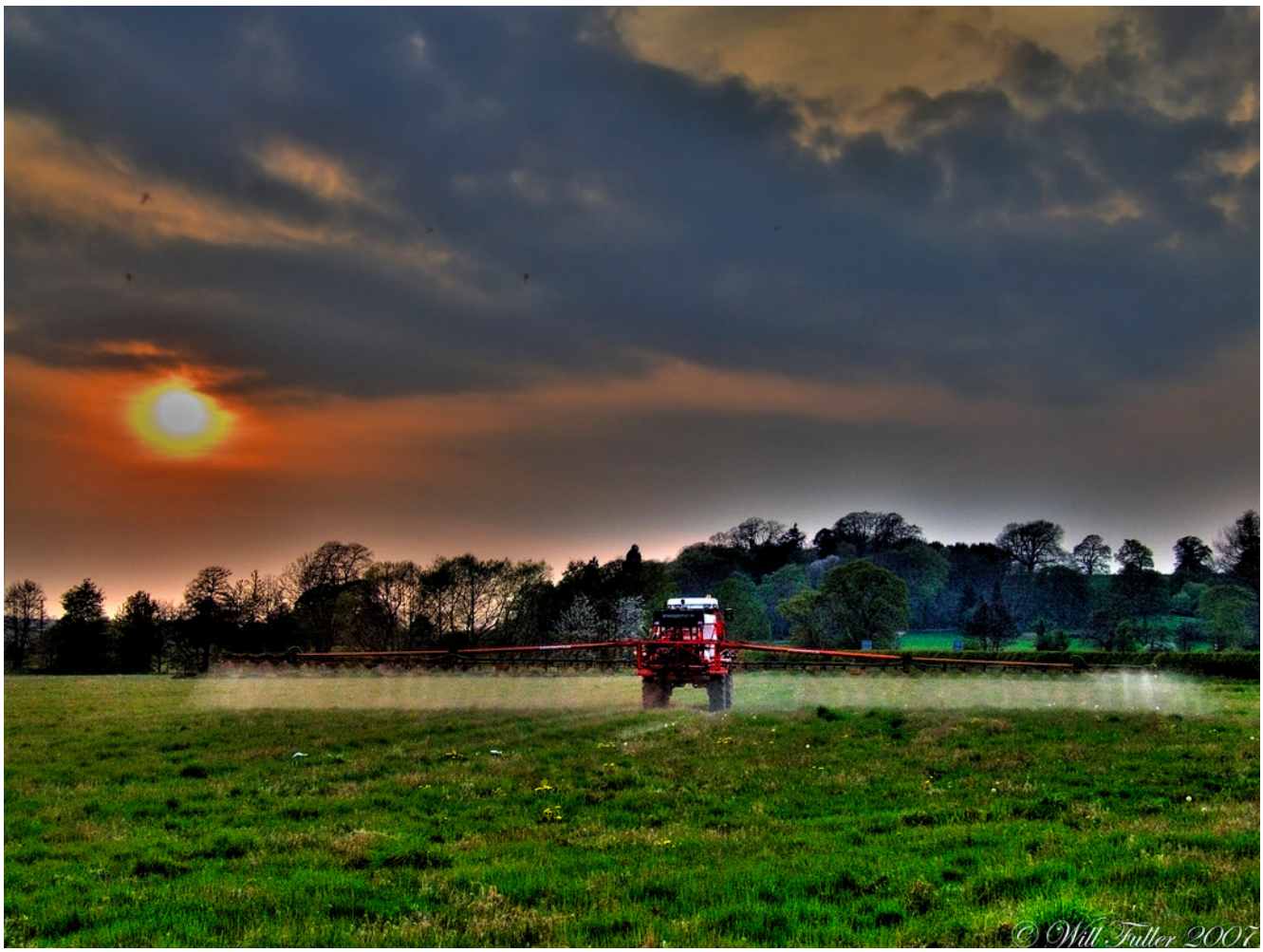

Photo by Will Fuller.

What You Need to Know About the EPA's Assessment of Atrazine

The agency's new report on the second most widely used herbicide in the U.S. shows serious risks to birds, mammals, and fish. Don't know why it matters? Here's an explainer.

By **Elizabeth Grossman** on **June 6, 2016**
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Last week, the Environmental Protection Agency (EPA) released a 500-page draft report on the environmental impacts of atrazine, the second most widely used weed killer in the United States and a chemical known as a water pollutant with potentially serious adverse health effects.

Although it's not the first time the agency has assessed atrazine—the EPA must evaluate pesticides approved for use in the U.S. at least once every 15 years—this is the first close look it has taken at the herbicide since 2003. In that time,

a great deal of new data has surfaced showing that atrazine is now widespread in the environment. There's also new evidence of how the herbicide can harm plants and wildlife.

For the first time, the agency has concluded that atrazine poses a potentially serious ongoing risk to birds, mammals, fish, frogs as well as many plants it was not designed to kill. The draft report is open for public comment and will be followed later this year by a similar report on atrazine's human health effects.

Here's what you should know:

Dangerous Effects Even at Low levels

Atrazine is generally sprayed on corn and other crops, but it doesn't stay on farm fields. Instead, it often ends up in our nation's surface and groundwater. The EPA's report found that levels of this herbicide in the environment exceed what the agency considers "levels of concern for chronic risk" by as much as 22, 198, and 62 times for birds, mammals, and fish, respectively.

