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Glyphosate (Monsanto Roundup) Could Combine with Aluminum to Increase Neurological and Gut Flora Disorders

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It's no secret that mention of the word *glyphosate* angers many health-conscious people, while those affiliated with Monsanto, makers of Roundup, stand by their product.

Although numerous data show that the main ingredient in the commonly used weedkiller can wreak havoc on health, Monsanto-loyal folks say it's safe. They maintain this position despite the fact that glyphosate, which is sprayed on millions of acres of crops, has been linked to everything from fertility issues to autism.

One study, published in *Entropy*, notes that its "[n]egative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body."(1)

Its author, Dr. Stephanie Seneff, is the same person who co-authored a more recent study that hones in on the health problems caused by glyphosate. However, this latest study digs even deeper, making a strong case that glyphosate *and* aluminum, an environmental toxin which is also very prevalent in society, work together to deliver a double-whammy to brain and gut health.

Impact on pineal gland, gut health explained

Seneff, a research scientist at the Massachusetts Institute of Technology, and her team examined the role that both toxins play in affecting the pineal gland. They explain that the pineal gland is very susceptible to environmental toxins and, when exposed to them, is prone to a range of neurological diseases including autism, Parkinson's disease and anxiety disorders.

Furthermore, they found that both glyphosate and aluminum work together in ways that destroy healthy gut flora. The study, which was published in *Agricultural Sciences*, states, "Glyphosate disrupts gut bacteria, leading to an overgrowth of Clostridium difficile. Its toxic product, p-cresol, is linked to autism in both human and mouse models. p-Cresol enhances uptake of aluminum via transferrin."(2)

As a result of this uptake, anemia develops and hypoxia results. Hypoxic stress is linked to premature death and an increased risk of developing autism. The study links hypoxia to autism, and since aluminum plays a role in this process — which occurs when glyphosate

worsens gut health in the first place — the conclusion is that the combination of both toxins can have devastating health consequences.[2]

Titled "Aluminum and Glyphosate Can Synergistically Induce Pineal Gland Pathology: Connection to Gut Dysbiosis and Neurological Disease," the study explains the process as follows:

> Glyphosate chelates aluminum, allowing ingested aluminum to bypass the gut barrier. This leads to anemia-induced hypoxia, promoting neurotoxicity and damaging the pineal gland. Both glyphosate and aluminum disrupt cytochrome P450 enzymes, which are involved in melatonin metabolism. Furthermore, melatonin is derived from tryptophan, whose synthesis in plants and microbes is blocked by glyphosate.[2]

Once again, a strong case that environmental toxins are detrimental to physical and mental health

The study concludes:

> [W]e have developed the argument that glyphosate, the active ingredient in the herbicide, Roundup, and aluminum, a pervasive toxic metal in our environment, operate synergistically to induce dysfunction in the pineal gland leading to the sleep disorder that is characteristic of multiple neurological diseases, including autism, ADHD, depression, Alzheimer's disease, ALS, anxiety disorder and Parkinson's disease.[2]

Glyphosate, as most of us are aware, is a widely used chemical in the agricultural industry. Unfortunately, in addition to the health issues already mentioned in this article, it's also linked to other problems including diarrhea, weight loss, sleepiness and kidney toxicity.[3]

When it comes to aluminum toxicity, symptoms include speech problems, bone deformities, weakness and muscle pain. The serious complications that could result from such toxicity are disruptions in the nervous system, lung problems, anemia and brain disorders. A variety of tests such as bone biopsies and tests for stool, blood and urine health can be conducted to better assess whether someone has aluminum toxicity, something that is strongly linked to the use of deodorants and antacids containing the metal.[4]

Sources:

(1) http://www.reuters.com

(2) http://file.scirp.org

(3) http://www.rag.org.au

(4) http://www.mountsinai.org

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