

Food for Thought: Are Herbicides a Factor for the Increase in Allergies and Autism?

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Abstract

Over the last 30 years autism, allergies, Type 2 diabetes, and autoimmune disorders have significantly increased. A possible contributing risk factor is the ingestion of residual herbicides and pesticides in foods in our diet. Presently, more than 95% of all grain, corn, and soy are genetically modified to be tolerant to Monsanto-produced herbicide Roundup® (glyphosate). Almost all human and animal food now contains low levels of glyphosate and its inert but poisonous additional ingredients. The increased glyphosate use over the last 25 years correlates nearly perfectly with the increased incidence of autism, diabetes, and celiac disease. Glyphosate selectively disrupts gut bacteria balance, acts as an endocrine disrupter, and is toxic to human beings. To optimize health and neural development, adopt a precautionary principle and avoid eating glyphosate and other types of herbicide- and pesticide-contaminated foods.

Keywords: diet; glyphosate autism; diabetes; allergies

Citation: Peper, E. (2015). Food for thought: Are herbicides a factor for the increase in allergies and Autism? *NeuroRegulation*, 2(4), 162–167. <http://dx.doi.org/10.15540/nr.2.4.162>

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A couple of customers reported that they could eat our baguette even though they were gluten intolerant.

—Clerk at bakery that sells organic baguettes

When I was a little boy, allergies almost never occurred. I remember only one boy in our class of 38 who had asthma and allergies.

—71-year-old male

Fruit flies fed on organic raisins, bananas, soy, and potatoes lived significantly longer, had much higher fertility, and survived longer after starvation than those fed non-organic foods (Chhabra, Kolli, & Bauer, 2013).

After a year of practicing stress management and changing to a totally organic food diet, to my own surprise my nut allergy totally disappeared.

—25-year-old woman who reversed cervical dysplasia and rid herself of HPV (Peper, 2015).

Many people report being allergic to gluten, nuts, cat hair, etc., or have hay fever or some form of autoimmune disorder. In our 2014 survey, 36% of 264 students at an urban university (average age 24.5 years) reported having allergies (Peper & Del Dosso, 2015). Over the last 40 years more and more people are reporting allergies. Allergies are often dismissed because they are not serious—just uncomfortable and may limit what you eat or where you visit (e.g., “I can’t eat a morning bun” or “I can’t visit my aunt because she has a cat”). In rare cases it may trigger life-threatening allergic reactions (anaphylaxis), which can be usually resolved by injecting a single dose of epinephrine into the outer thigh with an EpiPen®.

Allergies, autoimmune illnesses, and Type 2 diabetes have become so common that we forget that they may be markers of immune incompetence that may affect the ability of the body to optimize health. The increase in allergies is an early indicator that something harmful is affecting the body. People who have allergies, autoimmune illnesses, diabetes,

or other disorders are possibly the “canaries in the mine” for the rest of the population. In earlier times before carbon monoxide and other poisonous gases could be measured with instruments, miners used a canary as a poisonous gas meter. If the canary died, the miners would exit the mine before they would die of the poisonous gases.

There are many factors that contribute to the radical increase in asthma, rhinitis, allergies, Type 2 diabetes, and autoimmune disorders such as excessive hygiene; lack of breast feeding and introducing foreign foods too early in the first year of a baby’s life; ingestion of acetaminophen (Tylenol) by a pregnant mother during the first year of a baby’s life; low Omega-3 levels during pregnancy; increased exposure to plastics and other endocrine disruptors; stress, etc. Many of these factors are outside of our control. However, diet and the ingestion of residual herbicides and pesticides in food appear to be a major risk factor.

In the last 30 years there has been a radical change in our diet. The food may look and even taste the

same, but it is totally different. Almost all grains, corn, soy, cotton, processed foods, and meats contain low levels of Monsanto-produced herbicide Roundup® and other herbicides and pesticides, and are genetically modified to be herbicide tolerant to Roundup®. Roundup® was first introduced in 1974 by Monsanto and is the most widely used herbicide for farm and urban use. The active ingredient is glyphosate with numerous other inert ingredients. The inert ingredients may not inhibit the growth of weeds; however, they may be harmful to humans.

