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## **Will Brexit Britain be brought before the International Criminal Court and charged with crimes against humanity?**

### **The Agrochemical Industry has worked within government since before WW2**

#### **Rothamsted Research is the longest running agricultural research station in the world**

When UK Rothamsted was founded in 1843, it was an enormous tragedy that the philanthropist John Bennet Laws, owner of the Rothamsted Estate, appointed a **chemist** as his scientific collaborator. This set the pattern for farming in the UK: to rely totally on the agrochemical industry for the manufacture and assessments of pesticides.

#### **Rothamsted developed the first chemical herbicide**

The herbicide, 2,4-D was developed during World War II at British Rothamsted Experimental Station (at the same time as in the US) by Judah Hirsch Quastel and sold commercially in 1946.<sup>1</sup>

*'The low cost of 2,4-D has led to continued usage today and it remains one of the most commonly used herbicides in the world.'* It is highly toxic to humans and the environment.

#### **In 1949 Britain invited Monsanto and Bayer in: it disregarded the UN Reports on Foods and Toxics**

In 1949, at the end of the Nuremberg Trials, the Westminster Government led by Clement Atlee invited Monsanto to set up a factory in Newport: it went straight from making nerve gases for war to manufacturing agricultural products for farms, with many of the same chemicals. IG Farben was divided into three separate divisions: Hoescht, Bayer, and BASF. IG Farben was probably the most well-known corporate participant in the Holocaust, and the company's history sheds a chilling light on how genocide became tied in with economics and business. How could the UK government have colluded with Monsanto, the world's most evil company<sup>2</sup> and Bayer, who during the war collaborated with the Nazis in Auschwitz and were involved in the Holocaust killing more than 30,000 European Jews?<sup>3</sup>

In 2016 and 2017 the UK government voted with the President of the European Commission Jean-Claude Juncker, the European Food Safety Authority and the European Chemical Agency. They all declared that glyphosate wasn't a carcinogen. This was against the International Agency for Research into Cancer. However, ECHA declared the harmonised classification of glyphosate as a substance that caused severe eye damage and was toxic to aquatic life with long-lasting effects. The Pesticide Regulators supported the European Glyphosate Task Force (GTF), a consortium of companies joining resources and efforts in order to renew the European glyphosate registration with a joint submission (most companies produce their own formulated glyphosate products).

#### **The NGOs in Europe are right when they said British citizens are being used as Lab Rats We are being poisoned by silent killers, in our food, in the air, water and in the soil.**

Two books confirm this. One is from France and the other from the US.

*Our Daily Poison: From Pesticides to Packaging, How Chemicals Have Contaminated the Food Chain and Are Making Us Sick*. Marie-Monique Robin is an award-winning French journalist, author and filmmaker. She is the patron of the Monsanto Tribunal and on the Steering Committee. She received the 1995 Albert-Londres Prize, awarded to investigative journalists in France.

*"Marie-Monique Robin's Our Daily Poison is a gift to citizens across the world. She brings us scientific facts about pesticides and poisons in a period when this evidence is being kept from the public.*

<sup>1</sup> <http://www.rothamsted.ac.uk/about>

<sup>2</sup> <https://www.globalresearch.ca/the-complete-history-of-monsanto-the-worlds-most-evil-corporation/5387964>

<sup>3</sup> <https://www.newhistorian.com/ig-farben-opens-factory-at-auschwitz/3822/>

*Whether you are interested in your health and the safety of your food, the protection of species and ecosystems, or the independence of science and laws from corporate law, this is a book you must read.” Vandana Shiva, author of Stolen Harvest and Making Peace with the Earth*

**WHITEWASH: The Story of a Weed Killer, Cancer, and the Corruption of Science by Carey Gillam**

It's the pesticide on our dinner plates, a chemical so pervasive it's in the air we breathe, our water, our soil, and even found increasingly in our own bodies. Known as Monsanto's Roundup by consumers, and as glyphosate by scientists, the world's most popular weed killer is used everywhere from backyard gardens to golf courses to millions of acres of farmland. For decades it's been touted as safe enough to drink, but a growing body of evidence indicates just the opposite, with research tying the chemical to cancers and a host of other health threats.

In *Whitewash*, veteran journalist Carey Gillam uncovers one of the most controversial stories in the history of food and agriculture, exposing new evidence of corporate influence. Gillam introduces readers to farm families devastated by cancers which they believe are caused by the chemical, and to scientists whose reputations have been smeared for publishing research that contradicted business interests. Readers learn about the arm-twisting of regulators who signed off on the chemical, echoing company assurances of safety even as they permitted higher residues of the pesticide in food and skipped compliance tests. And, in startling detail, Gillam reveals secret industry communications that pull back the curtain on corporate efforts to manipulate public perception. *Whitewash* is more than an exposé about the hazards of one chemical or even the influence of one company. It's a story of power, politics, and the deadly consequences of putting corporate interests ahead of public safety. The Society for Environmental Journalists says Gillam "*comes at one of the world's most powerful corporations hard and doesn't hold back, something legions of other journalists have been reluctant to do.*"

More reviews from the US, but not surprisingly **none from Britain**:

*Carey Gillam has brilliantly assembled the facts and describes how Monsanto and other agricultural chemical companies lied about their products, covered up the damaging data and corrupted government officials in order to sell their toxic products around the world.*

**DAVID SCHUBERT** Professor and Head of the Cellular Neurobiology Laboratory at the Salk Institute For Biological Studies

**A barrister who spent 10 years creating an international crime of ecocide, which the UK rejected in 1996, was diagnosed with an aggressive cancer last week**

George Monbiot wrote an article about Polly Higgins.<sup>4</sup> "She is a barrister who has devoted her life to [creating an international crime of ecocide](#). This means serious damage to, or destruction of, the natural world and the Earth's systems. It would make the people who commission it – such as chief executives and government ministers – criminally liable for the harm they do to others, while creating a legal duty of care for life on Earth. It would force anyone contemplating large-scale vandalism to ask themselves, 'Will I end up in the Hague for this?' Until 1996, drafts of the [Rome statute](#), which lists international crimes against humanity, included [the crime of ecocide](#). But it was dropped at a late stage at the behest of three states: the UK, France and the Netherlands. Ecocide looked like a lost cause until Higgins took it up 10 years ago. Last week Polly was diagnosed, at the age of 50, with an aggressive cancer that has spread through much of her body. The doctors have told her she has six weeks to live. Given her determination and the support of those around her, I expect her to defy the prediction, which she has met with amazing fortitude. "If this is my time to go," she told me, "my legal team will continue undeterred."

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<sup>4</sup> <https://www.theguardian.com/commentisfree/2019/mar/28/destruction-earth-crime-polly-higgins-ecocide-george-monbiot>

George Monbiot celebrated his diagnosis with prostate cancer almost a year ago and wrote frankly about his treatment.<sup>5</sup>

### **The International Criminal Court (ICC) in The Hague is extending its remit to include ecocide<sup>6</sup>**

The UN-backed court, which sits in The Hague, has mostly ruled on cases of genocide and war crimes since it was set up in 2002. It has been criticized for its reluctance to investigate major environmental and cultural crimes, which often happen in peacetime. In [a change of focus](#), the ICC announced on 15/09/2016 that it would also prioritize crimes that result in the "destruction of the environment", "exploitation of natural resources" and the "illegal dispossession" of land. Environmental destruction and land-grabs could lead to governments and individuals being prosecuted for crimes against humanity by the international criminal court.<sup>7</sup>

### **Britain disregarded the UN Special Rapporteur on the Right to Food and the Special Rapporteur on Toxics about the protection of children from the effects of pesticides**

#### **Report presented to UN Human Rights Council about the Right to Food**

Global Agricultural Corporations are severely criticised by Hilal Elver the UN Special Rapporteur on the right to food. <sup>8</sup> The Report presented to the UN human rights council on 08/03/2017 is severely critical of the global corporations that manufacture pesticides, accusing them of the *"systematic denial of harms"*, *"aggressive, unethical marketing tactics"* and heavy lobbying of governments which has *"obstructed reforms and paralysed global pesticide restrictions"*.

The report authored by Hilal Elver the UN Special Rapporteur on the right to food and co-authored by Baskut Tuncak, the UN's special rapporteur on toxics, says pesticides have *"catastrophic impacts on the environment, human health and society as a whole"*, including an estimated 200,000 deaths a year from acute poisoning. Its authors said: *"It is time to create a global process to transition toward safer and healthier food and agricultural production."*

*"It is a myth,"* said Hilal Elver. *"Using more pesticides is nothing to do with getting rid of hunger."* <sup>9</sup> According to the UN Food and Agriculture Organisation (FAO), *we are able to feed 9 billion people today. Production is definitely increasing, but the problem is poverty, inequality and distribution."* Elver said many of the pesticides are used on commodity crops, such as palm oil and soy, not the food needed by the world's hungry people: *"The corporations are not dealing with world hunger, they are dealing with more agricultural activity on large scales."*

Extracts from the Report: *"excessive use of pesticides is very dangerous to human health, to the environment and it is misleading to claim they are vital to ensuring food security. Chronic exposure to pesticides has been linked to cancer, Alzheimer's and Parkinson's diseases, hormone disruption, developmental disorders and sterility. Farmers and agricultural workers, communities living near plantations, indigenous communities and pregnant women and children are particularly vulnerable to pesticide exposure and require special protections. The experts warn that certain pesticides can persist in the environment for decades and pose a threat to the entire ecological system on which food production depends. The excessive use of pesticides contaminates soil and water sources, causing loss of biodiversity, destroying the natural enemies of pests, and reducing the nutritional value of food. The impact of such overuse also imposes staggering costs on national economies around the world. The experts say the use of neonicotinoid pesticides is particularly worrying because*

<sup>5</sup> <https://www.theguardian.com/commentisfree/2018/mar/13/prostate-cancer-happy-diagnosis-operation>

<sup>6</sup> <https://www.theguardian.com/global/2016/sep/15/hague-court-widens-remit-to-include-environmental-destruction-cases>

<sup>7</sup> <https://www.icc-cpi.int/Pages/item.aspx?name=pr1238>

<sup>8</sup> <http://www.pan-uk.org/site/wp-content/uploads/United-Nations-Report-of-the-Special-Rapporteur-on-the-right-to-food.pdf>

<sup>9</sup> <https://www.theguardian.com/environment/2017/mar/07/un-experts-denounce-myth-pesticides-are-necessary-to-feed-the-world>

*they are accused of being responsible for a systematic collapse in the number of bees around the world. For example, heavy use of these insecticides has been blamed for the 50 per cent decline over 25 years in honeybee populations in both the United States and the United Kingdom of Great Britain and Northern Ireland. Such a collapse, they say, threatens the very basis of agriculture as 71% of crop species are bee-pollinated."*

**The UN expert on Toxics, Baskut Tuncak wrote in the *Guardian* on 06/11/2017: The EU and glyphosate: it's time to put children's health before pesticides <sup>10</sup>**

**"A pending decision on Monsanto's ubiquitous weedkiller is a crucial opportunity to protect our children from the toxic cocktail of pesticides polluting their food, water and play areas."**

*"Our children are growing up exposed to a toxic cocktail of weedkillers, insecticides, and fungicides. It's on their food and in their water, **and it's even doused over their parks and playgrounds.** Many governments insist that our standards of protection from these pesticides are strong enough. But as a scientist and a lawyer who specialises in chemicals and their potential impact on people's fundamental rights, I beg to differ. Last month it was revealed that in recommending that glyphosate – the world's most widely-used pesticide – was safe, the EU's food safety watchdog copied and pasted pages of a report directly from Monsanto, the pesticide's manufacturer. Revelations like these are simply shocking.*

*The UN Convention on the Rights of the Child, the most ratified international human rights treaty in the world (only the US is not a party), makes it clear that states have an explicit obligation to protect children from exposure to toxic chemicals, from contaminated food and polluted water, and to ensure that every child can realise their right to the highest attainable standard of health. These and many other rights of the child are abused by the current pesticide regime. These chemicals are everywhere and they are invisible. The only way to protect citizens, especially those disproportionately at risk from exposure, is for governments to regulate them effectively, in large part by adhering to the highest standards of scientific integrity.*

*Paediatricians have referred to childhood exposure to pesticides as creating a "silent pandemic" of disease and disability. Exposure in pregnancy and childhood is linked to birth defects, diabetes, and cancer. Because a child's developing body is more sensitive to exposure than adults and takes in more of everything – relative to their size, children eat, breathe, and drink much more than adults – they are particularly vulnerable to these toxic chemicals. Increasing evidence shows that even at "low" doses of childhood exposure, irreversible health impacts can result. But, most victims cannot prove the cause of their disability or disease, limiting our ability to hold those responsible to account. In light of revelations such as the copy-and-paste scandal, a careful re-examination of the performance of states is required. The overwhelming reliance of regulators on industry-funded studies, the exclusion of independent science from assessments, and the confidentiality of studies relied upon by authorities must change."*

### **Declines in educational attainment of children in Britain over recent years**

**Children in the UK have had maximum exposure to pesticides under the British Government's collusion with industry.**

The UK ratings have declined significantly in the Programme for International Student Assessment. PISA is a worldwide study by the Organisation for Economic Co-operation and Development (OECD) in member and non-member nations of 15-year-old school pupils' scholastic performance on mathematics, science, and reading.<sup>11</sup> PISA was first performed in 2000 and then repeated every

<sup>10</sup> <https://www.theguardian.com/environment/2017/nov/06/the-eu-and-glyphosate-its-time-to-put-childrens-health-before-pesticides>

<sup>11</sup> [https://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-%20\(PISA\)/PISA-2012/index.html](https://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-%20(PISA)/PISA-2012/index.html)



three years. It is done with a view to improving education policies and outcomes. It measures problem solving and cognition in daily life.

The UK is falling behind global rivals in international tests taken by 15-year-olds, failing to make the top 20 in mathematics, reading and science (3 December 2013). Although not directly comparable, because there have been different numbers of countries taking part, this marks a sustained decline, with the UK having ranked 4<sup>th</sup> in the tests taken in 2000.

