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Science/Technology

EPA: Widely Used Herbicide is Harmful to Wildlife

Evan Garcia | June 8, 2016

A widely used herbicide is harmful to animals, a new report from the Environmental Protection Agency states, but some farm groups are criticizing the report's findings and have expressed concerns about the economic impacts of a possible ban.

According to the report released June 2, exposure to the chemical atrazine can negatively impact the developmental, hormonal and reproductive health of animals. It has also been shown to reduce the body weight and organ size of mammal and bird offspring and can kill plants other than those targeted by the herbicide – including aquatic plant life – damaging aquatic ecosystems and limiting plant biodiversity.

The chemical was banned by the European Union in 2004 after it was found in groundwater at levels exceeding regulatory limits.

Yet atrazine is described as being “among the most reliable herbicides available” and is praised for its “critical role in combating the spread of resistant weeds,” by the National Corn



A corn field in Orland Park, Illinois. Atrazine is commonly used on corn, Illinois' predominant agricultural crop. (Tom Gill / Wikimedia Commons)

Growers Association, which posted a statement of response the same day the report was released.

The statement goes on to say atrazine “reduces soil erosion, increases crop yields, and improves wildlife habits” and “has passed some of the most rigorous safety testing in the world.”

Farmer Paul Jeschke has used atrazine for more than 50 years. He said it's very effective, especially when mixed with other herbicides that weeds have

developed a resistance to. Jeschke, who's on the Illinois Corn Marketing Board, grows corn and soybeans at a farm about 75 miles southwest of Chicago.

"We're concerned about the environment because we're right in the middle of it," Jeschke said. "The farms around here have wells and we drink the water from the ground and we've never had any issues at all."

Jeschke is also concerned about the economic impact a possible ban on the chemical could have. He referenced a 2012 University of Chicago study that theorized an atrazine ban could cost farmers \$59 per acre. Syngenta, the Swiss company that manufactures the herbicide, along with the National Corn Growers Association, both pointed to the same study in the wake of the EPA's June 2 report.

"Farmers are more comfortable using the herbicides than they are spending the money on the fuel, equipment, machine costs and labor costs to ride those tractors to till the soil and kill the weeds that way," Jeschke said.

About 70 to 80 million pounds of atrazine are used annually in the U.S., including Illinois and the rest of the Corn Belt, where it's sprayed extensively.

Nathan Donley, a staff scientist for the wildlife nonprofit Center for Biological Diversity, said atrazine can remain in the environment well after it's banned.

"In Europe, the manufacturer couldn't demonstrate that it could be used while maintaining safe water standards," Donley said.

"Interestingly, some European countries are still detecting atrazine in their groundwater a dozen years after it was banned, so that's how persistent this chemical is."

Atrazine, which was first used in 1958 and grew in popularity throughout the 1960s, is predominantly used on corn, sorghum and sugarcane to prevent weeds and increase crop yields. Animals and plants are exposed to the chemical when it seeps into groundwater, runs off into surface water or drifts in the air after being sprayed onto crops.

"At very low doses, it can result in chronic health defects," said Donley. "These are mainly reproductive toxicities."

For example, atrazine has been found to dramatically affect amphibians. A 2010 study by scientists at University of California, Berkeley revealed the herbicide "chemically castrates" three-quarters of male frogs and turns some of them into female frogs.

A report examining atrazine's impact on humans is forthcoming, according to the EPA, but some research has already been done to evaluate the herbicide's risk to humans. A 2011 study targeted women ages 18 to 40 living in agricultural communities in Illinois, where atrazine is used extensively, and Vermont, where it's not. The women in Illinois reported more infrequent menstrual cycles and had lower levels of estrogen than the women in Vermont.

The EPA last approved the use of atrazine in 2003. The Federal Insecticide, Fungicide and Rodenticide Act requires the EPA to review all registered pesticides at least every 15 years.

The report released last week is a draft and open to public comment until Aug. 5. It will be peer-reviewed by the EPA's Scientific Advisory Panel in 2017. After that, a decision will be made on whether "the pesticide can perform its intended function without unreasonable adverse effects on human health or the environment." A second public comment period of at least 60 days will follow a proposed decision before it's finalized.

Donley said he hopes the EPA eventually bans atrazine, but doesn't expect it to be an easy feat.

"I think this will be a long, drawn-out fight that will probably end up in the courts," Donley said. "Because anything less than an all-out ban is unacceptable to environmental advocates and Syngenta will do everything they can to maintain their profitability."