According to the U.S. Department of Agriculture, as of 2012, 99% of durum wheat and 97% of spring wheat have been treated with herbicides as more and more crops are genetically modified to be herbicide tolerant. It is now used on grain crops, rice, seeds, alfalfa, dried beans, peas, sugar cane, and sweet potatoes (Swanson et al., 2014). As Roundup® and equivalent herbicides are used, more and more illnesses—including food allergies such as gluten intolerance—have increased as shown in Figure 1.

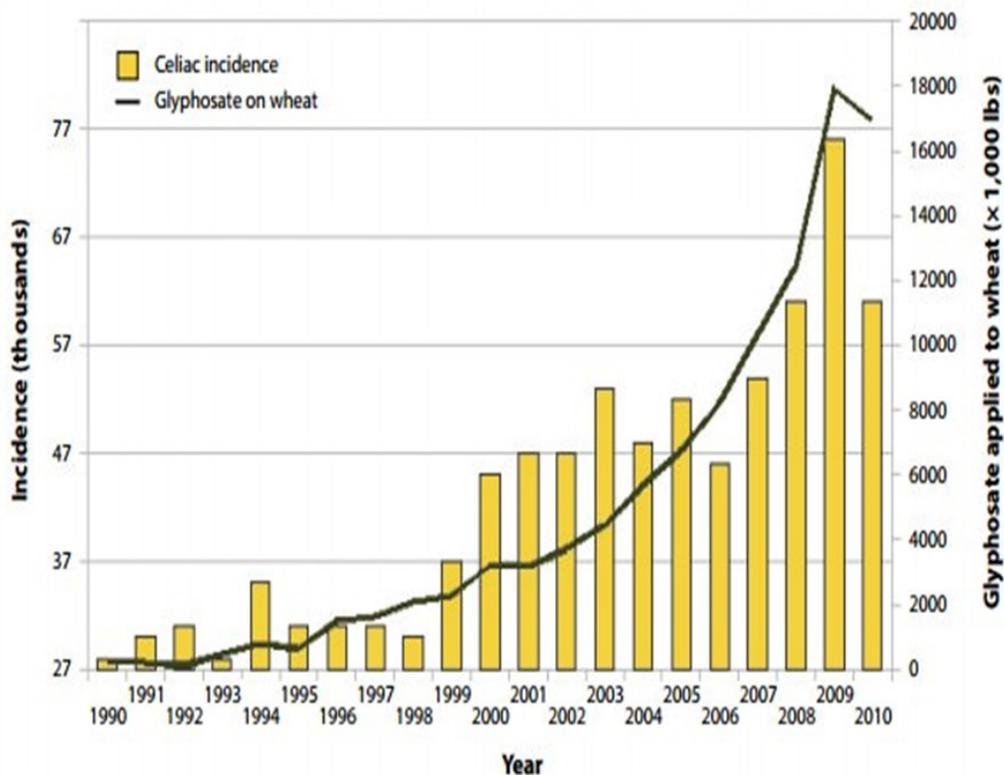


Figure 1. Correlation between increase in celiac disease (gluten intolerance) and increase in use of the herbicide glyphosate (Roundup®) on genetically modified grain (Samsel & Seneff, 2013).

In addition, the common wheat harvest protocol in the United States is to drench the wheat fields with Roundup® several days to allow crops to dry down for a uniformity of plant material at harvest before the combine harvesters work through the fields, as the practice allows for an earlier, easier, and bigger

harvest (Sarah, 2014; Swanson et al., 2014). This means that almost all of the grain and grain products contain residue of Roundup®. Presently, more than 95% of all grain, corn, and soy are genetically modified to be herbicide tolerant to Roundup® as shown in Figure 2.

