

Organic Fertilizer Is Great at Killing Bees



By Ruth Kava — April 21, 2016



Stingless Bee courtesy of [Shutterstock](#) [1]

A given of the organic agriculture movement is that organic growers don't use synthetic pesticides and fertilizers, like organophosphates and glyphosate (RoundUp). All that fear-mongering about pesticides is only possible because environmental groups only test for the synthetic kind, they don't test for the pesticides and fertilizers used by organic growers.

Because those are safer? Absolutely not.

In the *Journal of Economic Entomology*, Brazilian scientists [studied](#) [2] the effects of copper sulfate, a fertilizer and pesticide that is approved in the U.S. for use in organic agriculture and applied to the leaves of crop plants. Obviously the smarter approach is to treat seeds instead of using a broad spectrum pesticide, and that is the premise behind neonicotinoids, which environmental groups also protest -- by treating seeds, which bees have no interest in, rather than plants, which bees do have an interest in, farmers get better yields with less environmental impact.

So why do organic farmers insist on carpet-bombing plants with chemicals instead? The science is clearly against them, so it's for psychologists to figure out. The new paper adds to the literature showing that a targeted approach is just better, not just for honeybees, but also for stingless bees (*Friesella schrottkyi*), which are native to the Americas and not an introduced species like the honeybee. They are known to pollinate crop plants.

What did they find? The organic pesticide approach is incredibly toxic for bees.

The investigators compared the effects of copper sulfate and another leaf fertilizer mixture, as well as a commonly used insecticide (spinosad) on the stingless bees. They found that the copper sulfate was *more* lethal to the bees than the insecticide when the insects ingested it in a sugar solution.

They wrote: "[L]eaf fertilizers seem to deserve attention and concern regarding their potential impact on native pollinators, notably Neotropical stingless bees such as *F. schrottkyi*. Their heavy metal content is above the safety threshold for the stingless bee species studied, which may also be the case for related species. Furthermore, the mix of heavy metals in some leaf fertilizers and

the presence of S[ulfur] and sometimes B[oron] may increase their risks. In sum, leaf fertilizers deserve proper risk assessment because of the isolated and mixed use of heavy metals in such fertilizers."

So, the next time you read organic marketing claims about how synthetic pesticides and fertilizers are dangerous, be a little more skeptical. When they are applied by spray, there's really no reason to distinguish between the two types.

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