In 2016 an OECD study showed that in England the young have lower basic skills than their counterparts in Europe.<sup>12</sup> But adults approaching retirement age (55-65-year-olds) in England compare reasonably well with their counterparts in other countries. The study says: *“The priority of priorities is therefore to improve the standard of basic schooling in England, improving both average and minimum standards (which are especially weak in England).”*

### **UN warns of global failure to tackle sales of synthetic chemicals – with risks ranging from cancer to coral damage<sup>13</sup>**

*Sales of synthetic chemicals will double over the next 12 years with alarming implications for health and the environment, according to a global study that highlights government failures to rein in the industry behind plastics, pesticides and cosmetics.*

*The second Global Chemicals Outlook, which was released in Nairobi on March 11<sup>th</sup> 2019, said the world will not meet international commitments to reduce chemical hazards and halt pollution by 2020. In fact, the study by the United Nations Environment Programme found that the industry has never been more dominant nor has humanity’s dependence on chemicals ever been as great. Depending on the chemical and degree of exposure, the risks can include cancer, chronic kidney disease and congenital anomalies. The World Health Organization estimated that the burden of disease was 1.6 million lives in 2016. Halpaap said this was likely to be an underestimate. In addition to the human health dangers, he said chemicals also affect pollinators and coral reefs.*

### **A global insect and bird apocalypse due to intensive agriculture and pesticides**

#### **The UK State of Nature 2016 is dire**

Mark Eaton of the RSPB, the Report’s first author said: *“The report includes a new “biodiversity intactness index”, which analyses the loss of species over centuries. The UK has lost significantly more nature over the long term than the global average with the UK the 29th lowest out of 218 countries. “It is quite shocking where we stand compared to the rest of the world, even compared to other western European countries: France and Germany are quite a way above us in the rankings,” said Eaton. “The index gives an idea of where we have got to over the centuries, and we are pretty knackered.”<sup>14</sup>*

It was therefore astounding to see the complete denial of the NFU and Defra about The State of Nature Report. NFU vice-president Guy Smith said *“intensification of farming had ended in the early 1990s.”* that farmers *“were using less fertiliser and pesticides than ever”* and a spokeswoman from Defra said: *“Protecting our precious environment and supporting our world-leading farmers, a cornerstone of our economy, will form an important part of our EU exit negotiations.”*

The statistics for pesticide usage produced by Fera show exactly the opposite.

#### **The Royal Society of Medicine Conference on pesticides safety in November 2017**

At the Royal Society of Medicine Conference on pesticides safety the Soil Association presented alarming figures. Under FOI request FERA Science (previously a government agency, now privatized)

<sup>12</sup> <http://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf>

<sup>13</sup> <https://www.theguardian.com/environment/2019/mar/12/surge-in-chemical-use-a-threat-to-health-and-environment>

<sup>14</sup> <https://www.rspb.org.uk/our-work/stateofnature2016/>

provided figures that showed that the number of active ingredients applied to wheat had risen **12-fold** from 1.7 in 1974 to 20.7 in 2014; that those applied to potatoes had risen **5.8** times from 5.3 in 1975 to 30.8 in 2014; that those applied to onions and leeks had risen **18-fold** from 5.3 in 1975 to 30.8 in 2014.<sup>15</sup> Pesticides are tested individually but no one tests the cocktail of pesticides to which humans and the environment are exposed. **The Chief Scientist for Defra Professor Ian Boyd** pointed out that once a pesticide is approved there is no follow up. Dr Michael Antoniou, head of the Gene Expression and Therapy Group at King's College London, told the Royal Society of Medicine conference that the adjuvants in commercial pesticide formulations can be toxic in their own right and in some cases more toxic than the declared active ingredients. Yet only the active ingredients are tested and assessed for long-term health effects in the regulatory process. Dr Antoniou also said that research on hormone-disrupting chemicals, including pesticides, shows that very low realistic doses can be more toxic than higher doses. Professor Carl Leifert talked about pesticides linked to low sperm quality. In a recent study, published in *JAMA Internal Medicine*, Harvard researchers followed 325 women at an infertility clinic and found that women who regularly ate pesticide-treated fruits and vegetables had lower success rates getting pregnant with IVF, while women who ate organic food had reduced risk of pregnancy loss and increased fertility.<sup>16</sup> However, Dave Bench Head of UK Chemicals Regulation Division described the regulatory system for pesticides as robust and as balancing the risks of pesticides against the benefits to society.

### **Ecological Armageddon after dramatic plunge in insect numbers 18/10/2017**

More than 75 percent decline over 27 years in total flying insect biomass in protected areas in Germany.<sup>17</sup>

Part of Abstract: *Global declines in insects have sparked wide interest among scientists, politicians, and the general public. Loss of insect diversity and abundance is expected to provoke cascading effects on food webs and to jeopardize ecosystem services. Here, we used a standardized protocol to measure total insect biomass using Malaise traps, deployed over 27 years in 63 nature protection areas in Germany (96 unique location-year combinations) to infer on the status and trend of local entomofauna.*

*When the total weight of the insects in each sample was measured a startling decline was revealed. The annual average fell by 76% over the 27-year period, but the fall was even higher – 82% – in summer, when insect numbers reach their peak.*

### **Global insect apocalypse due to intensive agriculture and pesticides<sup>18</sup>**

The analysis, published in the journal Biological Conservation, says intensive agriculture is the main driver of the declines, particularly the heavy use of pesticides. Urbanisation and climate change are also significant factors. *“If insect species losses cannot be halted, this will have catastrophic consequences for both the planet’s ecosystems and for the survival of mankind,”* said Francisco Sánchez-Bayo, at the University of Sydney, Australia, who wrote the review with Kris Wyckhuys at the China Academy of Agricultural Sciences in Beijing. The 2.5% rate of annual loss over the last 25-30 years is “shocking”, Sánchez-Bayo told the Guardian: *“It is very rapid. In 10 years you will have a quarter less, in 50 years only half left and in 100 years you will have none.”*

One of the biggest impacts of insect loss is on the many birds, reptiles, amphibians and fish that eat insects. *“If this food source is taken away, all these animals starve to death,”* he said. Such cascading effects have already been seen in Puerto Rico, where a recent study revealed a 98% fall in ground

<sup>15</sup> <https://www.soilassociation.org/news/2017/november/rapid-increase-in-pesticide-use-and-new-evidence-of-health-impacts-of-very-low-doses/>

<sup>16</sup> <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2659557>

<sup>17</sup> <https://www.theguardian.com/environment/2017/oct/18/warning-of-ecological-armageddon-after-dramatic-plunge-in-insect-numbers>

<sup>18</sup> <https://www.theguardian.com/environment/2019/feb/10/plummeting-insect-numbers-threaten-collapse-of-nature>

insects over 35 years. The new analysis selected the 73 best studies done to date to assess the insect decline. Butterflies and moths are among the worst hit. For example, the number of widespread butterfly species fell by 58% on farmed land in England between 2000 and 2009. **The UK has suffered the biggest recorded insect falls overall**, though that is probably a result of being more intensely studied than most places. He thinks new classes of insecticides introduced in the last 20 years, including neonicotinoids and fipronil, have been particularly damaging as they are used routinely and persist in the environment: *"They sterilise the soil, killing all the grubs."* This has effects even in nature reserves nearby; the 75% insect losses recorded in Germany were in protected areas.

#### **Risk of extinction for migrant Monarch butterfly due to milkweed plants disappearing**

"In February 2017 the annual "overwintering" count of monarchs confirmed that butterfly numbers fell by nearly one-third from the 2016 count, indicating an ongoing risk of extinction for America's most well-known butterfly.<sup>19</sup> The heart of the monarch's range is the midwestern "Corn Belt," where most of the world's monarchs are born on milkweed plants growing in agricultural fields. Because of the ubiquitous spraying of Roundup on corn and soy that have been genetically modified to resist herbicides, the monarch is in bad trouble in the core of its range, where its sole host plant, milkweed, is disappearing. In a one-two punch, climate change is undermining the stable weather conditions and predictable flowering seasons that monarchs need to complete their migration. Climate change also threatens these butterflies' overwintering habitat in the mountain forests of Mexico. Just as Joshua Tree National Park will soon no longer support Joshua trees, the International Monarch Reserve in Mexico is expected to become climatically unsuitable for monarchs by the end of the century."

#### **In 2019, a large-scale survey from Switzerland of house sparrows feathers reveals ubiquitous presence of neonicotinoids in farmlands<sup>20</sup>**

*"We quantified neonicotinoids in 146 feather samples of house sparrows living on organic, integrated-production and conventional farms using UHPLC-MS/MS.*

*All samples were positive for neonicotinoids.*

*Thiacloprid was the most prevalent (99% of samples) and clothianidin attained the highest levels (up to 131.4 ppb). Feathers of birds living on conventional farms showed higher concentrations than in the other farms. Our results highlight the extent to which farmland birds are exposed to neonicotinoids, and hence the extent of contamination of our agroecosystems."*

Clothianidin and Thiacloprid are manufactured by Bayer CropScience which bought Monsanto.

Clothianidin has a half-life in soil of 545 (13-1386) days.

#### **German wild bees are in decline<sup>21</sup>**

The pollination services provided by wild bees are indispensable, not only for ecological but also for eminently economic reasons. However, over half of the more than 500 wild bee species found in Germany are either at risk of extinction, or have already died out in certain areas. The German Association for Environmental Protection and Conservation (BUND) has estimated that the economic value of the pollination services provided annually by insects in Europe amounts to more than 14 billion euros. But insect populations worldwide are declining at alarming rates, as recent studies have shown – and bees are no exception to this trend. *"Generally speaking, bee diversity appears to be diminishing as a result of intensive agriculture and the increased use of pesticides, both of which have a negative impact on the food sources and nesting opportunities available,"* says Renner. *"We set out to identify the factors that make local populations of certain species particularly vulnerable to extinction."*

<sup>19</sup> [https://www.biologicaldiversity.org/species/invertebrates/monarch\\_butterfly/](https://www.biologicaldiversity.org/species/invertebrates/monarch_butterfly/)

<sup>20</sup> <https://www.sciencedirect.com/science/article/pii/S0048969719300749>

<sup>21</sup> <https://phys.org/news/2019-03-insects-declineon-farmland-latecomers.html>



### Wild bees and hoverflies lost from a quarter of the places they were found in 1980 in the UK<sup>22</sup>

"A widespread loss of pollinating insects in recent decades has been revealed by the first national survey in Britain, which scientists say "highlights a fundamental deterioration" in nature.

The analysis of 353 wild bee and hoverfly species found the insects have been lost from a quarter of the places they were found in 1980. A third of the species now occupy smaller ranges, with just one in 10 expanding their extent, and the average number of species found in a square kilometre fell by 11. A small group of 22 bee species known to be important in pollinating crops such as oilseed rape saw a rise in range, potentially due to farmers increasingly planting wild flowers around fields. However, the scientists found "severe" declines in other bee species from 2007, coinciding with the introduction of a widely used neonicotinoid insecticide, which has since been banned.

Researchers have become increasingly concerned about dramatic drops in populations of insects, which underpin much of nature. The study, published in the journal *Nature Communications*, is based on more than 700,000 sightings made by volunteers across Britain from 1980 to 2013. These are used to map the range of each species of bee and hoverfly over time. The data did not allow the assessment of numbers of insects, but some researchers think populations have fallen faster than range.

Pollinating insects are vital to human food security, as three-quarters of crops depend on them. They are also crucial to other wildlife, both as food and as pollinators of wild plants. "*The declines in Britain can be viewed as a warning about the health of our countryside*," said Gary Powney at the Centre for Ecology and Hydrology in Wallingford, who led the research. Prof Dave Goulson, at the University of Sussex and not part of the latest research, said: "Previous studies have described declines in UK butterflies, moths, carabid beetles, bees and hoverflies – this new study confirms that declines in insects are ongoing." Goulson also said the start of more rapid declines in southern bees after 2007 coincided with the first use of now-banned neonicotinoid pesticides.

Roy van Grunsven, at the Dutch Butterfly Conservation project, said the decline in numbers of insects was very likely to be a lot higher than the shrinking of their range: "*Going from flowery meadows full of bees to intensive agriculture with a few individuals in a road verge does not result in a change in distribution, but of course is a huge change in [numbers]*." Most of the studies analysed were done in western Europe and the US, with a few ranging from Australia to China and Brazil to South Africa, but very few exist elsewhere."

### Over a century of data reveal more than 80% decline in butterflies in the Netherlands<sup>23</sup>

Butterflies have declined by at least 84% in the Netherlands over the last 130 years, according to a study, confirming the crisis affecting insect populations in western Europe.

According to Van Swaay, the study, published in *Biological Conservation*, confirms that "*industrial agriculture is simply leaving hardly any room for nature*" across the EU and in developed nations such as the US. He said: "*These are butterflies which are easy to see but this will also be happening to all kinds of other insects and animal life in the soil. It's also happening to farmland birds who eat insects. It goes all the way up the chain from insects to birds to predators.*"

### A first-hand description of the effects of GM Roundup Ready corn on biodiversity in Iowa

Childs, C. *Apocalyptic Planet. Field Guide to the Future of the Earth*.<sup>24</sup>

Chapter 6 Species Vanish: Page 185. Grundy County, Iowa was where Craig Childs spent a long weekend in a monoculture of GM-Roundup® Ready Corn looking for wildlife.

Page 187: "*In this cornfield, I had come to a different kind of planetary evolution. I listened and heard nothing, no bird, no click of an insect ...* Page 188: *Mr Owen was the farmer who had given us permission to backpack across his cornfields. He grew a combination of DuPont and Monsanto stock.*

<sup>22</sup> <https://www.theguardian.com/environment/2019/mar/26/widespread-losses-of-pollinating-insects-revealed-across-britain>

<sup>23</sup> <https://www.sciencedirect.com/science/article/abs/pii/S0006320718315283?dgcid=coauthor>

<sup>24</sup> Childs, C. *Apocalyptic Planet. Field Guide to the Future of the Earth*, New York: Vintage Books (2013).

