

Systemic pesticides and fuchsias as hummingbird feeders

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I noticed a wave of enthusiasm for a systemic pesticide as a preventative and cure for fuchsia gall mite in the AFS Bulletin of Jan-March 2008. I don't doubt the success of the trials, but I'd like to remind AFS's dedicated fuchsia growers that such success may have costs that they don't bear, but hummingbirds may.

Fuchsias without hummingbirds would be like flowering plums without honeybees – unimaginable and undesirable. Anyone growing fuchsias outdoors in the western U.S. must expect that the nectar produced in their blooms will be greedily sampled by hummingbirds.

Systemic pesticides work by moving through the plant's sap and making all tissues toxic to pest organisms. That is how they work – by making the plant, including its juices, poisonous. When a systemic pesticide advertisement says it “protects” the plant, it means it makes it poisonous to pests. Systemic pesticides are seldom used on crop plants for this reason. They persist in plant tissues and remain toxic for long periods of time.

I checked the label of “Bayer Advanced All-in-One Rose and Flower Care” by going on-line to the manufacturer, seeking the names of the active ingredients. It contains a fungicide, Tebuconazole, and an insecticide, Imadocloprid, which was misspelled on the manufacturer's on-line label as “Imadodoprid” (somebody may have thought the c and l together looked like a “d”, as in “dope”). Misspelling a pesticide name makes an internet search turn up blank, so the error isn't trivial.

I then looked up the basics of ecotoxicity (wildlife toxicity) for Imadocloprid to see if it had any potential to harm hummingbirds. Of course, pesticides are not tested on hummingbirds, but on standard species that are easy to raise in captivity and are used as indicators. I used the website for EXTTOXNET (<http://exttoxnet.orst.edu>), maintained by several universities, to query Imadocloprid's bird toxicity.

Here is what I found: “Imadocloprid is toxic to upland game birds. LD50 (lethal dose for 50% of test subjects) is 152 mg/kg for bobwhite quail, 31 mg/kg for Japanese quail”. Hummingbirds have a small fraction of the body weight of even a Japanese quail, and they consume very large amounts of nectar for their weight because of their high energy demands – as their behavior suggests, they appear to be on permanent sugar highs!

A fuchsia in full bloom is in effect a hummingbird attractant and feeder. If a hummingbird feasts on a large number of fuchsia blooms on plants treated with Imadocloprid, will it be exposed to the toxin through nectar? In the absence of definitive data and analysis, this would be a gamble. I taught my nephews and son to sip nectar from the broken base of fuchsia blossoms. I would not allow them to do this on plants treated with pesticides, especially systemics. Would you? Would you advise your hummingbirds differently?

Hummingbirds are not likely to drop dead suddenly from chronic low-level exposure to pesticides, as they would from acute exposure. Like many wildlife

species affected by pesticides, they are more likely to suffer from declines in reproduction, or behavior that affects survival.

I am sorely tempted to make my old mite-susceptible fuchsia specimens immune to fuchsia mite by using systemic pesticides, but the thought of putting poisons in my hummingbird feeders ends the temptation for me.