

Open Letter: Where have all our insects and birds gone?

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Neonicotinoid insecticides, glyphosate and Roundup Ready GM Crops

Last year the *Guardian* published letters from all over the country asking this question. Both the neonicotinoid insecticides and glyphosate (Roundup) herbicide appear to be responsible.¹

The UK government, the NFU, the Farming Minister, the Defra Minister, Defra and the Department of Health are supporting glyphosate and systemic neonicotinoid insecticides. Some UK farmers say it will be impossible to farm without access to these two chemicals. They are voting to grow GM Roundup Ready Crops after Brexit.

Has Monsanto told the truth about GM Roundup Ready crops? Monsanto, Bayer and Syngenta coat their GMO corn seeds with neonics but charge farmers extra for them—even though [studies show](#) that neonic-coated seeds provide no real benefit to farmers.²

ECHA classification of glyphosate 15 March 2017 Helsinki

“ECHA's Committee for Risk Assessment (RAC) agrees to maintain the current harmonised classification of glyphosate as a substance causing serious eye damage and being toxic to aquatic life with long-lasting effects. RAC concluded that the available scientific evidence did not meet the criteria to classify glyphosate as a carcinogen, as a mutagen or as toxic for reproduction.”³

Britain has not only lost insects and birds but salmon and trout as well

ECHA classified glyphosate as toxic to aquatic life with long-lasting effects.

That is why salmon and trout numbers in Rivers in England and Wales are crashing: because of glyphosate and the neonicotinoid insecticides contaminating rivers have wiped out their food supply.

¹ <https://www.theguardian.com/environment/2017/nov/23/where-have-all-our-insects-and-birds-gone#img-1>

² Organic Consumers Association Newsletter 23/01/2018.

³ <https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>

Invertebrate declines in rivers in 2016: a disastrous year for salmon and trout in Wales⁴

Leading fisheries charity, Salmon & Trout Conservation UK (S&TC UK) has brought forward its programme of river invertebrate monitoring on three rivers in Wales to support efforts by Natural Resources Wales (NRW), who are investigating the unprecedented threats facing rivers and salmon stocks in Wales. Shockingly, a recent report identifies that 61 per cent of Wales' water bodies do not meet 'Good Ecological Status' as required under the Water Framework Directive (WFD). Earlier this year, S&TC UK's Riverfly Census in England, revealed that many rivers and chalk streams across the country were in a poor state because of pollution caused by human pressure, ranging from sewage treatment works, septic tanks and agricultural run-off to abstraction and degraded river habitats.

Natural Resources Wales figures show a decline in numbers, with just over 40 declared net catches on the river in 2015 compared to about 115 in 2014. Declared rod catches were down from 300 in 2014 to just over 200 in 2015. An NRW spokesman said the River Teifi salmon shortage was approaching crisis point.⁵ There was an NRW document about the River Usk.⁶ On page 12 it described the problem of another invasive weed, Giant Hogweed (apart from Japanese knotweed in our area). *"Five spray teams are working on the project from Environment Agency Wales (now Natural Resources Wales). Extensive control work has continued in the growing season along the river between Crickhowell and Newbridge-on-Usk since 2006. A number of Forum events have been organised periodically to update and involve local riparian owners and river users on the progress of the project."* This was presumably Roundup/Dakar Pro. Monsanto's contractor Complete Weed Control defends the use of Roundup on aquatic weeds.⁷ *"Although the Environment Agency has banned the use of herbicides in lakes and ponds they can still be used on emergent plants such as bull rushes and lilies."*

Biocides glyphosate and the systemic neonicotinoid pesticides are highly toxic to aquatic life. Instructions for use state that all water bodies should be protected
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."*⁸

Clothianidin (Sumitomo Shield a systemic neonicotinoid insecticide) has been granted registration by 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 ENVIRONMENT⁹
*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.*

⁴ <http://www.salmon-trout.org/river-invertebrates-could-hold-the-key-to-abysmal-state-of-rivers-in-wales/news/403>

⁵ <http://www.bbc.co.uk/news/uk-wales-south-west-wales-39445368>

⁶ http://www.naturalresources.wales/media/679394/2016_updated_usk_catchment_summary_nrw.pdf

⁷ <http://www.completeweedcontrol.co.uk/weed/services/aquaticweedcontrol>

⁸ <http://websvr.infopest.com.au/LabelRouter?LabelType=L&ProductCode=70096>

⁹ http://www.sumitomo-chem.com.au/sites/default/files/pdf/labels/shield_label.pdf

Widespread global contamination with pesticides causing loss of biodiversity

A first hand description of the effects of GM Roundup Ready corn on biodiversity about which Monsanto (aka the Glyphosate Task Force) failed to inform the UK EFSA said that glyphosate was not ecotoxic even though ECHA classified it as such.

Childs, C. *Apocalyptic Planet. Field Guide to the Future of the Earth*.¹⁰

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

Robert Krulwich's blog commented on Craig Child's description:¹¹ "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."¹²

The use of clothianidin (Bayer CropScience) is widespread across Iowa

"Seventy-nine water samples from a network of nine sites across Iowa (U.S.) were collected during the 2013 growing season. Clothianidin was detected most frequently (75%), it is the most heavily used neonicotinoid in Iowa, it has a long soil degradation half-life (545 days) aerobic soil metabolism half-life under a variety of soil conditions was 148-1,155 days."¹³

¹⁰ Childs, C. *Apocalyptic Planet. Field Guide to the Future of the Earth*, New York: Vintage Books (2013).

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

¹² <http://onlinelibrary.wiley.com/doi/10.1111/jawr.12159/abstract>

¹³ <http://ca.water.usgs.gov/pubs/2014/HladikKolpinKuivila2014.pdf>

The former ‘top’ scientist of the European Commission defended the registration of clothianidin, a chemical with a long half-life in soil

According to (EC) 1107/2009 clothianidin should never have been registered in the first place because it failed to the EU criteria for half-life in soil; this should be no greater than 120 days. However, when challenged, Michael Flüh former Head of Unit Pesticides and Biocides for the European Commission defended this. *“The allegation as regards the illegality of the registration of clothianidin is strongly rejected. The assessment of clothianidin, carried out by a Rapporteur Member State (RMS), and peer reviewed by experts from all Member States, concluded that safe uses for this substance exist. The assessment covered the persistence of the substance in soil as well as its toxicity and leaching potential.”* Michael Flüh was a non-scientist.

What happened to Craig Childs was what happened to our small nature reserve in South Wales that we established in 2006

Swansea Council employed Monsanto’s Contractor Complete Weed Control to spray an unmonitored amount of Roundup on Japanese knotweed in woodland close to our reserve. In 2013 we noticed that we were starting to lose moths, butterflies, spiders, beetles and other invertebrates. We sampled river and tap water in 2013 and 2014 and found glyphosate present. In 2016 and 2017 3.5 tonnes of Roundup (Dakar Pro) were sprayed on 3,000 km pavements ward by ward in a ‘war on weeds’ for the ‘benefit of tourists’. We finally lost our dragonflies (=aquatic life: ECHA said glyphosate was classified as toxic to aquatic life with long-lasting effects). From March 2014 we asked the CRD/HSE/Defra to stop the Council from spraying Roundup because it was poisoning our nature reserve. They refused to do so. They said it was still legal. Eventually I was invited to fill in an HSE incident form. This was their reply.

Subject:Concern submitted to HSE

Date:Mon, 13 Nov 2017 12:45:07 +0000

From:noreplyconcerns@hse.gov.uk

To:rosemary.mason01@btinternet.com

Dear Dr Mason,

Thank you for your concern about glyphosate use in Swansea dated 27 October 2017. We have considered the information you have provided and consulted other colleagues in HSE. We will not be investigating as there doesn’t appear to be any breach of legislation enforced by HSE.

You have received HSE’s comments and views about the product and its application in earlier correspondence.

Regards

Concerns Team

Health and Safety Executive

This is a no-reply email account. Replies will not be received at HSE

Loss of biodiversity also correlates surface water pollution with systemic neonicotinoid insecticides that are coated onto GM Crop seeds before planting

“Neonicotinoids, broad-spectrum systemic insecticides, are the fastest growing class of insecticides worldwide and are now registered for use on hundreds of field crops in over 120 different countries. The environmental profile of this class of pesticides indicate that they are persistent, have high leaching and runoff potential, and are highly toxic to a wide range of invertebrates. Therefore, neonicotinoids represent a significant risk to surface waters and the diverse aquatic and terrestrial fauna that these ecosystems support. This review synthesizes the current state of knowledge on the reported concentrations of neonicotinoids in surface waters from 29 studies in 9 countries world-wide in tandem with

published data on their acute and chronic toxicity to 49 species of aquatic insects and crustaceans spanning 12 invertebrate orders.”¹⁴

Global contamination of honey by neonicotinoid insecticides¹⁵

05/10/2017: “We assessed the global exposure of pollinators to neonicotinoids by analyzing 198 honey samples from across the world. We found at least one of five tested compounds (acetamiprid, clothianidin, imidacloprid, thiacloprid, and thiamethoxam) in 75% of all samples, 45% of samples contained two or more of these compounds, and 10% contained four or five. Our results confirm the exposure of bees to neonicotinoids in their food throughout the world.”

Contamination rates were highest in North America with 86% of samples containing one or more neonicotinoid, followed by Asia (80%) and Europe (79%). It was lowest in South America at 57%. Almost half the samples contained a cocktail of the insecticides. “The striking finding is that 75% of our samples had measurable quantities,” said Prof Edward Mitchell at the University of Neuchâtel. “That was surprising to us, since our coverage included many remote areas, including oceanic islands.”

Glyphosate and AMPA are found to be widespread in soils throughout the EU

Britain was cited as having the second most polluted soil, but glyphosate levels are not yet measured in groundwater in the UK. ¹⁶

Glyphosate is found everywhere; why haven’t the British Citizens been informed?

Séralini found glyphosate in rodent diets for testing chemicals used in every continent. Samsel has found glyphosate present in the keratin proteins of humans and animals, in **vaccines**, baby milk formulations, pet foods and rat feeds for experimental purposes. It has been found in sanitary products made from GM cotton. All processed foods including orange juice; beers, breakfast cereals, bread, wine; all non-organic vegetables including potatoes. In March 2016 a survey of more than 2009 German citizens tested showed that more than 99% had glyphosate in their urine and the highest levels were in children and young adults and those that were meat eaters. ¹⁷ Glyphosate was found to be persistent in seawater off the Great Barrier Reef.¹⁸ It was also found in the islands of Hawai’i where the agrochemical industry undertakes testing of GM crops, which the people of Hawai’i don’t want. ¹⁹ “The most commonly tested GE “trait” is herbicide-resistance (82% of field releases over the past two years), which permits heavier and more frequent spraying of herbicides than is otherwise possible (3.2 & 3.4). Hawai’i’s incredible biodiversity and many threatened and endangered species are at risk from intensive pesticide use on the Islands. “

Le Monde (France) informs the French people the truth about pesticides

“French government ministers are so concerned by the findings (of Séralini’s study) that they have asked its National Agency for Health Safety to investigate and say that if necessary will suspend imports of the GM maize.”

Le Monde investigative journalists Stéphane Foucart and Stéphane Horel contributed revelations about Monsanto emails to **The Monsanto Papers** part of Baum Hedland’s evidence in the trial against Monsanto for Roundup causing cancer.

In November 2017 *Le Monde* won the Prix Varenne for their series of articles, the *Monsanto Papers*, an investigation on the world wide war the Monsanto Corporation

¹⁴ <https://www.ncbi.nlm.nih.gov/pubmed/25454246>

¹⁵ http://www.sciencemagazinedigital.org/sciencemagazine/06_october_2017?pg=111#pg111

¹⁶ <http://www.sciencedirect.com/science/article/pii/S0048969717327973>

¹⁷ <http://www.lifegate.com/people/lifestyle/glyphosate-almost-all-germans-intoxicated>

¹⁸ <http://www.sciencedirect.com/science/article/pii/S0025326X14000228>

¹⁹ http://www.centerforfoodsafety.org/files/pesticidereportfull_86476.pdf

started in order to save glyphosate: it included intimidating letters to Dr Margaret Chan the then Director-General of the World Health Organisation and individual scientists in the International Agency for Research into Cancer.

