

The toxicity of Glyphosate-based herbicides

Glyphosate is the active ingredient, but it is never used alone. It is combined with surfactants, secret formulants (so-called 'inerts') to increase the absorption into the plant. They are petrochemical-based and make the active ingredient 1,000 times more toxic to humans. The European Union only tests the active ingredient. It leaves the individual Member States to ensure that products such as Roundup are 'safe'. The European Commission (after 6 votes over two years) narrowly won a vote to renew the license for glyphosate for 5 years in December 2017. This was against a petition signed by more than 1.5 million citizens of Europe. In 2014, a [Letter from America](https://www.theletterfromamerica.org) had been signed by 60 million US citizens warning Europe not to authorize GM crops and Roundup because they were hazardous to human health and the environment. **Prime Minister David Cameron and Defra ignored it and hid the letter from the British public.** The European Regulatory Authorities ignored it too. They continued to approve GM crops for animal feed and food. The UK voted with the European Food Safety Authority and against the International Agency for Research into Cancer, which said that glyphosate probably caused cancer.

<https://www.theletterfromamerica.org>

Neurotransmitter changes in the brain from exposure to Glyphosate-based herbicides: many papers come from Latin American countries where they grow almost exclusively GM Roundup Ready Crops that Monsanto forced on them in 1996

Behavioral impairments following repeated intranasal glyphosate-based herbicide administration in mice.

Taken together, our findings demonstrate that intranasal (IN) exposure to commercial Gly-BH produces alterations in locomotor activity, anxiety and memory in adult mice. These observations could be a consequence of alterations in neurotransmission systems comprising the GABAergic, dopaminergic, serotonergic and/or cholinergic systems." In this research paper there are references to many papers from around the world that confirm the glyphosate-based herbicides are damaging to the development of the foetal brain and that repeated exposure is toxic to the adult human brain and may result in alterations in locomotor activity, feelings of anxiety and memory impairment.

<https://www.sciencedirect.com/science/article/pii/S0892036217301526>

Is this why there are so many mental health and psychiatric disorders, depression, suicides, anxiety and violence among children and adults?

Martínez, M. A., Ares, I., Rodríguez, J. L., Martínez, M., Martínez-Larrañaga, M. R., & Anadón, A. (2018). Neurotransmitter changes in rat brain regions following glyphosate exposure. *Environmental Research*, 161, 212-219.

Highlights:

- Glyphosate oral exposure caused neurotoxicity in rats.
- Brain regions were susceptible to changes in CNS monoamine levels.
- Glyphosate reduced 5-HT, DA, NE levels in a brain regional- and dose-related manner.
- Glyphosate altered the serotonergic, dopaminergic and noradrenergic systems.

<https://www.sciencedirect.com/science/article/pii/S0013935117316730>

SAO PAULO, Aug 6 2018 (Reuters) - A Brazilian judge has suspended the use of products containing the agrochemical glyphosate, a widely employed herbicide for soy and other crops in the country, according to legal filings. A federal judge in Brasilia ruled that new products containing the chemical could not be registered in the country and existing registrations would be suspended within the next 30 days, until the government re-evaluates their toxicology.

Last month, a federal judge in the United States ruled that hundreds of lawsuits against Monsanto by cancer survivors or families of those who died can proceed to trial, finding there was sufficient evidence for a jury to hear the cases that blame the company's glyphosate-containing weed-killer for

the disease. (Reporting by Roberto Samora and Jose Roberto Gomes Writing by Jake Spring; Editing by David Gregorio)

<https://af.reuters.com/article/commoditiesNews/idAFL1N1UX1AJ>

Glyphosate residues are found the majority of non-organic foods. Most UK farmers spray Roundup on crops before harvest to 'desiccate' them. The UK has been doing it since 1980 at the suggestion of a scientist from Monsanto. The amounts of Roundup used went from 226,762 kg in 1990 to 2,240,408 kg in 2016, a 10-fold increase in 16 years. Urine samples were analysed for glyphosate in 2,009 German citizens. It was present in 99.6% in significant amounts. The highest levels were found in children age 0-9 and adolescents 10-19, particularly those living on farms. Vegans had lower levels than meat eaters. Glyphosate residues were found in 14 German beers and in almost all food.