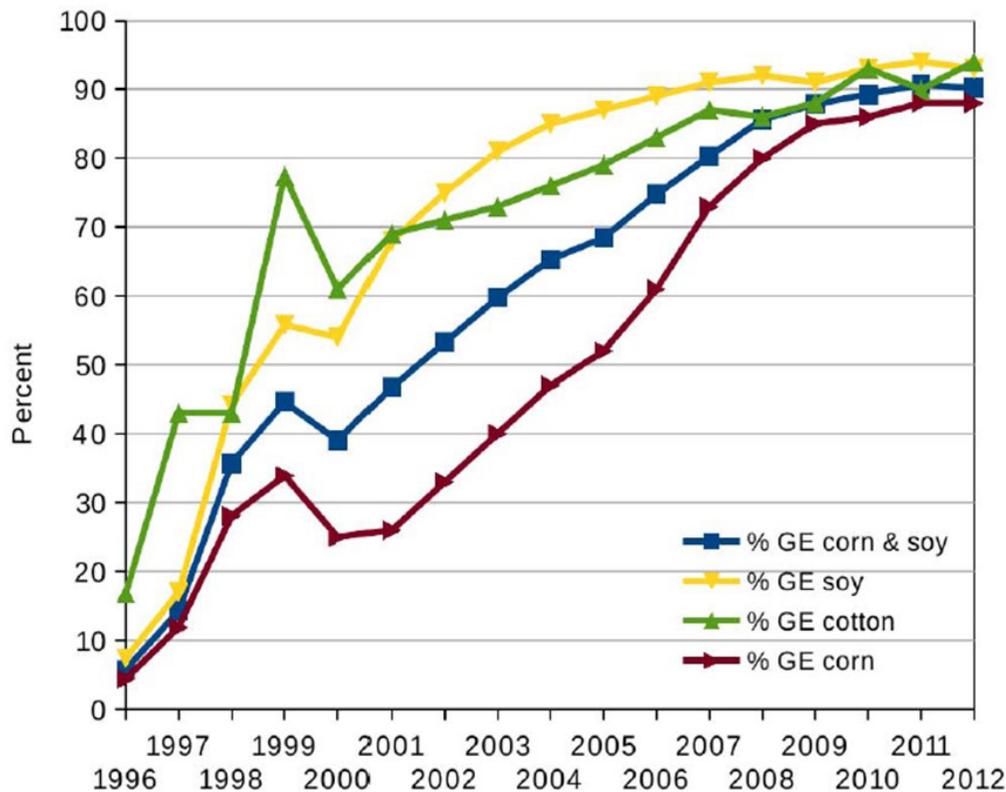


Figure 2. Adoption of genetically engineered (GE) crops in U.S. (Swanson et al., 2014).

In the USA glyphosate is the most widely used herbicide, with about 250 million pounds applied to U.S. farms and even lawns every year. Glyphosate and many other herbicides and pesticides are in our food, animal fodder, and thus in the meat, clothing, water supply, and even air. Almost all human and animal food now contains low levels of glyphosate and its inert but poisonous additional ingredients.

When plotting the increased application of glyphosate with the occurrence of chronic diseases

over the last 35 years, Swanson et al. (2014) showed that the correlation is greater than 0.9 and highly significant for obesity ($R = 0.96$), diabetes ($R = 0.98$), end stage renal disease death ($R = 0.97$), Crohn's disease and ulcerative colitis ($R = 0.94$), death due to intestinal infection ($R = 0.97$), autism in children (6–21 years; $R = 0.99$), deaths from senile dementia ($R = 0.99$), and death from Alzheimer's ($R = 0.93$). Figures 3 and 4 shows the correlation of diabetes and autism and increased application of glyphosate.

