

# Factsheet

## Glyphosate (Roundup) and Your Family

### Glyphosate in Adults and Children

A CEH Biomonitoring Study,  
July 2019

#### Summary

Glyphosate, which most people know as Roundup, is the most widely used pesticide in the U.S. Many farmers use glyphosate, and it is also used around homes, in gardens, on schoolgrounds, and on parks.

Glyphosate is so widely used that most of us are exposed to this chemical frequently. Recent research has shown that as many as 90% of us have glyphosate in our bodies. We can be exposed to glyphosate from our food and from playing or working in a place where glyphosate herbicides were recently sprayed.

Exposure to glyphosate can cause cancer and other serious health problems. CEH is especially concerned about children who are exposed to this hazardous pesticide. We just completed a small study to help answer an important question: **Are children more exposed to glyphosate than adults? Based on our results, the answer to this question is yes.**

In spring 2019, CEH used an independent lab to measure glyphosate in parents and children across the U.S. We wanted to know if children are more exposed to this pesticide than adults. The results of this study, and our concerns about glyphosate's health hazards, are summarized below.



#### What We Did

Eleven families volunteered to participate in this study. The families lived in California, Michigan, North Carolina, Texas, and Vermont. Each family provided a urine sample from a parent and a child. (In one family, both parents and two children provided samples.) Because glyphosate does not last very long in our bodies, this kind of testing gives us information about recent exposures.

#### What We Found

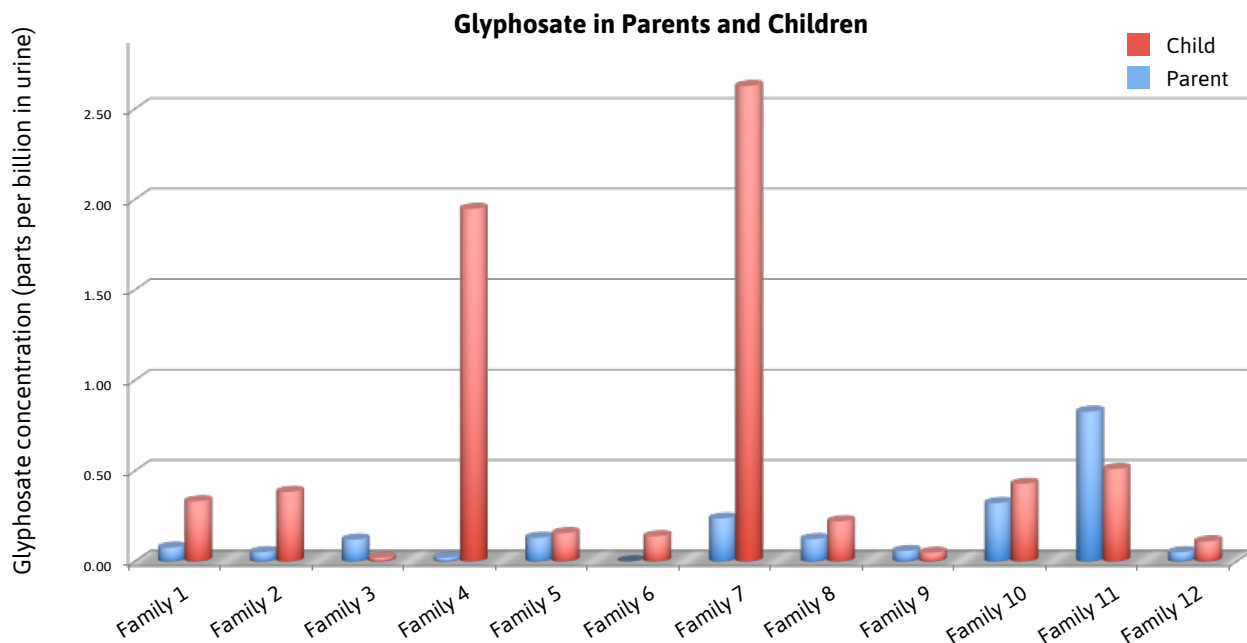
Only two of the people in our study, one parent and one child, did not have glyphosate in their bodies. In other words, over 90% of the people in our study had been recently exposed to glyphosate. Results were similar for AMPA, the chemical that is formed when your body breaks down glyphosate. **For nine of the twelve parent-child pairs the child's body had higher concentrations of glyphosate than the adult.** (See chart on page 2 for detailed results.)

