Toxic Weed Killer Found in Most Foods Sold in the US

Source: Dr. Mercola

Story at-a-glance

- Between 1974 — the year glyphosate entered the U.S. market — and 2014, glyphosate use in the U.S. increased more than 250fold
- Few people had detectable levels of glyphosate in their urine in 1993, but by 2016, 70 percent had detectable levels. Between 1993 and 2016, the glyphosate levels in people's bodies increased by 1,208 percent
- While both the U.S. Department of Agriculture's Pesticide Data Program and the U.S. Food and Drug Administration (FDA) measure pesticide residues in foods, neither include glyphosate in their official testing
- Internal FDA emails reveal Roundup has been found in virtually all foods tested, including granola, oatmeal products, crackers and honey
- Independent testing has found significant amounts of glyphosate in a wide range of foods as well, including grains (especially oats), legumes, beans, orange juice, wine and ice cream

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by Dr. Mercola
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Earlier this year, researchers from University of California San Diego School of Medicine reported there's been a dramatic increase in glyphosate exposure in recent decades and,

subsequently, the level found in people's bodies.[1] As one would expect, the introduction of so-called "Roundup Ready" genetically engineered (GE) crops led to a massive increase in the use of Roundup, the active ingredient of which is glyphosate.

Glyphosate has also become a popular tool for desiccating non-GE grains, legumes and beans, which has further spurred the use of the chemical. Between 1974 — the year glyphosate entered the U.S. market — and 2014, glyphosate use in the U.S. increased more than 250fold.[2,3] Globally, glyphosate use has risen nearly fifteenfold since 1996, two years after the first GE crops hit the market.

Farmers now apply nearly 5 billion pounds (over 2 billion kilograms) of glyphosate to farm crops each year, worldwide.[4] Approximately 300 million pounds are applied on U.S. farmland. According to the researchers, few people had detectable levels of glyphosate in their urine in 1993 when the study began.[5] By 2016, 70 percent had detectable levels.[6] Overall, between 1993 and 2016, the glyphosate levels in people's bodies increased by 1,208 percent.

Food Testing Reveals Widespread Glyphosate Contamination

While Monsanto still argues that Roundup (and glyphosate in general) is perfectly safe, mounting research tells a very different story, which is why it's becoming increasingly crucial to assess just how much glyphosate is in our food. Unfortunately, while both the U.S. Department of Agriculture (USDA) Pesticide Data Program and the U.S. Food and Drug Administration (FDA) measure pesticide residues in foods, neither of them includes glyphosate in their official testing.

The USDA promised to begin glyphosate testing in 2017, yet mere days before the testing was scheduled to begin, the plan was called off. The reason has never been disclosed. The only

time the USDA tested for glyphosate was in 2011, when 300 soybean samples were tested and all were found to be contaminated.

Meanwhile, the FDA began a limited testing program for glyphosate in 2016, in which high levels of glyphosate was found in oatmeal products and honey, but the agency did not release the results publicly. Now, internal FDA emails obtained by investigative journalist Carey Gillam[7] through Freedom of Information Act (FOIA) requests reveal Roundup has been found in virtually all foods tested, including granola and crackers. Gillam writes:

"[T]he internal documents obtained by the Guardian show the FDA has had trouble finding any food that does not carry traces of the pesticide. 'I have brought wheat crackers, granola cereal and corn meal from home and there's a fair amount in all of them,' FDA chemist Richard Thompson wrote to colleagues in an email last year regarding glyphosate … broccoli was the only food he had 'on hand' that he found to be glyphosate-free …

Separately, FDA chemist Narong Chamkasem found 'over-the-tolerance' levels of glyphosate in corn, detected at 6.5 parts per million [ppm], an FDA email states. The legal limit is 5.0 ppm. An illegal level would normally be reported to the Environmental Protection Agency (EPA), but an FDA supervisor wrote to an EPA official that the corn was not considered an 'official sample.'"

Independent Testing Also Highlights Massive Glyphosate Problem

The Health Research Institute Labs (HRI Labs) is an independent laboratory that tests both micronutrients and toxins found in food, and is often hired to test foods claiming to be non-GMO, "all natural" and/or organic. One of the toxins HRI Labs is currently focusing on is glyphosate, and the public testing being offered (see below) allows them

to compile data on the pervasiveness of this chemical in the food supply.

HRI was recently tasked with testing Ben & Jerry's ice cream, which was also found to contain glyphosate. The samples were provided by the Organic Consumers Association (OCA) and Regeneration Vermont, which are concerned about the environmental impact Ben & Jerry's dairy producers are having in Vermont. Using sensitive state-of-the-art testing equipment to look at the quality of the ingredients, 10 of the 11 ice cream samples were found to contain substantial levels of glyphosate.

HRI Labs has investigated a number of other foods as well, including grains, legumes and beans. Most if not all of these types of crops need to dry in the field before being harvested, and to speed that process, the fields are doused with glyphosate a couple of weeks before harvest. As a result of this practice, called desiccation, grain-based products, legumes and beans contain rather substantial amounts of glyphosate. Quaker Oats, for example, was found to contain very high levels.

Orange juice also contains surprising amounts of glyphosate. As it turns out, weeds in orange groves are managed by spraying glyphosate, which ends up in the oranges as the roots of the orange trees pick it up through the soil. A similar situation is occurring in vineyards, which is why many wines are contaminated.