Why has Britain not provided such a service? Why do people in the UK have to send samples to Prof Dr Monika Krüger's Veterinary Laboratory in Leipzig?

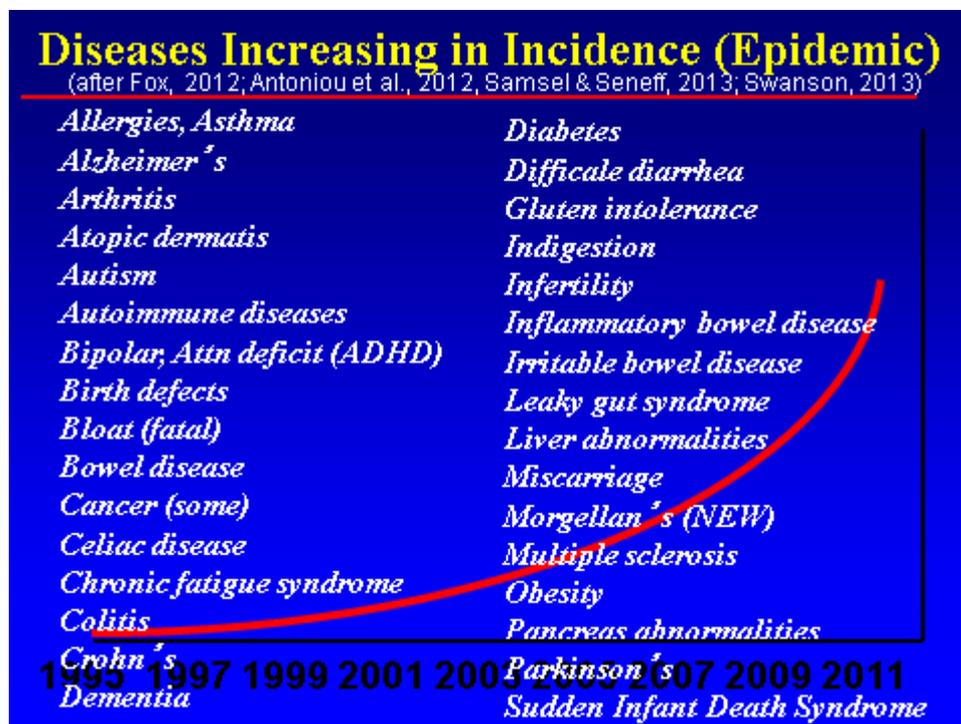
The All-Party Parliamentary Group (APPG) on Agroecology met in the Houses of Parliament in London on June 18, 2014 to discuss the harm caused by the world's most popular herbicide – Roundup®. **People from all round the world met to listen to four experts.** The first expert to speak was Dr Don Huber, Plant scientist, Emeritus Professor Purdue University. He produced two crucial slides of facts about glyphosate.

The following two slides from the meeting in Parliament are shown by kind permission of Don Huber: Four different patents have been filed and granted for glyphosate

As a chelator of heavy metals and a wetting agent in 1961; as a herbicide in 1968; as an antibiotic in 2002; and as an anti-protozoal agent in 2003. In addition, Dr Huber shows that glyphosate is an organic phosphonate, a growth regulator, a toxicant, a virulence enhancer and is persistent in the soil. It chelates (captures) and washes out the following minerals; boron, calcium, cobalt, copper, iron, potassium, magnesium, manganese, nickel and zinc.



One was a picture of an octopus: each arm is used to describe the multiple actions of the biocide glyphosate: Mineral chelating agent (previously used for cleaning boilers) ‘grabbing’ minerals such as Boron, Ca, Co, Cu, Fe, K, Mg, Mn, Ni and Zn that are essential to metabolic processes and absorption of amino acids; Growth regulator; Antibiotic; Herbicide; Toxicant; Virulence enhancer; Organic phosphonate; Persistent in the environment.



Dr Huber's second slide shows diseases that have increased in incidence since 1995, correlated with the red line, which represents the increasing use of glyphosate in the US (plus Dr Swanson's correlations)

The second was the epidemic of diseases in the US that have increased between 1995 and 2011 and are linked to glyphosate: the incidence of the same diseases has increased in the UK over that time.

