

H. 301 [To ban sale, use or application of the herbicide glyphosate](#)

I have been a registered nurse for over 30 years, have been a nurse educator, have lectured for national professional organizations, and provided legal case reviews as an expert in health care. I am very familiar with evidence based science and the hierarchies that determine the quality and rigorousness of research.

I have also been an organic vegetable farmer with my husband in Greensboro, VT.

IARC International Agency on Research of Cancer (WHO) for decades have annually convened top cancer scientists to analyze research. In 2014 they determined they should look at glyphosate. 17 top scientists 3/2015 toxicologists, epidemiologists ranked/classified it as probable human carcinogen (2A), particularly

1. Non-Hodgkins lymphoma
2. AML
3. Thyroid
4. Kidney and bladder cancer
5. Also
 - a. liver disease
 - b. antimicrobial resistance (is a patented anti-microbial)
 - c. endocrine disruption, particularly of concern for fetal development. investigation of fetal toxicology reveals the extent to which environmental hazards now threaten each stage of infant development, not just affecting one genetic marker, but by triggering inflammatory processes that create vulnerabilities to carcinogens in later life. *(Sandra Steingraber)*

It is well documented that glyphosate contaminates food and breastmilk. Glyphosate contaminates groundwater, surface water, and drinking water via rainwater/surface runoff. NY S. 126: Glyphosate has been detected in the blood and urine of agricultural workers, indicating it can be absorbed through the body, and has also been shown to damage DNA and chromosomes in human cells, which can lead to cancer.

U.S. has established that acceptable levels for human consumption are 1.75 mg of glyphosate per kilogram body weight per day (mg/kg/day), much higher than European levels. Both use

data supplied by the manufacturer. As a health scientist, I and the medical community are very familiar with the bias of studies performed by manufacturers.

More

1. Honey contamination
2. Environmental impacts well documented. Harms soil microbes, earthworms
3. Affects algae leading to cyanobacterial blooms
4. Kills milkweed, studies show to be correlated to reduction in monarch population (negative binomial regression models to estimate monarch abundance during recruitment in Illinois as a function of local climate, site-specific crop cover, and county-level herbicide (glyphosate) application.)
5. CO2 emitted in production and transportation, but more than half of applied glyphosate eventually gases off as CO2. Formaldehyde is another of the breakdown products.

“We conclude that: (1) GBHs are the most heavily applied herbicide in the world and usage continues to rise; (2) Worldwide, GBHs often contaminate drinking water sources, precipitation, and air, especially in agricultural regions; (3) The half-life of glyphosate in water and soil is longer than previously recognized; (4) Glyphosate and its metabolites are widely present in the global soybean supply; (5) Human exposures to GBHs are rising; (6) Glyphosate is now authoritatively classified as a probable human carcinogen; (7) Regulatory estimates of tolerable daily intakes for glyphosate in the United States and European Union are based on outdated science.” *Concerns over use of glyphosate-based herbicides and risks associated with exposures: a consensus statement* [John Peterson Myers](#), [Michael N. Antoniou](#), [Bruce Blumberg](#), [Lynn Carroll](#), [Theo Colborn](#), [Lorne G. Everett](#), [Michael Hansen](#), [Philip J. Landrigan](#), [Bruce P. Lanphear](#), [Robin Mesnage](#), [Laura N. Vandenberg](#), [Frederick S. vom Saal](#), [Wade V. Welshons](#), and [Charles M. Benbrook](#)

Persistence

Monsanto: “The half-life of glyphosate (the time required for half of the compound to dissipate or degrade) varies, depending on conditions. For example, a Monsanto study conducted at eight sites across the U.S. in 1992-1993 produced a range of half lives, some short (1.7, 7.3, 8.3 days) and some longer, up to 141.9 days at one site in Iowa”

Myers et. al: “In field studies, the half-life of glyphosate in soil ranged between a few days to several months, or even a year, depending on soil composition [56]”

In addition, repeated application of glyphosate causes long term soil and water contamination.

Entire formulation

Chemicals, including glyphosate, are mixed with other ingredients. The safety data that companies like Monsanto are required to provide only include the chemical, not the rest of the formulation. Glyphosate is combined with POEA polyethyloxidated thalamine. Combined it is much more toxic than glyphosate alone. EPA acknowledged that they need to look it this in 2016 in conjunction with toxicology studies, but the current administration has not done so.

Fake science?

Since the IARC ranking and since cancer deaths believed to be related to glyphosate, there is a nationwide multi-district (not class action) suit against Monsanto with 3500 plaintiffs in federal and state courts. Many farm families devastated by cancer deaths.

I encourage you to be mindful that there is a well developed and deliberate misinformation campaign against banning glyphosate. Monsanto intentionally suppressed the The Campaign for Accuracy in Public Health Research of American Chemistry Council was founded to discredit the findings of IARC. The American Chemistry Council membership includes Monsanto and other chemical companies. Their strategy is to discredit IARC with policy papers, social media, a documentary, and attacks on scientists. FOIA requests of internal documents outline this path to discredit the IARC and threaten scientists, which has been somewhat successful. Washington lawmakers are following that playbook.

“The interferences by economic interests in cancer evaluations conducted by public health institutions do not bode well for the free flow of scientific information that informs and protects the public and workers from clear risks of cancer.” (*Amer. Journal Ind. Medicine 2018;61:277-281*)

Finally, I support the bills that propose banning neonicotinoids, and would support an immediate and comprehensive push toward regenerative farming and other land practices that would eliminate use of all chemicals, including atrazine and Dicamba. Monsanto combined glyphosate with dicamba. Dicamba is very volatile and drifts, causing a lot of damage including shriveling or otherwise contaminating and ruining crops of producers that did not apply the chemical. Dicamba also kills dicotyledon plants (AKA broadleaf) that are critical to Vermont hay producers such as alfalfa and clover.

What have we learned since Rachel Carson? We must act now to protect our biodiversity, our water, and our future generations.