

Extracts about honeybees from DOC Pesticide Reviews

1080 Pesticide Information Review

Although 1080 is toxic to honeybees, baits used in pest control are generally not attractive to honeybees. However, this may not always be the case if honeybees are particularly hungry, so beekeepers should always be notified of operations.

Honeybees from hives located near the loading zone were observed during one operation to be gathering the green dust from toxic RS5 cereal baits. This loading zone had been used on previous occasions for aerial 1080 operations using the same bait type and no similar observations were made (N. Murray pers. comm.). AHB (2012) conducted trials to investigate the attractiveness of RS5 and Wanganui #7 pellets to honeybees. The bees were trained to visit wet and dry cereal baits coated with a sugar-syrup attractant. The attractiveness of the baits was determined by switching the sugar-coated bait with standard non-toxic baits. Within 10 minutes, the bees lost interest in the standard baits. When EDR coated pellets were used, bees continued to visit the baits for approximately 30 minutes after the sugar-coated baits had been switched with the EDR coated pellets. When 1080 cereal pellets were placed within 80 metres of hives, no bees were observed visiting or landing on the baits. To test the risk of dust to honey bees, six hives were put out during an actual 1080 operation at Buller South. 1080 was not detected in honeybees, wax, nectar or pollen samples collected within 24 hours of the operation or when the monitoring was repeated after 15 - 16 days. Additionally, there was no evidence of 1080 dust on flowers on which honeybees were observed foraging (AHB 2012).

Honeybees were known to be attracted to 1080 paste baits (sometimes referred to as jam baits) used in pest control prior to 1995. Changes in formulation of 'Pestoff Professional' possum paste since then have been found to be unattractive to bees (Morgan 2000)

Honey bees offered this bait near their hive were seldom observed on the bait compared with control baits offered (Thomas et al. 2003).

AHB. 2012. Animal Health Board Annual Research Report 2011/2012. Wellington, NZ: AHB. p. 33.

Morgan DR. 2000. Assessment of 1080 pastes for possum control. Lincoln: Manaaki Whenua - Landcare Research. Landcare Research Contract Report No.: LC9900/117. p. 24.

Thomas MD, Maddigan FW & Sessions LA. 2003. Attractiveness of possum apple baits to native birds and honey bees. New Zealand Plant Protection. 56:86-89.

Cholecalciferol Pesticide Information Review

Cholecalciferol is not toxic to honey bees (*Apis mellifera*) at doses up to 265 µg a.i./bee. Honey bees avoid cholecalciferol in a dose-dependent manner, and are likely to avoid cholecalciferol baits at the concentration (8g/kg) used for pest control (Booth et al. 2004)

Booth LH, Fisher P, Heppelthwaite V, Eason CT. 2004. Risk of Feracol baits to non-target invertebrates, native skinks and weka. Science for Conservation No.: 239.

Pindone Pesticide Information Review

While there is no LD50 data for insects, pindone has significant insecticidal properties and is likely to be toxic to bees.

Honey bees were found dead in bait stations containing Pindone Possum and Rat Pellets on the Ohau River, Twizel in August-September 2014. There was evidence that they had been collecting bait to take back to their hives. At this time of the year bees are not producing honey and hives have a shortage of food.

Pindone residues were recorded in honey bees found alive and dead in bait stations containing Pindone Possum and Rat Pellets on the Ohau River, Twizel in August-September 2014 (VPRD 18622-18629). There was also evidence that they had been collecting bait to take back to their hives.

Phosphorus Pesticide Information Review

While Reid (1977) reported that phosphorus jam and apple pulp baits are not harmful to honey bees (*Apis mellifera*), there are anecdotal reports of bees being found dead on paste baits (Eason & Wickstrom 2001).

Eason, C.T.; Wickstrom, M. 2001: Vertebrate pesticide toxicology manual (poisons). Information on poisons used in New Zealand as vertebrate pesticides. Department of Conservation Technical Series 23. Department of Conservation, Wellington. 122 p.

Reid, G.M. 1977: Phosphorus baits not harmful to honey bees. N. Z. Journal of Agriculture 134 (4): 26-27.

