

RE: pesticide testing in bees

Thursday, October 19, 2017 4:38 PM

From: "Barber Jonathan - AMS" <Jonathan.Barber@ams.usda.gov>
To: "Luke Goembel" <idylukewild@yahoo.com> "Jody Johnson" <johnsonjody05@gmail.com>

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Luke & Jody,

Thank you for your inquiry. Yes, the NSL-Gastonia lab continues to perform residue analysis for pesticides in pollen, honey, bees, and wax samples. We receive samples from academia, industry, private and government clients. More answers are provided as follows:

- The procedure used for honey samples is a modified QuEChERS extraction with a sample size of 3.0 grams.
- The procedure used for pollen, bees, and wax samples is a modified QuEChERS coupled with an enhanced matrix reduction (EMR) extraction with a sample size of 3.0 grams.
- Instrumentation used for detecting residues are:
 - o GC/MS/MS (GC/MS-NCI with necessary)
 - o LC/MS/MS
- We do not provide any information regarding dosages.
- See the attached list of compound that are included in our multi-residue pesticide screen which has been vetted by several stakeholders (EPA, FDA, PDP, BIP, NHBS). Cost is \$396.00 per sample. If 100 or more samples is to be received from a single source in a 12 month period the fee is reduced to \$352.00 per sample.

Please let me know of any other questions you have. I will be busy tomorrow preparing for a presentation I am to give next week and I will be on travel most of next week. Therefore, a response may have to wait until the week October 30th.

Best regards,

Jonathan

**Jonathan Barber | Laboratory Supervisor**USDA AMS S&T LATD NSL | 801 Summit Crossing Place | Suite B | Gastonia, NC 28054
P: (704) 833-1523 | C: (704) 838-6239 | F: (855) 296-1230 | Jonathan.Barber@ams.usda.gov*"The Power of Science with Quality Service"*

-----Original Message-----

From: Luke Goembel [mailto:idylukewild@yahoo.com]
Sent: Thursday, October 19, 2017 1:59 PM
To: Barber, Jonathan - AMS <Jonathan.Barber@ams.usda.gov>; Luke Goembel <idylukewild@yahoo.com>; Jody Johnson <johnsonjody05@gmail.com>
Subject: Re: pesticide testing in bees

Jody and Jonathan,

Yes, I am still interested in finding a lab that would test for pesticides commonly fingered in bee kills. I'm especially interested in learning the details of which tests are used, the limiting concentrations of pesticides that can be detected, how

that translates to the dose that the bee received, and so on.

The samples I have are from a commercial beekeeper who believes very strongly that his bees were killed by pesticides. Unfortunately, he has only provided a small quantities of bees (50-100 bees?), and has stated that they were killed 'within the last few weeks.' He also has no idea what pesticide may have killed the bees. Also, he's willing to chip in up to \$100-200 for the analysis. No wax, honey, nor pollen was provided. Doesn't sound like a promising candidate for chemical analysis.

However, from conversations with two people familiar with pesticide kills and testing for pesticide exposure, they have little faith in the ability of the tests being done to determine if a bee kill has been caused by pesticides or not. I have a background in analytical chemistry (work at two analytical labs prior to my Ph.D. and 1.5 years in the Purdue U. Ph.D. program in analytical chemistry - I completed my Ph.D. in experimental physical chemistry at Hopkins). I'd like to dig a little deeper and see if I can bring clarity to what is largely, from my perspective now, just hearsay and opinion.

I'll be at the Pollinator Protection Network meeting in Kansas next week and hope to get some leads on scientists to talk from some folk there. I think an in-depth review of current methods used to determine the role pesticides play in bee kills is in order. This is an important issue amongst (at least) beekeepers. Any information you can supply me with on the testing done for pesticide kills is welcome.

Thank you.

Luke

On Thu, 10/19/17, Jody Johnson <johnsonjody05@gmail.com> wrote:

Subject: pesticide testing in bees

To: jonathon.barber@ams.usda.gov, "Luke Goembel" <idyjukewild@yahoo.com>

Date: Thursday, October 19, 2017, 9:27 AM

Hi Jonathon, I am a Ph.D. honey bee

scientist that trained under Jeff Pettis at the USDA lab in Beltsville, MD. Since Jeff is now working in Switzerland, I am now collaborating with Steve Cook at BRL. When I was a grad student under Jeff's tutelage, I used to send bee samples to Roger Simonds for pesticide analysis. Does the Gastonia lab still analyze pesticides in pollen, honey, bees, and wax? I have copied this email to Luke Goembel, Ph.D, who is very involved in bee health. He is working with beekeepers to analyze samples for pesticide related bee kills. Is it possible for Luke to send samples to Gastonia for analysis? I assume the cost would be related to the analysis workload. If it is possible for non-USDA people to submit samples, Luke will have some questions about this process. I am curious to know the answers to Luke's questions as well since I am out in the field regularly working with large commercial beekeepers. I get many of the same questions through my independently owned pollinator research business. Thanks for fielding this email. Kind regards, Jody Josephine Johnson, Ph.D.

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