How Thatcher and Murdoch made their secret deal²⁰

Harold Evans former Editor-in-Chief of the Sunday Times wrote in the Long Read: *“Documents released by the **Thatcher Archive Trust**, now housed at Churchill College, Cambridge, give the lie to a litany of Murdoch-Thatcher denials about collusion during the bidding for Times Newspapers.*

The fact that they met at all, on 4 January 1981, was vehemently denied for 30 years. Since their lie was revealed, it has been possible to uncover how the greatest extension of monopoly power in modern press history was planned and executed with such furtive brilliance.

*All the wretches in the subsequent hacking sagas – the predators in the red-tops, the scavengers and sleaze merchants, the blackmailers and bribers, the liars, the bullies, the cowed politicians and the bent coppers – were but the detritus of a collapse of integrity in British journalism and political life. At the root of the cruelties and extortions exposed in the recent criminal trials at the Old Bailey, was Margaret Thatcher’s reckless engorgement of the media power of her guest that January Sunday. The simple genesis of the hacking outrages is that Murdoch’s News International came to think it was above the law, because it was. ...Murdoch was able to acquire **both publications in 1981** only because he began making solemn pledges that he would maintain the tradition of independence. He broke every one of those promises in the first years.”*

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.”²¹*

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.²²

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.

²⁰ <https://www.theguardian.com/uk-news/2015/apr/28/how-margaret-thatcher-and-rupert-murdoch-made-secret-deal>

²¹ <https://www.rspb.org.uk/our-work/stateofnature2016/>

²² <https://www.theguardian.com/environment/2017/oct/18/warning-of-ecological-armageddon-after-dramatic-plunge-in-insect-numbers>

Widespread contamination of British Rivers with neonicotinoid insecticides ²³

Buglife's new Report (December 2017) was based on the results of monitoring carried out in 2016 by the Environment Agency as part of Britain's responsibilities under the EU Water Framework Directive. Suffolk naturalists have described as "deeply troubling" the revelation that the River Waveney is the most neonicotinoid-contaminated watercourse of any in the UK that have been monitored for the presence of the highly controversial insecticide. Suffolk's leading nature experts told of their concerns over the "pervasive" and "damaging" chemicals that are often known as "neonics" and which are widely referred to as "bee-harming" pesticides.

"They also present a threat when applied to non-flowering crops as much of the chemical is not taken up by the crop but leeches into the soil to be taken up by nearby wild plants or heads into water courses and ultimately rivers. Many freshwater invertebrates are sensitive to neonicotinoids - in laboratory tests mayflies and caddisflies start to die off at levels of pollution ten times less than those found at the worst peaks in the River Waveney. Invertebrates are the founding blocks of nature - pollinators for wild flowers and crops as well as food source for birds, bats, fish and other vertebrates. In countries as far apart as the United States, Japan, Holland and France there is evidence that neonicotinoids are impacting on birds both through direct poisoning of treated seed and indirect effects through reductions in insect populations."

Evaggelos Vallianatos wrote about annihilation of the natural world²⁴

Vallianatos worked for the US Environmental Protection Agency for 25 years and then became a whistle blower. He wrote a book in 2014: *Poison Spring: The Secret History of Pollution and the EPA*. He now writes regularly in the US Huffington Post.

"At home, factory farming and its sprays and genetic engineering of crops are altering the very nature of our food and agriculture. Giant companies are converting rural America to their private fiefdom. Where is a bird, monarch butterfly or honeybee supposed to find food when thousands upon thousands of acres of land are growing bioengineered corn or soybeans and poisons flood the land?"

Gerardo Ceballos (National Autonomous University of Mexico), Paul R. Ehrlich and Rodolfo Dirzo (Stanford University), distinguished biologists, speak of a severe sixth mass extinction wiping out countless vertebrate animals (mammals, birds, reptiles, and amphibians) and plants. Indeed, they emphasize the seriousness of the destruction of animals going on all over the world by speaking about the population extinction pulse, that is, biological annihilations of vertebrate animals caused by human activities. These economic activities include taking forests and land away from animals for plantations and fracking the land for petroleum and natural gas and for golf courses and mega cities; overexploitation of land, forests, mountains, deserts; overfishing the seas; ceaseless poisoning of the environment. Disease, human overpopulation, continuing population growth, overconsumption, particularly by the rich, and a probable "large-scale nuclear war" also threaten the natural world.

These scientists warn that planetary destruction of vertebrate animals "will itself promote cascading catastrophic effects on ecosystems, worsening the annihilation of nature... while the biosphere is undergoing mass species extinction, it is also being ravaged by a much more serious and rapid wave of population declines and extinctions.... Humanity will eventually pay a very high price for the decimation of the only assemblage of life that we know of in the universe."

On 10 June 2017 he wrote about the US EPA poisoning honeybees with chemical and

²³ <http://www.eadt.co.uk/ea-life/buglife-study-highlights-neonicotinoid-impact-on-uk-rivers-1-5328530>

²⁴ http://www.huffingtonpost.com/entry/annihilating-the-natural-world_us_596a9443e4b022bb9372b23a

biological weapons:²⁵ *A weed killer like glyphosate (roundup) devastates life in the soil, killing the bacteria that make the crops healthy and enhances the power of the bad bacteria giving disease to crops: But the chemicals that cause outright destruction to honeybees are the so-called neonicotinoids, products of the giant German company Bayer. Neonicotinoids or neonics are terrible nerve and brain poisons. They decimate honeybees.*

Corporate greed is poisoning food and destroying biodiversity 26/12/2017²⁶

Vandana Shiva trained as a physicist but she has fought for the rights of small farmers in India tells an identical story of corporate poisoning as 2017 transitions into 2018: *“Two decades of corporate driven globalisation has destroyed the biodiversity and cultural diversity of our indigenous food systems.*

*The ecological crisis, the agrarian crisis, the food crisis, the health and nutrition crisis, the crisis of democracy and sovereignty are not separate crises. **They are one.** And they are connected through food. The web of life is a food web. When it is ruptured by chemicals and poisons that come from war, and rules of “free trade” that is a war declared by corporations against the earth and humanity, biodiversity is wiped out, farmers are killed through debt, and people die either because of hunger or because of cancer, diabetes, heart problems, hypertension and other environment and food related chronic diseases.*

Everyone is paying a very high price for corporate greed and dictatorship and collusion of corporate states to spread the toxic empire of corporations in the name of “reforms”.

Emerging pathogens wipe out wildlife species across the globe secondary to immune suppression

Emerging pathogens as threats to animal and plant health

Outbreaks of infectious diseases amongst species of wildlife around the world (such as amphibians, honey bees and wild bees, fish, birds and bats) have occurred over the last 25 years. Kiesecker (2002) found that atrazine (herbicide) and malathion (pesticide) made frogs more susceptible to a parasite, a burrowing trematode worm, which caused limb deformities in tadpoles.²⁷ Field experiments conclusively demonstrated that exposure to trematode infection was required for the development of limb deformities in wood frogs, *Rana sylvatica*. Even very low levels of exposure (*“at concentrations considered safe for drinking water by the US Environmental Protection Agency”*) could produce *“dramatic effects on the immune response of the animals”*. Field studies showed *“considerably higher rates of limb deformities where there was pesticide exposure... Amphibian deformities, in particular those related to limb development, have now been reported in 43 states in the U.S. and in five Canadian Provinces, as well as in several other countries around the world.”*²⁸

Since the late 1990's scientists have written in increasingly desperate tones. In 2012 there were two papers in *Nature*: *“Biodiversity loss and the impact on humanity”*²⁹ and *“Emerging fungal threats to animal, plant and ecosystem health”*.³⁰ Authors of this last review had appealed to scientists urgently to find *‘the elusive magic bullet.’* Only one

²⁵ https://www.huffingtonpost.com/entry/toxic-morality-is-killing-honeybees_us_593c867fe4b0b65670e56b21

²⁶ <http://www.asianage.com/opinion/oped/261217/food-sovereignty-is-need-of-the-hour.html>

²⁷ <http://www.pnas.org/content/99/15/9900.full.pdf>

²⁸ [http://onlinelibrary.wiley.com/doi/10.1002/1096-9926\(200009\)62:3%3C147::AID-TERA2%3E3.0.CO;2-2/full](http://onlinelibrary.wiley.com/doi/10.1002/1096-9926(200009)62:3%3C147::AID-TERA2%3E3.0.CO;2-2/full)

²⁹

http://www.nature.com/nature/journal/v486/n7401/full/nature11148.html?WT.ec_id=NATURE-20120607

³⁰ <http://www.ncbi.nlm.nih.gov/pubmed/22498624>

other (in addition to Kiesecker's) paper from California dared to mention pesticides. Davidson *et al.*³¹ reported in 2002 spatial patterns of decline for four California ranid frogs and matched the declines with the distribution of agricultural lands (based on USGS land use maps and key predominant wind directions based on California Air Resources streamline wind maps). The authors stated that "*In California, the transport and deposition of pesticides from the agriculturally intensive Central Valley to the adjacent Sierra Nevada is well documented, and pesticides have been found in the bodies of Sierra frogs.*" The widespread use on agricultural crops of the systemic neonicotinoid insecticides³² and the herbicide glyphosate,³³ both of which cause immune suppression, make species vulnerable to emerging infectious pathogens, driving large-scale amphibian extinctions.

Chytrid fungus has wiped out amphibian populations over five continents.

Chytrid fungus, *Batrachochytrium dendrobatidis* has wiped out amphibian populations over five continents. A spokesman for IUCN said: "*The IUCN Red List currently considers 31% of the earth's amphibians are threatened with extinction...it's thought that 159 species have vanished forever in recent years.*" Amphibians, particularly tadpoles, are considered to be environmental indicators of indirect ecosystem effects because of their unique niche at the boundary of the aquatic-terrestrial ecosystems as well as their sensitivity to pollutants. While tadpoles feed on periphyton, adult amphibians are strictly insectivorous. Amphibians were the first group of vertebrates to be affected by the epidemics of diseases caused by uncommon pathogens. Joseph Mendelson an amphibian taxonomist wrote in 2011.³⁴ "*The reality of amphibian declines and extinctions has shifted the ecological baseline in so many ecosystems, that an entire generation of biologists is conducting their research in a framework that has been very recently remodelled. I am a taxonomist and I have seen my career vacillate between the thrill of discovering new species and the chill of tracking extinction events—including species that I described.*"

Monsanto says Roundup is toxic to plants, bacteria and fungi

Professor Suzanne Simard works at the University of British Columbia. In 1997, Simard was part of a team of researchers that discovered that trees were connected to one another through an underground web of mycorrhizal fungi. This network allows trees to communicate by transferring carbon, nutrients and water to one another.³⁵ In the US Roundup is frequently used in forests for killing unwanted vegetation before replanting.

Massive declines in Monarch Butterfly numbers due to Roundup³⁶

The NRDC Report in February 2015: "*Recently, though, a dramatic change in farming practices—the widespread cultivation of genetically engineered, glyphosate-resistant Roundup Ready corn and soybeans—has triggered a precipitous decline of common milkweed, and thus of monarchs. Glyphosate, sold by Monsanto under the name of Roundup, is one of the very few herbicides that is effective on milkweed. Unlike many other weedkillers, once absorbed it is translocated (moved internally) to root tissue, where it kills milkweed at the root and so prevents regeneration. Glyphosate is particularly lethal to milkweed when used in conjunction with Roundup Ready crops. It is applied more*

³¹ <http://onlinelibrary.wiley.com/doi/10.1046/j.1523-1739.2002.01030.x/abstract>

³²

http://www.boerenlandvogels.nl/sites/default/files/JEIT%20Immune%20Suppression%20pdf_6.pdf

³³ http://www.fs.fed.us/foresthealth/pesticide/pdfs/seratr01_43_08_04.pdf

³⁴ http://nationalzoo.si.edu/support/volunteer/documents/HR_Mar2011_JoeM_proofs.pdf

³⁵ <http://www.forestry.ubc.ca/2011/05/prof-suzanne-simard-talks-about-mother-trees/>

³⁶ https://www.centerforfoodsafety.org/files/cfs-monarch-report-2-4-15-design_05341.pdf

frequently, at higher rates, and later in the season—during milkweed’s most vulnerable flowering stage of growth—than when used with traditional crops. The increasingly common practice of growing Roundup Ready crops continuously on the same fields means that milkweed is exposed to glyphosate every year, with no opportunity to recover.”

