicine Authority

Topic: Surveillance foods

Proof Hansard page: Written

The Committee asked:

I understand that a percentage of imported consignments of 'surveillance food' are referred for inspection by Customs. Can you please explain what is meant by 'surveillance food' and whether honey is a surveillance food?

Answer:

The Department of Agriculture has advised that the inspection rates for the Imported Food Inspection Scheme are based on food safety risk assessment advice received from Food Standards Australia New Zealand (FSANZ) as well as the compliance history of the overseas food producer.

Honey is considered to pose a low risk to human health and safety and is classified as a surveillance food. Honey is subject to inspection at the rate of five per cent of consignments.

Senate Rural and Regional Affairs and Transport References Committee

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ANSWERS TO QUESTIONS ON NOTICE

Public Hearing 20 May 2104

Australian Pesticides and Veterinary Medicines Authority

Question: 5

Division/Agency: Australian Pesticides and Veterinary Medicine Authority

Topic: Amount of honey imported into Australia

Proof Hansard page: Written

The Committee asked:

Could you tell the committee how much honey is imported into Australia each year and how much is tested?

Answer:

Between 1 July 2005 and 30 June 2013 24 243 tonnes of natural honey were imported into Australia.

Since October 2005, there have been 53 consignments referred to the Imported Food Inspection Scheme that have been declared to Customs as 'Natural honey' under tariff code 04090000(25) and subject to analytical testing.

SENATE RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

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Written Questions Taken on Notice – Department of Health

1. The NSW Apiarists Association and Beechworth Honey raised concerns that a proposed traffic light labelling system for food may adversely affect honey, because it would automatically put honey in the red category. Could you tell the committee:
    - what consideration has been given to the impact on honey; and
    - whether similar concerns have been raised for other products?