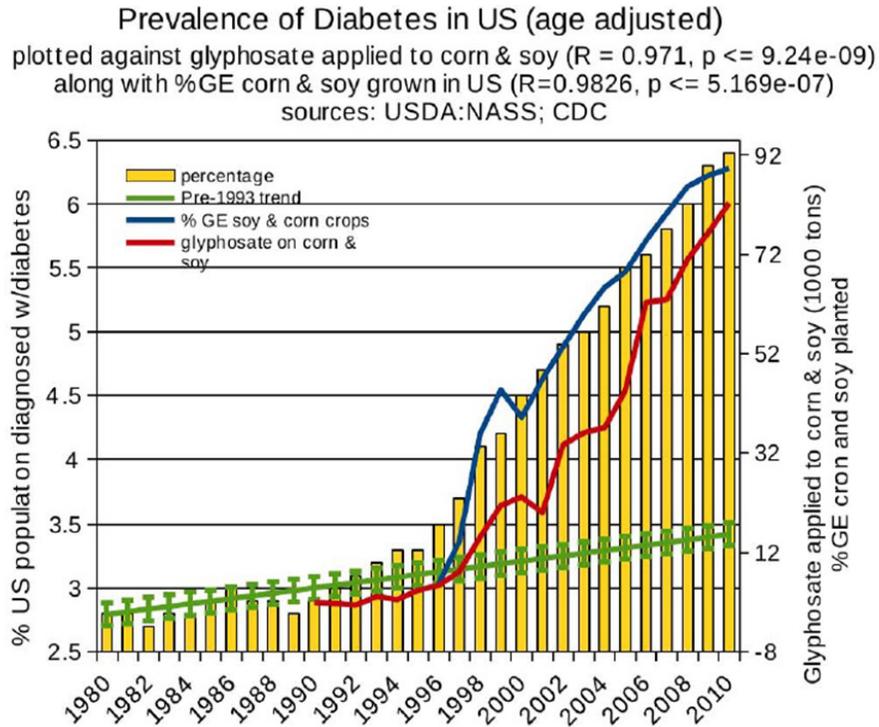


Figure 3. Correlation between age-adjusted diabetes prevalence and glyphosate applications and percentage of U.S. corn and soy crops that are genetically engineered (Swanson et al., 2014).

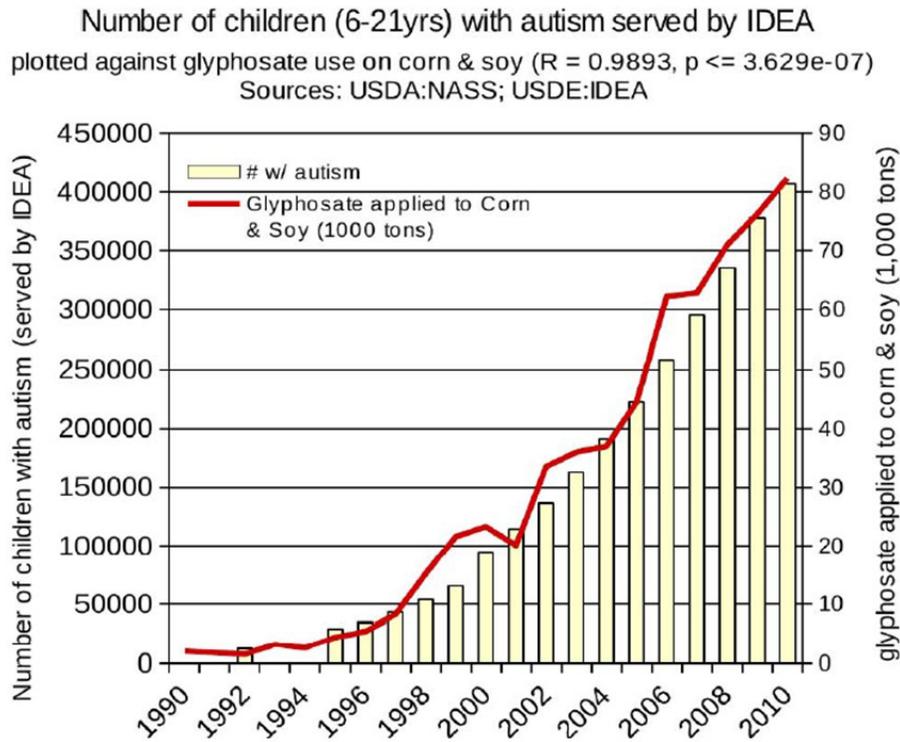


Figure 4. Correlation between children with autism and glyphosate applications (Swanson et al., 2014).