Allergies, asthma, Alzheimer's disease, arthritis, Atopic dermatitis, Autism, ADHD Bipolar, Autoimmune diseases, Chronic Fatigue Syndrome, Coeliac disease, Crohn's disease, Dementia, Diabetes (Type 2), Multiple sclerosis, Motor-neurone Disease, Parkinson's Disease, Obesity, Stroke, Hypertension, Inflammatory bowel disease, Birth defects, Colitis, Hypercholesterolaemia, Miscarriage/infertility, Renal disease/failure, Liver abnormalities, Gluten intolerance, Pancreatic abnormalities, various **cancers**; liver, kidney, bladder, thyroid, pancreas and myeloid leukaemia.

The UK Press failed to report the meeting.

European Chemical Agency Report on the reassessment of glyphosate: the basis of the European Commission's renewal of glyphosate's licence for 5 years

Published 15/03/2017 ECHA said the available scientific evidence did not meet the criteria to classify glyphosate as a carcinogen, as a mutagen or as toxic for reproduction but it was classified as causing serious eye damage and as being toxic to aquatic life with long lasting effects.

<https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>

Dr Steve Ormerod (Cardiff) has studied Rivers in Wales for many years

"One of the longest-running studies of streams in the world – the minute study of 14 brooks that tumble through a remote Welsh mountain landscape – has exposed a troubling loss of riverine wildlife."

<https://www.theguardian.com/environment/2018/aug/05/welsh-river-study-reveals-troubling-decline-of-wildlife>

in September 2016 I corresponded with NRW Principal Fisheries Advisor Peter Gough. He questioned my assertion that the disappearance of salmon and trout fry was linked to the loss of invertebrates secondary to pesticides, in particular the Roundup (Dakar Pro) that had been sprayed to eradicate Giant Hogweed, an invasive weed, between Crickhowell and Newbridge-on-Usk (from NRW Report).

Women's life expectancy has fallen in Wales while the rest of the UK remains stable, according to new figures.

After a 10% drop in the previous five years, between 2011 and 2016 mortality rates rose by 2.1% for women in Wales.

<https://www.bbc.co.uk/news/uk-wales-45098186>

Rise in death rates in the UK are spread across the age groups not just in the elderly

Will Hutton wrote in *The Observer* on 1 January 2017: *"The British are in the midst of a critical health epidemic. In the 12 months to June 2016, the number of deaths jumped by the biggest absolute and relative amount since 1940 – a rise of 52,400. And this appears not solely to be an effect of a growing and ageing population, since the increase is spread across age groups. (Deaths rose by 12% among those aged 90 and over; 10% for 85-89; 7% for 80-84; 5% for 75-70; and 3% for those aged 55-74.)*

This is unprecedented in peacetime."

<https://www.theguardian.com/commentisfree/2017/jan/01/good-health-good-society-we-are-suffering>

US Lawsuits against Monsanto for concealing the dangers of its herbicide, Roundup

Multi District Litigation: More than 450 lawsuits are [pending against Monsanto Co.](#) in U.S. District Court in San Francisco, filed by people alleging that exposure to Roundup herbicide caused them or their loved ones to develop non-Hodgkin lymphoma, and that Monsanto covered up the risks.

State litigation: Thousands of other plaintiffs have made similar claims against Monsanto in state courts. Plaintiffs' attorneys estimate the total number of plaintiffs at approximately 4,000. The [first trial in the Roundup litigation](#) started June 18, 2018 in the Superior Court for the County of San Francisco. There are people registered with Attorneys Baum Hedlund who have other cancers apart from Non-Hodgkin's Lymphoma: Bone, Colon, Kidney, Melanoma, Liver, Pancreas and Thyroid.

