

Monsanto's Glyphosate, Fatty Liver Disease Link Proven – Published, Peer-reviewed, Scrutinized Study

Glyphosate. The world's most popular herbicide. An alleged cause of cancer. Available in supermarkets across the nation, whether you want it or not. So what is the latest accomplishment for Monsanto's golden child? Fatty liver disease!

Dr. Michael Antoniou from King's College in London has found a link between the herbicide and non-alcoholic fatty liver disease, a condition whose symptoms include fatigue, nausea, jaundice, cirrhosis, and abdominal pain, among others. It is found primarily in overweight and obese people, people with diabetes, and those with high cholesterol. According to Dr. Robin Mesnage, another author of the study,

The concentration of glyphosate that was added to the drinking water of the rats corresponds to a concentration found in tap water for human consumption. It is also lower than the contamination of some foodstuffs."

Where is the Science?

Glyphosate has been on the market since 1974 and since the advent of genetically-modified, Roundup ready crops in 1996, more than 18 billion tons of the stuff has been used worldwide (nearly a fifth of that was in the U.S. alone). It's been linked to environmental degradation, and the number of studies linking glyphosate to health issues are growing. The work from King's College is the first to definitively identify a real

risk glyphosate poses to human health. Dr. Antoniou says,

The findings of our study are very worrying as they demonstrate for the first time a causative link between an environmentally relevant level of Roundup consumption over the long-term and a serious disease."

Long-term studies on the impact of glyphosate are few and subject to huge amounts of scrutiny. A previous two-year study, the Seralini study in 2012, tested rats for long-term toxicity and found that the rats developed tumors and had shorter life spans. The study was heavily criticized, and the publisher retracted it in 2013 despite protests from the authors.

The recently discovered link between glyphosate and fatty liver disease is peer-reviewed, scrutinized, published in Scientific Reports, and from a prestigious university. But it has only now been released. One of the authors on the paper is Gilles-Eric Seralini (he of the previously retracted study), and this study uses the same, roundly criticized breed of rat from the previous study. The Crop Protection Association has already called the validity of this study into question saying, "Glyphosate is amongst the most thoroughly tested herbicides on the market, and those studies by expert regulators have consistently concluded that glyphosate does not pose a risk to public health."



Americans Enjoy a More Substantial Glyphosate Allowance

The Crop Protection Association is correct. Glyphosate is one of the most tested herbicides on the market (although generally for 90 days, not 730). From this testing, the government has decided that there is a safe amount of glyphosate that can be ingested. That amount, the allowable daily intake (ADI), is 1.75 mg per kg of body weight in the United States. In Europe, the ADI is much lower at 0.3 mg per kg of bodyweight. Immediately, this discrepancy calls to mind a certain stereotype, that of the overweight American tourist bobbing merrily through a sea of slim and sneering Europeans. With the link between non-alcoholic fatty liver disease and glyphosate, is it too much of a leap to think that the rise of obesity in America could be caused by our lax attitude towards the omnipresent herbicide?

What is Non-Alcoholic Liver Disease?

Basically, fat accumulates in the liver when the liver cannot break it down or process it fast enough. The liver normally stores some fat, but when the liver builds up more than 5 – 10 percent of its weight in fat, it's called fatty liver disease. In alcoholic fatty liver disease, the liver can break down if it is unable to process the amount of alcohol ingested. Non-alcoholic fatty liver disease follows the same model, only without the alcohol. This problem, like so many health problems, starts in the gut.

Bacteria in the large and small intestine like *Lactobacillus* and *Bifidobacterium* are responsible for breaking down fats in the body. The liver helps with this, sending bile into the small intestine to help with turning the food into smaller molecules. But a digestive system without enough beneficial bacteria to properly digest food is left with something closer to the original fat molecules. Unabsorbed fats should stay in the intestine, but the bile from the liver is responsible for cleaning the intestine. Almost all of that bile is recycled back to the liver, potentially carrying the less digested fats with it. From there, the liver can be overwhelmed by the accumulated fats that it can't clear out, much like its response to alcohol in alcoholic fatty liver disease.

And the Glyphosate Is...?

Much of the blame for non-alcoholic liver disease can be placed squarely on the diet of those who have it. Processed sugars and refined foods feed opportunistic, less helpful microbes in the gut like *Candida*, that in turn crowd out beneficial bacteria and place more stress on the liver. It's all about the processed foods – the foods likely to have the highest concentration of glyphosate. And the glyphosate is

everywhere.

The Detox Project at the University of California San Francisco found glyphosate in 93% of the urine samples from their early tests. This is the glyphosate that was processed out of the body. Meanwhile, the poor liver chugs along like some cliche of an overworked housewife, left with the overload of improperly digested food molecules, toxic food additives, and who knows exactly how much herbicide piled on top of it.

Research Matters. So Where's the Rest of It?

Lack of research is the biggest issue with current government attitudes towards glyphosate and why this study matters. The authors of this study saw the connection between non-alcoholic fatty liver disease and glyphosate with a regular dose 75,000 times below the European limit and over 400,000 times below the U.S. limit. There is no way to measure how much glyphosate people are being exposed to through proximity to agriculture, their food, and even their tap water. Glyphosate is everywhere, and we barely even know the results of long-term, repeated exposure to it.

Imagine a study, much in the vein of this one, where scientists gave test subjects the full U.S. government allowable daily intake of glyphosate regularly for two years. Do you even want to see those results?

Further Reading:

- *Is Wheat Poison?*
- *Gluten, Candida, Leaky Gut Syndrome, and Autoimmune Diseases*
- *Understanding and Detoxifying Genetically Modified Foods*
- *How to Kill Candida and Balance Your Inner Ecosystem*

Sources:

- *Monsanto's Roundup Linked to Fatty Liver Disease* – Alternet
- *Britain's Most Used Pesticide is Linked to a Serious Liver Disease Which can be Fatal, Shocking New Study Claims* – Daily Mail
- *Multiomics Reveal Non-alcoholic Fatty Liver Disease in Rats Following Chronic Exposure to an Ultra-low Dose of Roundup Herbicide* – nature.com
- *Glyphosate Levels in Breakfast Foods: What is Safe?* – Alliance for Natural Health USA
- *Glyphosate Found in 93% of Urine Samples* – Organic Lifestyle Magazine
- *Non-Alcoholic Fatty Liver Disease* – American Liver Foundation
- *The Bile Ducts and Liver Bile* – drclark.net