Birth defects in animals in Montana correlates with glyphosate usage on crops and with birth defects in humans

A recent study by Hoy *et al.* found alarming increases in congenital malformations in wildlife in Montana that Hoy has been documenting for the past 19 years. Similar birth defects have occurred in humans in the USA. Their graphs illustrating human disease patterns over the twelve-year period correlate remarkably well with the rate of glyphosate usage on corn, soy and wheat crops, which has increased due to “Roundup® Ready” crops. While the animals’ exposure to the herbicide is through food, water and air, the authors believe that human exposure is predominantly through food, as the majority of the population does not reside near agricultural fields and forests. They conclude: *“Our over-reliance on chemicals in agriculture is causing irreparable harm to all beings on this planet, including the planet herself. Most of these chemicals are known to cause illness, and they have likely been causing illnesses for many years. But until recently, the herbicides have never been sprayed directly on food crops, and never in this massive quantity. We must find another way”*.³⁷

Congenital anomalies have increased in the UK

Even though GM Roundup Ready crops haven’t yet been introduced into the UK, there is evidence that congenital anomalies have increased either from glyphosate residues in food (since 1980) or exposure of the foetus to chemicals.

Deaths from in the under 5s in the UK are twice those of Sweden³⁸ and the three main causes are prematurity, congenital malformations and infections. The mortality rates for the three main causes of death in the UK (prematurity, congenital malformations and infections) were 138.5, 112.1 and 63.9, respectively, per 100 000 children for the three years 2006-2008. The mortality rates for the same three conditions in Sweden were 10.1, 88.6 and 34.8, respectively.

Congenital anomalies were also mentioned as having increased in the UK Global Burden of Disease Study 1990-2010.³⁹

British Government in the hands of the pesticides industry

World Health Organisation’s International Agency for Research on Cancer (IARC) has declared glyphosate as a 2A carcinogen (probably carcinogenic in humans)

On 20/03/2015 IARC reached its decision based on the view of 17 experts from 11 countries, who met in Lyon, France, to assess the carcinogenicity of 5 organophosphate pesticides: tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate.⁴⁰

However, in the IARC Monograph Volume 112 20/03/2015⁴¹ it says it has no legal power to ban glyphosate. *“The Monographs Programme provides scientific evaluations based on a comprehensive review of the scientific literature, but it remains the*

³⁷ <http://www.esciencecentral.org/journals/the-high-cost-of-pesticides-human-and-animal-diseases-2375-446X-1000132.php?aid=56471>

³⁸ <http://adc.bmj.com/content/early/2015/07/15/archdischild-2014-308059>

³⁹ <http://www.ncbi.nlm.nih.gov/pubmed/23668584> UK health performance: findings of the Global Burden of Disease Study 2010

⁴⁰ [http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045\(15\)70134-8.pdf](http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045(15)70134-8.pdf)

⁴¹ <http://www.iarc.fr/en/media-centre/iarcnews/pdf/MonographVolume112.pdf>

responsibility of individual governments and other international organizations to recommend regulations, legislation, or public health intervention.”

Monsanto, the Glyphosate Task Force, the European Commission, the European Food Safety Authority and European Chemicals Agency challenged this

21 March 2016: Question asked by The Countess of Mar in the House of Lords about glyphosate⁴²

The Countess of Mar: To ask Her Majesty’s Government, in the light of the European Union Ombudsman’s finding of maladministration by the European Commission over pesticides, published on 22 February, and given that several EU countries including France, the Netherlands and Sweden have indicated that they will not support an assessment by the European Food Standards Agency (EFSA) that glyphosate is harmless, whether they support the EFSA view that that chemical should receive a licence for a further 15 years.

Baroness Chisholm of Owlpen (Con) (Replying on behalf of Lord Gardiner of Kimble, the Defra spokesperson for the HOL): *“My Lords, the Government support pesticide use where scientific evidence shows that this is not expected to harm people or to have unacceptable effects on the environment. UK experts participated in the European Food Safety Authority’s assessment of glyphosate and support its conclusions particularly that glyphosate does not cause cancer.”*

Question asked by The Countess of Mar in the House of Lords about the Defarge Paper and heavy metals found in glyphosate-based herbicides 22/01/2018⁴³

“To ask Her Majesty’s Government what assessment they have made of the findings of Defarge et al in Toxicity of formulants and heavy metals in glyphosate-based herbicides and other pesticides published in Toxicology Reports, volume 5, about the use of so-called inert ingredients in those chemical formulations.”

Lord Gardiner of Kimble (Con) (The Defra spokesperson in the HOL).

“The paper by Defarge et al studied the effects of glyphosate (and other active substances) and of a number of other components of pesticide formulations. It concludes that the effects of those other components are greater than the effects of glyphosate and suggests a need to assess the impacts of pesticide products.

The current system for regulating pesticides does assess the impacts of both active substances and formulated products. The assessment and decision making for active substances is carried out at [EU](#) level; the equivalent process for products takes place nationally. This means that the potential impacts of each product are assessed; it is not assumed that a product is safe simply because the active substances it contains have been approved. The EU is also developing a list of chemicals which will be prohibited from use in pesticide products. The review of glyphosate raised some concerns over the inclusion of [POE](#) tallowamines in formulated products. In [August 2016](#), the [European Commission](#) therefore instructed [Member States](#) to require the removal of these chemicals from glyphosate products. [The UK](#) has implemented this requirement.

[The Commission](#) decided in [December 2017](#) to approve glyphosate for continuing use until [December 2022](#). Following that decision the UK and other Member States will review the product authorisations of all herbicides containing glyphosate. This review will take account of the relevant data on the properties of the products, as well as the properties of glyphosate as the active substance. Product authorisations will only be renewed if the

⁴² <http://www.publications.parliament.uk/pa/ld201516/ldhansrd/text/160321-0001.htm>

⁴³ <https://www.theyworkforyou.com/wrans/?id=2018-01-08.HL4486.h&p=12904>

assessment of the scientific evidence concludes that the formulated product will not harm people or pose unacceptable risks to the environment.”

Comment: Lord Gardiner has been given a fraudulent statement by Defra staff. The links look convincing, but those links are all to Wikipedia! Where is the evidence that the UK had implemented the EU’s instructions to remove POE tallowamines in August 2016? Is it likely that Monsanto’s contractor Complete Weed Control would throw away the Dakar Pro (Roundup) that they were spraying on the streets of Swansea? It is unlikely.

Other occasions when Britain didn’t obey European Legislation

Although atrazine (Syngenta) was banned in the EU in 2004, it was still used in Britain 4 years after that.⁴⁴ In 2008, illegal levels of atrazine >0.1µg/l were found in more than 25% of groundwater monitoring sites in the UK.⁴⁵ The Environment Agency Groundwater Database had recorded a maximum concentration of atrazine of 13.04µg/l. That is 130 times the EU legal limit for groundwater (2004/248/EC).⁴⁶

The Countess of Mar also chaired a meeting of the All-Party Parliamentary Group (APPG) on Agroecology in the Houses of Parliament in London on June 18, 2014

To discuss the harm caused by the world’s most popular herbicide – Roundup®. People from all round the world met to listen to four experts. The first expert to speak was Dr Don Huber, Plant scientist, Emeritus Professor Purdue University. He produced two crucial slides of facts about glyphosate.

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

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

Alzheimer’s disease, Dementia, Autism, ADHD Bipolar, Diabetes (Type 2) Multiple sclerosis, Motor-neurone Disease, Obesity, Stroke, Hypertension, Cataracts & eye diseases, Inflammatory bowel disease, Birth defects, Colitis, Crohn’s disease Hypercholesterolaemia, Allergies, asthma, Atopic dermatitis, Miscarriage/ infertility, Renal disease/failure, Liver abnormalities, Coeliac disease, Gluten intolerance, Pancreatic abnormalities, Autoimmune diseases, Arthritis and **cancers**.

The meeting wasn’t reported by the UK Corporate Media.

Chemical Concern published 23/02/2015: Incriminating sheep dip poisoning: Health & Safety Executive Report (1990) – officially destroyed –but has now been revealed ⁴⁷

Farmer Tom Rigby, Sheep Dip Sufferers’ Support Group, requested a FoI. He said: “*The information I want is HSE advice given to the government minister just before he decided to abandon compulsory dipping and the science behind and date of a government order that Ministry of Agriculture, Fisheries and Food inspectors must not go within 14ft of a sheep dip.*” The HSE responded to the FoI request by telling Mr Rigby: “*The information*

⁴⁴ <https://secure.fera.defra.gov.uk/pusstats/index.cfm>

⁴⁵ http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/P/Pesticides_Forum_Oct_2008_WFD.pdf

⁴⁶ <http://nora.nerc.ac.uk/14557/1/OR11013.pdf>

⁴⁷ <https://politicalcleanup.wordpress.com/2015/02/23/secret-state-14-incriminating-sheep-dip-poisoning-hse-report-officially-destroyed-has-now-been-revealed/>

you requested is no longer held by the Health & Safety Executive, having been destroyed in accordance with HSE's corporate retention policy". A 'well-wisher' sent a copy to Mr Rigby.

Organophosphate Sheep Dip Debate 10 June 2015 Westminster Hall

Jessica Morden MP spoke on behalf of Andy Burnham ⁴⁸ "We want a full inquiry, independent of [DEFRA](#), to allow us to question why farmers might have been compelled to use this chemical with no guidance if governmental research pointed to health impacts. Was compulsory dipping stopped because [MAFF](#) knew it was affecting farm workers' and farmers' health? If so, why did it not say so? We need an answer to that question in particular." Labour MP Andy Burnham said: "Farmers who allegedly suffered as a result of organophosphate (OP) sheep dip poisoning are entitled to a 'Hillsborough-style disclosure' of the truth."

Organophosphate pesticides have in theory been banned

The total area treated with the insecticide Chlorpyrifos (Dow Agro Science) by UK farmers in 2015 was 107,739 ha. The US EPA banned Chlorpyrifos until Trump came along. Because Dow contributed to Trump's campaign, Scott Pruitt, the new Head of the EPA was told to unban it. The *Washington Post* wrote an article about why that happened when the EPA said it was a dangerous chemical.⁴⁹ "On March 29, Scott Pruitt, the new head of the Environmental Agency, denied a petition asking for a ban on the use of an insecticide called Chlorpyrifos. The petitioners, Pesticide Action Network and the Natural Resources Defense Council, cited studies that show that Chlorpyrifos can have serious health consequences, such as damaging the nervous system of infants and children. It had already been banned by the US EPA. Chlorpyrifos belongs to the same chemical family as sarin nerve gas and works by attacking the nervous system. Epidemiological evidence suggests that Chlorpyrifos can cause brain damage in children and even to the unborn. A California study found that pregnant women who lived near fields where Chlorpyrifos was sprayed were three times more likely to give birth to a child who would develop autism."⁵⁰

The Department of Health is working with EFSA

I wrote to Minister of Health Jeremy Hunt to tell him the NHS was failing because both the staff and patients were eating food poisoned with glyphosate.

DoH reply (Our ref: DE-1014811).

*Extracts: "The substance is currently being reviewed under the auspices of the European Food Safety Authority (EFSA). The Department of Health is working in collaboration with the Commission and other member states on this review.... **The EFSA's review focused on glyphosate itself, while the IARC focused on products containing glyphosate. The EFSA does not look at all glyphosate products because this assessment will be carried out by member states.** If, following completion of the full review, approval is renewed by the Commission, the Department (of Health) will re-assess all the products which contain glyphosate and will only authorise them if they too continue to meet the required standards of safety. If approval is not renewed, all glyphosate products will have to be withdrawn from the market. I hope this reply is helpful."*

Does the Department of Health have any experience at assessing the safety of chemicals or will they rely on the European Glyphosate Task Force to do it for them?