From: s9(2)(a) [redacted]@mpi.govt.nz]
Sent: Monday, 3 November 2014 1:51 p.m.
To: s9(2)(a) [redacted]
Cc: s9(2)(a) [redacted]
Subject: Pindone

Hi s9([redacted] ,

s9(2)(a) [redacted] from Landcare has passed the information on to us regarding pindone collection by bees, and has given us your e-mail – we will need to investigate this, and have some follow up questions to start with which I hope you are able to answer for us:

1. The location of the Pindone where event was noted
2. Number of reported events where bees have been found feeding on Pindone or any other VTA
3. Numbers of bees noted feeding on Pindone
4. How many dead bees were noticed around the baits?
5. Are bees alive and able to fly after feeding or collecting from pindone baits?
6. Method of application (I understand it is waxed bags?) – and photo of this if possible.
7. Did DOC put these baits out? If possible, please can you confirm the trade name and ACVM number of the product that was used.
8. Copies of any photos taken and any additional information about the event
9. Names and contact details of Apiarists affected (hive owners) and any others known in the area
10. Location and of hives if known
11. number of hives
12. Hive identification numbers if known
13. Honey processing facilities that are supplied from these hives
14. Who else have DOC communicated with about this issue?

Sorry for the long list of questions, you can see we need to get as much information as possible about this. If you can let me know you received this, and whether you can help, that would be greatly appreciated. If you would like me to call you to talk about this in person, let me know your phone number and a good time to call – I will be in the office from 9am to 2pm tomorrow. Thanks for your help!

Kind regards,

s9(2) [redacted]

s9(2)(a) [redacted] | Adviser (Agricultural Chemicals & VTAs), ACVM Programmes and Appraisals
Systems Audit, Assurance & Monitoring | Regulation & Assurance
Ministry for Primary Industries | Pastoral House 25 The Terrace | PO Box 2526 | Wellington | New Zealand
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From: s9(2)(a) [redacted]@landcareresearch.co.nz]
Sent: Friday, 31 October 2014 11:45 a.m.
To: s9(2)(a) [redacted]
Subject: DOC contacts

Hi s9(2) [redacted]

DOC contacts in the Twizel office are;

s9(2)(a) [redacted] – s9(2)(a) [redacted] was the one who let me know about the bees on the baits & facilitated collection & delivery of samples to us at Lincoln. She will have the operational details of the bait location dates etc.

s9(2)(a) [redacted] is the supervisor at this office, have left him a message that

s9(2)(a) [redacted] (DOC) is also aware of the information we just discussed, so it would be useful to keep him in the communication loop.
Many of the bees in the samples were carrying bait as they would pollen – a couple of other pictures attached.

Will be interested to know how this plays out.

Regards

s9(2)(a) [redacted]

Research Priority Leader
Wildlife Ecology and Management team
Landcare Research
PO Box 69040, Lincoln, 7640
New Zealand

Ph. +64 3 321 9665

From: s9(2)(a) [redacted]
Sent: Friday, 31 October 2014 11:14 a.m.
To: s9(2)(a) [redacted]
Subject: RE: email address and contact

From: s9(2)(a) [redacted] @mpi.govt.nz]
Sent: Friday, 31 October 2014 11:13 a.m.
To: s9(2)(a) [redacted]
Subject: email address and contact

Details below

Cheers

s9(2)

s9(2)(a) [redacted] | Manager Agricultural Compounds and Veterinary Medicines
Regulation and Assurance | Systems Audit, Assurance and Monitoring
Ministry for Primary Industries | Pastoral House, 25 The Terrace | PO Box 2526 | Wellington 6140 | New Zealand
Telephone: 64-4-894 0253 | s9(2)(a) [redacted] | Web: www.mpi.govt.nz



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Toxicology Laboratory Analysis Report

Manaaki Whenua
Landcare Research

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Ph: +64 3 321 9999
Fax: +64 3 321 9998

Report No: T5678

CLIENT: [REDACTED]

CLIENT REFERENCE No.:

Telephone No: [REDACTED]