*We were in DuPont now. It didn't look any different to me."*

Robert Krulwich's blog commented on Craig Child's description: <sup>25</sup> *"Corn farmers champion corn. Anything that might eat corn, hurt corn, bother corn, is killed. Their corn is bred to fight pests. The ground is sprayed. The stalks are sprayed again. So, Craig wondered, "What will I find?" The answer amazed me. He found almost nothing. There were no bees. The air, the ground, seemed vacant. He found one ant "so small you couldn't pin it to a specimen board." A little later, crawling to a different row, he found one mushroom, "the size of an apple seed." Then, later, a cobweb spider eating a crane fly (only one). A single red mite "the size of a dust mote hurrying across the barren earth," some grasshoppers, and that's it." Though he crawled and crawled, he found nothing else. "It felt like another planet entirely," he said, a world denuded.*

*Yet, 100 years ago, these same fields, these prairies, were home to 300 species of plants, 60 mammals, 300 birds, hundreds and hundreds of insects. This soil was the richest, the loamiest in the state. And now, in these patches, there is almost literally nothing but one kind of living thing. We've erased everything else. There's something strange about a farm that intentionally creates a biological desert to produce food for one species: us. It's efficient, yes. But it's so efficient that the ants are missing, the bees are missing, and even the birds stay away. Something's not right here. Our cornfields are too quiet."*

Page 192: Childs said: *"I chose Iowa for a mass-extinction analogue because it is the most thorough picture of genetic exhaustion, the many organs of what was once tallgrass prairie removed and replaced with this."*

*Iowa was just one state in which the US Geological Survey said: "Glyphosate and AMPA were detected frequently in soils and sediment, ditches and drains, precipitation, rivers, and streams; and less frequently in lakes, ponds, and wetlands; soil water; and groundwater."* <sup>26</sup>

**The coral on the Great Barrier Reef has been destroyed because the Australian Regulators did not read the instructions: Roundup and the systemic neonicotinoid pesticides are highly toxic to aquatic life. Instructions for use state that all water bodies should be protected**

*"The APVMA reminds users of the importance of following all label instructions"*

Instructions for using Roundup Advance AG Herbicide by Monsanto include: *"Protection of Wildlife, Fish, Crustacea and Environment. Do not contaminate dam, river or stream with the product."* <sup>27</sup>

Clothianidin (Sumitomo Shield a systemic neonicotinoid insecticide) has been granted registration by the Australian Pesticides and Veterinary Medicines Authority (APVMA) for use on very low-lying sugar cane plantations draining into the Great Barrier Reef. In addition to global warming that is why there has been progressive destruction and bleaching of coral.

Instructions: PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT <sup>28</sup>

*DO NOT apply under weather conditions, or from spraying equipment, that may cause spray drift onto nearby or adjacent areas, particularly wetlands, water-bodies or watercourses. **This product is highly toxic to aquatic invertebrates.** DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT apply when there are aquatic and wetland areas including aquacultural ponds or surface streams and rivers downwind from the application area and within the mandatory no-spray zone shown in table 1.*

**Report by the Queensland Government in 2003 on water quality**<sup>29</sup>

*"Regional assessments of coastal water quality condition found that sites in the Burdekin, Mackay/Whitsunday and south-east Queensland regions most commonly experienced poor water*

<sup>25</sup> <https://www.npr.org/sections/krulwich/2012/11/29/166156242/cornstalks-everywhere-but-nothing-else-not-even-a-bee>

<sup>26</sup> <http://onlinelibrary.wiley.com/doi/10.1111/jawr.12159/abstract>

<sup>27</sup> <http://websvr.infopest.com.au/LabelRouter?LabelType=L&ProductCode=70096>

<sup>28</sup> [http://www.sumitomo-chem.com.au/sites/default/files/pdf/labels/shield\\_label.pdf](http://www.sumitomo-chem.com.au/sites/default/files/pdf/labels/shield_label.pdf)

<sup>29</sup> <https://web.archive.org/web/20070614223713/http://www.epa.qld.gov.au/register/p01258bs.pdf>

quality. Phosphorus and nitrogen were the two indicators contributing to this rating. Metals bioaccumulated in prawns, shellfish and other marine fauna were greatest in south-east Queensland waterways, particularly canals, and occasionally exceeded Australian food quality standards. In central and north Queensland, the persistence of pesticides and herbicides, including a number of banned substances, in sediment, seagrass and some marine mammals is an issue."

#### **Herbicides: A new threat to the Great Barrier Reef <sup>30</sup>**

In 2009, researchers showed runoff of herbicides particularly associated with sugar cane cultivation in the adjacent catchment.

Abstract: The runoff of pesticides (insecticides, herbicides and fungicides) from agricultural lands is a key concern for the health of the iconic Great Barrier Reef, Australia. Relatively low levels of herbicide residues can reduce the productivity of marine plants and corals. However, the risk of these residues to Great Barrier Reef ecosystems has been poorly quantified due to a lack of large-scale datasets. Here we present results of a study tracing pesticide residues from rivers and creeks in three catchment regions to the adjacent marine environment. Several pesticides (mainly herbicides) were detected in both freshwater and coastal marine waters and were attributed to specific land uses in the catchment. Elevated herbicide concentrations were particularly associated with sugar cane cultivation in the adjacent catchment. We demonstrate that herbicides reach the Great Barrier Reef lagoon and may disturb sensitive marine ecosystems already affected by other pressures such as climate change.

#### **Glyphosate persistence in samples of seawater extracted from the Great Barrier Reef <sup>31</sup>**

Extracts: Glyphosate is one of the most widely applied herbicides globally but its persistence in seawater has not been reported. Here we quantify the biodegradation of glyphosate using standard "simulation" flask tests with native bacterial populations and coastal seawater from the Great Barrier Reef. The half-life for glyphosate at 25 °C in low light was 47 days, extending to 267 days in the dark at 25 °C and 315 days in the dark at 31 °C, which is the longest persistence reported for this herbicide. AMPA, the microbial transformation product of glyphosate, was detected under all conditions, confirming that degradation was mediated by the native microbial community. This study demonstrates glyphosate is moderately persistent in the marine water under low light conditions and **is highly persistent in the dark**. Little degradation would be expected during flood plumes in the tropics, which could **potentially deliver dissolved and sediment-bound glyphosate far from shore**.

#### **Brexiters hope that they will escape from the edicts of the European Court of Justice**

#### **The European Court of Justice found EFSA's decision to be in breach of EU rules on transparency<sup>32</sup>**

The European Court of Justice (ECJ) has ordered the European Food Safety Authority (EFSA) to release all of the secret carcinogenicity and toxicity pesticide industry studies on glyphosate to the general public, in a huge legal victory for public health protection.

Specifically, in its ruling the Court stated, firstly, that the interest in public access to information which relates to the release of chemicals into the environment overrides the protection of commercial interests.

Secondly, the Court recognised that by its use, glyphosate is intended to be discharged into the environment. Therefore, according to the Court "its foreseeable emissions cannot, therefore, be regarded as purely hypothetical. In any event, glyphosate emissions cannot be classified as merely foreseeable emissions." In particular, according to the Court, glyphosate emissions into the

<sup>30</sup> <https://www.sciencedirect.com/science/article/pii/S0269749109001304>

<sup>31</sup> <http://www.sciencedirect.com/science/article/pii/S0025326X14000228>

<sup>32</sup> [https://sustainablepulse.com/2019/03/07/european-court-of-justice-orders-eu-regulators-to-publicly-release-secret-industry-glyphosate-studies/#.XJ8v\\_i10dp8](https://sustainablepulse.com/2019/03/07/european-court-of-justice-orders-eu-regulators-to-publicly-release-secret-industry-glyphosate-studies/#.XJ8v_i10dp8)

environment are a reality, since the active substance *"is present particularly as residues in plants, water and food."*

In that respect, the General Court notes that glyphosate has been listed as an active substance since 1 July 2002. Since that date, glyphosate has been authorised in Member States and has actually been used in plant protection products. Glyphosate is one of the most widely used herbicides in the EU. Glyphosate emissions into the environment are therefore a reality. That active substance is present particularly as residues in plants, water and food. Hence, the requested studies are studies which are intended to establish the carcinogenicity or toxicity of an active substance which is actually present in the environment.

Finally, the Court decided that *"the public must have access not only to information on emissions as such, but also to information concerning the medium to long-term consequences of those emissions on the state of the environment, such as the effects of those emissions on non-targeted organisms."* The ruling was welcomed by environmental organisation Greenpeace. *"Today's judgement is a big step towards transparency and accountability in EU decision-making,"* said its food policy director Franziska Achterberg: *"People have the right to know the foreseeable health and environmental impacts of EU decisions on products like pesticides, and the Court has vindicated this right. It is shocking that EFSA needed to be reminded in court that its mission is to defend public health, not to protect the commercial interest of glyphosate's manufacturers."*<sup>33</sup>

### **Chlorothalonil, a fungicide that prevents mildew and mould on crops, will be banned in Europe<sup>34</sup>**

"One of the world's most common pesticides will soon be banned by the [European Union](#) after safety officials reported human health and environmental concerns. Chlorothalonil, a fungicide that prevents mildew and mould on crops, is the most used pesticide in the UK, applied to millions of hectares of fields, and is the most popular fungicide in the US. Farmers called the ban "overly precautionary". But EU states voted for a ban after a [review by the European Food Safety Authority](#) (Efsa) was unable to exclude the possibility that breakdown products of the chemical cause damage to DNA. Efsa also said *"a high risk to amphibians and fish was identified for all representative uses"*. Recent research further identified chlorothalonil and other fungicides as the strongest factor linked to steep declines in bumblebees."

However, Chris Hartfield from the UK's National Farmers Union, said chlorothalonil played a vital role in controlling fungal diseases: *"We feel the European commission has been overly precautionary in making this decision and has failed to consider the particular importance of this [pesticide] in the control of critical fungal diseases and in managing disease resistance. As a result, we believe sectors of UK agricultural and horticultural production will be put at significant risk."* In 2016, the total area of UK cropland treated with chlorothalonil was 4,494,175 ha.

### **Glyphosate is a fungicide and an antibiotic too**

Monsanto claims that Roundup is toxic to plants, fungi and bacteria, but it has no effects on humans or animals. But the human gut microbiome contains trillions of bacteria<sup>35</sup> which are poisoned by Roundup. *"The combination of high use of both herbicides and antibiotics in proximity to farm animals and important insects, such as honeybees, might also compromise their therapeutic effects and drive greater use of antibiotics."*<sup>36</sup>

### **Healthy Harvest-safeguarding the Crop Protection toolbox: June 2014**

The National Farmers' Union (NFU), the Crop Protection Association (CPA) and Agricultural Industries Confederation (AIC) launched *Healthy Harvest – safeguarding the crop protection toolbox*

<sup>33</sup> <https://www.eubusiness.com/news-eu/glyphosate-court.63cf>

<sup>34</sup> <https://www.theguardian.com/environment/2019/mar/29/eu-bans-widely-used-pesticide-over-safety-concerns>

<sup>35</sup> <http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html>

<sup>36</sup> <http://mbio.asm.org/content/6/2/e00009-15.full.pdf+html>

in June 2014. The NFU and pesticide companies continually defend the use of pesticides for economic reasons and complain at any attempt to restrict the 320 at their disposal. One farmer defended aerial spraying of bracken with an herbicide.<sup>37</sup> CPA, AIC and the NFU commissioned Andersons to write a Report: The effect of the loss of plant protection products (i.e. pesticides) on UK Agriculture and Horticulture that predicted dire economic effects on UK farming if pesticides were restricted.<sup>38</sup>

**Bayer/Monsanto lost two cases in the US to plaintiffs who claim Roundup caused their cancers and Monsanto covered up the risks: there are more than 11,000 to come**

**Bayer/Monsanto was liable for plaintiff Edwin Hardeman's non-Hodgkin's lymphoma<sup>39</sup>**

The jury in San Francisco federal court said that Bayer/Monsanto was liable for plaintiff Edwin Hardeman's non-Hodgkin's lymphoma. It awarded \$5.6 million in compensatory damages, \$75 million in punitive damages and \$200,000 in medical expenses to Hardeman after finding that Roundup was defectively designed, that Monsanto failed to warn of the herbicide's cancer risk and that the company acted negligently.

After the verdict, Hardeman told reporters he was *"overwhelmed."* *"It hasn't sunk in yet,"* he said. Hardeman's case was considered a bellwether trial to help determine the range of damages and define settlement options for the more than 760 other federal cases pending in the same court before U.S. District Judge Vince Chhabria.

The link contains an interview between Carey Gillam, Executive Director of US Right to Know, the two attorneys, Aimee Wagstaff and Jennifer Moore and the plaintiff Edwin Hardeman. Bayer asked for the trial to be bifurcated. The first half the Attorneys were not allowed to mention how Monsanto manipulated science, falsified data and Senior Monsanto Scientist Donna Farmer stated *"We cannot say that Roundup does not cause cancer because we haven't tested it."*

**Roundup Trial: Monsanto Used Fake Data to Win Over Regulators<sup>40</sup>**

The probability that both Alva and Alberta would get non-Hodgkin lymphoma is 1 in 20,000, Wisner told the 12-person jury Thursday. Their treating physician said it was so unlikely they would both develop the same cancer that an environmental factor like Roundup was the likely culprit.

Wisner on Thursday ran through a list of Monsanto's newly revealed alleged sins.

- The company seemingly planted one of its employees at a contract lab called Industrial Bio-Test Laboratories (IBT) in the 1970s to fake negative mouse carcinogenicity data for Roundup's active ingredient glyphosate that were to be used to win regulatory approval for the weed killer in 1975
- planned an attack to discredit the World Health Organization's (WHO) cancer research agency, anticipating the agency would classify glyphosate as a probable human carcinogen in 2015
- and exploited "deep connections" within the U.S. Environmental Protection Agency to classify glyphosate as non-carcinogenic
- Neither was a revelation that University of California at Berkeley toxicologist Luoping Zhang was "so outraged" by the EPA's failure to follow its own herbicide-assessment guidelines that she recently resigned from an EPA glyphosate-review panel to conduct her own study of the chemical. That study, released this past February, found that glyphosate exposure increases the risk of developing non-Hodgkin lymphoma.

