Update on the Neonicotinoid Pesticides

29 June 2017

Canada

Introduction

This document provides a progress report on the re-evaluation of the neonicotinoid insecticides; last updated 23 November 2016. The re-evaluation of this group of insecticides is multi-faceted; a status update for each phase of the evaluation will follow.

Background

Neonicotinoids are a group of pesticides used in agriculture to protect crops from various insects.They are also used for other purposes, including killing insects in homes, controlling fleas on pets, and protecting trees from invasive insects such as the Emerald Ash borer. There are three important neonicotinoids currently approved for agricultural use in Canada, **imidacloprid, clothianidin, and thiamethoxam**.

Status

Imidacloprid - Health and Environment Assessments

A human health risk assessment for imidacloprid was included in PRVD2016-20, *Imidacloprid* published 23 November 2016. The health assessment did not identify human health concerns from any exposure route when used according to current label standards. An extensive body of information was considered for any potential toxicity and exposure, including sensitive populations such as children. To date, our assessments of the available data and published literature do not point to unacceptable risks to human health from the use of neonicotinoids, including any potential exposure from drinking water or food.

Health Canada's Pest Management Regulatory Agency (PMRA) is also looking at the potential for neonicotinoids to affect other parts of the environment including aquatic life such as fish, insects, and other organisms. An environmental risk assessment for imidacloprid was included in PRVD2016-20, *Imidacloprid* published 23 November 2016. This assessment showed that, in aquatic environments in Canada, imidacloprid is being measured at levels that are harmful to aquatic insects. These insects are an important part of the ecosystem, including as a food source for fish, birds and other animals. For the protection of the environment, PMRA proposed to phase-out all the agricultural and a majority of other outdoor uses of imidacloprid over three to five years.

The assessment and proposed risk management was open to public consultation for 120 days, which was completed in March 2017. During the public consultation for imidacloprid, approximately 46,000 comments were received. These comments are currently being reviewed by PMRA. In addition, federal and provincial government agencies, grower groups, independent researchers, non-government organizations (NGOs) and manufacturers have undertaken several initiatives including; examination of alternative risk management strategies, the generation of supplemental water monitoring data, and identification of potential alternative pest control products to replace imidacloprid. For the 2017 growing season, the supplementary water monitoring data are expected in October 2017. This data will be reviewed by PMRA, with a targeted completion of the scientific review by December 2017.

Clothianidin and Thiamethoxam – Special Review of Aquatic Risks

Given the aquatic risk identified for imidacloprid, the review of potential risk to aquatic invertebrates (such as insects) for clothianidin and thiamethoxam has been prioritized in special reviews. Data has been received from registrants and provincial government agencies. These data, along with the water monitoring information described above, will be reviewed with a targeted completion of the scientific review by December 2017. Consultations will take place in early 2018.

Pollinator Assessments and Incident Reports

In 2013, in response to reports of bee deaths linked to neonicotinoids (primarily in corn and soybean growing regions), the PMRA increased incident monitoring and continues to monitor the situation in collaboration with the provinces. Incidents related to honeybees have consistently been reduced by 70% to 80% since 2014. In January 2017, PMRA published an *Update on Canadian Bee Incident Reports 2012-2016* which contains a summary of pollinator incidents that have been reported to potentially be associated with pesticides. The report also includes incidents that have been reported for **clothianidin, imidacloprid and thiamethoxam**.

The pollinator risk assessments are being conducted in collaboration with the United States Environmental Protection Agency and California Department of Pesticide Regulation. The preliminary pollinator risk assessment for imidacloprid published in January 2016, did not point to unacceptable risks to managed honeybees provided strict precautions to limit exposure were followed. PMRA is currently updating the pollinator risk assessment for **imidacloprid** based on additional data from the registrant, additional literature that has recently been published, and the comments that were received during the public consultation period for the preliminary assessment. PMRA is also conducting pollinator risk assessments for **clothianidin** and **thiamethoxam** based on extensive data from the registrants and published literature. PMRA has reviewed most of the studies on-hand that were received from registrants or obtained from published literature. This includes studies on potential toxic effects to honey bees and native bees (such as bumblebees) as well as measures of exposure (for example, levels of clothianidin or thiamethoxam in pollen and nectar). All of these relevant studies are currently being incorporated into the pollinator risk assessments. PMRA published an update on the pollinator risk assessments for all three neonicotinoids in January 2017. PMRA is targeting completion of the pollinator risk assessments for the neonicotinoids by December 2017. Consultations will take place in early 2018.