Glyphosate toxicity study in ‘pay for play journal’ based on flawed experimental design

A recently published study by a group of French scientists reported that commonly used pesticides like Roundup were up to 1,000 times more toxic than the isolated active ingredient that was tested and evaluated for safety. The team, led by Gilles-Eric Séralini, notorious for a retracted publication that linked GMOs to cancer, claimed that the flawed safety evaluations for pesticides put public health at risk. Their findings were published in *BioMed Research International*, a pay-for-play journal that does no serious peer review, in February.

In a dramatic turn of events, one of the journal’s editors, Ralf Reski, a plant scientist at the University of Freiburg in Germany, resigned and asked for his name to be removed from the journal’s website after reading Séralini’s article.

“I do not want to be connected to a journal that provides [Séralini] a forum for such kind of agitation,” he wrote in his resignation e-mail to the publisher, Hindawi Publishing Corporation.

Val Giddings, a geneticist and senior fellow at the Information Technology and Innovation Foundation, summed up the criticisms of Séralini’s study. He explained that the researchers applied pesticides in high concentrations directly to human cell lines, which was considered poor experimental design that did not represent real-world uses of the pesticides:

> The experimental conditions utterly fail to represent the exposure pathway under real-world uses of the compounds studied, and ignore that cells in humans are organized into organs and tissues, and protected from direct exposure by skin.

Giddings emphasized that such application of pesticides directly to human cells exposed the cells to surfactants present in the pesticides. Surfactants are well-known and widely-used chemicals in biological research because they can dissolve lipids, one of the major constituents of cell membranes. Séralini’s claims of toxicity were not surprising; “beginning biology students would expect to see the kind of negative effects on cells in culture exposed to lipid dissolving agents as reported,” Giddings wrote.

Martin van den Berg, a toxicologist at Utrecht University in the Netherlands, commented that the “endpoints observed are so general that we could probably find the same kind of toxicity with lemon juice or grapefruit extract… It’s not new or shocking. It is what I would have expected at the level he is giving this to the cells.”

Read the full, original article: Claims about pesticide toxicity are based on discredited methods

Additional Resources:

- “Latest twists in the Seralini saga,” GMO Pundit
- “If Seralini’s study is valid, he should be able to publish it in legit journal,” Biology Fortified