

Consumer Product Safety

Evaluation of Pesticide Incident Report 2010-3100

Background

Pest control products are registered by Health Canada's Pest Management Regulatory Agency (PMRA) for use only if there is reasonable certainty that no harm to human health or the environment will result from exposure to, or use of, the product as directed on the label. The PMRA collects incident reporting data under the authority of the *Pest Control Products Act*. If a pesticide manufacturer receives information about an incident involving one of their products, they are required by law to submit that information to the PMRA. Members of the public may also submit information about an incident directly to Health Canada. It is important to note that the information presented in incident reports reflects the observations and opinion of the person reporting it, and does not include any assessment by Health Canada, nor does it confirm an association between the pesticide and the effects reported.

Health Canada considers the reported information to determine if there are potential health or environmental risks associated with a pesticide and, if necessary, takes corrective action. Such action could range from minor label changes to discontinuation of the product.

Incident Report 2010-3100

According to the incident report, a high number of "dead or paralyzed/agonizing" bees were found by a bee keeper in front of a group of 17 bee colonies in Coteau-du-Lac, an agricultural area in Québec, on May 15, 2010. While the exact number of affected bees is not known, "abnormally high bee mortality" was observed and "the cumulative mortality over time was important".

Dead bees from the site were collected by the bee keeper and analyzed by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ) using a multi-residue method that can detect approximately 200 different pesticides. Residues of clothianidin and thiamethoxam were detected in the dead bees. No pesticide residues were found in control bees which were collected at the same time from another location.

In accordance with the *Incident Reporting Regulations* classification system, this incident was classified as Environment Moderate. This incident report is posted on the PMRA electronic [Public Registry](#) on the Health Canada website.

Health Canada Evaluation

It is unknown how the bees were exposed to clothianidin and thiamethoxam in this incident. However, residues of these compounds found in dead bees collected at the time of the incident confirms that exposure occurred.

Clothianidin and thiamethoxam are active ingredients conditionally registered in Canada for use as a seed treatment, foliar spray and in-furrow applications to control insects. These are systemic pesticides, which means that they are taken up by the plant's leaves or roots and transported throughout the plant. Clothianidin and thiamethoxam are both acutely toxic to honeybees through oral or contact exposure.

Possible exposure to bees could occur from contact or oral exposure to drift from foliar application, dust-off from treated seeds at planting, and oral uptake of residues that may be found in nectar, pollen and guttation droplets.

Health Canada Conclusion

The PMRA concluded that it is **highly probable** that exposure to clothianidin and/or thiamethoxam caused the bee mortality in Coteau-du-Lac. Even though it is not clear how the bees were exposed to clothianidin and thiamethoxam in this incident, this conclusion is supported by the fact that clothianidin and thiamethoxam are known to be highly toxic to bees and these were the only pesticides found in the dead bees. In addition, no pesticide residues were found in control bees which were collected from a healthy hive in another location.

The causality of this incident was assessed based on evaluated information present at the time of the review. The PMRA has concluded that no additional regulatory action is required by Health Canada at this time. Consideration was given to the fact that clothianidin and thiamethoxam are conditionally registered and that this incident would be considered during the conversion to full registration, along with other requested data. It should be noted that any additional information regarding this incident that is provided to the PMRA will be taken into consideration and may change this conclusion.

More information about the [Pesticide Incident Reporting Program](#) is available on Health Canada's website. Should you require further information please contact the [Pesticide Incident Reporting Program](#).

Date Modified: 2010-12-30