<https://www.baumhedlundlaw.com/toxic-tort-law/monsanto-roundup-lawsuit/monsanto-secret-documents/>

Victory for Non-Hodgkin's Lymphoma Patients Suing Monsanto Over Weed Killer

Jul 19, 2018 [Press Release by Attorneys](#)

"Our team at Milestone is cheering for our friend and [Women En Mass](#) founder Aimee Wagstaff, who serves as co-lead counsel of the national Monsanto Roundup litigation. On July 10, The Honorable Vince Chhabria ruled that the plaintiffs in the case offered reliable scientific evidence that exposure to Monsanto's Roundup weedkiller can cause cancer. In effect, Judge Chhabria denied Monsanto's requests to dismiss the case. This is a huge victory nationwide for people harmed by Roundup exposure.

Thousands of people have filed lawsuits against Monsanto with complaints that Roundup exposure caused Non-Hodgkin's lymphoma, a blood borne cancer. The lawsuits filed in Federal Courts were consolidated before Judge Chhabria in the U.S. District Court of Northern California. The pre-trial proceedings involved the Court's obligation to act as a gatekeeper to ensure that expert testimony offered at trial is founded upon sound scientific methodology. In his ruling, Judge Chhabria declared that the testimony meets these requirements, and certain testimony that Roundup can cause Non-Hodgkin's Lymphoma would be allowed to go to the jury in future trials.

"Today's ruling marks a significant victory in the fight for justice on behalf of our clients who were injured by exposure to Roundup," Wagstaff said in a [press release](#). "We look forward to our day in court and the opportunity to hold Monsanto accountable."

The Monsanto Roundup litigation is formally titled *In re: Roundup Products Liability Litigation* (MDL 2741). Lead counsel for the plaintiffs include Aimee Wagstaff of Andrus Wagstaff, Robin Greenwald of Weitz and Luxenberg, and Mike Miller of the Miller Law Firm. Additional lawsuits filed in State Courts are following independent tracks to trial. Victories like these exemplify how our civil justice system provides Americans with an effective means to seek justice from negligent corporations that might otherwise be too powerful for one person to fight alone.

<https://milestone.legalexaminer.com/legal/defective-dangerous-products/victory-for-non-hodgkins-lymphoma-patients-suing-monsanto-over-weed-killer/>

In France the parents of a child born with serious malformations are suing Monsanto in court. "A moral duty to act", according to these parents who hope, through their struggle, to prevent other tragedies from happening.

<https://www.la-croix.com/France/Justice/Glyphosate-famille-contre-Monsanto-2018-06-14-1200947226>

Sabine Grataloup sprayed an area of 700 m² with Glyper. She didn't know she was pregnant. At the time the product was presented as biodegradable. The warning about usage on the label didn't mention that you shouldn't inhale it.

Glyphosate levels in mothers linked to shorter pregnancies

When Dr Paul Winchester, a pediatrician, moved to Indiana from Colorado in 2002, he noticed something disturbing—a **high number of birth defects**. He co-authored a study published recently in *Environmental Health* that found detectable levels of glyphosate in the urine of 93 percent of a group of pregnant women in Central Indiana. The levels of glyphosate detected correlated with shorter pregnancies. The study raises concerns of possible epigenetic effects leading to disease in later generations. "We are the first researchers in the U.S. to report that virtually every pregnant mother has glyphosate in her body at the time that she is creating fetal (epigenetic) imprints in her baby," Winchester says.

<https://ehjournal.biomedcentral.com/articles/10.1186/s12940-018-0367-0>

In the UK there were 13,605 new cases of Non-Hodgkin Lymphoma in 2015 (and 4,920 deaths in 2016); 41,804 new cases of bowel cancer in 2015 (and 16,384 deaths in 2016); 12,547 new cases of kidney cancer in 2015 (and 4,619 deaths in 2016); 5,736 new cases of liver cancer in 2015 (5,417 deaths in 2016); 15,906 new cases of melanoma in 2015 (2,285 deaths in 2016); 3,528 new cases of thyroid cancer in 2015 (382 deaths in 2016); 10,171 new cases of bladder cancer in 2015 (5,383 deaths in 2016); 8,984 new cases of uterine cancer in 2015 (2,360 deaths in 2016); 7,270 cases of ovarian cancer in 2015 (4,227 deaths in 2016); 9,900 new cases of leukaemia in 2015 (4,712 deaths in 2016); 55,122 new cases of invasive breast cancer in 2015 (11,563 deaths in 2016); 46,388 new cases of lung cancer in 2015 (and 35,620 deaths in 2016); 47,151 new cases of prostate cancer in 2015 (11,631 deaths in 2016); 9,211 new cases of oesophageal cancer in 2015 (8,004 deaths in 2016) and 5,540 new cases of myeloma in 2015 (3,079 deaths in 2016); 2,288 new cases of testicular cancer in 2015 (57 deaths in 2016); 9,921 new cases of pancreatic cancer in 2015 (9,263 deaths in 2016); 11,432 new cases of brain cancer in 2015 (5,250 deaths in 2016). In the US in 2014 there were 24,050 new cases of myeloma.

