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Address the Spiralling Public Health Crisis by Banning Glyphosate in the EU and Worldwide

The European Food Safety Authority (EFSA) Should Repeal The Roundup Licence

By Colin Todhunter
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The herbicide glyphosate – the most widely used herbicide on the planet – is authorised for use in the EU until December 2022. The EU is currently assessing whether its licence should be renewed.

Environmentalist and campaigner Dr Rosemary Mason has just written an open letter to the head of the Pesticides Unit at the, Jose Tarazona.

Mason wrote to Tarazona because the Rapporteur Member States (France, Hungary, the Netherlands and Sweden) tasked with risk assessing glyphosate and appointed by the European Commission in 2019, said on 21 June 2021 that there was no problem with glyphosate-based herbicides.

A tireless campaigner against glyphosate, Mason has produced dozens of lengthy reports over the last decade documenting how her former nature reserve in South Wales was destroyed by glyphosate used on adjoining areas and how that substance is a major contributory factor in spiralling rates of disease – a 'silent' public health crisis; silent only because the media and officials fail to acknowledge or report on it.

Indeed, to explain away the huge increases in various cancers and neurological disorders, officials cite 'lifestyle behaviour', poor diets or lack of exercise to divert attention from the elephant in the room and government collusion with the agrochemical sector.

Drawing on hundreds of peer reviewed papers and official reports over the years, Mason has described in detail the devastating health and environmental impacts of glyphosate as well as the malfeasance and corruption that has led to this state of affairs.

Mason informs Tarazona that the European Commission has colluded with the US Environmental Protection Agency to allow Bayer to keep glyphosate on the market.

To support her claims, she enclosed a 5,900-word report with her letter informing Tarazona of the environmental devastation and severe public health crisis. Her report brings together

recent research and analyses into the toxicity of glyphosate and industry dominance over regulatory processes.

What appears below is the first part of a two-part article based on Mason's report. This first part briefly highlights aspects of the public health crisis resulting from the use of glyphosate-based herbicides. The second part will argue that glyphosate remains in use due to industry influence over regulatory processes.

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Toxic Legacy

Dr Stephanie Seneff, a US scientist who works at Massachusetts Institute of Technology, has just published the book 'Toxic Legacy: How the Weedkiller Glyphosate is Destroying Our Health and the Environment'. She has written an article on her family background and why she wrote the book.

Seneff says:

> "This organic chemical compound, C3H8NO5P, is much more toxic to life forms than we have been led to believe. Glyphosate's mechanism of toxicity is unique and diabolical. It is a slow killer, slowly robbing you of your good health over time, until you finally succumb to incapacitating or life-threatening disease."

Dr Don Huber, emeritus professor of plant pathophysiology at Purdue University, who has been studying glyphosate for 40 years and genetically modified (GM) Roundup-ready crops for 25 years, said some years ago:

> "Future historians may well look back upon our time and write, not about how many pounds of pesticide we did or didn't apply, but how willing we are to sacrifice our children and future generations for this massive genetic engineering experiment that is based on flawed science and failed promises just to benefit the bottom line of commercial enterprise."

When UK Prime Minister Boris Johnson was elected in 2019, he stood outside Downing Street and committed himself to:

> "… liberate the UK's extraordinary bioscience sector from anti-genetic modification rules."

Mason notes that the Department for Envionment & Rural Affairs authorises farmers to use all forms of Roundup (Monsanto's – now Bayer – proprietary glyphosate-based herbicide) on crops in the UK. Many farmers in the UK claim they cannot do without it and are keen to start using GM Roundup-ready crops post-Brexit.

There is strong pressure on the European Commission from the Glyphosate Renewal Group, a group of manufacturers of glyphosate, who have asked for the licence for glyphosate to be renewed for 15 years from December 2022.

In June 2021, the Rapporteur Member States from France, Hungary, the Netherlands and Sweden apparently gave the green light. They see no signs that glyphosate can cause cancer or any other issue. But evidence is emerging that they used flawed industry science

(to be described in part two of this article).

Devastating health impacts

In August 2018, samples of four oat-based UK cereals were sent to the Health Research Institute Laboratories in the US following a newspaper report about US children eating weedkiller in their oat-based cereals. The following are the results of the analysis on the four oat-based cereals sent to the laboratory.

Type of breakfast cereal marketed for children Product description	Glyphosate level ng/g	AMPA ng/g	Effective glyphosate level ng/g
Kelloggs No Added Sugar Granola with Apricot & Pumpkin Seeds	499.90	ND	499.90
Quaker/Oat So Simple/Original Microwaveable Oats	464.23	24.04	500.28
Weetibix Oatibix 100% Wholegrain Oats	318.85	16.96	344.28
Nestle Multigrain Cheerios: Whole Grain Oat Flour 29.6%, Whole Grain Wheat 29.6%, Whole Grain Barley Flour 17.9%, Whole Grain Corn Flour 2.1%, Whole Grain Rice Flour 2.1%.	137.29	ND	137.29

Dr John Fagan, the director of the lab, said:

> "These results are consistently concerning. The levels consumed in a single daily helping of any one of these cereals, even the one with the lowest level of contamination, is sufficient to put the person's glyphosate levels above the levels that cause fatty liver disease in rats (and likely in people)."

Washington State University (WSU) researchers have found a variety of diseases and other health problems in the second- and third-generation offspring of rats exposed to glyphosate. In the first study of its kind, the researchers saw descendants of exposed rats developing prostate, kidney and ovarian diseases, obesity and birth abnormalities.