<sup>37</sup> [https://www.nfuonline.com/healthyharvest\\_final\\_digital/](https://www.nfuonline.com/healthyharvest_final_digital/) The impact of losing plant protection products on UK Food Production

<sup>38</sup> [http://www.cropprotection.org.uk/media/89364/andersons\\_final\\_report.pdf](http://www.cropprotection.org.uk/media/89364/andersons_final_report.pdf)

<sup>39</sup> [https://sustainablepulse.com/2019/03/28/us-jury-awards-80-million-in-damages-in-second-glyphosate-cancer-case/#.XJy8\\_y10dp-](https://sustainablepulse.com/2019/03/28/us-jury-awards-80-million-in-damages-in-second-glyphosate-cancer-case/#.XJy8_y10dp-)

<sup>40</sup> <https://www.courthousenews.com/roundup-trial-monsanto-used-fake-data-to-win-over-regulators/>



Wisner emphasized to the jury that Roundup does not come with a cancer warning on the label, nor does it instruct residential users to wear protective clothing or equipment while spraying it. Monsanto's old television commercials meanwhile depicted consumers spraying Roundup in sleeveless t-shirts and shorts, leading the Pilliods to believe it was safe. But Monsanto knew all along it wasn't, Wisner said. The company has known for 40 years that Roundup causes tumors in rodents and for 20 years that it causes non-Hodgkin lymphoma in humans, but refused to include a cancer warning to safeguard the enormous profits generated by the most widely used herbicide in the world. *"This case is really about choice,"* Wisner said, adding that the Pilliods insist they would not have sprayed Roundup had they known it causes cancer. *"You give the consumer the right to make a choice" about a chemical that "causes cancer before they buy it,"* he said. *"Because that failure means people get hurt, and they have to deal with the consequences. That's how it works."*

**Robert F Kennedy Jr. one of the US Attorney's fighting Bayer, said: Bayer Needs More Than an Aspirin to Cure Its Monsanto-Sized Headache**

28/08/2018 Robert F Kennedy said: *"In a special telephone meeting on Thursday, August 23, Bayer AG's CEO Werner Bauman tried to reassure the German conglomerate's principal shareholders who were concerned about the recent [drop](#) in the company's stock. Bayer's stock fell dramatically after an unfavorable [verdict](#) against Bayer's St. Louis subsidiary, Monsanto.*

*Bauman expressed his confidence in [Monsanto](#) and predicted a sunny future for its flagship herbicide, Roundup. He told his top-tier investors that Bayer had performed an adequate due-diligence on Monsanto before [purchasing](#) the troubled company for \$66 billion this past June. At the time of its purchase, Monsanto told its German suitors that a \$270-million set-aside would cover all its outstanding liabilities arising from Monsanto's 5,000 Roundup cancer lawsuits.*

*Bauman did concede to anxious shareholders that Monsanto had withheld [internal papers](#) relevant to the case. Bayer never saw those internal Monsanto documents prior to the purchase.*

*It's no surprise that Monsanto kept secrets from Bayer. Johnson's jury [heard evidence](#) that for four decades Monsanto maneuvered to conceal Roundup's carcinogenicity by capturing regulatory agencies, corrupting public officials, bribing scientists and engaging in scientific fraud to delay its day of reckoning. The jury found that these activities constituted "malice, fraud and oppression" warranting \$250 million in punitive damages.*

*I am one of several attorneys representing, collectively, now some 8,000 clients with similar cases. I attended the two-month trial and worked with the trial team led by two young and exceptionally gifted lawyers, Brent Wisner of Baum Hedlund Aristei & Goldman and Dave Dickens of The Miller Firm. For Bayer the worst is yet to come.*

*Despite Monsanto's efforts, the science [linking glyphosate](#)—Roundup's active ingredient—to non-Hodgkin's lymphoma has passed the critical inflection point. European nations are [moving](#) to ban or restrict the chemical, and California regulators and courts have [ordered](#) Monsanto to warn consumers of Roundup's carcinogenicity at all points of sale. Both federal and state courts across the country have agreed that the question can be sent to juries. Hundreds of new inquiries have flooded our offices since the Johnson verdict."*

**A constellation of other injuries apart from Non-Hodgkin's Lymphoma**

*"Perhaps more ominously for Bayer, Monsanto also faces 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 disease, and inflammatory bowel disease, brain, breast and prostate cancer, miscarriage, birth defects and declining sperm counts. 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.*

**Other actions of Roundup**

*Researchers peg glyphosate as a potent endocrine disruptor, which interferes with sexual development in children. The chemical compound is certainly a chelator that removes important*

*minerals from the body, including iron, magnesium, zinc, selenium and molybdenum. Roundup [disrupts the microbiome](#) destroying beneficial bacteria in the human gut and triggering brain inflammation and other ill effects.*

*The public's growing concerns with Roundup are, in part, due to Monsanto's overreaching. For two decades following its licensing in 1974, farmers and gardeners used Roundup as a conventional weedkiller. After Monsanto's introduction of Roundup Ready seeds in the 1990s, farmers began aerial spraying of the herbicide on entire fields, including newly planted corn, canola and soy genetically altered to thrive in the toxic mist that killed all neighboring weeds. Then, around 2006 (in the UK, in 1980<sup>41</sup>), Monsanto started marketing Roundup as a [desiccant](#) to dry up oats and wheat immediately before harvest. For the first time, farmers were spraying the chemical directly on food. Roundup sales rose dramatically to 300 million pounds annually in the U.S., with farmers spraying enough to cover every tillable acre in America with a gallon of Roundup. Glyphosate now accounts for about [50% of all herbicide use](#) in the U.S. About [75% of glyphosate use](#) has occurred since 2006, with [the global glyphosate](#) market projected to reach \$11.74 billion by 2023. Never in history has a chemical been [used](#) so pervasively. Glyphosate is in our air, water, plants, animals, grains, vegetables and meats. It's in beer and wine, children's [breakfast cereal and snack bars](#) and mother's breast milk. It's even in our vaccines.*

#### **Extermination of at least 13 species in the US**

*As grim as its financials now look, Monsanto's reputational liability may be even more of an anchor for Bayer than all the lawsuits. Environmentalists complain that Roundup is exterminating at least 13 species in the U.S. alone, including North America's iconic [Monarch butterfly](#). Human rights advocates blame the [suicides](#) of more than 200,000 Indian farmers on the suffocating economics caused by Monsanto's monopolistic control of international seed stocks. Government regulators are already under pressure to restrict these sorts of chemical mayhems with laws limiting glyphosate and GMOs. Monsanto has carved out a market niche monetizing deadly chemicals that more squeamish companies shun, a strategy that has made the company the Snidely Whiplash of corporate scoundrels and the planet's worst villain, according to many environmentalists and human rights advocates. As a boy, I watched Monsanto's vicious campaign to pillory the dying heroine Rachel Carson over her book, "Silent Spring," in its efforts to exonerate its pesticide DDT which was wiping out songbirds and the American bald eagle."<sup>42</sup>*

#### **Who is paying for Monsanto's crimes? We are<sup>43</sup>**

*" 'The chickens are coming home to roost', as they say in farm country.*

*For the second time in less than eight months a [US jury has found](#) that decades of scientific evidence demonstrates a clear cancer connection to Monsanto's line of top-selling Roundup herbicides, which are used widely by consumers and farmers. Twice now jurors have additionally determined that the company's own internal records show Monsanto has intentionally manipulated the public record to hide the cancer risks. Both juries found punitive damages were warranted because the company's cover-up of cancer risks was so egregious.*

*The juries saw evidence that [Monsanto](#) has ghost-written scientific papers, tried to silence scientists, scuttled independent government testing, and cozied up to regulators for favorable safety reviews of glyphosate, the active ingredient in Roundup.*

*Even the US district judge Vince Chhabria, who oversaw the San Francisco trial that concluded Wednesday with an [\\$80.2m damage](#) award, had [harsh words](#) for Monsanto. Chhabria said there were "large swaths of evidence" showing that the company's herbicides could cause cancer. He also said there was "a great deal of evidence that Monsanto has not taken a responsible, objective approach to the safety of its product... and does not particularly care whether its product is in fact*

<sup>41</sup> <http://www.hgca.com/media/185527/is02-pre-harvest-glyphosate-application-to-wheat-and-barley.pdf>

<sup>42</sup> <https://www.organicconsumers.org/blog/kennedy-monsanto-roundup-verdict-bayer-stock>

<sup>43</sup> <https://www.theguardian.com/commentisfree/2019/mar/30/who-is-paying-for-monsantos-crimes-we-are>

*giving people cancer, focusing instead on manipulating public opinion and undermining anyone who raises genuine and legitimate concerns about the issue."*

#### **Vietnam points to US court verdict, demands Agent Orange compensation from Monsanto**

Vietnam's Foreign Ministry has called attention to the link between a recent U.S. judicial verdict against Monsanto and dioxin victims in Vietnam.<sup>44</sup>

The ministry's spokeswoman, Le Thi Thu Hang, stressed in a statement on Thursday that the March 19 verdict by a San Francisco jury is yet more evidence that weedicides could cause direct damage to the human body.

*"As a nation that had suffered the heavy consequences of war, including Agent Orange, Vietnam demands that the companies that had provided the U.S. military with defoliants during the war must have the responsibility to help and assist in overcoming the damage caused by Agent Orange to Vietnam's people and environment,"* Hang said. She also welcomed the U.S. Congress and government for assisting in resolving the consequences of war in Vietnam, saying this is widely supported by the people of both countries. Hang said Vietnam wishes for these efforts to be continued with the participation of the companies responsible, including Monsanto.

Founded in 1901 in Missouri, Monsanto began producing agrochemicals in the 1940s. It was acquired by Bayer for more than \$62 billion last June. Monsanto was one of the producers of Agent Orange, the defoliant used by U.S. troops to strip Vietnamese forces of ground cover and food. Between 1961 and 1971 the U.S. Army sprayed some 80 million liters of Agent Orange over 30,000 square miles of southern Vietnam.

Dioxin, a highly toxic chemical in the defoliant, has been linked to many major health problems such as cancer, mental disabilities and birth defects. Millions of Vietnamese over several generations have suffered from health problems due to exposure to Agent Orange, according to government data. In 2004 Vietnamese victims of Agent Orange filed a class action lawsuit in a New York court against Monsanto, Dow Chemical and more than 30 manufacturers of the toxic defoliant. But the case was dismissed by the U.S. court citing *"lack of evidence."*

Yet, on many occasions Monsanto has been ordered by U.S. courts to pay compensation to American plaintiffs who suffered health issues from exposure to its chemicals. At the time too Vietnam's Foreign Ministry had demanded that Monsanto and other companies responsible for the dioxin sprayed in Vietnam [should compensate the victims](#).

#### **There are even more lies from Monsanto revealed by secret sealed documents obtained by scientist Anthony Samsel from the US EPA under FOI regulations**

##### **Monsanto's sealed secret studies obtained under FOI from the US EPA**

Samsel and Seneff wrote paper IV on Glyphosate: Glyphosate, pathways to modern diseases IV: cancer and related pathologies<sup>45</sup> and concluded that: *"significant evidence of tumours was found during these investigations"*. Ridley and Mirly (1988) (for Monsanto) found bioaccumulation of <sup>14</sup>C labelled glyphosate in Sprague Dawley rat tissues. Residues were present in bone, marrow, blood and glands including the thyroid, testes and ovaries, as well as major organs, including the heart, liver, lungs, kidneys, spleen and stomach (Table 11 Page 127). The eye is included in this list. Table 8 Page 126): Incidence and occurrence of ophthalmic degenerative lens changes by glyphosate. Table 9 Page 126: Data on unilateral and bilateral cataracts (all types) and Y-suture opacities, excluding "prominent Y suture", following glyphosate exposure to rats: this Stout & Rueker (1990) study was commissioned by Monsanto.

<sup>44</sup> <https://e.vnexpress.net/news/news/vietnam-points-to-us-court-verdict-demands-agent-orange-compensation-from-monsanto-3901631.html>

<sup>45</sup> <http://www.amsi.ge/jbpc/31515/11SA15R.pdf>

The rate of cataract surgery in England “increased very substantially” between 1989 and 2004 from 173 (1989) to 637 (2004) episodes per 100,000 population.

A 2016 study by the WHO also confirmed that the incidence of cataracts had greatly increased: ‘A global assessment of the burden of disease from environmental risks.’ says that cataracts are the leading cause of blindness worldwide. Globally, cataracts are responsible for 51% of blindness – an estimated 20 million individuals suffer from this degenerative eye disease.<sup>46</sup>

In the US between 2000 and 2010 the number of cases of cataract rose by 20% from 20.5 million to 24.4 million. It is projected that by 2050, the number of people with cataracts will have doubled to 50 million.

A Senior Monsanto scientist had claimed that glyphosate didn’t accumulate but was excreted unchanged from the body<sup>47</sup> and referred back to the glyphosate re-assessment in Europe in 2002. However, Monsanto’s secret studies had revealed otherwise.

#### **Glyphosate pathways to modern diseases V: Amino acid analogue of glycine in diverse proteins<sup>48</sup>**

*Abstract: Glyphosate, a synthetic amino acid and analogue of glycine, is the most widely used biocide on the planet. Its presence in food for human consumption and animal feed is ubiquitous.*

*Epidemiological studies have revealed a strong correlation between the increasing incidence in the United States of a large number of chronic diseases and the increased use of glyphosate herbicide on corn, soy and wheat crops. Glyphosate, acting as a glycine analogue, may be mistakenly incorporated into peptides during protein synthesis. A deep search of the research literature has revealed a number of protein classes that depend on conserved glycine residues for proper function. Glycine, the smallest amino acid, has unique properties that support flexibility and the ability to anchor to the plasma membrane or the cytoskeleton. Glyphosate substitution for conserved glycines can easily explain a link with diabetes, obesity, asthma, chronic obstructive pulmonary disease (COPD), pulmonary edema, adrenal insufficiency, hypothyroidism, Alzheimer’s disease, amyotrophic lateral sclerosis (ALS), Parkinson’s disease, prion diseases, lupus, mitochondrial disease, non-Hodgkin’s lymphoma, neural tube defects, infertility, hypertension, glaucoma, osteoporosis, fatty liver disease and kidney failure. The correlation data together with the direct biological evidence make a compelling case for glyphosate action as a glycine analogue to account for much of glyphosate’s toxicity. Glufosinate, an analogue of glutamate, likely exhibits an analogous toxicity mechanism. There is an urgent need to find an effective and economical way to grow crops without the use of glyphosate and glufosinate as herbicides.*

#### **Glyphosate and AMPA found in pet foods**

Samsel and Seneff found significant amounts of glyphosate and AMPA in 9 brands of pet food.<sup>49</sup> The American Veterinary Medical Foundation notes that “Cancer is the leading cause of death in older pets, accounting for almost half of the deaths of pets over 10 years of age.”

