Pesticide Analysis of Honey Bee Hive Products and Matrixes

Many beekeepers have expressed an interest in having their hive products or other materials within the hive, such as pollen, wax or nectar, tested for pesticide residues. Because these pesticide analyses are costly, we are working with potential funding agencies to generate monies that would allow us to share the cost of the analysis with beekeepers. This program to share the cost of the analysis would have additional benefits. The information from individual samples would become part of a large centralized, and confidential database maintained at Penn State. We could then provide individual beekeepers with their information in light of all samples analyzed up until that point in time (their levels compared to the average levels in the entire data base). We could also provide additional information about the pesticides detected, such as their relative toxicity to bees (LD50).

To date we do not have the monies to fund this program, however we are working to obtain these funds. In the meantime, beekeepers who wish to have samples analyzed can send them directly to the USDA-AMS-National Science Laboratory (see directions below). If you are willing to allow your data to be available to the Penn State research group working on pesticides for inclusion into the overall database, please state this in writing when you send your sample(s) to the NSL. If you have questions or concerns, please contact Maryann Frazier at mfrazier@psu.edu or by phone at 814-865-4621.

Direct testing through the USDA-AMS-National Sciences Lab

USDA-AMS-National Science Laboratory (NSL)
801 Summit Crossing Place, Suite B
Gastonia, NC 28054

The NSL can provide fee-for-service pesticide residue testing of honey bee hive products, including honey, wax, pollen, royal jelly, bees, brood, and bee bread. We can also test other sample types upon request and consultation.

The fee schedule is as follows: Comprehensive pesticide residue testing of 170 pesticides and metabolites - $252.00

Focused pesticide residue testing of Amitraz and its metabolites (2,4-dimethyl aniline and 2,4-dimethylphenyl formamide), Coumaphos and its metabolites (Coumaphos oxon, Chlorferon and Potasan), and Fluvalinate - $126.00

Samples can be submitted directly to the laboratory address above with the attention to Roger Simonds.

The information needed for any sample submittal is as follows:

- Sample type
- Unique identifier
- Type of testing desired
- Contact information of sample submitter

The results will be reported directly to the sample submitter unless permission is given in writing with the sample that PSU or any other party is to also receive the results.

The sample size should be no less than 1 gram if possible, and preferably greater than 10 grams. A larger sample size is more representative and also allows us to subsample and save some of the original material in case a re-extraction is necessary due to a problem during analysis. Samples should be submitted in very clean, leak-proof, crush-proof (preferably not glass), containers.