



# O'Neal investigating interaction of pesticide residues, mites and disease with bees

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Dalhousie University Agricultural Campus graduate student Daniel O'Neal is examining the interaction of pesticide residues, Varroa mites and Nosema in honeybee colony stress.

Across Canada honeybees offer pollination services worth \$2-billion annually, he told the Nova Scotia Beekeepers annual meeting. But the last several years have seen sporadically high losses of between 30-40 per cent of honeybees.

O'Neal surmised the reasons for the losses could possibly be pesticides, parasites or an interaction between the two.

Much of the bee mortality occurred during the winter, he said. The graduate student has sampled 93 Maritime hives for Varroa mites and Nosema: 36 in Nova Scotia, 27 in New Brunswick and 30 in Prince Edward Island. "We screened for 173 different pesticides, finding 17 different pesticide residues."

The top four he found were Coumaphos, Fluvalinate, Cuomaphos Oxon and the Amitraz metabolite (DMPF). They were discovered in all of the 17 pesticide residues.

O'Neal found Varroa mites in 89 per cent of NS hives at a very high level of 10 mites per 100 bees. In NB, 4 per cent the hives tested at 1 mite per 100 bees. In PEI 39 per cent of the hives had 1-mite/100 bees.

The graduate student said 81 per cent of NB hives had bees infected with Nosema; NS had 46 per cent and PEI hives had 64 per cent.

As for pesticide and parasite correlations, O'Neal noted Nosema and Varroa mite showed no apparent correlation. He found only a weak relationship between Nosema and Fluvalinate and a moderately strong relationship between Nosema and Amitraz.

There is also a hypothesis that Amitraz will cause a decreased learning ability in bees, O'Neal said. So, he took blood samples from bees to check for Amitraz exposure and found that it had no significant effects on honeybee learning and memory.

He suggested as miticides are very prevalent in Maritime hives, that future research could look at other pesticides and interactive effects.

<http://www.atlanticfarmfocus.ca/Agriculture/2014-05-08/article-3717670/ONeal-investigating-interaction-of-pesticide-residues-mites-and-disease-with-bees/1>

NORAHG REPOSE

## **BEES ARE BEING HARMED BY BEE-KEEPERS USING ILLEGAL PRODUCTS**

O'Neal must also investigate the bee-keeper use of ILLEGAL products. Bee-keepers are falsely blaming bee deaths on neonicotinoid insecticides. When used properly by growers, with Best Management Practices, neonicotinoid insecticides cause no harm, and do not hurt bees. It is far more likely that bee-keepers themselves are harming bees, and not insecticides. What is MORE ALARMING are the reports about the bee-keepers themselves. There are reports that bee-keepers all over North America are violating federal law by using illegal and unregistered pest control products.

<http://wp.me/p1jq40-70c> Recently, in Alberta, bee-keepers were fined for using unregistered pest control products to combat mite infestations, resulting hefty fines from Health Canada. Bee-keepers violate federal law by using products like AMITRAZ, which is known to cause cancer, and is known to kill people. In 2006, the United States Environmental Protection Agency ( USEPA ) classified AMITRAZ as a Group C, a possible human carcinogen. Furthermore, exposure of men to greater amounts of AMITRAZ can lead to death due to respiratory failure, mainly after oral uptake or inhalation. In

Turkey during 1989, 41 cases of deadly AMITRAZ intoxications were detected. Other frequently occurring symptoms after massive AMITRAZ intoxication are bradycardia, depression, hyperglycemia, hypothermia, loss of consciousness, miosis, respiratory depression, and vomiting. In other words, bee-keepers are illegally using products that are known to cause cancer, and are known to kill people. It has been concluded that bee-keepers are producing potentially dangerous honey. And yet, these same bee-keepers complain about neonicotinoid insecticides, which, in fact, do not cause cancer, are scientifically-safe, and cause no harm. If bee-keepers are lying and cheating by using illegal products, then, are they also lying and cheating with their public statements about bee deaths and neonicotinoid insecticides?!?! Sadly, bee-keepers are the least credible and the least qualified to provide any advice concerning neonicotinoid insecticides. If we had less pesticide use in the environment, we would still have bee colony collapse disorder, because many bee-keepers are not competent to manage their hives. For even more information, go to The Pesticide Truths Web-Site ... <http://wp.me/p1jq40-2ba> <http://wp.me/p1jq40-6WJ>  
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