

**A scientific note on seasonal levels of pesticide residues in honey bee worker tissues**

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**Table I. Pesticide residue analysis of honey bee worker tissue and brood comb wax samples and collected from migratory beekeeping equipment.** Wax was analyzed for a spectrum of 172 pesticides in May 2010. ‘Percent detection in tissue’ indicates the percentage of colonies in which residues were discovered in October 2010 and/or March 2011 worker tissue samples. Only pesticides that were confirmed as present in the brood comb are reported in this table.

| <b>Pesticide</b>      | <b>Class</b>       | <b>Use</b>  | <b><math>\bar{x}</math> wax, <math>\mu\text{g}/\text{kg}</math><br/>(SE)</b> | <b>% Detection<br/>in wax</b> | <b>% Detection<br/>in tissue</b> | <b>LOD<sup>a</sup><br/><math>\mu\text{g}/\text{kg}</math></b> |
|-----------------------|--------------------|-------------|--|-------------------------------|----------------------------------|---|
| Fluvalinate           | Pyrethroid         | Miticide    | 9560 (809)   | 100                           | 100                              | 1.0   |
| Coumaphos             | Organophosphate    | Miticide    | 459 (77)   | 100                           | 18                               | 1.0   |
| Fenpyroximate         | Pyrazol            | Miticide    | 554 (36)   | 100                           | 9                                | 5.0   |
| Cyprodinil            | Anilinopyrimidine  | Fungicide   | 1(0)   | 100                           | 9                                | 1.0   |
| Thymol                | Monoterpene phenyl | Miticide    | 25900 (923)  | 100                           | N.D. <sup>c</sup>                | 50  |
| Coumaphos oxon        | Metabolite         | —           | 54.9 (8)   | 100                           | N.D.                             | 5.0   |
| 2,4-DMPF <sup>b</sup> | Metabolite         | —           | 259 (36)   | 100                           | N.D.                             | 4.0   |
| Pyraclostrobin        | Strobin            | Fungicide   | 1 (0)  | 100                           | N.D.                             | 2.0   |
| Chlorferone           | Metabolite         | —           | 497 (53)   | 100                           | N.D.                             | 50  |
| Carbendazim (MBC)     | Benzimidazole      | Fungicide   | 5 (2.1)  | 100                           | N.D.                             | 5.0   |
| Chlorpyrifos          | Organophosphate    | Insecticide | 8 (1.2)  | 91                            | N.D.                             | 1.0   |
| Oxyfluorofen          | Diphenyl ether     | Herbicide   | 3 (0.7)  | 73                            | N.D.                             | 1.0   |
| Azoxystrobin          | Strobin            | Fungicide   | 8 (2)  | 64                            | N.D.                             | 2.0   |
| Endosulfan I          | Organochlorine     | Insecticide | 2.6 (0.7)  | 64                            | N.D.                             | 2.0   |
| Chlorothalonil        | Organochlorine     | Fungicide   | 21 (12)  | 27                            | N.D.                             | 1.0   |
| Endosulfan II         | Organochlorine     | Insecticide | 0.5 (0.5)  | 9                             | N.D.                             | 2.0   |
| Vinclozolin           | Dicarboximide      | Fungicide   | 0.09 (0.09)  | 9                             | N.D.                             | 1.0   |

<sup>a</sup> Limit of detection

<sup>b</sup> 2,4-Dimethylphenylformamide

<sup>c</sup> Not detected