Correlations are not proof and similar correlations could be plotted between increased production of plastics, high-fructose corn syrup, cell phone use, and anti-depressant and ADHD medications. Correlations may suggest a possible relationship, which should be investigated. It is very difficult to investigate the correlation because most people unknowingly have ingested glyphosate. When using naturalistic observations such as comparing people who eat only organic versus non-organic foods, there are many other variables that could account for the differences.

The hypothesis that Roundup® residues in food is harmful is clear from a biological perspective. The purpose of using glyphosate and its inert ingredients is to act as an herbicide and biocide to suppress weed growth and act as a drying agent to improve harvest. As human beings are biological organisms, glyphosate and its inert ingredients will have similar effects. It affects our cellular metabolism and especially our bacteria that live in our gut and are necessary for our health. As Samsel and Seneff (2013) point out, “it kills the beneficial bacteria in our gut, leading to the steep rise in intestinal diseases.” Specifically, Shehata et al. (2012, p. 350) found that “highly pathogenic bacteria as *Salmonella Entritidis*, *Salmonella Gallinarum*, *Salmonella Typhimurium*, *Clostridium perfringens* and *Clostridium botulinum* are highly resistant to glyphosate. However, most of beneficial bacteria such as *Enterococcus faecalis*, *Enterococcus faecium*, *Bacillus badius*, *Bifidobacterium adolescentis* and *Lacto-bacillus* spp. were found to be moderate to highly susceptible” (as cited in Swanson et al., 2014, p. 10).

Given the very strong correlations of increased disease with increased use of Roundup®, the evidence that glyphosate disrupts gut bacteria balance and cellular metabolic processes; kills human embryonic, placental, and umbilical cord cells; and acts as endocrine disrupters, the recent decision by the International Agency for Research on Cancer (IARC; 2015), which is the specialized cancer agency of the World Health Organization, that glyphosate is possibly carcinogenic to humans (Group 2A), I strongly recommend avoiding glyphosate and other types of herbicide- and pesticide-contaminated foods. **Use the precautionary principle and eat only organic foods.**

If the radical increase of allergy and immune incompetence is linked to the increase of chronic exposure to glyphosate, then avoiding glyphosate and other pesticide- and herbicide-laced foods may

possibly reverse the allergy and immune incompetence. Numerous participants have reported that when they adapt a holistic lifestyle that included stress management and eating only organic foods, their immune system became more competent. Some experienced their food allergy to disappear. This was reported recently by a 25-year-old young woman who previously had cervical dysplasia with HPV. She was able to reverse both the dysplasia and eliminate the high strains of HPV (her last Pap test results were normal and the HPV finally gone), and in addition her nut allergy also disappeared (Peper, 2015). As she stated, “I was able to rid myself of a nut allergy that I developed when I was 19. I frequently had trouble breathing; therefore, I went to an allergist and they told me I had a nut allergy to peanuts (4 out of 4) and tree nuts (2 out of 4). This past July, knowing how truly healthy I had become and after noticing a little to no reaction when I accidentally consumed a nut, I decided to go back to the allergist. I got the test done, and no signs of a nut allergy came up. I believe it was due to this lifestyle change.”

In summary, eat only organic foods when possible and follow the wisdom of numerous countries that have banned the use of Roundup®. This year, the Netherlands followed Russia, Tasmania, and Mexico to ban glyphosate-laced herbicide. Starting now farmers and people in the Netherlands who treat their gardens and lawns will have to find an alternative form of pest control since glyphosate—the main ingredient in Roundup®—is linked to cancer, infertility, birth defects, nervous system damage, and kidney disease (Inhabitat, 2014). This is the path the rest of the world should closely follow.

Author Note

This article is adapted from Peper, E. (2015, January 11). Are herbicides a cause for allergies, immune incompetence and ADHD? [Blog post]. Retrieved from <http://peperperspective.com/2015/01/11/are-herbicides-a-cause-for-allergies-immune-incompetence-and-adhd/>

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Received: October 9, 2015

Accepted: November 20, 2015

Published: December 9, 2015