### **Cancer Research UK protects the Agrochemical Industry, even though it details shockingly high cancer statistics for the UK, that are not reported in the media**

#### **The CRUK website claims ‘there is little evidence that pesticides cause cancer’**

Michael Pragnell former Chairman of Cancer Research UK (2010-2017), founder of Syngenta and former Chairman of CropLife International was awarded a CBE in 2017 for services to cancer research. CropLife International was founded in 2001.<sup>50</sup> As of 2015 CropLife International’s member

<sup>46</sup> [http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196_eng.pdf)

<sup>47</sup> <https://gmoanswers.com/ask/hi-does-senior-monsanto-scientist-dan-goldstein-still-maintain-if-ingested-glyphosate-excreted>

<sup>48</sup> <http://www.amsi.ge/jbpc/11616/03SA16A.pdf>

<sup>49</sup> <http://www.amsi.ge/jbpc/31515/11SA15R.pdf>

<sup>50</sup> [https://www.vinci.com/vinci.nsf/en/management-board-directors/pages/michael\\_pragnell.htm](https://www.vinci.com/vinci.nsf/en/management-board-directors/pages/michael_pragnell.htm)

list includes the following 8 companies: [BASF](#), [Bayer CropScience](#), [Dow AgroSciences](#), [DuPont](#), [FMC Corp.](#), [Monsanto](#), [Sumitomo](#) and [Syngenta](#). Many of these make their own formulated glyphosate. CRUK said that there was little evidence that pesticides caused cancer. CRUK, the CMO England and PHE, linked cancer to alcohol, obesity and smoking. They blamed the people for 'lifestyle choices'.

**In the UK there were 13,682 new cases of Non-Hodgkin Lymphoma in 2015 (and 4,920 deaths in 2016)<sup>51</sup>**

There were 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.

### **Weedkiller in non-organic food and drink**

#### **Weedkiller in US food and drink: Report Uncovers Prevalence of Glyphosate in Restaurant Foods**

Non-profit organization GMO Free USA today published the report, "Eating Out: A Date with Glyphosate." The report details the results of food tests for glyphosate residue, across fifteen popular fast food and casual restaurants in the U.S. <sup>52</sup>

A sample from Panera Bread, whose primary marketing claim is, "100% of our food is 100% clean," had the highest level of glyphosate of all 44 restaurant foods tested. Other restaurants tested include Chili's Grill & Bar, Domino's Pizza, Dunkin' Donuts, IHOP, Le Pain Quotidien, McDonald's, Olive Garden, Outback Steakhouse, Papa John's, Pizza Hut, Pret a Manger, Subway, Taco Bell, and Whole Foods Market.

Dr. Mark Hyman, Medical Director at Cleveland Clinic's Center for Functional Medicine and bestselling author said, *"The unregulated use of GMO seeds and the herbicide glyphosate is a significant uncontrolled experiment on the human population. Glyphosate is being used in increasing quantities and shows up in our food and water. It has been linked to cancer, disturbances in the microbiome and the depletion of our bodies' ability to detoxify."* *"Our report shows that the presence of the genotoxic chemical, glyphosate, and its toxic metabolite, AMPA, is ubiquitous in foods across the U.S., not just in the processed, packaged foods reported on by other organizations. As our nation faces rising rates of chronic disease, it's high time the food industry look into solutions to remove this dangerous chemical from its products,"* says Diana Reeves, Executive Director of GMO Free USA.

<sup>51</sup> <https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/non-hodgkin-lymphoma>

<sup>52</sup> <https://www.prnewswire.com/news-releases/report-uncovers-prevalence-of-glyphosate-in-restaurant-foods-300819343.html>



### Shockingly high levels of weed killer in UK breakfast cereals

We read an article in the UK *Guardian* about breakfast cereals in the US having weed killer in oat-based cereals. The UK *Guardian* reported: “There was no indication that the claims related to products sold outside the US.” In view of this statement by the *Guardian*, we sent samples of four oat-based breakfast cereals marketed for children in the UK to the Health Research Institute, Fairfield, Iowa, an accredited laboratory for glyphosate testing. Kellogg No added sugar granola with apricot and pumpkin seeds Barley Flakes 27% Oats 23% Rye 13% Wheat flour Oat flour; Quaker Oat so Simple: Quaker Whole Grain Rolled Oats; Weetabix Oatibix 100% wholegrain oats; 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%.

Dr Fagan the Director says: “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).

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
Weetabix 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

We sent the results to the organisation, Beyond GM. They wrote a press release. The information was reported in the *Daily Mail*.<sup>53</sup>

### Glyphosate-based herbicides are routinely sprayed over weeds and superweeds

#### Monsanto used Swansea as the testbed of its flagship herbicide, Roundup

Swansea is dubbed ‘the Japanese Knotweed Capital of Europe’. Monsanto, whose factory was/is,<sup>54</sup> still in Newport, used Swansea as the testbed of its flagship herbicide, Roundup. Roundup was sprayed time and time again on Japanese Knotweed until it became a superweed, just like the weeds in the US, where they grow Roundup Ready crops.

#### Herbicide-Resistant weeds in the US

International Survey of Herbicide-Resistant Weeds Updated to July 2018. Run the cursor over the map and it will tell you how many herbicide-resistant weeds each US State has. The number of herbicide-resistant weeds in the US vary from one (Massachusetts) to 30 (California). California is the fruit-growing capital of the US.

<http://weeds science.org/vmap/statemap.aspx>

<sup>53</sup> <https://www.dailymail.co.uk/health/article-6315209/Revealed-UK-cereals-contain-potentially-harmful-amounts-WEEDKILLER.html>

<sup>54</sup> In July 2012 the old company (Solutia) was acquired by the [Eastman Chemical Company](#). Its Board of Directors includes Officers from Monsanto, Dow Chemicals, Dow Corning, General Mills, and Cargill.

**Glyphosate-based herbicides and other herbicides are a waste of money for Councils because they cause weeds to become superweeds. As in the US, they have to be removed by hand.**

*Research has traced the resistance mechanism in Palmer amaranth (*Amaranthus palmeri*) to 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) gene amplification. Resistant weed populations from Georgia contained 5-fold to 160-fold more copies of the EPSPS gene, compared to susceptible plants. Moreover, EPSPS gene amplification is heritable, leading Gaines et al.<sup>55</sup> to warn that the emergence of GR weeds “endangers the continued success of transgenic glyphosate-resistant crops and the sustainability of glyphosate as the world’s most important herbicide.” Resistant Palmer amaranth (*Amaranthus palmeri*) has spread dramatically across southern states since the first resistant populations were confirmed in 2005, and already poses a major economic threat to U.S. cotton production. Some infestations are so severe that cotton farmers have been forced to leave some crops un-harvested.”*

**Roundup (shown to be carcinogenic and to affect human brains) is sprayed to kill weeds on pavements, open spaces, City Parks, playgrounds and playing fields in all Boroughs but one**

Only the London Borough of Hammersmith and Fulham has agreed to ban Roundup and try other non-chemicals methods.<sup>56</sup> All the Councils in Wales use Roundup.<sup>57</sup> Presumably, like us in Wales, they asked the Health and Safety Executive, who said that glyphosate was perfectly legal.

Even though it has been shown that Monsanto lied about Roundup, glyphosate-based herbicides are still on sale in the UK to the general public, sprayed on citizens to kill superweeds (Monsanto knows that it doesn’t work but still sells it to the public). It is included in Defra’s plans for Brexit Britain.

**The science behind Genetically-modified foods is fraudulent: in the opinion of Steve Druker and Caius Rommens, the former creator of GM potatoes for Monsanto**

**Governments and leading scientific institutions have systematically misrepresented the facts about GMOs and the scientific research that casts doubt on their safety**

On 4 March 2015 the Organisation Beyond GM facilitated the Press Release of American public interest attorney Steven Druker’s acclaimed new book, Altered Genes, Twisted Truth: How the Venture to Genetically Engineer Our Food Has Subverted Science, Corrupted Government and Systematically Deceived the Public.<sup>58</sup>

His book reveals how governments and leading scientific institutions have systematically misrepresented the facts about GMOs and the scientific research that casts doubt on their safety.<sup>59</sup> GM Watch reported: “The book features a foreword by the renowned primatologist Dame Jane Goodall, who will also speak at the conference, hailing it as “without doubt one of the most important books of the last 50 years.”

*The book’s revelations come at a crucial time when the UK is considering the commercial planting of GM crops following the European Parliament’s decision to allow member states to opt out of the blockade that has barred them from the EU until now. Based on the evidence presented in the book, Druker and Goodall will assert that it would be foolhardy to push forward with a technology that is unacceptably risky and should never have been allowed on the market in the first place. The book is the result of more than 15 years of intensive research and investigation by Druker, who came to prominence for initiating a lawsuit against the US Food and Drug Administration (FDA).*

<sup>55</sup>

[http://www.pnas.org/content/107/3/1029?ijkey=e2066eddc44aa8e0f054b2e1ccb0fdcc5a6b000c&keytype2=tf\\_ipsecsha](http://www.pnas.org/content/107/3/1029?ijkey=e2066eddc44aa8e0f054b2e1ccb0fdcc5a6b000c&keytype2=tf_ipsecsha)

<sup>56</sup> <https://www.hortweek.com/london-council-bans-contractor-use-glyphosate-parks/parks-and-gardens/article/1398373>

<sup>57</sup> <https://www.walesonline.co.uk/news/local-news/welsh-councils-use-carcinogenic-weedkiller-15086510>

<sup>58</sup> <http://beyond-gm.org/new-book-exposes-systematic-government-and-scientific-fraud-over-gm-food/>

<sup>59</sup> <http://www.gmwatch.org/index.php/news/archive/2015-articles/15973>

### **Steven Druker initiated a lawsuit against the US Food and Drug Administration (FDA) that forced it to open its files on GM foods**

*Those files revealed that GM foods first achieved commercialisation in 1992 only because the FDA:*

- \* Covered up the extensive warnings of its own scientists about their dangers*
- \* Lied about the facts*
- \* And then violated federal food safety law by permitting these foods to be marketed without having been proven safe through standard testing*

*“Druker’s well-referenced book points out that if the FDA had actually heeded its own experts’ advice, told the truth, and obeyed the law, the GM food venture would have imploded and never gained traction anywhere.”* There were extensive media resources<sup>60</sup> but the launch failed to be reported in the newspapers. It is not surprising since many august bodies, scientific journals and philanthropists in the UK & US are supporting GM.<sup>61</sup>

### **Druker challenges UK Royal Society over misleading statements made about GM foods**

Open Letter to the UK Royal Society can be read here.<sup>62</sup>

*Extracts: “Because clarifying the facts about GM foods is crucial for developing an intelligent, science-based policy on the future of agriculture, and because the Royal Society has significantly contributed to the confusion that currently surrounds this issue, it is imperative that remedial action be promptly initiated. This is especially so considering that:*

- The European Commission is about to approve substantial regulatory changes in regard to GM crops.*
- The UK is seriously considering allowing them to be commercially planted.*
- The Society and other proponents of GM foods have inculcated the widespread illusion that there is an overwhelming scientific consensus that the safety of these products has been established through rigorous testing...”* The UK Royal Society failed to reply.

### **The creator of GMO potatoes reveals the dangerous truth<sup>63</sup>**

#### **‘Pandora’s Potatoes: The Worst GMOs’**

The Ex-Director of J.R. Simplot and team leader at Monsanto, Caius Rommens, has revealed the hidden dangers of the GMO potatoes he created, in a wide ranging interview for Sustainable Pulse, on the same day that his book ‘Pandora’s Potatoes: The Worst GMOs’ was released [on Amazon](#). Here are some extracts from the interview.

#### **How many years did you spend working on creating GM potatoes? Was this all lab-based work or did you get out to see the farms that were growing the potatoes?**

*“During my 26 years as a genetic engineer, I created hundreds of thousands of different GM potatoes at a direct cost of about \$50 million. I started my work at universities in Amsterdam and Berkeley, continued at Monsanto, and then worked for many years at J. R. Simplot Company, which is one of the largest potato processors in the world. I had my potatoes tested in greenhouses or the field, but I rarely left the laboratory to visit the farms or experimental stations. Indeed, I believed that my*

<sup>60</sup> <http://beyond-gm.org/altered-genes-twisted-truth-media-resources/>

<sup>61</sup> Royal Society, Wellcome Foundation, Bill & Melinda Gates, Lord David Sainsbury and the Gatsby Foundation, Rothamsted Research, John Innes Centre, Sainsbury Laboratory, Civil Servants from Defra, NFU, James Hutton Institute, BIS, Offices of Life Sciences, Centre for Food Security, Food Standards Agency, etc.

<sup>62</sup> [http://beyond-gm.org/wp-content/uploads/2015/03/DRUKER\\_OPEN-LETTER-TO-THE-ROYAL-SOCIETY\\_Final.pdf](http://beyond-gm.org/wp-content/uploads/2015/03/DRUKER_OPEN-LETTER-TO-THE-ROYAL-SOCIETY_Final.pdf)

<sup>63</sup> [https://sustainablepulse.com/2018/10/09/the-creator-of-gmo-potatoes-reveals-the-dangerous-truth-exclusive-interview/#.W70H-i97E\\_V](https://sustainablepulse.com/2018/10/09/the-creator-of-gmo-potatoes-reveals-the-dangerous-truth-exclusive-interview/#.W70H-i97E_V)

*theoretical knowledge about potatoes was sufficient to improve potatoes. This was one of my biggest mistakes."*

**Why have you decided to reveal information about the failings of GM potatoes after spending many years creating them?**

*"I dedicated many years of my life to the creation of GMO potatoes, and I initially believed that my potatoes were perfect but then I began to doubt. It again took me many years to take a step back from my work, reconsider it, and discover the mistakes. Looking back at myself and my colleagues, I believe now that we were all brainwashed; that we all brainwashed ourselves. We believed that the essence of life was a dead molecule, DNA, and that we could improve life by changing this molecule in the lab. We also assumed that theoretical knowledge was all we needed to succeed, and that a single genetic change would always have one intentional effect only.*

*We were supposed to understand DNA and to make valuable modifications, but the fact of the matter was that we knew as little about DNA as the average American knows about the Sanskrit version of the Bhagavad Gita. We just knew enough to be dangerous, especially when combined with our bias and narrowmindedness. We focused on short-term benefits (in the laboratory) without considering the long-term deficits (in the field). It was the same kind of thinking that produced DDT, PCBs, Agent Orange, recombinant bovine growth hormone, and so on. I believe that it is important for people to understand how little genetic engineers know, how biased they are, and how wrong they can be. My story is just an example."*

**Have the GM potatoes you helped create been approved by the FDA and EPA in the U.S. or indeed elsewhere in the world?**

*"It is amazing that the USDA and FDA approved the GM potatoes by only evaluating our own data. How can the regulatory agencies assume there is no bias? When I was at J.R. Simplot, I truly believed that my GM potatoes were perfect, just like a parent believes his or her children are perfect. I was biased and all genetic engineers are biased. It is not just an emotional bias. We need the GM crops to be approved. There is a tremendous amount of pressure to succeed, to justify our existence by developing modifications that create hundreds of millions of dollars in value. We test our GM crops to confirm their safety, not to question their safety.*