SAMPLES: Eight bee samples

REQUIREMENT: Examine for pindone

RECEIVED: 04 November 2014

Sample/s were received for analysis. The details were entered into the laboratory sample system and the sample/s given a reference number. The sample details and results are as follows:

No. samples: 6

LabNo.	Description	Pindone, µg/g
18622	Invertebrate, I07, 1 of 2 bees found dead	90.3
18623	Invertebrate, TR51, 1 of 3 bees found dead	43.5
18624	Invertebrate, TL55, 1 of 3 bees found dead	20.5
18625	Invertebrate, TR68, 1 of 3 bees found dead	24.7
18626	Invertebrate, TR27, 32 dead bees, washed prior to analysis	7.86
18627	Invertebrate, TR27, 37 dead bees, washed prior to analysis	4.03
18628	Invertebrate, TR59, 52 dead bees, washed prior to analysis	3.64
18629	Invertebrate, 25 bees caught alive, washed prior to analysis	0.74

All results are reported to two significant figures.

The determination was carried out using TLM067, the determination of pindone in liver tissue by HPLC. The method detection limit (MDL) is 0.02µg/g and the uncertainty (95% c.i.) is ± 41%. NOT AN ACCREDITED TEST.

TESTED BY: [REDACTED]

WORKBOOK REF 91/12

TEST PERIOD: 4-10/11/14

AUTHORISED BY: [REDACTED]

Date: 11/11/2014

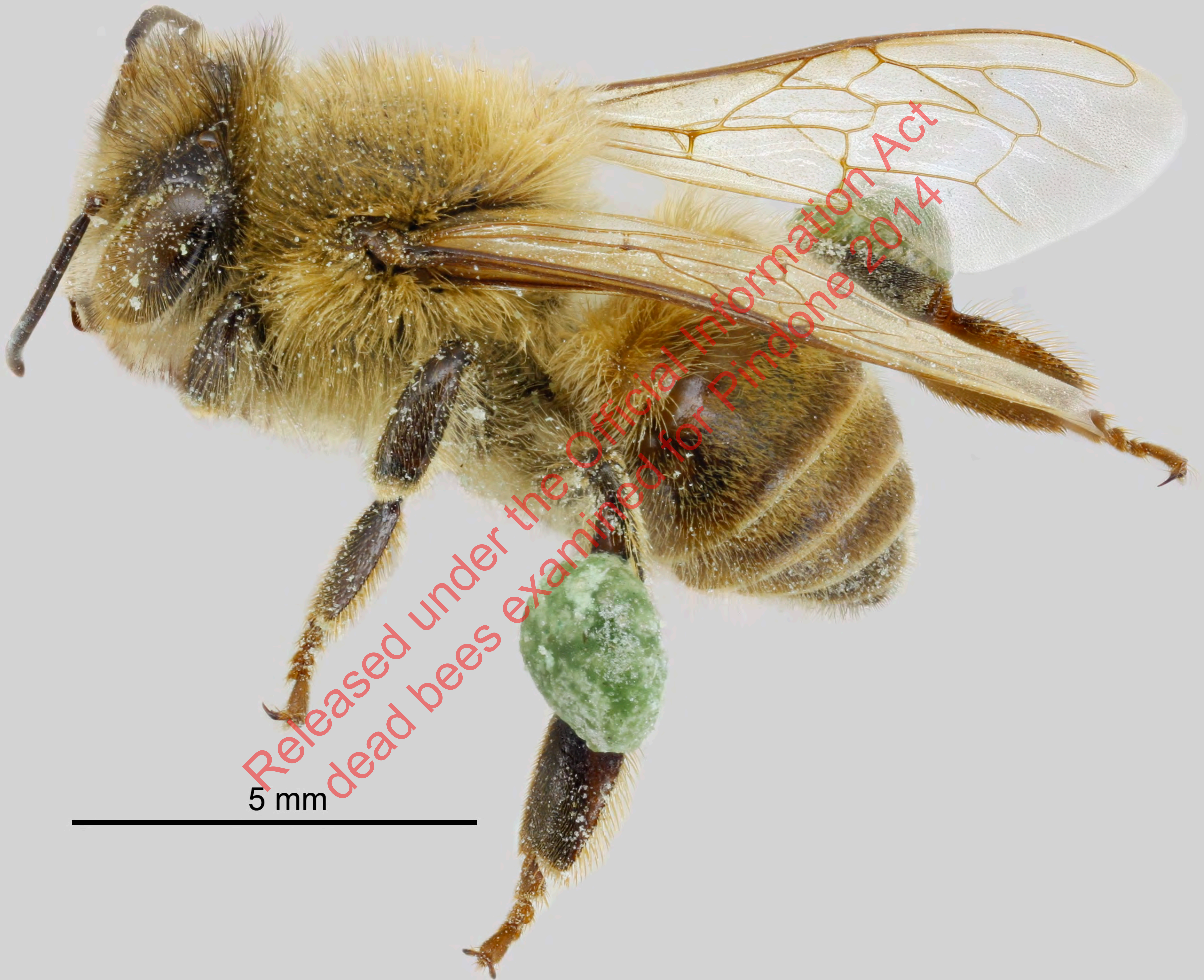
These results are confidential to the client and relate only to the samples as received and tested. This report may be reproduced in full only. The samples relating to this report will be disposed of after two months from the report date unless requested otherwise by the client. Where appropriate, the above results will be included in anonymised form in the National Vertebrate Pesticide Residue Database.