Each year there are steady increases in the numbers of new cancers, and increases in deaths from the same cancers, with no treatments making any difference to the numbers.

Pattern of amenity pesticides across the UK; mainly glyphosate-based herbicides

The Chemicals Regulation Directorate commissioned a Report *Determining the Usage and Usage*

Patterns of Amenity Pesticides Across the UK, from Risk & Policy Analysts in association with Britt Vegetation Management. It was published in February 2011. The customers for Contractors were: all local authorities across the UK; transport organisations (including the Highways Agency, Network Rail, British Waterways and airport management companies); Ministry of Defence; sports and leisure clubs and facilities (including golf clubs, football clubs, cricket clubs, rugby clubs, bowling greens, leisure centres); conservation bodies (including the National Trust, local Wildlife Trusts, the RSPB, Natural England, National Park Authorities, Countryside Council for Wales, Scottish Natural Heritage and the Environment and Heritage Service Northern Ireland); industrial premises, factories and utility companies; and contracted third parties. The surface types considered were: amenity grass; sports turf; amenity woodland including tree and shrub beds; riparian and aquatic areas; roads; and other hard surfaces, including gravel/ballast surfaces, pavements and kerbs.

The UK Science Media Centre is sponsored by Corporations: journalists often take their reports from so-called 'experts' many of whom have conflicts of interest or are 'lobbyists'

World View in Nature in 2012 Colin Macilwain said: *"The London SMC was set up because UK scientific leaders were upset that environmentalists had successfully fought the introduction of genetically modified food; they felt that the UK media were too susceptible to environmental scare stories about new technologies. Despite the fears of the SMC founders, the British press — led by the BBC, which treats the Confederation of British Industry with the deference the Vatican gets in Rome — is overwhelmingly conservative and pro-business in its outlook. It is quite unperturbed by the fact that SMC sponsors include AstraZeneca, BP, Coca-Cola, L'Oreal, Monsanto, Syngenta (as well as Nature Publishing Group) but not a single environmental non-governmental organization (NGO) or trade union."*

<https://www.nature.com/news/two-nations-divided-by-a-common-purpose-1.10224?nc=1376335775294>

This explains why the mainstream UK media has never mentioned anything about the US trial against Monsanto for concealing the dangers of its herbicide Roundup...**until 2 days ago!**

Two articles in the Daily Mail about the trial in the US; this is the first report in the UK Media

Could Britain's most popular garden spray be killing more than your weeds? 7 August 2018

<http://www.dailymail.co.uk/health/article-6032781/Could-Britains-popular-garden-spray-killing-weeds.html>

Jurors mull 'day of reckoning' in Roundup cancer trial

By Afp 05:17, 08 Aug 2018, updated 05:17, 08 Aug 2018

<http://www.dailymail.co.uk/wires/afp/article-6038021/Jurors-mull-day-reckoning-Roundup-cancer-trial.html>

The Council has asked if there is a safer herbicide that they could use instead of Roundup

Here is a map of the US, charting herbicide-resistant weeds in each state. The number of herbicide-resistant weeds goes from one in New York County to 30 in California.

<http://weedsience.org/vmap/statemap.aspx>

The UK Farming Minister was interviewed by Arthur Neslen on 30/05/ 2016 about Brexit

He said: *"The birds and habitats directives would go. But the directives' framework is so rigid that it is spirit-crushing."* On pesticides, he said *"the EU's precautionary principle needed to be reformed in favour of a US-style risk-based approach, allowing faster authorisation."*

Rosemary Mason 09/08/2018 MB ChB FRCA