Michael Skinner, a WSU professor of biological sciences, and his colleagues exposed pregnant rats to the herbicide between their eighth and 14th days of gestation. The dose – half the amount expected to show no adverse effect – produced no apparent ill effects on either the parents or the first generation of offspring.

But, writing in the journal Scientific Reports, the researchers say they saw "dramatic increases" in several pathologies affecting the second and third generations. The second generation had 'significant increases' in testis, ovary and mammary gland diseases as well as obesity. In third-generation males, the researchers saw a 30% increase in prostate disease – three times that of a control population. The third generation of females had a 40% increase in kidney disease or four times that of the controls.

More than one-third of the second-generation mothers had unsuccessful pregnancies, with most of those affected dying. Two out of five males and females in the third generation were

obese.

Skinner and his colleagues call this phenomenon generational toxicology and they have seen it over the years in fungicides, pesticides, jet fuel, the plastics compound bisphenol A, the insect repellent DEET and the herbicide atrazine. At work are epigenetic changes that turn genes on and off, often because of environmental influences.

Roundup kills bumble bees

Although Mason mainly discusses the health impacts of glyphosate in her report to Tarazona, she did mention at least one disturbing environmental impact. In April 2021, the Journal of Applied Ecology published an article 'Roundup causes high levels of mortality following contact exposure in bumble bees.'

The article's abstract stated that pollinators underpin global food production but are suffering significant declines across the world.

It went on to say:

> "Pesticides are thought to be important drivers of these declines. Herbicides are the most widely applied type of pesticides and are broadly considered 'bee safe' by regulatory bodies who explicitly allow their application directly onto foraging bees. We aimed to test the mortality effects of spraying the world's most popular herbicide brand (Roundup) directly onto bumble bees (Bombus terrestris audax)."

The authors argue that Roundup products pose a significant hazard to bees, in both agricultural and urban systems and exposure of bees to them should be limited. They added that surfactants, or other co-formulants, in herbicides and other pesticides may contribute to global bee declines.

They called for pesticide companies to release the full list of ingredients for each pesticide formulation, as lack of access to this information hampers research to determine safe exposure levels for beneficial insects in agro-ecosystems.

Bayer's multi-million-dollar headache

Mason asks Tarazona whether he has been following the trials against Monsanto in the US for concealing that its herbicide Roundup caused non-Hodgkin's lymphoma.

She explains to him that three cases have been won against Monsanto/Bayer (Bayer bought Monsanto in 2018) and in 2021 there are thousands more awaiting to have their cases heard in court.

Attorney Robert F. Kennedy Jr said in 2018 that Bayer needs more than an aspirin to cure its Monsanto-sized headache.

Kennedy has been involved with some of these cases and has read enough of the scientific literature on glyphosate to conclude that there is cascading scientific evidence linking glyphosate to a constellation of other injuries that have become prevalent since its introduction, including obesity, depression, Alzheimer's, ADHD, autism, multiple sclerosis, Parkinson's, kidney and inflammatory bowel disease, brain, breast and prostate cancer, miscarriage, birth defects and declining sperm counts.

He added that strong science suggests glyphosate is the culprit in the exploding epidemics of celiac disease, colitis, gluten sensitivities, diabetes and non-alcoholic liver cancer which, for the first time, is attacking children as young as 10.

As if that is not worrying enough, Kennedy noted that researchers peg glyphosate as a potent endocrine disruptor, which interferes with sexual development in children. It is also a chelator that removes important minerals from the body and disrupts the microbiome, destroying beneficial bacteria in the human gut and triggering brain inflammation and other ill effects.

Although a Monsanto scientist claimed that glyphosate is excreted unchanged from the body, Mason cites a study by Ridley & Mirly (1988) which found bioaccumulation of glyphosate in bone, marrow, blood and glands (including thyroid, testes and ovaries) and major organs (heart, liver, lungs, kidneys, spleen and stomach). The paper was commissioned by Monsanto but was not published.

In a 1990 study conducted by Monsanto between 1987 and 1989 (again unpublished), glyphosate was found to induce a statistically-significant cataractous formation in the eyes of rats. Over the course of the study, cataract lens changes were seen in the low-, mid- and high dose groups in both male and female rats. The pathologist concluded that there was a glyphosate-treated related response for lens changes to the eyes.

Mason notes that the Assessment by the Rapporteur Member States tasked with risk assessing glyphosate have concluded that, based on the available ecotoxicological information glyphosate the current classification "Toxic to aquatic life with long lasting effects" should be retained and the current classification as "causes serious eye damage" (H318) should be retained."

She therefore asks: how can a chemical like glyphosate still be on the market?

Mason notes that, according to the UN's Global Chemicals Outlook II, glyphosate was at the top of the top ten products used on major crops in the United States, by volume, in 2016. Clothianidin (also manufactured by Bayer) is number ten.

She notes:

> "No wonder Bayer doesn't want to lose its licence for glyphosate or for clothianidin, a long-acting neonicotinoid insecticide that is very persistent in the soil. Both chemicals are on the market illegally thanks to the corrupt EU and US regulatory authorities.

And that is an issue which Mason draws Tarazona's attention to and will be touched on in the second part of this article.

Readers can access Rosemary Mason's new report, with all relevant references, here.

***Recommended reading for Jose Tarazona** and readers who want to dig deeper into the issues: all of Rosemary Mason's previous reports can be accessed here.*

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internet forums. etc.

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Featured image: Roundup's active ingredient, glyphosate, is the most heavily-used agricultural chemical in history. (Photo: Mike Mozart/Flickr/cc)

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