

Guest opinion

## You can save trees and pollinators, too

**By Fred Berkelhammer**

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Dianna Curlette's letter "Emerald ash borer — Pesticide treatment is killing bees," (Camera, May 25, 2014), argues eloquently for avoiding the neonicotinoid class of pesticides in the fight against Emerald Ash Borers. As a beekeeper's spouse, and one who has watched too many hives die from colony collapse, I applaud her for this stand.

There are a couple of misstatements, however, that should be addressed. First, the assertion that, "...neonicotinoid pesticides are the main recommended treatment for ash trees infected with the EAB," is not correct. Results from the Upper Midwest show that the two neonics labelled for EAB control, imidacloprid and dinotefuran, when applied at normal rates, are not as effective at preventing infestation as are emamectin benzoate and azadirachtin, neither of which is a neonicotinoid. (Imidacloprid does work comparably well when applied at double dosage). And, post infestation, imidacloprid doesn't work nearly as well as the non-neonics, and dinotefuran is all but completely ineffective. Setting aside the argument that they are less expensive to apply, most of the advocacy for their use comes from people who, I am sad to report, have an interest in the sale of these products. (To be fair, there is also some legitimate concern about the long-term effects of injecting trunks of Ash annually or biannually with any product, and this is the mode of application for the non-neonicotinoids).

One other statement in the piece, "Arborists have had little success in defeating this pest...", is not accurate. Results from the Upper Midwest show that the two non-neonics work well: Tree survival rates are in the 90 percent range for both. Emamectin benzoate, though, is a "restricted use" pesticide; the label says this is "Due to acute toxicity to humans". It also states that it is "highly toxic to fish, mammals and aquatic invertebrates." It is very toxic to bees, as well. Further, the product is advertised to have residual efficacy for the following year, and possibly even for a third year. This means that it is likely that, 1) this chemical is in the leaves when they fall in autumn, and will end up in compost and waterways; and 2) it is in the flowers the following spring. Many tree companies have been asserting that, because they are wind pollinated, Ash flowers pose no risk to pollinators after treatment. But this is a red herring argument: A study by Notre Dame Entomologist David W. Severson (1978), showed that, though they don't pollinate them, bees nonetheless collect pollen from Ash, as well as from many other wind pollinated trees, especially early in the spring.

The fourth EAB labelled systemic, azadirachtin, is orders of magnitude less toxic to honeybees than the other three treatments and has short residual (and is therefore not available to pollinators through flowers the following spring). Almost no trace is found in fallen leaves. It is derived from Neem tree seeds, so is also sustainable. It works both pre- and post-infestation. Azadirachtin is also much less toxic to humans than is emamectin benzoate: it is listed for use by the Organic Materials Review Institute.

There is environmental value in saving trees. Boulder County residents need to take a hard look at their Ash trees, and determine which ones are most important to them, and which have the best chances of responding to treatment. But there is no doubt that those chances for success are pretty good for healthy, decent sized trees that begin treatment sooner than later, and that it can be achieved with trunk injections of a bioinsecticide that is safe for mammals, pollinators and the environment in general. It would be a shame if many residents chose to remove their Ash trees based on the misconception that they can't be saved, or that saving them necessitates putting pollinators, and the environment in general, at risk.

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