⁴⁸ <https://www.theyworkforyou.com/whall/?id=2015-06-10a.130.0>

⁴⁹ https://www.washingtonpost.com/news/monkey-cage/wp/2017/04/12/why-did-scott-pruitt-refuse-to-ban-a-chemical-that-the-epa-itself-said-is-dangerous/?utm_term=.69f9c19fc02b

⁵⁰ <https://www.scientificamerican.com/article/autism-risk-higher-near-pesticide-treated-fields/>

Farming with chemicals: the UK government is presumably unaware of the dangers to human health and the environment

The Pesticide Conspiracy: even in the 1970s the Agricultural Industry was given massive power by the British Government

Robert van den Bosch, writing in 1978 in *The Pesticide Conspiracy*:⁵¹ “If one considers how dangerous these chemicals are, one would suppose that it would be Government policy to minimize their use by every possible means. However the Royal Commission on Environmental Pollution notes, *‘there is... no such policy in the UK, nor does the possible need for it appear to have been considered, notwithstanding the great increases in the use of these chemicals.’*”

The Agrochemical Industry, on the contrary, seems to be under the impression it is Government policy to encourage the maximum use of pesticides. Thus according to the Agrochemical industry, of 367,000 acres of potatoes grown in this country in 1976, 310,000 acres are treated with herbicides, 114,000 acres with granular insecticides and nematocides, 218,000 acres with foliar insecticides and 265,000 acres with fungicides.⁵² In this way one acre of potatoes, the industry boasts, can be treated from 2-11 times with different pesticides.” Van den Bosch also condemns the UK for aerial spraying. *“What is particularly shameful in this country is the prevalence of aerial spraying. One million acres of agricultural land are sprayed each year, which involves 34,000 flights. Controls on this practice are practically non-existent...nor as the Royal Commission points out, does there appear to be any controls on the type of spraying equipment.”* Britain still uses aerial spraying as derogation from the EU recommendations.

Theo Colborn’s crucial research in the early 1990s into Endocrine Disrupting Chemicals (EDCs) that were changing humans and the environment, was ignored

The late Theo Colborn⁵³ (1927-1914) was the first to research and write about EDCs, man-made chemicals that became widespread in the environment after WW II. In a book published in 1996, *Our Stolen Future: How Man-made Chemicals are Threatening our Fertility, Intelligence and Survival*, Colborn, Dumanoski and Peters revealed the full horror of what was happening to the world as a result of contamination with EDCs.⁵⁴ There was emerging scientific research about how a wide range of man-made chemicals disrupt delicate hormone systems in humans. These systems play a critical role in processes ranging from human sexual development to behaviour, intelligence, and the functioning of the immune system. At that stage, polychlorinated biphenyls (PCBs), pesticides DDT, chlordane, lindane, aldrin, dieldrin, endrin, toxaphene, heptachlor, dioxin, atrazine and dacthal were identified as EDCs. Colborn illustrates the problem by constructing a diagram (page 105) of the journey of a PCB molecule from a factory in Alabama into a polar bear in the Arctic. Colborn says: *“The concentration of persistent chemicals can be magnified millions of times as they travel to the ends of the earth...Many chemicals that threaten the next generation have found their way into our bodies. There is no safe, uncontaminated place.”*

In 1998, Clinton and Blair conspired with Monsanto to suppress information about the side effects of GM Crops

⁵¹ Van den Bosch, R. *The Pesticide Conspiracy*: USA Doubleday & Company (1978): Dorchester, UK: Prism Press (1980).

⁵² Industry’s Statistics: British Agrochemical Association London 1976

⁵³ <http://endocrinedisruption.org/about-tedx/theo-colborn>

⁵⁴ *Our Stolen Future: How Man-made Chemicals are Threatening our Fertility, Intelligence and Survival*: Colborn, Myers and Dumanoski: Little, Brown and Company, New York. 1996.

Monsanto had contributed money to the Clinton presidential campaign. On 10 August 1998 in a Granada 'World in Action' broadcast⁵⁵ Dr Árpád Pusztai (a GM expert leading the team at the Rowett Institute) explained his research that showed that rats fed with genetically modified potatoes had suffered immune damage. He raised questions about the safety of GM food in the human diet on the basis of the study. Clinton phoned Blair and as a result, Dr Pusztai lost his job and his Laboratory in the Rowett Institute was closed down.

UK 'watchdogs' are controlled by corporations

Why is the UK Science Media Centre sponsored by corporations, but not by NGOs or Unions? It is hosted by The Wellcome Trust, Director, Dr Jeremy Farrar

Colin Macilwain, a science policy writer from Edinburgh who has worked as a reporter and an editor from both sides of the Atlantic⁵⁶ wrote about plans to replicate Britain's Science Media Centre (SMC) in the United States, which he said was "fraught with danger."

Extracts: "The London SMC was set up because UK scientific leaders were upset that environmentalists had successfully fought the introduction of genetically modified food; they felt that the UK media were too susceptible to environmental scare stories about new technologies.

Despite the fears of the SMC founders, the British press — led by the BBC, which treats the Confederation of British Industry with the deference the Vatican gets in Rome — is overwhelmingly conservative and pro-business in its outlook. It is quite unperturbed by the fact that SMC sponsors include AstraZeneca, BP, Coca-Cola, L'Oreal, Monsanto, Syngenta (as well as Nature Publishing Group) but not a single environmental non-governmental organization (NGO) or trade union.

Fiona Fox, the SMC's director, says that the centre operates independently of its sponsors and points out that none (except its host, the Wellcome Trust) accounts individually for more than 5% of its income. (However, examination of the Funding for 2014,⁵⁷ the total funding from industry and trade bodies (27% from 29 Organizations) exceeds any other source of funding apart from the Government & the Wellcome Trust). She adds that no NGOs are involved because it was their public-relations skills that the founders of the SMC sought to match."

Macilwain goes on to say: "But the perception that the environmental group Friends of the Earth constitutes a bigger threat to scientific truth-telling than some of the corporate names on the SMC's sponsorship list is not one the US media would accept. Some of those considering a US centre share these concerns. They think that their funding model will have to rely on charitable trusts, not companies or government agencies.

There are industry-funded Science Media Centres in Japan, Canada, Australia and New Zealand

Cancer Research UK: former Chairman of Cancer Research UK worked for the Agrochemical Industry

Michael Pragnell (CBE, awarded in 2016 for services to cancer) former Chairman of Cancer Research UK was founder of Syngenta and former Chairman of CropLife International. It was formed in 2001 from BASF, Bayer, Dow, DuPont, FMC Corp, Monsanto, Sumitomo and Syngenta. The CRUK website says that there is no convincing evidence that pesticides cause cancer. Instead CRUK links cancer to alcohol and obesity. Cancer Research UK figures for 2014 (that don't seem to have been published by the Corporate Media) shows the huge numbers of cancers that are killing people in the UK.

⁵⁵ <http://news.bbc.co.uk/1/hi/health/149882.stm>

⁵⁶ <http://www.nature.com/news/two-nations-divided-by-a-common-purpose-1.10224>

⁵⁷ <http://www.sciencemediacentre.org/about-us/funding/>

In 2014 in Britain there were 13,605 new cases of NHL (4,801 deaths) ⁵⁸

41,265 new cases of bowel cancer (15,903 deaths); 12,523 new cases of kidney cancer (4,421 deaths); 5,550 new cases of liver cancer (5,091 deaths); 5,419 new cases of melanoma (2,459 deaths); 3,404 new cases of thyroid cancer (376 deaths); 10,063 new cases of bladder cancer (5,369 deaths); 9,324 new cases of uterine cancer (2,166 deaths); 7,378 cases of ovarian cancer (4,128 deaths) 9,534 new cases of leukaemia (4,584 deaths); 55,222 new cases of invasive breast cancer (11,433 deaths); 46,690 new cases of prostate cancer (11,287 deaths); 8,919 new cases of oesophageal cancer (7,790 deaths) and 5,501 new cases of myeloma (2,928 deaths); 2,418 new cases of testicular cancer (60 deaths). In the US in 2014 there were 24,050 new cases of myeloma.

The relationships with industry are well documented

An Editorial in the *British Medical Journal* on 11/01/2014 was entitled: A shameful episode.⁵⁹ The UK government did a sudden U-turn from its agreement that a minimum price on a unit of alcohol would be introduced across the United Kingdom. “*The evidence for substantial health savings and cost savings was clear. Scotland had introduced a minimum price (though now under legal challenge by the drinks industry) and the UK Prime Minister had given his personal commitment that England and Wales would follow suit.*” Jeremy Browne the Home Office Minister said that the government didn’t have “*enough concrete evidence.*” However, Jonathan Gornall, in a BMJ investigation, discovered: “*the extent and effects of contact between ministers and interest groups lobbying against the minimum unit price.*”⁶⁰

The Department of Health had at least 130 meetings with representatives of industry between May 2010 and the end of 2013. David Cameron met 26 times with officials of Murdoch's News Corporation in the first 14 months of office, more than twice the number of visits he has had with any other media organization.⁶¹ Representatives of alcohol companies and major supermarkets had easy access – made easier by the well-oiled revolving doors between industry and special advisory posts. The extensive investigation by a journalist for the *British Medical Journal* shows “*beyond doubt that commercial interests are currently in control of key decisions about the public's health.*” The Prime Minister had little time to meet with his own MPs.

Public Health England (PHE) was created on 1 April 2013 by the government. It was to replace the Health Protection Agency that had found that around one in every 16,000 people who took GlaxoSmithKline’s Pandemrix vaccine for Swine Flu had permanent health damage (narcolepsy and/or catalepsy, two neurological diseases that disrupt normal sleep patterns and muscle function) and had to be compensated by the taxpayer because the government underwrote the risks of the GSK vaccine.

PHE was set up to convey government messages and those of corporations rather than to protect the public. PHE published controversial Reports as diverse as the impacts of fracking on public health (low), review of e-cigarettes (safe, but now deemed unsafe by a Report from the US⁶²), alcohol, sugar, diabetes and obesity, all of which were advantageous to industry and the British government.

⁵⁸ <http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/non-hodgkin-lymphoma>

⁵⁹ <http://www.bmj.com/content/348/bmj.g110>

⁶⁰ jgornall@mac.com BMJ 2014; 348: f7646

⁶¹ <http://www.independent.co.uk/news/uk/politics/revealed-camerons-26-meetings-in-15-months-with-murdoch-chiefs-2314550.html>

⁶² <https://www.scientificamerican.com/article/surgeon-general-report-warns-of-e-cigarette-risks/>

Dr John Harrison, Director of the Public Health England (PHE), Centre for Radiation, Chemical and Environmental Hazards (CRCE) wrote to me to reassure me that there was no evidence that exposure to chemicals in pregnancy caused brain damage.

Relationships between Syngenta, AstraZeneca and Defra/Fera

In 1997, Dr Peter Campbell went straight from being the Head of Ecotoxicology Branch at the Pesticides Safety Directorate in York (later to become the Chemicals Regulation Directorate) into the post of Head of Ecological Sciences at Syngenta.⁶³ In 2009 Syngenta and BBSRC gave £1 million to fund Warwick University and Rothamsted Research “*to help to improve honeybee health*”.⁶⁴ (Rothamsted had lost funding for its Bee Unit in 2006). Syngenta funded scientific assistants at Exeter University in 2012. Syngenta pioneered Operation Bumblebee in the UK and in 2010 announced expansion of programmes across Europe; up to €1 million over 5 years.⁶⁵ Programmes included “*What Operation Bumblebee can do for your golf course?*”

Syngenta had representatives on the Advisory Committee on Pesticides (ACP), the Committee on Toxicity of Chemicals in Foods, Consumer Products and the Environment (COT), on the Panel to choose the Pollinator Initiative Projects and on the Government’s Foresight Future of Farming Report.⁶⁶ Syngenta’s parent company AstraZeneca previously had two representatives on COT. Dr Helen Thompson Bee Scientist at Fera who undertook contracts for Syngenta resigned in July 2013 and moved to Syngenta full time in September 2013. “*Thompson led a field project intended to test the effect of neonicotinoids on bumblebees. However, the study was criticised as flawed after the near ubiquitous use of the insecticides led to the contamination of colonies meant to be pesticide-free controls. Thompson also worked on a Fera project on bees and pesticides paid for by Syngenta, as well as having worked on the registration of some pesticides.*”⁶⁷

The British Government failed to legislate on the Sustainable Use of Pesticides 21 October 2009: DIRECTIVE 2009/128/EC OF THE EUROPEAN PARLIAMENT⁶⁸

What is the EU Directive Advice and the UK Government’s Response on Article 9 Aerial Spraying?