And while atrazine rarely kills these animals outright, they're still getting a heavy dose of a substance that has been shown to adversely affect their developmental, hormonal, and reproductive systems. (In the case of the controversial research done by Tyrone Hayes, male frogs effectively became female when exposed to the herbicide.) Chronic atrazine exposure has also been shown to significantly reduce animals' body weight and the weight of individual organs.

Also new is the agency's acknowledgment is that these effects to animal health can occur at levels of atrazine exposure well below those that have actually been found through environmental monitoring. They're also happening at levels below what the EPA has set as drinking water safety limits for atrazine.

When it comes to plants, the agency said that atrazine run-off and spray drift from its use on crops are likely to reduce land-based plant biodiversity. The EPA also pointed to a lack of data regarding the long-term effects on honey bees and their larvae, a data gap that could be important in ongoing efforts to reverse the recent alarming decline in pollinator health.

Two Hundred Products Used in the U.S., Zero in Europe

Farmers use about 70 million pounds of atrazine in the U.S. every year. More than 90 percent is used on corn. But atrazine is also sprayed on soybeans, sugarcane, wheat, oats, and sorghum, among other crops. Atrazine is also used to kill weeds in pastures. According to the EPA, there are approximately 200 different products containing atrazine now approved for use on farms and for a variety of landscaping purposes. Atrazine is also often mixed with other pesticides when it's applied. The environmental and health effects of these mixtures are poorly studied and not yet well understood.

First approved in 1958, atrazine has, however, long raised concerns because of its environmental persistence and mobility. For this reason its use is banned in Europe. While not considered acutely toxic, its long-term health concerns include reproductive, developmental, hormonal, and possible carcinogenic effects.

What Could This Assessment Mean Going Forward?

This risk assessment, and the upcoming one focused on human health effects, will determine the EPA's re-authorization of atrazine. Based on these assessments, EPA could change the requirements for how atrazine can be used—possibly adding new restrictions on how much, where, or how it can be applied. Such restrictions can lead to bans on certain uses or even to banning a pesticide entirely.

For example, the insecticide chlorpyrifos used to be approved for use in homes. Because of health concerns, especially for children, in 2000 the EPA banned that use but continued to allow agricultural use. Similarly, because EPA was concerned about the potential effects of chlorpyrifos on children's health, the agency also decided in 2000 that the pesticide could no longer be used on tomatoes, and limited its use on apples, and grapes.

Environmental Groups Say the Writing's on the Wall

As some environmental advocates see it, the evidence EPA has put forth points to a clear need to stop using atrazine on farms and elsewhere. The assessment, said Emily Marquez, Pesticide Action Network scientist, "reinforces that low doses are causing major impacts on aquatic life, birds, and mammals."

"When the government's own scientists say there's enough atrazine in streams and rivers right now to kill frogs and other imperiled wildlife, we should be worried," said Center for Biological Diversity scientist Nathan Donley. "Atrazine has to be used at a certain concentration to be effective against weeds. And when it's used at that concentration, water contamination is inevitable," Donley told Civil Eats. The information in this report suggests that EPA can't protect wildlife by simply requiring changes in how the herbicide is used, he explained. "The only path forward is an all out ban. It's just too toxic."

Industry Points to Concerns About No-Till

Ultimately it's up to the EPA to decide how and where atrazine will remain in use. But that won't stop the pesticide industry from weighing in. Atrazine manufacturer Syngenta has called the EPA's report "scientifically unjustified" and based on studies "previously recognized as flawed."

In a statement, Marian Stypa, who heads Syngenta's North American product development said atrazine safety "has been established in nearly 7,000 scientific studies over more than 50 years." Further, Sygenta added, the herbicide is essential to maintaining U.S. corn farmers' profitability.

If the assessment leads to a ban on atrazine, the Missouri Corn Growers Association said it would "would limit farmers' conservation efforts, specifically no-till production practices, leading to increased soil erosion and fossil fuel use."

Yet, as Organic Valley Crop Cooperative agricultural research manager Logan Peterman explained, no-till, organic methods of growing soybeans are now well established. And when it comes to corn, he said, "The demand is huge and we successfully grow organic corn." While no-till organic corn farming is more challenging, he added that research is underway to make that easier, though strategic use of cover crops and timing of planting in the spring.

Agricultural scientist Charles Benbrook echoes this sentiment. "Farmers are innovators, and many are already looking for ways to be less dependent on herbicides, especially those that don't work nearly as well as they once did (like atrazine and glyphosate)" he said. It's also worth noting that many of the crops grown in the U.S. with atrazine are grown without the herbicide in Europe.

The EPA draft report will be open for public comment for 60 days. After reviewing those comments the EPA will revise the report, which will be reviewed by the agency's Scientific Advisory Panel some time next year. The U.S. Fish and Wildlife Service's also report on atrazine's impacts on endangered species in the works.

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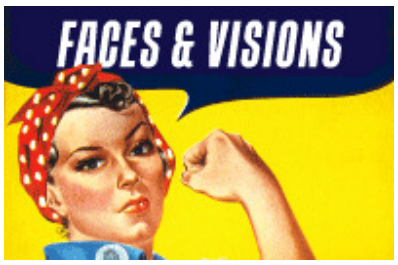

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