*The regulatory petitions for deregulation are full with meaningless data but hardly include any attempts to reveal the unintended effects. For instance, the petitions describe the insertion site of the transgene, but they don't mention the numerous random mutations that occurred during the tissue culture manipulations. And the petitions provide data on compounds that are safe and don't matter, such as the regular amino acids and sugars, but hardly give any measurements on the levels of potential toxins or allergens.*

*The Canadian and Japanese agencies approved our GMO potatoes as well, and approvals are currently considered in China, South Korea, Taiwan, Malaysia, Singapore, Mexico, and the Philippines."*

**NFU and Defra plan for GM Roundup Ready Crops after Brexit, despite ADAS reporting weed resistance to Roundup**

**Georgina Downs Chairman of Pesticides UK: on the Government's Agriculture Bill after Brexit<sup>64</sup>**

Extracts: *"The long-awaited Agriculture Bill finally made its first appearance this week when it was introduced before Parliament. This is the UK Government's plan on what UK farming will look like post Brexit. There is no reference to the protection of human health or public health in the Agriculture Bill as regards to farmers, the main users of pesticides - despite the DEFRA Consultation that preceded the publication of the Agriculture Bill being called Health and Harmony.*

<sup>64</sup> <https://theecologist.org/2018/sep/14/new-uk-agriculture-bill-triumph-or-travesty>

*The widespread use of pesticides and other toxic chemicals in our existing farming system appears to be the Government's 'elephant in the room' because of DEFRA's reluctance to mention it - let alone focus on it. Therefore, there is no recognition or even any specific reference in the Agriculture Bill - or Mr Gove's statements - to the continued risks associated with the continued use of pesticides and other agrochemicals on crop fields across the UK. Latest Government statistics show that regarding just pesticides alone (i.e. not including chemical fertilisers and all the other agrochemicals used in conventional farming), in 2014 the total area treated with pesticides on agricultural and horticultural crops was 80,107,993 hectares, with the total weight applied 17,757,242 kg."*

Ms Downs has appealed to Theresa May to stop multiple pesticides from being sprayed on rural residents, but she has been silent on the matter.

#### **George Eustice MP, Minister of State for Agriculture, Fisheries and Food was interviewed by the Guardian European Environment Correspondent on 30/05/2016 about Brexit**

'Eustice said: "*The [birds and habitats directives](#) would go,*" (referring to two key pieces of European environmental law). "*A lot of the national directives they instructed us to put in place would stay. 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. A precautionary approach is the right thing to do but it should be based on realistic assessments of risk and not just theoretical hazards,*" he said. "*That is the wrong way to go about it.*" The principle has underpinned bans [on GM foods](#), [neonicotinoid insecticides](#) linked to bee colony declines and [endocrine disrupting chemicals](#)."<sup>65</sup>

#### **Defra is quoted as saying that after Brexit**

*"The most promising crops suitable for introducing to England would be Roundup Ready GA21 glyphosate tolerant crops, which synergises well with herbicides already widely used in the UK. Empowering farmers to use the cutting-edge crop science innovations that are available is certainly one opportunity presented by shifting the responsibility for licencing domestically post-Brexit. Although the blanket spraying of herbicides like Roundup present challenges regarding their impact on the environment and animals, the more obvious solution would be to regulate the technique, not the actual product because it would make that possible."*<sup>66</sup>

**The alleged 'first' glyphosate-resistant weed in Britain has just been reported by scientists from ADAS, the body that endorsed Monsanto's suggestion of spraying pre-harvest glyphosate in 1980** *Poverty brome (Bromus sterilis L.) [sterile or barren brome, syn. Anisantha sterilis (L.) Nevski] is a problematic UK arable weed. There are currently no confirmed cases of glyphosate resistance in any weed species in the United Kingdom or in B. sterilis worldwide... This, coupled with increasing glyphosate use, highlights the need for increased vigilance and monitoring for glyphosate resistance in the United Kingdom.*<sup>67</sup> *Has anyone looked at [Black Grass](#), (Alopecurus agrestis L.)? Herbicide-resistant black grass, first seen in 1982 (only two years after farmers started spraying glyphosate pre-harvest) and is now found on 16,000 farms in 34 counties. This was the reason Guy Gagen gave for an increase in Roundup sprayed between 2012 and 2014.*

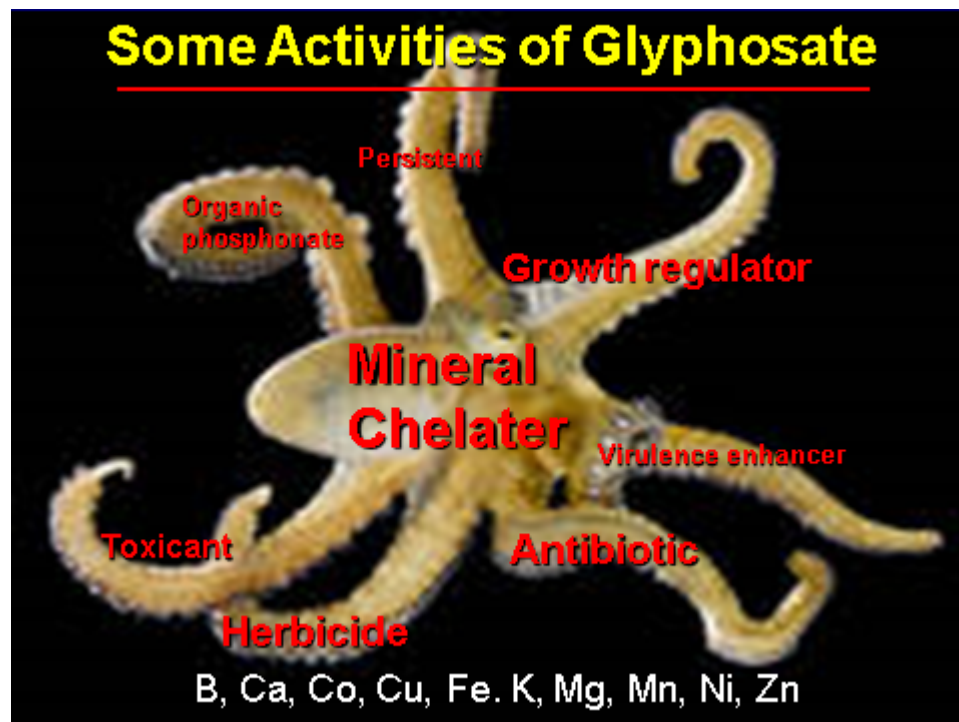
<sup>65</sup> <https://www.theguardian.com/politics/2016/may/30/brexit-spirit-crushing-green-directives-minister-george-eustice>

<sup>66</sup> <https://www.politicshome.com/news/uk/foreign-affairs/brexit/opinion/dods-monitoring/95900/future-food-will-defra-embrace-gmos>

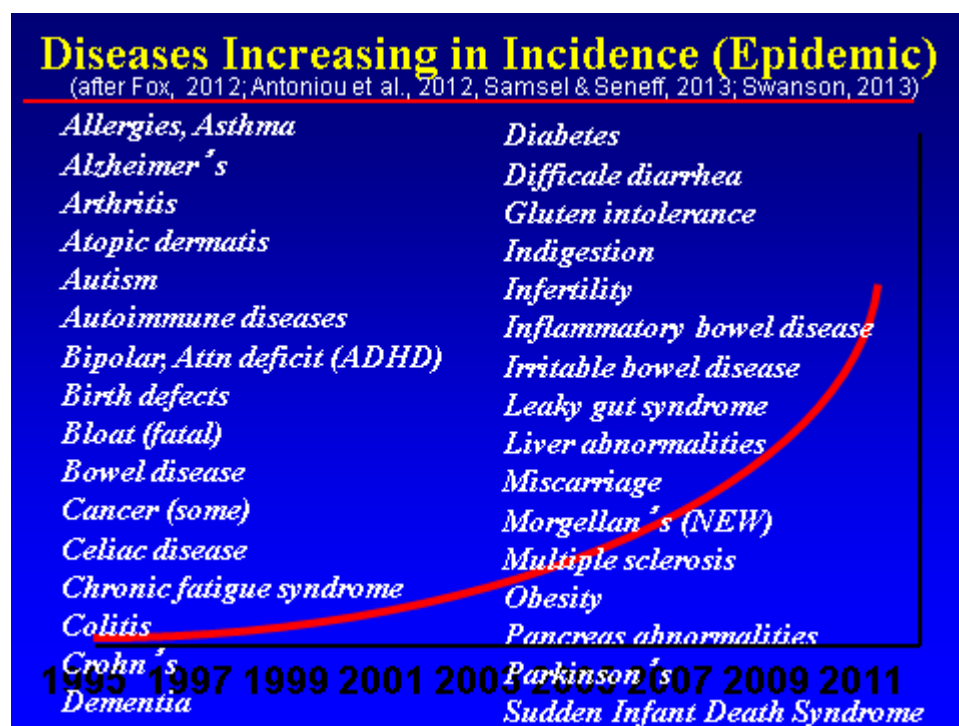
<sup>67</sup> <https://www.cambridge.org/core/journals/weed-science/article/first-cases-of-evolving-glyphosate-resistance-in-uk-poverty-brome-bromus-sterilis-populations/2EC536244FC205586290731EF1BE4593>







Antibiotic-resistant diseases are an apocalyptic threat to humans; but when Monsanto is to blame UK public health doctors, the UK Science Media Centre, the Wellcome Trust, BBSRC and the Media Corporations are unaccountably silent



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

**HSE, Defra and CRD knowingly, and with malice and oppression, assisted Monsanto to commit ecocide in our area**

**Between 2014 and 2017 they refused to ask the Council to stop spraying Roundup on us.**

In 2006, we established a small nature reserve in South Wales. We published two photo-journals in 2010: Speckled Bush Crickets and The Year of the Bumblebee. In 2013, the biodiversity started to decline. We measured glyphosate levels in river water and tap water in August 2013 and August 2014. The Council said they would not stop spraying Roundup unless the HSE instructed them to. On several occasions between February 2014 and October 2017, I wrote to the HSE about Roundup® poisoning our nature reserve and surrounding areas. I told HSE, that in August 2013, the level of glyphosate in the Clyne River draining from areas of Japanese Knotweed spraying was 190 parts per trillion (ppt) and in local tap water it was 30 ppt. Analysis of local tap water in August 2014 revealed a 10-fold increase since August 2013: from 30 ppt to 300 ppt. These levels were of the order of concentrations that in the lab promoted the growth of breast cancer cells. I pointed out that the incidence of breast cancer in the UK was increasing. In 2014 there were 55,222 new cases of invasive breast cancer (and 11,433 deaths). Between 2014 and 2017 HSE refused, saying 'it was still legal.' Now there is little left of biodiversity.

----- Forwarded Message -----

**Subject:**Roundup sprayed in Swansea - CETO/358/16

**Date:**Tue, 20 Dec 2016 11:26:06 +0000

**From:**Dan.Manghai@hse.gov.uk

**To:**rosemary.mason01@btinternet.com

Dear Dr Mason,

Thank you for your emails and attachments of 9 and 19 December to HSE's Chair, Martin Temple, and the one of 14 December to me. Further to my acknowledgement of 9 December I am now writing with a substantive response. The various points you raise have been addressed in previous correspondence between you and HSE or Defra so there is nothing further to add on these. With regard to your key point on the use of glyphosate by Swansea Council, glyphosate is approved as a pesticide active substance in the EU and glyphosate products are authorised for use in the UK. The Council's duty in this case is to use pesticide products which are authorised in the UK and to comply with the rules on use of pesticides. In doing this, it is for the Council to decide how it chooses to control weeds in its area not HSE.

Yours sincerely,

**Dan Manghai**

**Chief Executive, Parliamentary and Secretariat Office  
Health and Safety Executive**

**The Chemicals Regulation Division authorise numerous chemicals that act on neuroreceptors in the brain and spinal cord**

**This is why there is so much violence and knife crime and anger in Britain over Brexit**

These synthetic chemicals act on brains *in utero* and in children and adults. (The chemicals that have been banned by Fera can still be bought on Amazon.) The organo-phosphate, chlorpyrifos; the herbicides, glyphosate, 2,4-D and glufosinate; the neonicotinoid insecticides (thiamethoxam, imidacloprid, thiacloprid, the long-acting clothianidin and acetamiprid.) Monsanto's neurotoxic chemical sweetener aspartame is an addictive, excite-neurotoxic, carcinogenic, genetically engineered drug and adjuvant that damages the mitochondria and interacts with drugs and

vaccines. In 1985 (when Monsanto purchased Searle, that held the patent to aspartame) the late FDA toxicologist, Dr Adrian Gross, confirmed to congress that it was highly neurotoxic (1985, Senate) and that aspartame violated the Delaney Amendment because it caused brain tumors and brain cancer.

The UK was chosen by Monsanto to be the Rapporteur Member State for aspartame. It has been approved for use in Britain since 1982. EFSA also re-evaluated the safety of aspartame in 2013. As a result, it concluded that '*aspartame and its breakdown products are safe for human consumption at current levels of exposure*'. Independent scientist Erik Millstone Professor in Science & Technology Policy, Sussex University sent a 67-page detailed response to the Head of EFSA 'Food Ingredients and Packaging' Unit and the Senior Scientific Officer.<sup>78</sup> He strongly disputed their re-assessment. EFSA ignored his response, just as the US EPA ignored evidence from Dr Betty Martini and Dr John Olney. Aspartame is present in diet fizzy drinks, chewing gum and proprietary medicines for colds, such as Lemsip. Biomonitoring shows that residues of previously authorised chemicals, PCBs, DDTs, Agent Orange and other Dioxins are still found in humans.<sup>79</sup> The genetic mutations that they and glyphosate cause can be passed on to other generations.

### **Independent researchers show glyphosate formulations are highly toxic to the environment *and* destroy human health**<sup>80</sup>

238 Abstracts with Glyphosate formulations in Research

63 diseases researched for glyphosate formulations

29 adverse pharmacological actions researched for glyphosate formulations

23 glyphosate formulations related articles

#### **Glyphosate and chlorpyrifos linked to autism spectrum disorder**

*British Medical Journal* Pesticides and autism

Prenatal and infant exposure to ambient pesticides and autism spectrum disorder in children.