EU Directive Advice: Aerial spraying of pesticides has the potential to cause significant adverse impacts on human health and the environment, in particular from spray drift. Therefore aerial spraying should generally be prohibited with derogations possible where it represents clear advantages in terms of reduced impacts on human health and the environment in comparison with other spraying methods, or where there are no viable alternatives, provided that the best available technology to reduce drift is used.

UK Government Response: We do not consider that responsible application of pesticides by aerial spraying poses an unacceptable risk to human health and the environment, and consequently we will use the derogation. We believe that the existing legislation control regime provides a basis for meeting the Directive and this will be adapted to ensure the continuation of properly regulated aerial applications through a consent-based approach.

⁶³ <http://uk.linkedin.com/pub/peter-campbell/4/283/6ba>

⁶⁴ <http://www.bbsrc.ac.uk/news/archive/2009/091001-pr-1million-award-honeybee-decline.aspx>

⁶⁵ <http://www.bbsrc.ac.uk/news/archive/2009/091001-pr-1million-award-honeybee-decline.aspx>

⁶⁶ <http://www.bis.gov.uk/assets/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf>

⁶⁷ <https://www.theguardian.com/environment/2013/jul/26/government-bee-scientist-pesticide-firm>

⁶⁸ <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009L0128>

Article 10 Protection of water

EU Directive Advice: The aquatic environment is especially sensitive to pesticides. It is very necessary for particular attention to be paid to avoiding pollution of surface water and groundwater by taking appropriate measures such as the establishment of buffer and safeguard zones, or planting hedges along surface water to reduce exposure of water bodies to spray drift, drain flow and run-off. The dimensions of buffer zones should depend in particular pesticide properties, as well as agricultural characteristics of the areas concerned.

Government Response: Current statutory and voluntary controls related to pesticides and the protection of water, if followed, afford a high degree of protection to water courses and cover specific measures detailed in the Directive. The Government will primarily seek to work with the pesticides industry to enhance voluntary measures.

Article 11 Use of pesticides in specific areas

EU Directive Advice: Use of pesticides can be particularly dangerous in very sensitive areas such as Natura 2000 sites protected in accordance with Directives 79/409/EEC and 92/43/EEC. In other places such as public parks and garden, sports and recreation grounds, school grounds and children's playgrounds, and in the close vicinity of healthcare facilities, the risks from exposure to pesticides is high. In these areas, the use of pesticides should be minimised or prohibited. When pesticides are used, appropriate risk management measures should be established and low-risk pesticides as well as biological control measures should be considered in the first place.

Government Response: We do not consider it necessary to prohibit the use of pesticides in public spaces or conservation areas or to impose new statutory controls on pesticide use in these areas.

We believe that the UK can meet its obligations under the Directive through existing statutory and voluntary controls and develop additional voluntary measures.

Plant Protection Products Regulation (PPP) (EC) No 1107/2009)

The consultation sought views on whether and how specific provisions in the PPP Regulation should be implemented in the UK.

Article 31 included an optional provision that could allow future product authorisations to include obligation to provide advance notice to any neighbours who could be exposed to the spray drift and who have requested to be informed. The British Medical Association with regard to Article 31, wanted advance notification, so that vulnerable patients, such as those suffering from respiratory problems, may be alerted in advance of spraying.

Government Response: We do not believe that it is appropriate to introduce a statutory requirement for operators to give advanced notice of planned spray operations to members of the public living adjacent to sprayed land. We will continue to encourage farmers and spray operators to develop good relations with their neighbours.

The following Press Release was issued: Lord Henley, the then Under-Secretary of State for Defra, said: *"As UK pesticides safety standards are already amongst the highest in Europe, only minor changes are necessary to meet the new requirements and no compelling evidence was provided in the responses to justify further extending existing regulations and voluntary controls."*... *"We have to protect the public and the environment from harm and will do so by following sound scientific and other evidence. By making a small number of changes to our existing approach we can continue to help feed a growing global population with high-quality food that's affordable – while minimising the risks of using pesticides"*. Lord Henley explained why the UK weren't going to legislate. He said that the British had an *"ideological dislike of legislation"* there were *"dangers of over-legislating."*

Progress in the implementation of Directive 2009/128/EC on the sustainable use of pesticides: Report of Member State National Action Plans (10/10/2017)⁶⁹

The UK has no action plan for the sustainable use of chemicals: the pesticides industry decides

The UK did not provide a response to the questionnaire, but provided information on some of the topics later on (p 3). The UK was not among the 21 members that reported risk reduction targets or the 9 members that reported use reduction targets (p 5). The UK appears to provide no training or certification (p 5). The UK has no certification for advisors in pest management (p 6). It collects no data on the incidence of pesticide poisoning (p 7). Chronic poisoning is not monitored systematically in the UK. Derogations for aerial spraying were granted in the UK. The UK didn't require farmers to report to their neighbours and local residents when about to spray (p 9).

The Government is spending taxpayers' money on PR for the GM industry

GeneWatch UK using requests under the Freedom of Information Act and the Environmental Information Regulations (known as FoIs) showed that a secret meeting was held with the Agrochemical Industry in June 2012 ⁷⁰ to try to get GM crops into Britain. In May 2014 the UK Government and the GM industry were colluding to promote GM crops and foods, undermine consumer choice and ignore environmental harm. ⁷¹ They: *"Reveal how foreign multinational GM companies are running the Government's Public Relations (PR) strategy on GM crops by controlling how public and private money will be invested in research; Show that taxpayers' money is being spent on PR for the GM industry rather than delivering better food and farming.*

Georgina Downs set up Pesticides Campaign UK in 2001 to protect rural residents and schools from crop spraying of toxic chemicals. ⁷²

"People move to the countryside thinking it will be a healthy environment to bring up their children and do not know about the dangers and risks inherent in the spraying of poisonous chemicals on surrounding fields, until they themselves suffer adverse effects on their health"

Extracts: "The existing UK Government policy and approvals system fundamentally fails to protect people in the countryside from pesticides, particularly rural residents.

There are serious flaws in the approach to exposure and risk assessment for public health.

*"The **reality of crop spraying in the countryside** is not merely related to exposure to one individual pesticide or to one single group of pesticides, as agricultural pesticides are rarely used individually but commonly sprayed in mixtures (cocktails) -- quite often a mixture will consist of 4 or 5 different products. Each product formulation in itself can contain a number of different active ingredients, as well as other chemicals, such as solvents, surfactants and co-formulants (some of which can have adverse effects in their own right, before considering any potential synergistic effects in a mixture(s)). Studies have shown mixtures of pesticides (and/or other chemicals) can have synergistic effects. The fact that, to date, there has never been **any** assessment in the UK of the risks to health for the long term exposure for those who live in the locality of pesticide sprayed fields,*

⁶⁹ https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_sup_report-overview_en.pdf

⁷⁰

<http://www.genewatch.org/article.shtml?als%5Bcid%5D=569457&als%5Bitemid%5D=571449>
<http://tinyurl.com/9jbce4g> <http://tinyurl.com/8ahylza> <http://tinyurl.com/92rrajn>

⁷¹

http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/FoI_summary_Ma_y14.pdf

⁷² <http://www.pesticidescampaign.co.uk>

and/or who go to school in the locality of sprayed fields, means that under EU law pesticides should never have been approved for use in the first place for spraying in the locality of residents' homes, schools, children's playgrounds, among other areas. Children are particularly vulnerable to the effects of pesticide exposure because their bodies cannot efficiently detoxify chemicals, as their organs are still growing and developing. Also when children are exposed at such a young age they will obviously have a longer lifetime to develop long-term chronic effects after any exposure."

Ms Downs won a legal battle in the High Court: the Court of Appeal overturned it

Ms Downs has fought legal battles against Defra. She had a landmark victory in the High Court in November 2008 that ruled that the UK Government's policy on pesticides was not in compliance with European legislation. It was the first known legal case of its kind to reach the High Court to directly challenge the Government's pesticide policy and approach regarding crop spraying in rural areas.⁷³

However, the Court of Appeal overturned the High Court Judgment in May 2009.⁷⁴ Chief Executive, Kerr Wilson's Witness Statements cited various reasons for preserving the *status quo*. They were related to alleged financial and economic impacts on manufacturers, farmers and distributors, or the impact on agricultural productivity. On behalf of Defra he did not display any concern whatsoever in relation to the protection of public health. His main concern was with protection of industry and business interests. *"The annual market value of pesticide sales is approximately £490m which delivers benefits to farmers, significantly improving agricultural productivity...If, as a result of the Declaration, new approvals could not be granted, there would be important ramifications."* Press reports at the time supported the Government's stance. That if the High Court Judgment stood then the *"Government's pesticide policy would be fundamentally undermined"* and that the policy and approvals system *"might even grind to a halt."*

David Cameron abolished the Royal Commission on Environmental Pollution on 1 April 2011, as part of the Coalition Government's spending cuts. It had been created under Royal Warrant in 1970 to advise the Queen, Government, Parliament and the public on environmental issues. He also shut down the Sustainable Development Commission that the Labour Government had set up in 2000.⁷⁵ The Advisory Committee on Pesticides was abolished in May 2015. It was succeeded by the UK Expert Committee on Pesticides (ECP) that *'provides independent, impartial advice to the government on the science relating to pesticides.'*⁷⁶

Conflicts of Interest of Professor Alan Boobis on ILSI Europe

Prof Alan Boobis is Vice-President of the Board of Directors of the International Life Sciences Institute (ILSI) Europe, Vice Chairman of the Scientific Advisory Committee of ILSI Europe and a Member of the Board of Trustees. He had served as a WHO expert on Pesticides Residues on the WHO/JMPR Committee in 2015 and previously when glyphosate was granted approval in 2002.⁷⁷

[NB ILSI represents Global Corporations (including the six Agrochemical Giants) with massive resources that are seeking to control the world's food supply. ILSI is an industry organisation based in Washington, DC, USA. It claims to be *"a non-profit, worldwide*

⁷³ http://www.pesticidescampaign.co.uk/georgia_high_court_victory.htm

⁷⁴ "I would like to start by saying that I think this may well go down in history as being the most bizarre and inaccurate Judgment to have ever come out of the Court of Appeal".

⁷⁵ https://en.wikipedia.org/wiki/Sustainable_Development_Commission

⁷⁶ <https://www.gov.uk/government/groups/expert-committee-on-pesticides>

⁷⁷ http://whqlibdoc.who.int/publications/2006/9241665203_eng.pdf?ua=1

organization whose mission is to provide science that improves human health and well-being and safeguards the environment” and allegedly has charity status.]

The Chairman of FAO/WHO/JMPR was also Vice Chairman of an organization that had received money from Monsanto and CropLife International

Professor Alan Boobis, Chairman of the FAO/WHO JMPR panel who claimed he had no conflicts of interest is Vice President of the International Life Science Institute (ILSI) Europe, an organisation that had received money from both Monsanto and CropLife International. The following report was from Guardian journalist Arthur Neslen.⁷⁸ “A UN panel that on Tuesday ruled that glyphosate was probably not carcinogenic to humans has now become embroiled in a bitter row about potential conflicts of interests. It has emerged that an institute co-run by the chairman of the UN’s joint meeting on pesticide residues (JMPR) received a six-figure donation from Monsanto, which uses the substance as a core ingredient in its bestselling Roundup weed-killer. Professor Alan Boobis, who chaired the UN’s joint FAO/WHO meeting on glyphosate, also works as the vice-president of the International Life Science Institute (ILSI) Europe. The co-chair of the sessions was Professor Angelo Moretto, a board member of ILSI’s Health and Environmental Services Institute, and of its Risk21 steering group too, which Boobis also co-chairs. In 2012, the ILSI group took a \$500,000 (£344,234) donation from Monsanto and a \$528,500 donation from the industry group CropLife International, which represents Monsanto, Dow, Syngenta and others, according to documents obtained by the US right to know campaign.” When Glyphosate was reassessed in 2002, Alan Boobis was also Chairman of the UN’s JMPR meeting on pesticide residues.⁷⁹ Prof Boobis is current Chairman of the UK Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT), which is alleged to be an independent scientific body.

In 1994 the Joint FAO/WHO/JMPR Panel had granted increased Maximum Residue Levels (MRLs) for glyphosate on soya (from 5 mg/kg to 20 mg/kg) and soya bean fodder (from 20 mg/kg to 200 mg/kg).⁸⁰

In 2011 the Pesticides Forum confirmed what the Government wanted to hear

“The work of the UK Pesticides Forum in 2011 confirms that the use of pesticides is not adversely impacting on the health of UK citizens or the environment...This is testimony to the effectiveness of both statutory and voluntary controls.”