#### How Glyphosate Can Harm Families

In the almost half-century since glyphosate use began, researchers have identified a variety of health hazards linked to the use of this toxic chemical.

\* The World Health Organization recently concluded that it is probable that glyphosate causes cancer. California has also identified glyphosate as a cancer-causing chemical.

\* The National Institute for Occupational Safety and Health (NIOSH) summarized glyphosate research from around the world and identified a series of studies showing that glyphosate damages genes. NIOSH also identified studies showing that glyphosate disrupts hormones, damages sperm, and causes birth defects.



## Take Action!

- 1** Whenever it's available and affordable, buy organic food. Every dollar you spend supports more organic farms, none of which use glyphosate.
- 2** Use organic/eco-friendly pest management in your yard and garden. For useful tips see: [ourwaterourworld.org](http://ourwaterourworld.org)
- 3** If you work with glyphosate herbicides, wash your hands often. After work, remove your shoes before entering your home, then wash yourself (including your hair) with soap and shampoo and change into clean clothes as soon as possible.
- 4** CEH is testing school breakfast cereal products for glyphosate contamination. If you can send us a product from your child's school, please contact Caroline Cox, [caroline@ceh.org](mailto:caroline@ceh.org).
- 5** Schools across the country are buying more organic food and ending the use of glyphosate on school grounds. Ask your school if they are interested!
- 6** Towns and cities are also ending the use of glyphosate and other pesticides in parks and playgrounds. Ask your city councilor or other elected official if they want to join this growing movement.

### References and Notes

*Use of glyphosate in the U.S.*

U.S. Environmental Protection Agency. 2017. Pesticides Industry Sales and Usage: 2008 –2012 Market Estimates. [https://www.epa.gov/sites/production/files/2017-01/documents/pesticides-industry-sales-usage-2016\\_0.pdf](https://www.epa.gov/sites/production/files/2017-01/documents/pesticides-industry-sales-usage-2016_0.pdf)

*Glyphosate in people*

Gillezeau C, van Gerwen M, Shaffer RM, Rana I, Zhang L, Sheppard L, Taioli E. The evidence of human exposure to glyphosate: a review. *Environ Health*. 2019 Jan 7;18(1):2. <https://ehjournal.biomedcentral.com/track/pdf/10.1186/s12940-018-0435-5>

*Glyphosate and cancer*

Guyton KZ, Loomis D, Grosse Y, El Ghissassi F, Benbrahim-Tallaa L, Guha N, Scoccianti C, Mattock H, Straif K; International Agency for Research on Cancer Monograph Working Group, IARC, Lyon, France. Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate. *Lancet Oncol*. 2015 May;16(5):490-1.

*Glyphosate and other health hazards*

The National Institute for Occupational Safety and Health (NIOSH). 2018. Registry of Toxic Effects of Chemical Substances (RTECS): Glycine, N-(phosphonomethyl)-. <https://www.cdc.gov/niosh-rtecs/MC106738.html>

*Pesticides' special hazards for children*

Roberts JR, Karr CJ; Council On Environmental Health. Pesticide exposure in children. *Pediatrics*. 2012 Dec;130(6):e1765-88. doi: 10.1542/peds.2012-2758. <https://pediatrics.aappublications.org/content/pediatrics/130/6/e1765.full.pdf>

*CEH's testing methodology*

Urine samples were tested by HRI Laboratories in Fairfield, Iowa using a liquid chromatography mass spectrometer. HRI is an ISO 17025 certified laboratory.