Population based case-control studies 1998-2010.<sup>81</sup> *For autism spectrum disorder with intellectual disability, estimated odds ratios were higher (by about 30%) for prenatal exposure to glyphosate\* (1.33, 1.05 to 1.69), chlorpyrifos\* (1.27, 1.04 to 1.56), diazinon (1.41, 1.15 to 1.73), permethrin (1.46, 1.20 to 1.78), methyl bromide (1.33, 1.07 to 1.64), and myclobutanil\* (1.32, 1.09 to 1.60); exposure in the first year of life increased the odds for the disorder with comorbid intellectual disability by up to 50% for some pesticide substances. **Conclusion** Findings suggest that an offspring's risk of autism spectrum disorder increases following prenatal exposure to ambient pesticides within 2000 m of their mother's residence during pregnancy, compared with offspring of women from the same agricultural region without such exposure. Infant exposure could further increase risks for autism spectrum disorder with comorbid intellectual disability. Those with an asterisk \* are authorised by FERA/Defra.* The amounts of Roundup sprayed by UK farmers on crops has gone from 226,762 kg in 1990 to 2,240,408 kg in 2016, a ten-fold increase. Distribution of glyphosate and aminomethylphosphonic acid (AMPA) is widespread in agricultural topsoils of the European Union.<sup>82</sup>

**The European Chemicals Agency added to that list of toxic effects. They classified glyphosate as a substance that caused severe eye damage and is toxic to aquatic life with long-lasting effects**<sup>83</sup>

<sup>78</sup> <https://www.sussex.ac.uk/webteam/gateway/file.php?name=em-letter-to-efsa-on-aspartame-20feb2013.pdf&site=25>

<sup>79</sup> <http://www.wwf.org.uk/filelibrary/pdf/biomonitoringresults.pdf>

<sup>80</sup> <http://www.greenmedinfo.com/toxic-ingredient/glyphosate-formulations>

<sup>81</sup> <https://www.bmj.com/content/364/bmj.l962>

<sup>82</sup> <https://www.sciencedirect.com/science/article/pii/S0048969717327973>

<sup>83</sup> <https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>

ECHA's harmonised classification of glyphosate formed the basis on which the European Commission relicensed glyphosate for 5 years on December 12 2017.<sup>84</sup>

### Genetically-engineered crops, glyphosate and the deterioration of health in the United States of America<sup>85</sup>

**Abstract:** A huge increase in the incidence and prevalence of chronic diseases has been reported in the United States (US) over the last 20 years. Similar increases have been seen globally. The herbicide glyphosate was introduced in 1974 and its use is accelerating with the advent of herbicide-tolerant genetically engineered (GE) crops. Evidence is mounting that glyphosate interferes with many metabolic processes in plants and animals and glyphosate residues have been detected in both. Glyphosate disrupts the endocrine system and the balance of gut bacteria, it damages DNA and is a driver of mutations that lead to cancer.

In the present study, US government databases were searched for GE crop data, glyphosate application data and disease epidemiological data. Correlation analyses were then performed on a total of 22 diseases in these time-series data sets. The Pearson correlation coefficients are highly significant ( $< 10^{-5}$ ) between glyphosate applications and **hypertension** ( $R = 0.923$ ), **stroke** ( $R = 0.925$ ), **diabetes prevalence** ( $R = 0.971$ ), **diabetes incidence** ( $R = 0.935$ ), **obesity** ( $R = 0.962$ ), **lipoprotein metabolism disorder** ( $R = 0.973$ ), **Alzheimer's** ( $R = 0.917$ ), **senile dementia** ( $R = 0.994$ ), **Parkinson's** ( $R = 0.875$ ), **multiple sclerosis** ( $R = 0.828$ ), **autism** ( $R = 0.989$ ), **inflammatory bowel disease** ( $R = 0.938$ ), **intestinal infections** ( $R = 0.974$ ), **end stage renal disease** ( $R = 0.975$ ), **acute kidney failure** ( $R = 0.978$ ) cancers of the **thyroid** ( $R = 0.988$ ), **liver** ( $R = 0.960$ ), **bladder** ( $R = 0.981$ ), **pancreas** ( $R = 0.918$ ), **kidney** ( $R = 0.973$ ) and **myeloid leukaemia** ( $R = 0.878$ ).

The Pearson correlation coefficients are highly significant ( $< 10^{-4}$ ) between the percentage of GE corn and soy planted in the US and **hypertension** ( $R = 0.961$ ), **stroke** ( $R = 0.983$ ), **diabetes prevalence** ( $R = 0.983$ ), **diabetes incidence** ( $R = 0.955$ ), **obesity** ( $R = 0.962$ ), **lipoprotein metabolism disorder** ( $R = 0.955$ ), **Alzheimer's** ( $R = 0.937$ ), **Parkinson's** ( $R = 0.952$ ), **multiple sclerosis** ( $R = 0.876$ ), **hepatitis C** ( $R = 0.946$ ), **end stage renal disease** ( $R = 0.958$ ), **acute kidney failure** ( $R = 0.967$ ), cancers of the **thyroid** ( $R = 0.938$ ), **liver** ( $R = 0.911$ ), **bladder** ( $R = 0.945$ ), **pancreas** ( $R = 0.841$ ), **kidney** ( $R = 0.940$ ) and **myeloid leukaemia** ( $R = 0.889$ ). The significance and strength of the correlations show that the effects of glyphosate and GE crops on human health should be further investigated.

### Graphs of correlations between certain diseases and Glyphosate and GM crops

On the following pages are a small selection of graphs taken from this paper. They are reproduced by kind permission of Dr Nancy Swanson

<sup>84</sup>

[https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides\\_glyphosate\\_commission\\_proposal\\_final\\_version.pdf](https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_glyphosate_commission_proposal_final_version.pdf)

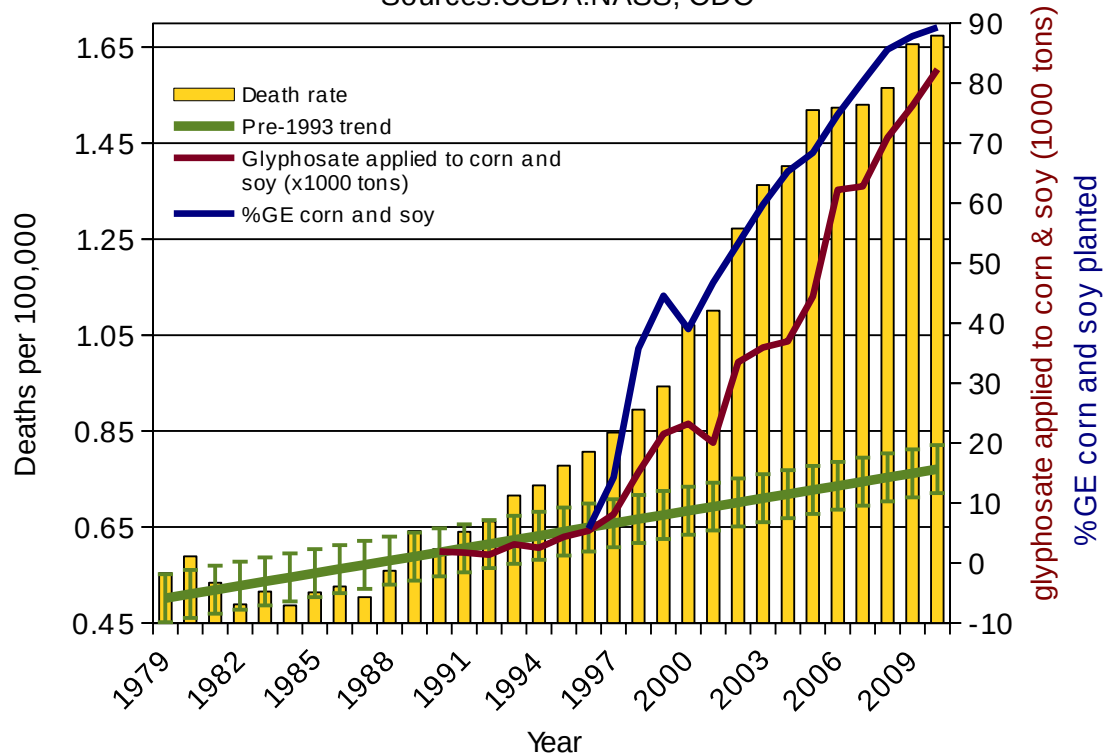
<sup>85</sup> [http://www.organic-systems.org/journal/92/JOS\\_Volume-9\\_Number-2\\_Nov\\_2014-Swanson-et-al.pdf](http://www.organic-systems.org/journal/92/JOS_Volume-9_Number-2_Nov_2014-Swanson-et-al.pdf)



### Age Adjusted Deaths due to Obesity (ICD E66 & 278)

plotted against %GE corn & soy ( $R = 0.9618$ ,  $p \leq 3.504e-06$ )  
and glyphosate applied to corn & soy ( $R = 0.9616$ ,  $p \leq 1.695e-08$ )

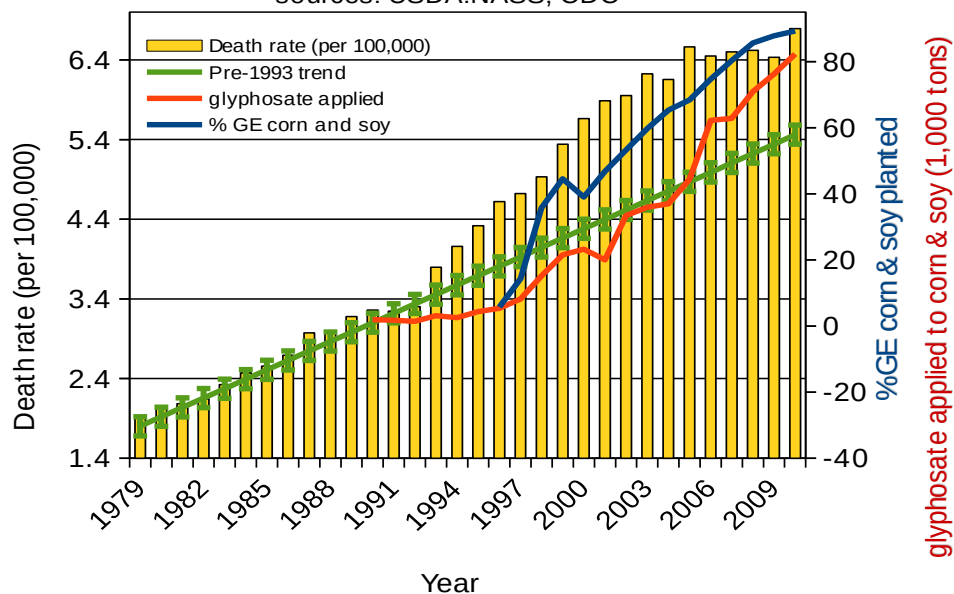
Sources: USDA:NASS; CDC



### Age Adjusted Deaths from Parkinson's disease (ICD G20 & 332.0)

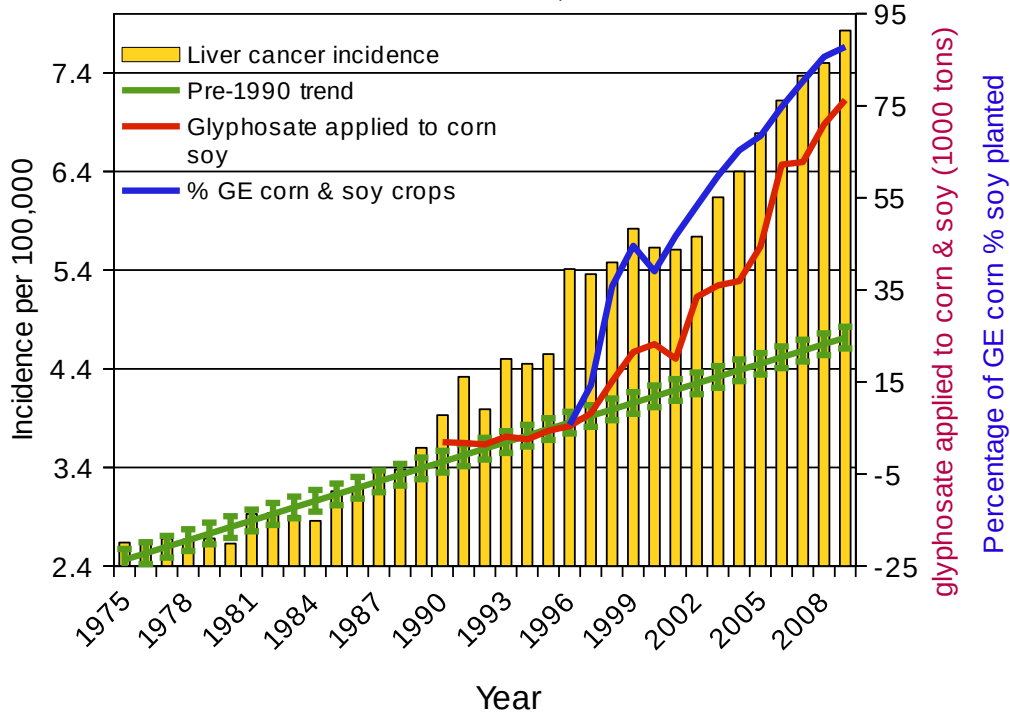
plotted against glyphosate use on corn & soy ( $R = 0.8754$ ,  $p \leq 1.631e-06$ )  
and percent GE corn & soy planted ( $R = 0.9516$ ,  $p \leq 5.398e-06$ )

sources: USDA:NASS; CDC



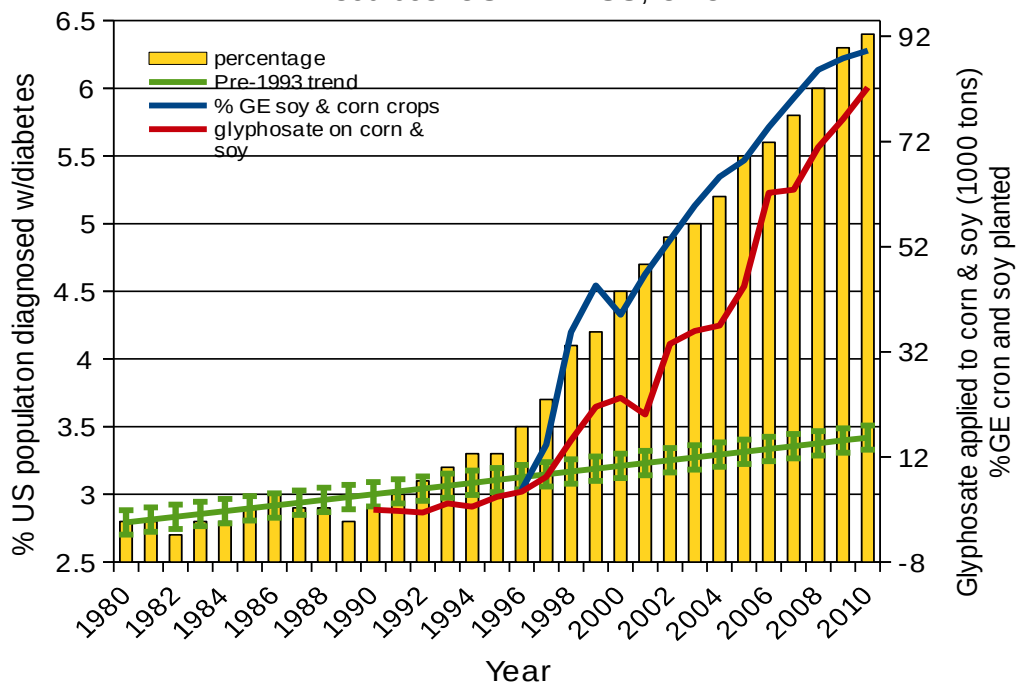
## Liver and Intrahepatic Bile Duct Cancer Incidence (age adjusted)

plotted against glyphosate applied to corn & soy ( $R = 0.9596$ ,  $p \leq 4.624e-08$ )  
along with %GE corn & soy planted in U.S. ( $R = 0.9107$ ,  $p \leq 5.402e-05$ )  
sources: USDA:NAS; SEER