The Open Letter from America⁸¹ was from 60 million American citizens to David Cameron (and the rest of the EU) warning them not to authorize GM crops because of the devastating effects on human health and the environment

It was delivered to 10 Downing Street on 11 November 2014.⁸²

Extracts: “In our country, GM crops account for about half of harvested cropland. Around 94% of the soy, 93% of corn (maize) and 96% of cotton grown is GM. The UK and the rest of the EU have yet to adopt GM crops in the way that we have, but you are currently under tremendous pressure from governments, biotech lobbyists, and large corporations to adopt what we now regard as a failing agricultural technology...Studies of animals fed GM foods and/or glyphosate, however, show worrying trends including damage to vital organs like

⁷⁸ <https://www.theguardian.com/environment/2016/may/17/unwho-panel-in-conflict-of-interest-row-over-glyphosates-cancer-risk>

⁷⁹ http://whqlibdoc.who.int/publications/2006/9241665203_eng.pdf?ua=1

⁸⁰

http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Evaluation94/glyphos.pdf

⁸¹ www.theletterfromamerica.org

⁸² https://twitter.com/beyond_gm/status/532224079605288960

the liver and kidneys, damage to gut tissues and gut flora, immune system disruption, reproductive abnormalities, and even tumors.³⁵...These scientific studies point to potentially serious human health problems that could not have been anticipated when our country first embraced GMOs, and yet they continue to be ignored by those who should be protecting us. Instead our regulators rely on outdated studies and other information funded and supplied by biotech companies that, not surprisingly, dismiss all health concerns.

Through our experience we have come to understand that the genetic engineering of food has never really been about public good, or feeding the hungry, or supporting our farmers. Nor is it about consumer choice. Instead it is about private, corporate control of the food system.

Americans are reaping the detrimental impacts of this risky and unproven agricultural technology. EU countries should take note: there are no benefits from GM crops great enough to offset these impacts. Officials who continue to ignore this fact are guilty of a gross dereliction of duty. Most of the countries in the EU took that advice and opted out of GM (including Scotland, Wales and Ireland).

David Cameron ignored that advice on behalf of England. He and Defra concealed the letter from the British public. The European Commission and the European Food Safety Authority also ignored it and continued to approve GM Crops for growing and for food and feed in the EU.

This was despite these grave warnings from American citizens of their experiences (Living with GMOs) and from independent organisations in Europe, such as Testbiotech (Germany), CRIIGEN (France), Corporate Europe Observatory, Earth Open Source and Pesticides Action Network.

The science behind GMOs is fraudulent

US Attorney Steven Druker says: Governments and leading scientific institutions have systematically misrepresented the facts about GMOs

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.⁸³

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 challenges UK Royal Society over misleading statements made about GM foods

Open Letter to the UK Royal Society can be read here.⁸⁴

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*

⁸³ <http://beyond-gm.org/new-book-exposes-systematic-government-and-scientific-fraud-over-gm-food/>

⁸⁴ http://beyond-gm.org/wp-content/uploads/2015/03/DRUKER_OPEN-LETTER-TO-THE-ROYAL-SOCIETY_Final.pdf

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..."

Sir Paul Nurse the President of the Royal Society failed to respond

Sir Paul had been sent over by the Rockefeller Foundation New York to try to persuade the public to accept GM crops. In 2016 he became the Director of the Francis Crick Institute. The Francis Crick Institute is a biomedical discovery institute dedicated to understanding the fundamental biology underlying health and disease. Its work is helping to understand why disease develops and to translate discoveries into new ways to prevent, diagnose and treat illnesses such as cancer, heart disease, stroke, infections, and neurodegenerative diseases. **Many of these diseases are related to pesticides.** The second largest donation came from Cancer Research UK (£160 million). The previous Chairman, Michael Pragnell CBE was Founder of Syngenta and former Chairman of CropLife International.

We are eating food poisoned with pesticides

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* 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.⁸⁵ 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.⁸⁶

The UK Chemicals Regulation Directorate Head of Regulatory Policy wrote on 28/02/2014

The CRD Head of Regulatory Policy replied to defend the authorisation of glyphosate. He told me that the capability to detect individual pesticides in food had increased from 150 in 2003 to 393 in 2012. He stated: "*In the 2012 Report, although there were a large number of residues found in bread, none of these were at a level to suggest a risk to consumer health.*" However, he failed to reply to my question as to why EFSA was regularly increasing the Maximum Residue Levels (MRLs) of glyphosate in foods at the request of Monsanto to accommodate their practice of desiccation of crops and to protect their imports into Europe.⁸⁷

⁸⁵ https://www.nfonline.com/healthyharvest_final_digital/ The impact of losing plant protection products on UK Food Production

⁸⁶ http://www.cropprotection.org.uk/media/89364/andersons_final_report.pdf

⁸⁷ <http://www.efsa.europa.eu/en/efsajournal/pub/2550.htm>

Residues of pesticides found in non-organic food is increasing

Defra started publishing pesticide residues in foods in 2000. ⁸⁸ “Residues of chlormequat ⁸⁹, glyphosate and pirimiphos-methyl ⁹⁰ were found (in bread). Defra said: “These pesticides are commonly used on cereal crops, and residues have been found in other cereal products, therefore these findings are not unexpected. None of the residues found were of concern for consumer health.”

A Report by Pesticides Action Network- UK has shown that 46% of non-organic food in 2013 contained residues of one or more pesticides and this had increased from 25% in 2003.⁹¹ A further Report by PAN-UK: Pesticides in your daily bread showed that nearly two-thirds of bread contained one or more pesticides and the three most frequently found were glyphosate, chlormequat and malathion.⁹²

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) 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 2014.⁹³ 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.⁹⁴

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*.

Fera statistics show that in 2014 glyphosate was used on Wheat (601,330 kg) Winter barley, Spring barley, Oats, Rye, Triticale, Oilseed rape (577,969 kg), Linseed, All potatoes, Peas, Beans, Sugar beet, with a total of 1,765,465 kg glyphosate on all crops. The total weight of pesticides (herbicides and desiccants, fungicides, growth regulators,

⁸⁸ <http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRiF/about-PRiF>

⁸⁹ Chlormequat, a plant growth regulator was present consistently throughout.

⁹⁰ pirimiphos-methyl, is an organophosphate insecticide for use in storage. The approval was revoked on 24/03/2011, but it was only finally banned 31/03/2013, presumably to allow stocks to be used up.

⁹¹ http://www.pan-uk.org/files/pesticides_on_a_plate_2013_final.pdf

⁹² [http://www.pan-uk.org/files/Pesticides%20in%20Your%20Daily%20Bread%20guide%20-%20FINAL%20\(1\).pdf](http://www.pan-uk.org/files/Pesticides%20in%20Your%20Daily%20Bread%20guide%20-%20FINAL%20(1).pdf)

⁹³ <https://www.soilassociation.org/news/2017/november/rapid-increase-in-pesticide-use-and-new-evidence-of-health-impacts-of-very-low-doses/>

⁹⁴ <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2659557>

molluscicides and repellants, insecticides and seed treatments) applied to farmland in 2014 was in excess of 16,000 tonnes.

UN warns about the dangers of pesticides

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 ⁹⁵

*"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.** 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.*

European Court of Justice ruled that safety tests conducted by the chemical industry and used by regulators to assess the dangers of pesticides must be disclosed; is that why Britain wants Brexit?

Luxembourg/Brussels, 23 November 2016 Research on dangers of pesticides must be made public. Information on emissions into the environment must be disclosed.⁹⁶

The European Court of Justice ruled today that safety tests conducted by the chemical industry and used by regulators to assess the dangers of pesticides must be disclosed. It argued that such research falls under "information on emissions into the environment", as defined under the Aarhus Convention and the EU law implementing this Convention.

Greenpeace EU food policy director Franziska Achterberg said: *"The ruling says that regulators must release all research used to evaluate the dangers of pesticides, and cannot keep it secret to protect industry interests. Based on the ruling, national and EU authorities should release these studies automatically, and not only following freedom of information requests. Transparency in pesticide assessments is vital, as public health and our environment are at risk."*

The British government, the global Pesticide Regulatory Authorities, the UK and US Media are violating our human rights and those of our children

We have a right to food without chemicals, the right to health, the right to information and the right to a healthy environment.

The Secretariat has the honour to transmit to the Human Rights Council the report of the Special Rapporteur on the right to food, pursuant to Council resolutions 6/2, 31/10 and 32/8. The report was written in collaboration with the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes. In the report, a clearer account is provided of global pesticide use in agriculture and its impact on human rights; the negative consequences that pesticide practices have had on human health, the environment and society, which are underreported and monitored in the shadow of a prevailing and narrow focus on "food security", are described; and the environmental and human rights regimes are examined to determine whether the constituent rules are sufficient to

⁹⁵ <https://www.theguardian.com/environment/2017/nov/06/the-eu-and-glyphosate-its-time-to-put-childrens-health-before-pesticides>

⁹⁶ <http://www.greenpeace.org/eu-unit/en/News/2016/Landmark-EJ-ruling-research-on-dangers-of-pesticides-must-be-made-public/>

protect farm workers, consumers and vulnerable groups, as well as the natural resources that are necessary to support sustainable food systems.

UN Rapporteur: Report of the Special Rapporteur on the right to food: Pesticides are “global human rights concern” and UN experts urge new treaty⁹⁷

The United Nations received a [report](#) by the Special Rapporteur on the right to food, presented to the United Nations Human Rights Council, focused more narrowly on agricultural chemicals. The UN report states unequivocally that the storyline perpetuated by companies like Monsanto—the one that says we need pesticides to feed the world—is a myth.⁹⁸ 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*”.

GENEVA (7 March 2017) – Two United Nations experts are calling for a comprehensive new global treaty to regulate and phase out the use of dangerous pesticides in farming, and move towards sustainable agricultural practices. They say: “*excessive use of pesticides are 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 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.

UN Report statements on pregnant women and children

Para. 24. Children are most vulnerable to pesticide contamination, as their organs are still developing and, owing to their smaller size, they are exposed to a higher dose per unit of body weight; the levels and activity of key enzymes that detoxify pesticides are much lower in children than in adults. Health impacts linked to childhood exposure to pesticides include impaired intellectual development, adverse behavioural effects and other developmental abnormalities. Emerging research is revealing that exposure to even low levels of pesticides, for example through wind drift or residues on food, may be very damaging to children’s health, disrupting their mental and physiological growth and possibly leading to a lifetime of diseases and disorders.”

⁹⁷ <http://www.pan-uk.org/site/wp-content/uploads/United-Nations-Report-of-the-Special-Rapporteur-on-the-right-to-food.pdf>

⁹⁸ <http://apps.who.int/iris/bitstream/10665/254678/1/WHO-FWC-IHE-17.01-eng.pdf?ua=1>

The International Criminal Court (ICC) in The Hague is extending its remit to include ecocide⁹⁹

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.¹⁰⁰

Chemical damage to the brains of our children

Chemical brain drain: Only One Chance: How Environmental Pollution Impairs Brain Development¹⁰¹

Prof Philippe Grandjean, Professor of Environmental Health, Harvard University and University of Southern Denmark. *“Today, one out of every six children suffers from some form of neurodevelopmental abnormality. The causes are mostly unknown. Some environmental chemicals are known to cause brain damage and many more are suspected of it, but few have been tested for such effects. The brain’s development is uniquely sensitive to toxic chemicals, and even small deficits may negatively impact our academic achievements, economic success, risk of delinquency, and quality of life. Chemicals such as lead, mercury, polychlorinated biphenyls (PCBs), arsenic, and certain solvents and pesticides pose an insidious threat to the development of the next generation’s brains.”*¹⁰² Prof Grandjean’s book gives a courageous account of how, over the years, industrial chemicals have damaged children’s brains. He describes how each industry has fought to protect its products. The Pesticides Industry is no different. A major human and environmental disaster is upon us.

