

New Study: Undisclosed Inert Ingredients in Some Popular Roundup Products Found to be Highly Toxic to Bumblebees

Faulty EPA Assessments Fail to Review Harms From Inert Agents in Pesticides

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Popular herbicide products widely available at hardware and garden stores contain undisclosed “inert” ingredients that can kill bumblebees, according to a new [study](#) published in the Journal of Applied Ecology.

The study compared several products, most of which contained the herbicide glyphosate, which is best known as the active ingredient in Roundup products. They found highly variable toxicity to bumblebees, including one formulation that killed 96% of the bees within 24 hours. Yet another herbicide formulation was found to cause no harm to bumblebees.

Unlike the active ingredients in pesticide products, such as glyphosate, these so-called inert ingredients are not subjected to a mandatory set of tests by the Environmental Protection Agency. But the study shows these inert substances can be toxic and harmful in their own right, including some that appear to block the bees’ breathing holes and gas-exchange systems, essentially drowning them.

“This important new study exposes a fatal flaw in how pesticide products are regulated here in the U.S.,” said Jess Tyler, a staff scientist at the Center for Biological Diversity. “Now the question is, will the Biden administration fix this problem, or will it allow the EPA to continue its past practice of ignoring the real-world harms of pesticides?”

Pesticides are manufactured and sold as formulations that contain a mixture of compounds, including one or more active ingredients and, potentially, many inert ingredients. The inert ingredients are added to pesticides to aid in mixing and to enhance the products’ ability to stick to plant leaves, among other purposes.

The researchers’ finding that the various inert ingredients added to each formulation played a significant role in mortality rates suggests that the EPA’s current practice of just looking at the impacts of active ingredients fails to provide adequate protections.

Currently the agency requires hardly any toxicity data on a pesticide formulation. In 2017 the Center for Food Safety filed a [legal petition](#) calling for the agency to require pesticide companies to provide safety data on the whole pesticide formulations that farmers and homeowners actually use, including inert ingredients. The EPA held a comment period on the petition but has not yet acted to grant or deny it.

“EPA must begin requiring tests of every pesticide formulation for bee toxicity, divulge the identity of ‘secret’ formulation additives so scientists can study them, and prohibit application of Roundup herbicides to flowering plants when bees might be present and killed,” said Bill Freese, science director at the Center for Food Safety. “Our legal petition gave the EPA a blueprint for acting on this issue of whole formulations. Now they need to take that blueprint and turn it in to action, before it’s too late for pollinators.”

There are currently 1,102 registered formulations that contain the active ingredient glyphosate, each with a proprietary mixture of inert ingredients. The secrecy of these undisclosed, inert ingredients leaves researchers and the general public in the dark about the exact chemical makeup and actual toxicity of pesticide products.

Glyphosate is the most widely used herbicide in the United States and worldwide, with about 280 million pounds a year used across 285 million acres in U.S. agriculture alone. Its total volume of application increased by a factor of 12 from 1995 to 2014. This is largely driven by the adoption of genetically engineered crops like corn and soy that are engineered to withstand what would normally be a fatal dousing of glyphosate.

The EPA recently determined that glyphosate’s labeled uses are [likely to “adversely affect” 93%](#) of all threatened and endangered species and 96% of critical habitats that sustain them.

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Featured image: Roundup’s active ingredient, glyphosate, is the most heavily-used agricultural chemical in history. (Photo: Mike Mozart/Flickr/cc)

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