

Glyphosate Linked to Aggressive Breast Cancer, Alarming Generational Changes in Offspring, New Studies Find

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[Source](#)

Two new studies add to the body of science, showing glyphosate— a key ingredient in Bayer AG-Monsanto's herbicide Roundup—is harmful to living systems. The studies point to convincing evidence the chemical can alter DNA by actively working at the [epigenetic](#) level.

These alarming studies strongly suggest glyphosate is affecting human chemistry at the genetic level to turn on negative, disease-causing traits – even into future generations. These study results indicate glyphosate progressively weakens the genome of living systems exposed to the chemical. It increases susceptibility to health problems and increased infertility.

These discoveries come from a collaboration of scientists from Purdue University and the Institut National de la Santé et de la Recherche Médicale (INSERM)/Institut de Cancérologie de L'Ouest (ICO) in Nantes, France. Together, they found glyphosate can lead to mammary cancer when combined with another risk factor. Their work was published in [Frontiers in Genetics](#) and shows that glyphosate primes mammary cells for tumor growth by reprogramming epigenomes.

“This is a major result and nobody has ever shown this before,” says Sophie Lelièvre, a professor of cancer pharmacology at Purdue’s College of Veterinary Medicine. “Showing that glyphosate can trigger tumor growth, when combined with another frequently observed risk, is an important missing link when it comes to determining what causes cancer.”

What other frequently observed risks propelled breast cancer growth?

It is assumed that only 5–10% of cancers are directly caused by inherited genetic abnormalities. The remaining 90% of cancers are [linked to environmental factors](#) that directly or indirectly affect DNA.

The researchers discuss environmental and lifestyle factors as other “oncogenic hits,” including diet, tobacco, infections, obesity, alcohol, radiation, stress, physical activity, exposure to heavy metals, and other pollutants.

Therefore, glyphosate is one “oncogenic hit” that, combined with another oncogenic hit, promotes the development of mammary tumors. $A+B=C(\text{ancer})$

For the study, scientists exposed noncancerous human mammary epithelial cells to glyphosate in vitro over a course of 21 days. The cells were placed in mice to assess tumor formation. Although cells exposed to glyphosate alone did not induce tumor growth, cancerous tumors did develop after glyphosate was combined with molecules that were linked to oxidative stress.

Oxidative stress is a chemical reaction that occurs as a result of aging, diet, alcohol consumption, smoking, or other stressors. It alters the organization and integrity of the genome of the breast, aiding cancer development.

“What was particularly alarming about the tumor growth was

that it wasn't the usual type of breast cancer we see in older women," Lelièvre said. "It was the more aggressive form found in younger women, also known as luminal B cancer."

Another [first-of-its-kind study](#) from Washington State University exposed pregnant rats to just half the rate of the commonly used herbicide Roundup that is considered safe for exposure. Researchers found that roughly 90 percent of the next two generations developed health problems by the time they were one year old, including kidney disease, obesity, or issues with their ovaries, testicles, or prostate.

The most dramatic finding, says WSU professor of biological sciences Michael Skinner, showed about one-third of the future generations had miscarriages and/or died during pregnancy.

"It's not just a decision of our own right now to say, 'I don't mind being exposed to this,'" Skinner says. "If those have effects generations down the line, we have a responsibility to our future generations."

The WSU study builds on findings of a 2018 study that looked at glyphosate exposure in U.S. pregnant women, using urine samples as the measure of exposure. Published in the journal *Environmental Health*, the authors concluded, *"We found that > 90% of pregnant women had detectable glyphosate levels and that these levels correlated significantly with shortened pregnancy lengths."*

Termed "Epigenetic Transgenerational Inheritance of Adult-Onset Disease," the findings add yet another layer of evidence why countries like the U.S., who haven't announced outright bans on the product, should reconsider their policy.

Currently, [17 countries](#) have issued outright bans on glyphosate as global favor rapidly turns against the product and its manufacturer Bayer AG-Monsanto.

With the Environmental Protection Agency [unwilling to budge](#) on

setting stricter limits or considering a ban on glyphosate in the U.S., people must take individual action to avoid exposure. [Costco has pulled Roundup](#) from its shelves due to public pressure (and perhaps sensing that future lawsuits may involve retailers). [Lowes and Walmart](#) are now named in legal action due to their unwillingness to drop the product from their stores.

Meanwhile, Bayer AG has lost three high-profile cases against its Roundup product, causing the company to lose investor confidence, stock price, and public favor. The highly anticipated, upcoming 'Winston lawsuit' held in Monsanto's backyard of St. Louis is set for October 15 as Bayer AG-Monsanto desperately attempts to [delay and block the trial's start](#).

The Winston lawsuit, filed in March of 2018, would be the first trial to take place in the St. Louis area. Two trials that had been set to start in St. Louis in August and September have been delayed, as [reported](#) by food industry watchdog, U.S. Right To Know.

[USRTK.org](#) writes, *"The plaintiffs in the Winston case are among more than 18,000 people in the United States suing Monsanto claiming that exposure to the company's glyphosate-based herbicides caused them to develop non-Hodgkin lymphoma and that Monsanto hid the risks associated with its weed killers."*

Judge Vince Chhabria presided over the [San Francisco federal court case](#) in which a civil jury awarded California's Edwin Hardeman \$80 million on evidence that Roundup was a substantial factor in causing his non-Hodgkin's lymphoma. In that case, Judge Chhabria wrote the following conclusion:

"There is strong evidence from which a jury could conclude that Monsanto does not particularly care whether its product is in fact giving people cancer, focusing instead on

manipulating public opinion and undermining anyone who raises genuine and legitimate concerns about the issue."