To the Editor of the Globe and Mail:

I am a professor at the University of Guelph who has researched honeybees for 40 years. I was incensed by the recent article by Margaret Wente ("Good News: There is no Honeybee Crisis"; 22 July 2015). Ms. Wente has, in my opinion, done a disservice to readers of the Globe and Mail by taking several facts out of context and failing to present a balanced discussion of a very serious and complex issue.

When I conducted a survey in 1997, average annual colony mortality in Ontario was about 10%. The beekeepers with the very best management techniques experienced only 3-5% losses. In comparison, Ontario beekeepers this past winter were again hit with terrific deaths of their colonies- 37.8%! While this is a substantial improvement over the 58.0% mortality of colonies they experienced the previous year, nevertheless it signifies that something is terribly wrong in honeybee-land.

There is a trend of decreasing deaths of honeybee colonies within Canada, however that trend is non-significant. "Non-significance" in statistics means that there is a high probability that the apparent downward trend is due to chance. The average annual mortality during the past 9 years across the entire country has been 25.9%-- a level that has placed a heavy financial burden on beekeepers. Everyone hopes the trend is real. What happens over the next several years will be informative.

Before 2000, beekeepers generally knew that to keep their colonies healthy and productive, they should re-queen them every second year. It was not unusual for some individual queens to live 4+ years. Not any more-- many commercial beekeepers now find that queens live less than year! Replacing queens is costly (time and money) and further erodes the profits of beekeepers. The cause of shortened lives of queens is unknown but of grave concern to beekeepers.

It is true that colony numbers seem to be higher now in Canada-- when counted in summer. In order to be sure to have 500 colonies alive in spring to fulfill pollination contracts and to produce honey, beekeepers in Ontario need to manage their hives over the summer so that they have 800 or more hives at the start of winter. Beekeepers elsewhere in the country must do the same to balance the risks of uncertain winter mortality. The larger-than-average colony numbers mentioned by Ms. Wente are in part due to the management actions taken by beekeepers to ensure that they will have enough colonies alive in spring to be able to make a living. The larger numbers of colonies reported last summer are not a sign that the industry is healthy; quite the opposite, it actually reflects the serious problems our honeybees are facing.

One of the biggest problems to understanding what is afflicting Ontario honeybees is that there is no "smoking gun" that points to a single cause. Many factors are involved- parasitic mites and the viruses they transmit, a gut parasite (Nosema), reduced nutrition, etc.-- but the finger also points to pesticides, including neonics. When farmers plant seeds treated with neonics year after year in the same field, the concentration of those pesticides in the soil increases over time. Those residues add to the neonics applied the next year that can be taken up by crops and plants along the margins of fields, and that run-off into streams and rivers. The evidence that low levels of neonics are altering soil and aquatic ecosystems is now strong. A large study in Sweden published last year demonstrated that canola fields planted with neonic-treated seeds had strong negative effects on bumblebees and wild bees, all important pollinators. While that study did not find a significant effect on honeybee colonies, the measure used to evaluate that effect (changes in adult numbers during summer) may not have detected more subtle wintering effects.

The controversy surrounding the possible effects of neonicitinoid pesticides on bees in the most complex issue I have experienced in my four-decades as a bee-scientist. What is needed to help everyone make sense of it is strong balanced reporting. I believe Ms. Wente's article has failed in that regard. For example, now that farmers buy treated seed, the neonics are easy to use every year whether pest pressure warrants the use of pesticides or not. The huge gains in Integrated Pest Management (IPM) that became the bulwark of pest management are largely gone now that crops are treated prophylacticly, whether needed or no.

As a final word to Margaret Wente-- suggesting to Ontario beekeepers who watched more than of third of their colonies die last winter that there is no honeybee crisis and that 37.8% mortality of their hives is "good news" is insulting. I believe you need to apologize to the beekeepers of Ontario who work hard to provide the honeybees that are so important to the pollination of Ontario horticultural crops.

Sincerely,

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