HRI Labs has also analyzed more than 1,200 urine samples from U.S. residents. This testing is being done as part of a research project that will provide valuable information about the presence of glyphosate in the diet and how lifestyle and location affects people's exposure to agrochemicals. Here are some of their findings to date:

- 76 percent of people tested have some level of

glyphosate in their system
- Men typically have higher levels than women
- People who eat oats on a regular basis have twice as much glyphosate in their system as people who don't (likely because oats are desiccated with glyphosate before harvest)
- People who eat organic food on a regular basis have an 80 percent lower level of glyphosate than those who rarely eat organic. This indicates organic products are a safer choice
- People who eat five or more servings of vegetables per day have glyphosate levels that are 50 percent lower than those who eat fewer vegetables

How Is Glyphosate Affecting Human Health?

Glyphosate mimics glycine (hence the "gly" in glyphosate), a very common amino acid your body uses to make proteins. As a result, your body can substitute glyphosate for glycine, which results in damaged proteins being produced. According to research published in the journal Entropy in 2013, the main toxic effects of glyphosate are related to the fact that it:[8,9]

- Inhibits the shikimate pathway, found in gut bacteria in both humans and animals
- Interferes with the function of cytochrome P450 enzymes, required for activation of vitamin D in the liver, and the creation of both nitric oxide and cholesterol sulfate, the latter of which is needed for red blood cell integrity
- Chelates important minerals, including iron, cobalt and manganese. Manganese deficiency, in turn, impairs mitochondrial function and can lead to glutamate toxicity in the brain
- Interferes with the synthesis of aromatic amino acids and methionine, which results in shortages in critical neurotransmitters and folate

- Disrupts sulfate synthesis and sulfate transport

Glyphosate also disrupts, destroys, impairs or inhibits:[10]

- The microbiome, thanks to its antibiotic activity
- Sulfur metabolism
- Methylation pathways
- Pituitary release of thyroid stimulating hormone, which can lead to hypothyroidism

The chemical has also been linked to certain cancers. In March 2015, the International Agency for Research on Cancer (IARC), a research arm of the World Health Organization, reclassified glyphosate as a Class 2A probable carcinogen[11] based on "limited evidence" showing the weed killer can cause Non-Hodgkin lymphoma and lung cancer in humans, along with "convincing evidence" linking it to cancer in animals.

Since then, more than 3,500 individuals have filed lawsuits against Monsanto, claiming the weed killer caused their Non-Hodgkin lymphoma. Many of the cases in this multidistrict litigation are being handled in federal court in San Francisco under one judge. Internal documents obtained during discovery have been released by plaintiff attorneys, and have become known as "The Monsanto Papers."

Disturbingly, some of this evidence reveals the EPA has protected the company's interests by manipulating and preventing key investigations into glyphosate's cancer-causing potential.

According to toxicologist Linda Birnbaum, director of the U.S. National Institute of Environmental Health Services, even minor exposure could have a detrimental effect on human health. "Even with low levels of pesticides, we're exposed to so many, and we don't count the fact that we have cumulative exposures," she told Gillam.

Monsanto Sued for Misleading Consumers

In addition to the lawsuits against Monsanto over Roundup's cancer-causing effects, the company is also being sued for false and misleading labeling.[12] The lawsuit, which accuses Monsanto of falsely claiming glyphosate "targets an enzyme found in plants but not in people or pets" on the Roundup label was filed in April 2017 by the OCA and Beyond Pesticides.

As noted above, glyphosate affects the shikimate pathway, which is involved in the synthesis of the essential aromatic amino acids phenylalanine, tyrosine and tryptophan. While the shikimate pathway is absent in human and animal cells, this pathway is present in the gut bacteria of mammals, including humans.

So, by way of your gut bacteria, it still wields a significant influence on human health. Aside from a probable cancer link, Roundup's effect on gut bacteria also suggests the chemical may play a significant role in digestive issues, obesity, autism, Alzheimer's disease, depression, Parkinson's disease, liver diseases and many other chronic health problems.

Monsanto filed a motion to have the case dismissed, saying the label is accurate because "the enzyme targeted is not produced by the human body or found in human cells," but U.S. District Judge Timothy Kelly rejected the motion.

In his May 1 ruling, Kelly stated "The court concludes that Plaintiffs have adequately pleaded a claim that the statement at issue was false or misleading," and that "defendants cannot dispute that the label's statement that the enzyme at issue is 'found in plants, but not in people' is, at least on one reading, literally false."

How Much Glyphosate Do You Have in Your Body?

According to Gillam, the FDA should publish its glyphosate

test results sometime toward the end of this year, or early 2019. Time will tell whether this actually happens or not. The good news is you no longer need to rely on the government when it comes to glyphosate testing. You can test your own levels, thereby assessing your own individual exposure. As mentioned earlier, HRI Labs has developed home test kits for both water and urine.

If your levels are high, you would be wise to address your diet and consider buying more organic foods. You may also want to consider some form of detoxification protocol, and take steps to repair the damage to your gut caused by glyphosate and other agrochemicals. Chances are, if your glyphosate levels are high, you probably have a number of other pesticides in your system as well.

Fermented foods, particularly kimchi, are potent chelators of these kinds of chemicals. Taking activated charcoal after a questionable meal can help bind and excrete chemicals as well. Remember to stay well-hydrated to facilitate the removal of toxins through your liver, kidneys and skin.

Using a sauna on a regular basis is also recommended to help eliminate both pesticides and heavy metals you may have accumulated. For guidelines on how to improve your gut health and repair damage done, see "Go With Your Gut," and "The Case Against Lectins."