Released Under The Official Information Act
dead bees examined for pesticide 2014

5 mm





Released under the Official Information Act
dead bees examined for Pindone 2014

5 mm



From: s9(2)(a)
To: s9(2)(a)
Subject: bee pindone results
Date: Wednesday, 12 November 2014 10:40:04 a.m.
Attachments: [T5678.pdf](#)

Hi s9(2)

Here's the report, s9(2) will mail a hard copy as usual too.

Some additional background on the sample prep for these, which helps explain the results.

- The first four, LabNos 18622-18625, were individual bees that had visible green pollen sacks (as in the photos I sent) and were selected at random – so this group of results reflects relatively high concentrations being carried by one bee, potentially going back to the hive
- The next three, LabNos 18626-18628 were groups of bees that had been found dead in different bait bags – the hind legs were removed from each bee and the entire sample was washed in acetone before testing, so these results indicate roughly what bees contained in their bodies – overall a lower concentration range than the pollen sack bees
- The last one 18629 was the only sample of live bees captured around the bait bags – apparently it was quite time consuming to catch this many – these were de-legged and washed before testing. Much lower concentration in the bodies of these live bees vs the dead bees

The difference between the 'sampled dead' and 'sampled live' results does suggest that ingestion of pindone bait was contributing to bee mortality

Will leave it with you to pass on to s9(/s9(at Twizel, and then whether the results are communicated to MPI folk as well.

Regards

s9(2)

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From: s9(2)(a)
To: s9(2)(a)
Subject: FW: MPI System Audit Visit to Twizel-Ohau RE: Suspect Pindone in Apiaries
Date: Wednesday, 10 December 2014 2:40:50 p.m.

Hi s9(2)(a)

Following on from our discussion yesterday, FYI below is some email traffic re the batch number issue we discussed. Be interesting to see what is contained within s9(2) audit report re batch numbering (if anything??).

Cheers

s9(2)

From: s9(2)(a)
Sent: Tuesday, 9 December 2014 3:59 p.m.
To: s9(2)(a)
Cc: s9(2)(a)
Subject: RE: MPI System Audit Visit to Twizel-Ohau RE: Suspect Pindone in Apiaries

Hi s9(2)

We're still using batch 270514.

Regards

s9(2)

From: s9(2)(a) [mailto:s9(2)(a)@mpi.govt.nz]
Sent: Tuesday, 9 December 2014 2:20 p.m.
To: s9(2)(a)
Cc: s9(2)(a)
Subject: RE: MPI System Audit Visit to Twizel-Ohau RE: Suspect Pindone in Apiaries

Hi s9(2)

Thanks for this information. Just one quick question at this stage – can you tell me if you are still using Pindone batch 27054 or have you changed to another batch? If you have changed batches can you tell me the date of the batch change?

Thanks & regards s9(2)

s9(2)(a) | Systems Auditor
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