



June 23, 2010

Natural pesticides may hurt environment

By CBC News
CBC News

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University of Guelph researchers said natural compounds often are used in higher doses than traditional chemical pesticides, resulting in potentially more problems for the water table and other parts of the ecosystem.

"These data bring into caution the widely held assumption that organic pesticides are more environmentally benign than synthetic ones," said a synopsis of the paper published in the most recent edition of PLoS ONE, an online magazine that publishes medical and scientific research.

Questions about natural pesticides

The study places in doubt the conventional wisdom that has led to the banning of chemical pesticides in cities such as Toronto.

Some municipalities have prohibited the use of synthetic compounds on the theory that artificial substances will leach into the ground and the water table and cause more long-lasting damage to the local ecosystem.

Some provinces have already banned the use of so-called natural pesticides.

The Guelph study examined the environmental impact of natural compounds by looking at the active ingredients of these substances based upon factors such as their leaching rates and toxicity to wildlife. The study also looked at conventional synthetic insecticides as well as novel insecticides.

The five Guelph scientists involved in the study, including Rebecca Hallett, a professor at Guelph's School of Environmental Science, looked at compounds used to combat soybean aphids, a major destroyer of that crop.

Comparing four synthetic compounds to a pair of natural pesticides, Hallett and her colleagues discovered that the natural products were generally less effective at getting rid of the aphids. Thus, they needed to apply more of them to get the same result as the traditional pesticide.

"Ultimately, the organic products were much less effective than the novel and conventional pesticides at killing the aphids and they have a potentially higher environmental impact," Hallett said.

Canadian Broadcasting Corporation



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