Neurobehavioural effects of developmental toxicity¹⁰³

*“Neurodevelopmental disabilities, including autism, attention-deficit hyperactivity disorder, dyslexia, and other cognitive impairments, affect millions of children worldwide, and some diagnoses seem to be increasing in frequency. Industrial chemicals that injure the developing brain are among the known causes for this rise in prevalence. Since 2006, epidemiological studies have documented six additional developmental neurotoxicants—manganese, fluoride, **chlorpyrifos**, dichlorodiphenyl-trichloroethane, tetrachloroethylene, and the polybrominated diphenyl ethers. Pesticides mentioned, each with supporting references, were: **Acetamiprid**, amitraz, avermectin, emamectin, fipronil (Termidor), **glyphosate**, hexaconazole, **imidacloprid**, tetramethylenedisulfotetramine. We postulate that even more neurotoxicants remain undiscovered. Untested chemicals should not be presumed to be safe to brain development, and chemicals in existing use and all new chemicals must therefore be tested for developmental neurotoxicity. To coordinate these efforts and to accelerate translation of science into prevention, we propose the urgent formation of a new international clearinghouse.”* The ones in bold are still registered by Defra/Fera in the UK.

⁹⁹ <https://www.theguardian.com/global/2016/sep/15/hague-court-widens-remit-to-include-environmental-destruction-cases>

¹⁰⁰ <https://www.icc-cpi.int/Pages/item.aspx?name=pr1238>

¹⁰¹ Only one chance: How environmental pollution impairs brain development – and how to protect the brains of the next generation Oxford University Press

¹⁰² <http://braindrain.dk/>

¹⁰³ [http://www.thelancet.com/pdfs/journals/laneur/PIIS1474-4422\(13\)70278-3.pdf](http://www.thelancet.com/pdfs/journals/laneur/PIIS1474-4422(13)70278-3.pdf)

Declines in educational attainment in Britain over recent years

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.¹⁰⁴ PISA was first performed in 2000 and then repeated every 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 4th 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.¹⁰⁵ 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)."*

Don't pollute my future! The impact of the environment on children's health

A Report by the World Health Organization published in March 2017. This [report](#) focused on a range of environmental risks, the cost of a polluted environment adds up to the deaths of 1.7 million children every year.¹⁰⁶

Monsanto Isn't Feeding the World—It's Killing Our Children¹⁰⁷

Katherine Paul Organic Consumers Association: (Ronnie Cummins International Director was on the Steering Committee of the Monsanto Tribunal) 09/03/2017. *"Two new reports published in recent weeks add to the already large and convincing body of evidence, accumulated over more than half a century, that agricultural pesticides and other toxic chemicals are poisoning us. Both reports issue scathing indictments of U.S. and global regulatory systems that collude with chemical companies to hide the truth from the public, while they fill their coffers with ill-gotten profits."*

Other diseases associated with glyphosate

Multiomics reveal non-alcoholic fatty liver disease in rats following chronic exposure to an ultra-low dose of Roundup herbicide.¹⁰⁸

Overall, metabolome and proteome disturbances showed a substantial overlap with biomarkers of non-alcoholic fatty liver disease and its progression to steatohepatitis and thus confirm liver functional dysfunction resulting from chronic ultra-low dose Glyphosate-Based Herbicide (GBH) exposure. The study is the first ever to show a causative link between consumption of Roundup at a real-world environmentally relevant dose and a serious disease. NAFLD currently affects **25% of the US population** and **similar numbers of Europeans**. Risk factors include being overweight or obese, having diabetes, or having high cholesterol or high triglycerides (a constituent of body

¹⁰⁴ [http://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-\(PISA\)/PISA-2012/index.html](http://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-(PISA)/PISA-2012/index.html)

¹⁰⁵ <http://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf>

¹⁰⁶ <http://www.who.int/ceh/publications/don-t-pollute-my-future/en/>

¹⁰⁷ <https://www.organicconsumers.org/blog/monsanto-isn%E2%80%99t-feeding-world%E2%80%94it%E2%80%99s-killing-our-children>

¹⁰⁸ <http://www.nature.com/articles/srep39328>

fat) in the blood. However, some people develop NAFLD even if they do not have any of these known risk factors.

Roundup caused a 50% decrease in sperm count in males between 1973 and 2011

Prof Hagai Levine from the Hebrew University of Jerusalem undertook a rigorous and comprehensive meta-analysis of data collected between 1973 and 2011 finds that among men from Western countries, sperm concentration declined by more than 50 percent, with no evidence of a 'leveling off' in recent years.¹⁰⁹ Prof Levine suggested endocrine disruption from chemical exposures “*during critical windows of male reproductive development may play a role in prenatal life*” and “*exposure to pesticides may play a role in adult life. Thus, a decline in sperm count might be considered as a ‘canary in the coal mine’ for male health across the lifespan.*” Researchers from Brazil where babies who are lactose intolerant drink GM soy milk found that in rats fed soy milk it elicits endocrine-disrupting effects, by decreasing serum testosterone levels, decreased Sertoli cell numbers and increased percentage of degenerated Sertoli and Leydig cells.¹¹⁰

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

Behavioral impairments following repeated intranasal glyphosate-based herbicide administration in mice.¹¹¹

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

This is why there are so many mental health and psychiatric disorders, depression, suicides, anxiety and violence among children and adults.

Martínez, M. A., Ares, I., Rodríguez, J. L., Martínez, M., Martínez-Larrañaga, M. R., & Anadón, A. (2018). Neurotransmitter changes in rat brain regions following glyphosate exposure. *Environmental Research*, 161, 212-219.¹¹²

Highlights:

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

Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in immature rat hippocampus: Involvement of glutamate excitotoxicity.¹¹³

¹⁰⁹

<https://academic.oup.com/humupd/article/doi/10.1093/humupd/dmx022/4035689/Tempora-l-trends-in-sperm-count-a-systematic-review>

¹¹⁰ <http://www.sciencedirect.com/science/article/pii/S0278691516304896>

¹¹¹ <https://www.sciencedirect.com/science/article/pii/S0892036217301526>

¹¹² <https://www.sciencedirect.com/science/article/pii/S0013935117316730>

¹¹³ <https://www.sciencedirect.com/science/article/pii/S0300483X14000493>

Violent Behavior: A Solution in Plain Sight

Why is there an increasing incidence in unsociable behaviour, disorder, aggression, gun crime, and brutality in the US and the UK? This paper by Sylvia Onusic, PhD, CNS, LDN, seeks reasons for the increase in violent behaviour in America, especially among teenagers. She identifies malnutrition, vitamin and micronutrient deficiency as potent causes of aberrant behaviour, crime and the spectrum of autistic diseases. She says: *"Some children have been corrected by a proper diet free of junk food."*¹¹⁴ These are precisely the effects of exposure to glyphosate and other chemicals.

The Health Care Doctors Forgot: Why Ordinary Food Will Be the Future of Medicine

Prof T Colin Campbell also identifies our *"neglect of the remarkable ability of nutrition to promote health and decrease illness."*¹¹⁵ He quotes Hippocrates: *"Let food be thy Medicine."* *"Can diet cure disease, and not just prevent it? Scientific evidence is accumulating that diets which emphasize consumption of plants and which avoid meat and dairy products can rapidly reverse common and life-threatening chronic diseases such as diabetes and heart disease. For these and other common diseases research is showing that a diet-based cure is much more effective than current medical treatments which are largely ineffectual, expensive, and plagued by side effects. These important facts about the power of nutrition are not widely known, however. That is because they simultaneously challenge the food industry, the pharmaceutical industry, and the medical profession."*

Professor Campbell also asked why cancer research has stalled.¹¹⁶

The non-mutagenic nutrition effects we observed in our research on cancer development closely resemble the nutrition-based effects known to dramatically reverse other diseases, including advanced coronary heart disease and diabetes (Esselstyn 2014 and Barnard 2009). These nutrition-based effects have been observed as a result of the dietary lifestyle composed of whole plant-based foods without added oil and refined carbohydrates. The benefits are truly remarkable, broad in scope, and surprisingly rapid in response (Campbell and Campbell 2005; Campbell 2013).

¹⁴C labelled glyphosate detected in cartilage; is it responsible for degeneration of cartilage and knee arthritis?

Samsel and Seneff wrote paper IV on Glyphosate: Glyphosate, pathways to modern diseases IV: cancer and related pathologies¹¹⁷ and concluded that: *"significant evidence of tumours was found during these investigations"*. In this paper Table 11 Page 127 shows the distribution and bioaccumulation of ¹⁴C labelled glyphosate in blood, bone, organs and other tissues of Sprague Dawley rats.

Recent anatomical studies of knee arthritis from Harvard show, that when the team factored out the effects of weight and age in the two modern groups, **knee arthritis was still more than twice as common in the group of people who died after 1976, 'suggesting other factors are involved'**.¹¹⁸ In England in July 2017 the NHS waiting list for hip replacement (and cataract surgery) exceeded 4 million.

Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study

The Centre for Longitudinal Studies based at the Institute of Education University of London published their latest report on 9 November 2013.¹¹⁹

Their key findings of the cohort at age 42 were that:

¹¹⁴ <http://www.westonaprice.org/environmental-toxins/violent-behavior-a-solution-in-plain-sight/pdf>

¹¹⁵ <http://www.independentsciencenews.org/health/the-healthcare-doctors-forgot-ordinary-food-will-be-the-new-medicine>

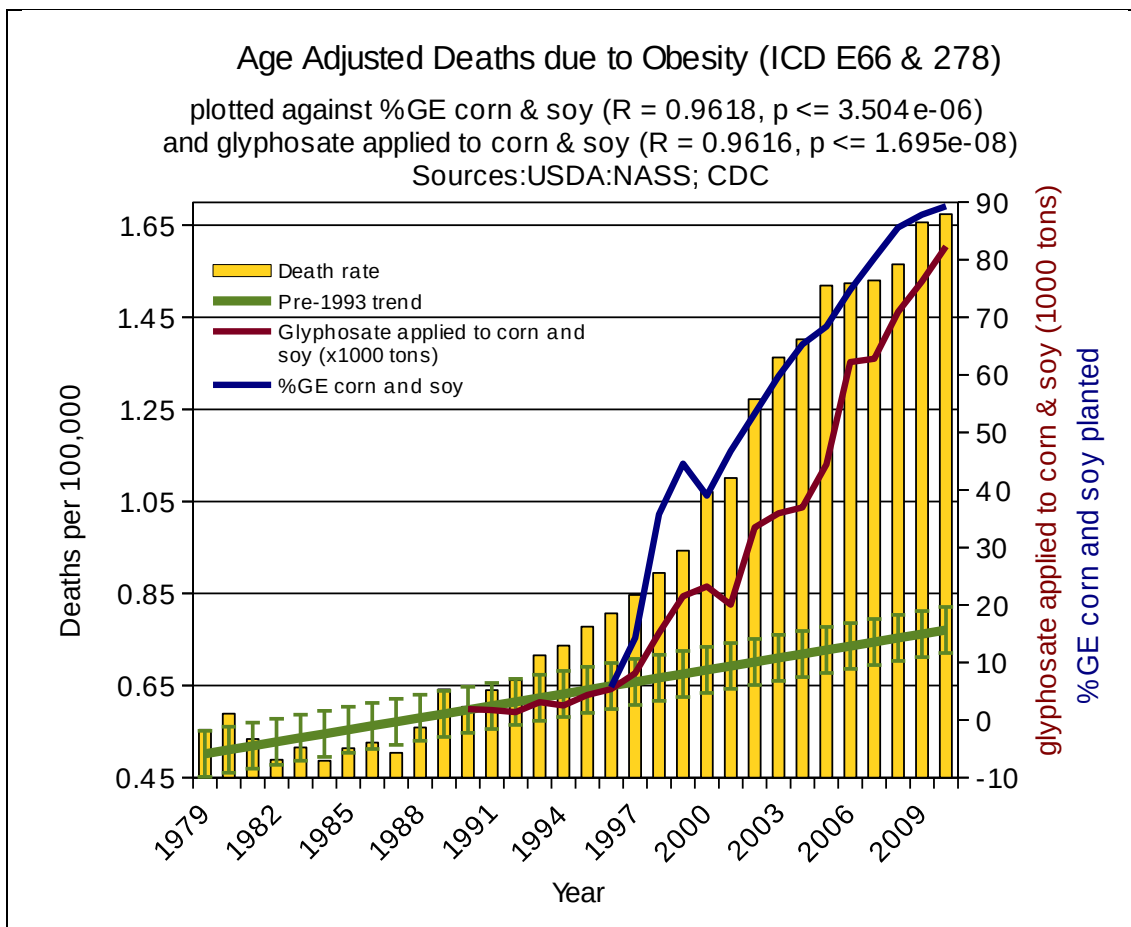
¹¹⁶ <https://www.independentsciencenews.org/health/why-cancer-research-has-stalled/>

¹¹⁷ <http://www.amsi.ge/jbpc/31515/11SA15R.pdf>

¹¹⁸ <http://www.sciencemag.org/news/2017/08/knee-arthritis-americans-has-doubled-1940>

¹¹⁹ [Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study at age 42](#)

- The generation born in 1970 is considerably more likely to be overweight or obese than those born 12 years earlier were at the same age.
- Men born in 1970 are far more likely to be overweight than women.



