It’s no secret that the agricultural industry relies heavily on both crop protection products and pollinators, like bees. In fact, the loss of either could have devastating consequences for the industry. Recent bee deaths in southern Ontario have raised many questions about the use of pesticides in crops. One class in particular, neonicotinoids, has been the subject of much debate.

While some want them banned outright, others want to wait and see what the science says. The deaths have prompted many questions: What is causing bees’ deaths in southern Ontario? And why aren’t the same issues surfacing in other regions of Canada?

In western Canada, where beekeepers have not experienced substantial and unexplained losses, the conversation about neonicotinoids is more focused on understanding the various factors that have led to such unusual circumstances.

One thing is clear; everyone must work together to find a fair and reasonable solution that meets the needs and protects the interests of all parties affected.

**BEE DEATHS ISOLATED**

In all of the debate, one particularly interesting point has been raised. It is estimated that there are some 20 million acres of canola on the prairies, much of which is seed-treated. Also, the region is home to approximately 80 per cent of Canada’s beekeeping population. So, if neonicos are so harmful, then why...
aren’t western Canadian beekeepers seeing the same issues?

“We’re not seeing an issue here,” says Grant Hicks, president of the Alberta Beekeepers Association and director on the board of the Canadian Honey Council. “Honey production has not fallen off. Winter losses are up and down, but there are factors that tie directly to the variation in winter success.”

Hicks isn’t sure why they aren’t seeing the same issues, but he hopes that research out of Ontario will offer an explanation. What he does know is that there’s a need for both crop protection products and pollinators, and that returning to the more harmful foliar treatments of the past is just not an option.

**HORTICULTURAL SECTOR NEEDS MORE BEES**

One of the big issues, particularly for the horticultural sector, is the lack of available bees for pollination; a problem that has been made worse by the current political climate in Ontario. No one knows about the need for bees more than Oxford, NS blueberry farmer Gary Brown.

The blueberry industry is very dependent on pollination, says Brown. “We average about 100 million blooms per acre, so bees are very, very important in getting our crop pollinated.”

Brown, who farms some 15,000 acres of blueberries, says that his need for pollinators meant becoming a beekeeper himself. His operation, which spans three Atlantic provinces, keeps 15,000 hives, and rents another 10,000 from Ontario beekeepers.

“We are concerned about bee health in Ontario,” he says. “We pay our beekeepers based on hive strength—a formula that has...”

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been established on what the hive strength should be to go into a blueberry field that needs pollinating.”

Brown, who grows blueberries for Oxford Frozen Foods, the world’s largest supplier of frozen wild blueberries, says that rather than drawing conclusions, he’s erring on the side of caution.

“We’re waiting to see what the science actually tells us,” he says, “because it definitely affects us. We want to rent hives from those beekeepers, so we want them to have healthy bees that we can rent.”

For his part, Hicks says that Canadian beekeepers and the Canadian Horticultural Council need to work closely together, particularly if they’re to meet the needs of the blueberry industry.

“And that would be my commitment to the Canadian Horticultural Council—that Canadian beekeepers are currently actively addressing this situation, and we hope that we can continue to work together in that regard.”

COEXISTENCE POSSIBLE THROUGH INCREASED COMMUNICATION

Pierre Petelle, vice-president of chemistry at CropLife Canada thinks that coexistence is possible, but that it will take an increase in the right kind of communication. Last year, growers weren’t necessarily aware of all of the steps they could take, he says, particularly since the research results weren’t in yet.

“We’re hoping that through the winter, and with heightened awareness on this issue, that growers will be aware of practical steps they can take in their fields,” he says. “We hope that growers will know where the bees

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We’re hoping that through the winter, and with heightened awareness on this issue, that growers will be aware of practical steps they can take in their fields.”
are on their land and they will have that dialogue with those beekeepers.”

Petelle says an outright ban isn’t the way to go. “We have to be very careful when we talk about things like bans and the long-term impacts of that,” he says. “When you look at any of the products that these neonics replaced, these were much more persistent products, equally toxic to bees, and much more toxic to humans, mammals and birds. They could be used safely, but when you look at the risk profile, neonicotinoids have significant advantages.”

It’s not only grain growers who rely on neonics, he says. The horticultural sector has a great number of crops listed on those labels, too. For an industry that already struggles with a limited number of crop protection products, an outright ban would be devastating.

“We are reliant on pollinators, too,” says Petelle. “Some of our members are the biggest clients of commercial beekeepers in the country because they hire those beekeepers to come and put millions of bees in their canola for seed production. It’s very much an inter-related relationship, and we want to work with all of the partners moving forward.”

On the need for industry-wide cooperation, Hicks agrees, particularly if they’re to meet the needs of the blueberry industry. And with Oxford Frozen Food’s recent investment of $184-million into the construction of a new processing facility and the development of further wild blueberry fields, the need for bees will likely increase.

“It’s a huge job, and right now we’re not meeting the need,” says Hicks. He suggests, though, that if the Canadian Honey Council were to develop a strategy with the Canadian...
Horticultural Council, the job could get done. After all, the two sectors rely on one another so heavily, and only together can they address their combined issues.

RESEARCH REVEALS THAT DUST IS THE ISSUE

In the early spring of 2013, Ontario researchers joined forces to look into neonicotinoids and their effects on pollinators. The team included Tracey Baute, Ontario Ministry of Agriculture and Food and Ministry of Rural Affairs field crop entomologist; Art Schaafsma, a professor of field crop entomology with the University of Guelph Ridgetown Campus; and Cynthia Scott-Dupree, a University of Guelph researcher.

A number of studies identified a few routes of exposure, says Baute. It has been acknowledged that while there are several possible routes of exposure, by far the greatest risk was from dust released from planting equipment. The team discovered that as treated seeds were jostled around in vacuum planters, they created contaminated dust that was then blown out of the planter’s exhaust manifolds and into the surrounding environment.

To their surprise, the researchers discovered that bees weren’t foraging on the dust-covered pollen of nearby flowers and crops, as they had once thought. Instead, it was discovered that bees prefer the pollen of neighbouring trees and shrubs; pollen that was inadvertently covered in contaminated dust during planting season. If this risk was mitigated, it would address the issue in southern Ontario.

To mitigate the dust problem, the team looked at a number of potential solutions, one being the use of a new seed flow lubricant, Fluency Agent, designed by Bayer CropScience. It was found that Fluency Agent significantly reduced dust production, and as a result, is currently the only lubricant permitted for use with insecticide-treated corn and soybeans. Along with this new requirement, the Ontario Ministry of Agriculture and Food (www.omafra.gov.on.ca/english/) and Health Canada (www.hc-sc.gc.ca) issued a new list of recommendations for the 2014 planting season. The list can be found on CropLife Canada’s website, www.croplife.ca.

Busy bees produce results...from apples to zucchini!