## Prevalence of Diabetes in US (age adjusted)

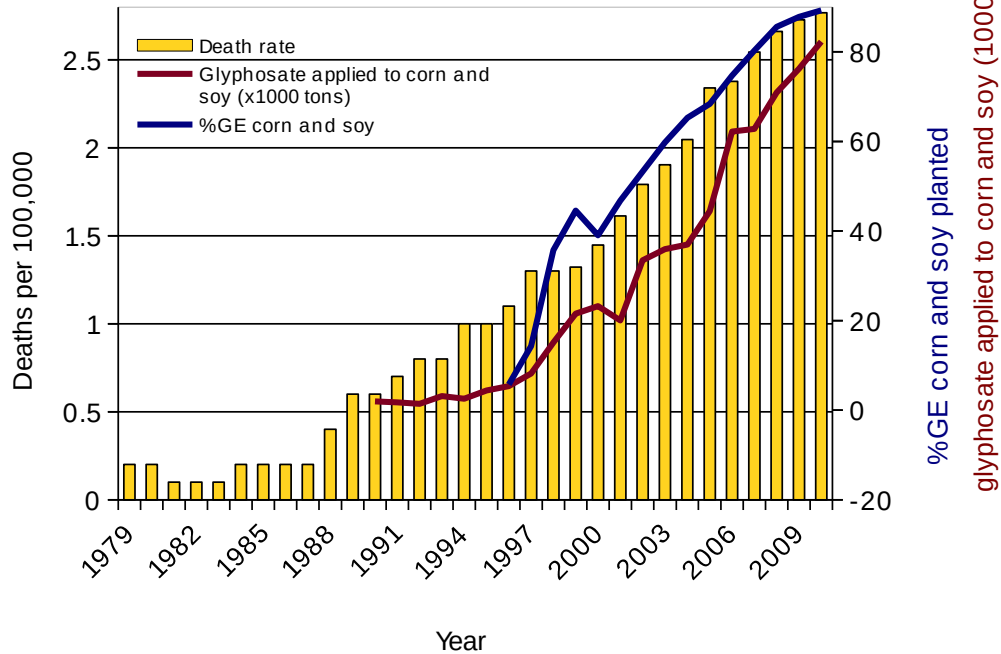
plotted against glyphosate applied to corn & soy ( $R = 0.971$ ,  $p \leq 9.24e-09$ )  
along with %GE corn & soy grown in US ( $R=0.9826$ ,  $p \leq 5.169e-07$ )  
sources: USDA:NASS; CDC



### Age Adjusted Deaths due to Disorders of Lipoprotein Metabolism (ICD E78.5 hyperlipoproteinemia & E78.0 hypercholesterolemia)

plotted against %GE corn & soy ( $R = 0.9549$ ,  $p \leq 4.694 \times 10^{-6}$ )  
and glyphosate applied to corn & soy ( $R = 0.9734$ ,  $p \leq 7.886 \times 10^{-9}$ )

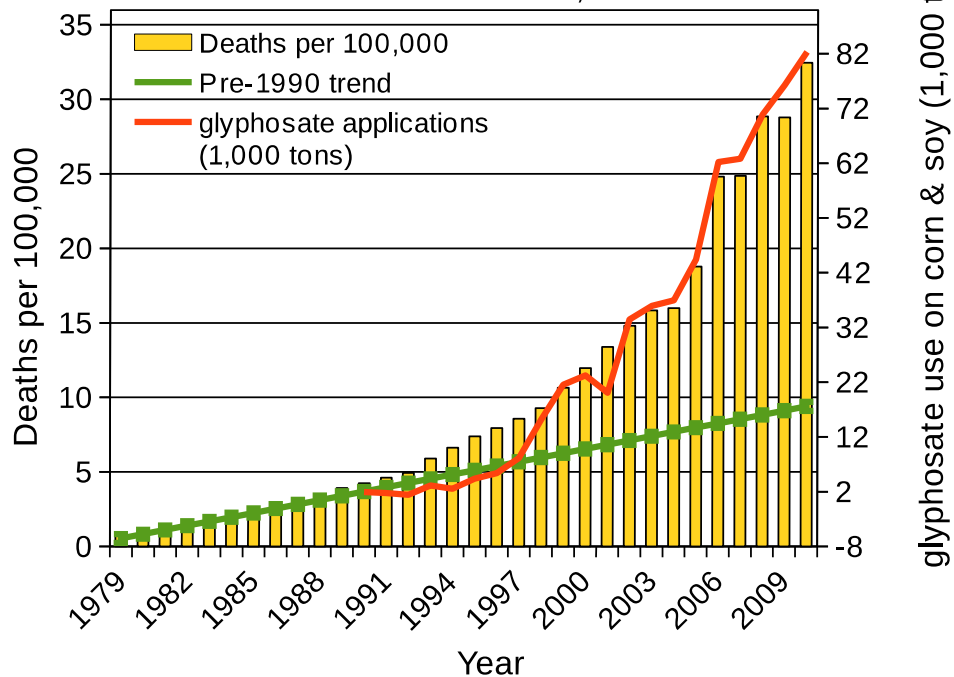
Sources: USDA:NASS; CDC



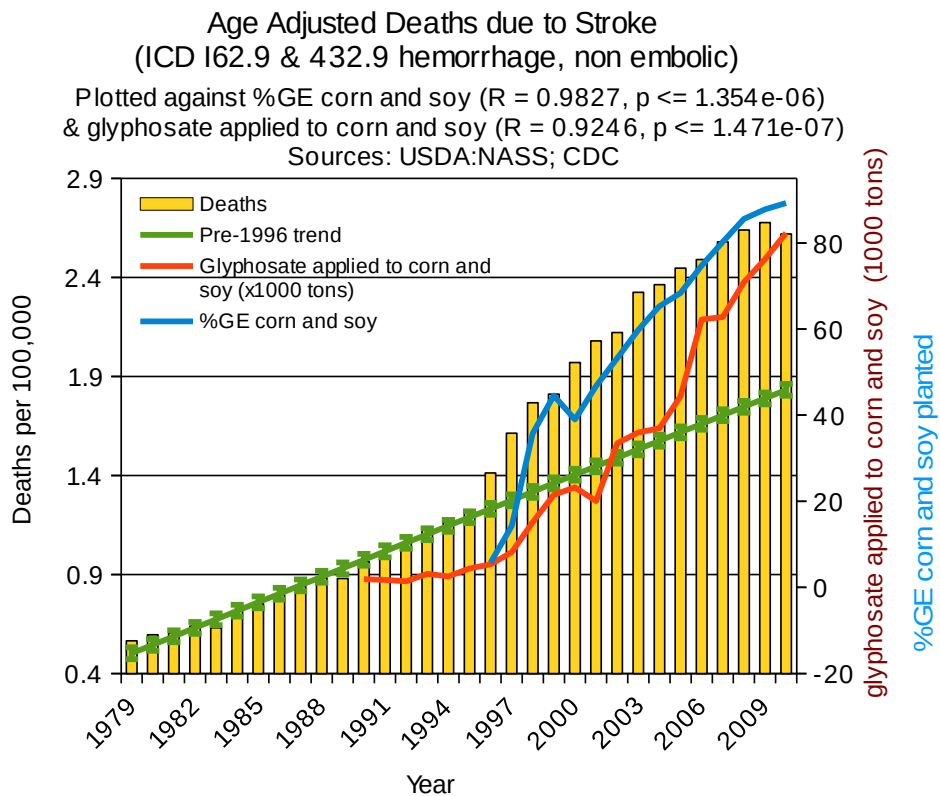
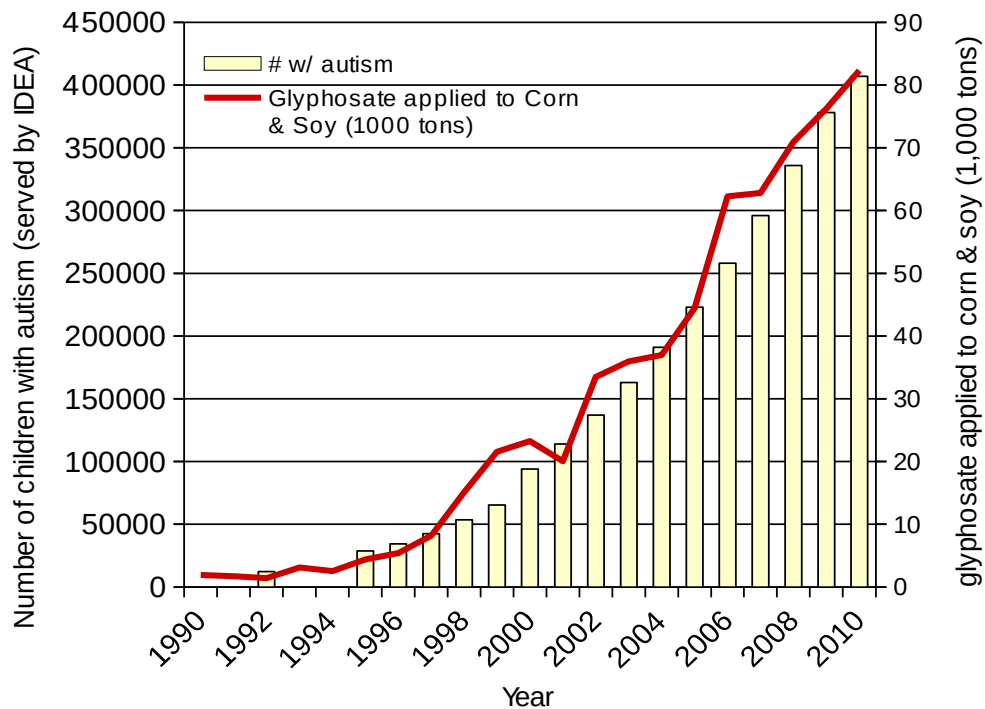
### Age Adjusted Deaths from Senile Dementia (ICD F01, F03 & 290)

Plotted against glyphosate use on corn & soy  
( $R = 0.9942$ ,  $p \leq 1.822 \times 10^{-9}$ )

Sources: USDA:NASS; CDC



Number of children (6-21yrs) with autism served by IDEA  
 plotted against glyphosate use on corn & soy ( $R = 0.9893$ ,  $p \leq 3.629e-07$ )  
 Sources: USDA:NASS; USDE:IDEA



## In contrast, Defra found no safety concerns with glyphosate-based herbicides

According to Defra, 13 March 2018, European Regulatory assessments found no safety concerns that would prevent continuing approval of glyphosate

----- Forwarded Message -----

**Subject:** Request for information - Ref: TO2018/05500

**Date:** Tue, 13 Mar 2018 13:45:53 +0000

**From:** [correspondence.section@defra.gsi.gov.uk](mailto:correspondence.section@defra.gsi.gov.uk) on behalf of Ministerial Contact Unit  
[<correspondence.section@defra.gsi.gov.uk>](mailto:correspondence.section@defra.gsi.gov.uk)

**Reply-To:** Ministerial Contact Unit [<correspondence.section@defra.gsi.gov.uk>](mailto:correspondence.section@defra.gsi.gov.uk)

**To:** [rosemary.mason01@btinternet.com](mailto:rosemary.mason01@btinternet.com)

Dear Ms Mason,

Thank you for your recent emails to Clare Moriarty. I have been asked to reply on behalf of Defra. Pesticide active substances such as glyphosate are assessed at EU level and the European Commission takes the decision on whether each active substance should be approved. Products containing approved active substances are assessed and decisions on authorisation are taken at national level. Applicants for authorisation must show that their products are effective and **have no harmful effects to people or unacceptable effects on the environment**. If their products were to pose such risks, they would not be authorised; or if such effects were discovered later, they would be withdrawn.

As you point out, the European Commission has renewed the approval of glyphosate until December 2022. This followed reviews of the scientific data by the European Food Safety Authority and the European Chemicals Agency's Committee for Risk Assessment. **Those reviews found no safety concerns that would prevent continuing approval.**

Following the Commission decision, the UK and all other Member States will review the authorisations of **every product containing glyphosate to ensure that they meet the current legal requirements and safety standards**. The rules for this review are set out in EU legislation and guidance documents. The review will be carried out by the Health and Safety Executive as the UK competent authority.

Yours sincerely,

Defra

Ministerial Contact Unit

*"If their products were to pose such risks, they would not be authorised; or if such effects were discovered later, **they would be withdrawn.**"*

We have demonstrated toxic effects of glyphosate-based herbicides that the European Glyphosate Task Force did not reveal. **As Defra promised, the authorisation of amenity and private use should be immediately withdrawn.** This information should be conveyed to the UK Media. As France is doing, the agricultural use of glyphosate should be rapidly phased out. Support should only be given to farms that become glyphosate free.

Rosemary Mason MB, ChB, FRCA

2<sup>nd</sup> April 2019