Proof that obesity is a problem related to glyphosate: a study showed that by 2025, the UK will have the highest obesity rates among both men and women in Europe, at 38%: in contrast in France women have had virtually no increase in BMI over 40 years

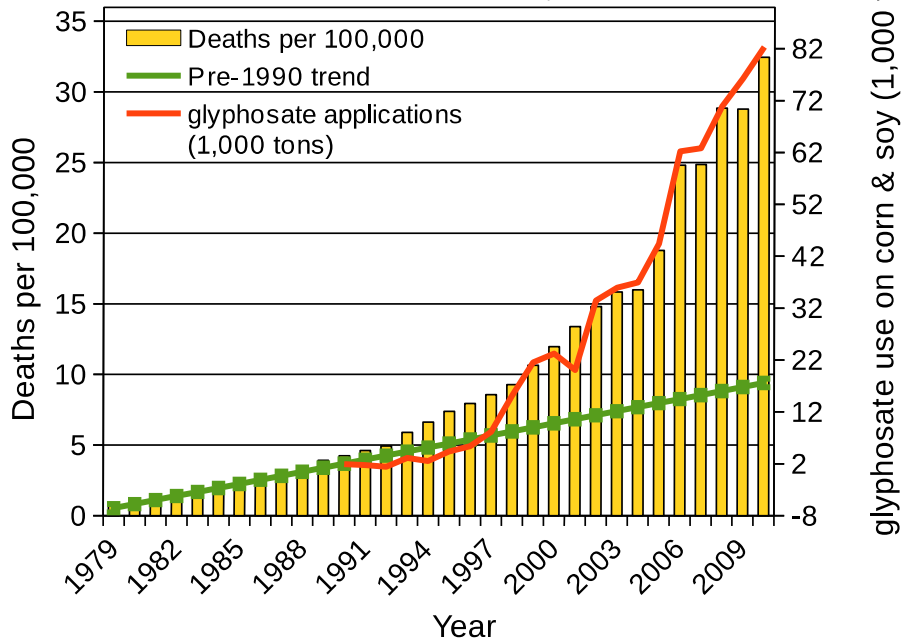
A study on obesity published in the Lancet in March 2016 says: "About a fifth of all adults around the world and a third of those in the UK will be obese by 2025, with potentially disastrous consequences for their health".¹²⁰ The Lancet Study says there is zero chance that the world can meet the target set by the UN for halting the climbing obesity rate by 2025. "Over the past 40 years, we have changed from a world in which underweight prevalence was more than double that of obesity, to one in which more people are obese than underweight," said senior author Prof Majid Ezzati from the School of Public Health at Imperial College London. "The English-speaking world is particularly badly affected. **The UK will have the highest obesity among both men and women in Europe, at 38%.** In contrast: "Against the trend of steadily rising weight, women in some countries had virtually no increase in BMI over the 40 years – in Singapore, Japan, and a few European countries including Czech Republic, Belgium, **France**, and **Switzerland**."¹²¹

¹²⁰ <http://www.theguardian.com/society/2016/mar/31/one-fifth-of-worlds-adults-will-be-obese-by-2025-study-predicts>

¹²¹ In Switzerland, spraying glyphosate pre-harvest is not permitted. Systemic neonicotinoid pesticides are not allowed. However the Swiss Government allows Syngenta to operate from Switzerland.

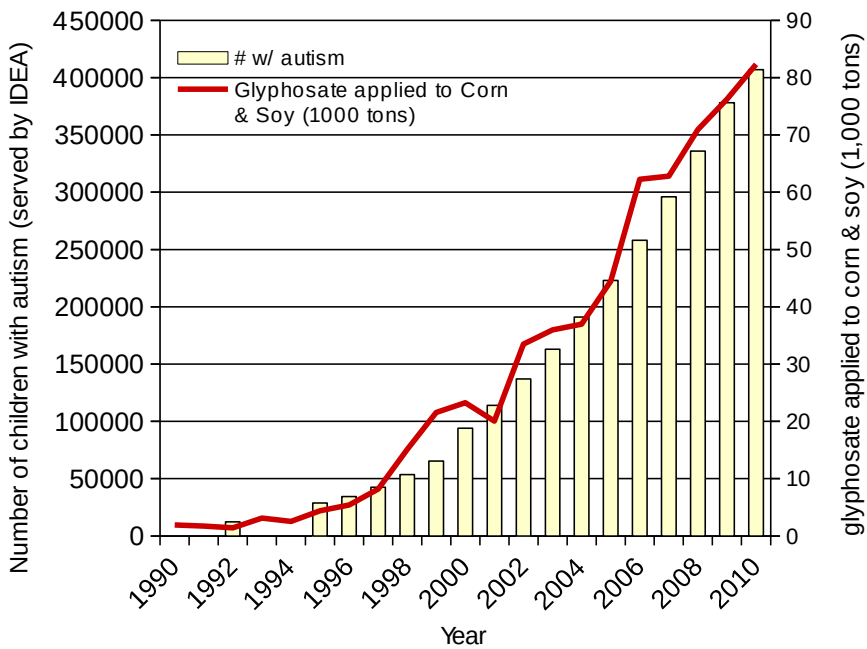
Age Adjusted Deaths from Senile Dementia (ICD F01, F03 & 290)

Plotted against glyphosate use on corn & soy
 (R = 0.9942, p <= 1.822e-09)
 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 <= 3.629e-07)
 Sources: USDA:NASS; USDE:IDEA



There has been a profound breach of legislation that affects humans and the environment; these constitute crimes against humanity

Since February 2014 I have been intermittently writing to the HSE about Roundup poisoning our nature reserve. HSE consistently refused to write to the Council and ask them to stop spraying Roundup because “*it was still legal.*” The response to my letter of 28th July 2017 was:

“Dear Dr Mason,

Thank you for your latest email of 28 July to Martin Temple. HSE’s response to your question is the same as expressed in previous correspondence on this. I would advise you that, unless your correspondence raises any issues on which HSE considers it should respond, we will not be responding to you in future.

Yours sincerely,

/Health & Safety Executive

*CE, Parliamentary and Secretariat Office | Legal and Governance Division
Desk 39, 5N.3, Redgrave Court, Merton Road, Bootle, L20 7HS”*

Breach of legislation by HSE: new labelling rules from 2012

The Chemicals Regulation Directorate, (CRD) issued new labelling rules for all herbicides used on non-porous hard surfaces which manufacturers must comply with before June 1 2012. ¹²² “*Restrictions were introduced to ensure pesticide run-off from non-porous hard surfaces to water courses is minimal and can be predicted by the HARDSPEC model used in assessing pesticides for approval. Targeted treatment of weeds must be undertaken on roads, pavements, concrete and paved areas and drains must not be over-sprayed. Adopting the new rules will minimise the use of pesticides as required under the Sustainable Use Directive and will also save money by reducing unnecessary herbicide use in overall spraying. They will reduce run-off to drains and water bodies as required by the Water Framework Directive. The rules implement Best Practice advised by Monsanto into a mandatory legal requirement.*”

Urban populations ¹²³ are more at risk during heavy rainfall from run-off ¹²⁴ than are rural populations.

Pesticide drift is the aerial movement and unintentional deposit of pesticide outside the target area: ¹²⁵ it results in heavy contamination of people and the environment

When Roundup is sprayed, the particles drift in the air, are blown by the wind and come down in the rain. Swansea is wet and windy: from January 1st 2016 to November 29th 1,417 mm (about 56 inches) of rain were recorded.

“*There are two forms of pesticide drift. **Particle drift** is the movement of pesticide droplets or solid particles outside the area being treated. Coarser droplets move short distances and fall close to the point of release. Finer particles (i.e. less than 200 microns) can remain suspended on air currents for long periods of time and can be carried far outside of the target area. For example, a 100 micron droplet takes 11 seconds to fall three metres in still air, and will drift more than 20 metres in an 8 km/h wind. **Vapour drift** is the movement of pesticide vapours outside the area being treated. Vapour drift is invisible and can have a*

¹²² https://www.monsanto-ag.co.uk/media/1327/tb_roundup_hard_surfaces_new_regulations_2012.pdf

¹²³ <http://www.sciencedirect.com/science/article/pii/S0045653510007411>

¹²⁴ <http://www.ncbi.nlm.nih.gov/pubmed/21128261>

¹²⁵ <http://www.omafr.gov.on.ca/english/crops/facts/11-001.htm>

considerable impact. Vapours are created when spray droplets evaporate both at the time of application and for some time after the spray has dried on plant or soil surfaces. The potential for vapour drift is more a product of the volatility of the active ingredient, the formulation (e.g. esters) and environmental conditions (e.g. hot and dry) than the equipment used."

Koffi Dogbevi, a Human Rights Lawyer (who spoke on ecocide and genocide at the International Monsanto Tribunal) commented on the intransigence of CRD/HSE

It is probably "legal" to spray pesticides and other chemicals including glyphosate or GBH, but it is not legal to take a human life away, or cause actions with high likelihood to cause death or serious health issues. In fact, pursuant to the Universal Declaration of Human Rights (UDHR), Everyone has the right to life, liberty and security of person (art.3 UDHR), and to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services [...] (article 25(1) UDHR). It follows that no human activity, whether legal or not, should infringe this holy principle erected to protect Humans from the atrocity of humans. This is true even in the uncertainty of the damages that can result from the use of these chemicals. To this regard the Rio Declaration is very clear when it requires in its principle (15) a precautionary approach in order to protect the environment, and specifies that a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environment degradation, where there are threats of serious or irreversible damage.

Therefore, we cannot exonerate Monsanto, or advise ourselves to look elsewhere, even when the extent of the damages caused by glyphosate and/or its additives are still quite unknown.

Genetically-engineered crops, glyphosate and the deterioration of health in the United States of America. Swanson *et al.* ¹²⁶

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** ($R =$*

¹²⁶ http://www.organic-systems.org/journal/92/IOS_Volume-9_Number-2_Nov_2014-Swanson-et-al.pdf

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.

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 pathologies¹²⁷ and concluded that: “*significant evidence of tumours was found during these investigations*”. Ridley and Mirly (1988) (for Monsanto) found bioaccumulation of ¹⁴C 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.

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.¹²⁸

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 body¹²⁹ and referred back to the glyphosate re-assessment in Europe in 2002. However, Monsanto’s secret studies had revealed otherwise.

Why Honeybees Don’t Have A Chance In The Midst Of Pesticides: Glyphosate has been touching the environment and public health in vast quantities for decades.

Evaggelos Vallianatos, a former employee of the US EPA, reminds us of the scandal which was covered up just before he was appointed.¹³⁰ “*By the time I joined EPA, in 1979, the agency was imploding from industry corruption. With utter contempt for public and environmental health, the industry declared war on science and even the environmental laws it had drafted for the government. The agribusiness industry became the alternative model of government and society. It expected no resistance or change. EPA was simply its lapdog. But unexpected things happened.*

In 1976, an outstanding pathologist from the US Food and Drug Administration, Adrian Gross, uncovered a massive lab fraud. Companies paid a large laboratory known as Industrial Bio-Test, near Chicago, to test their products for federal approval. IBT did just that, using fraud and deceit to make the products shine.

¹²⁷ <http://www.amsi.ge/jbpc/31515/11SA15R.pdf>

¹²⁸ http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196_eng.pdf

¹²⁹ <https://gmoanswers.com/ask/hi-does-senior-monsanto-scientist-dan-goldstein-still-maintain-if-ingested-glyphosate-excreted>

¹³⁰ http://www.huffingtonpost.com/entry/why-honeybees-dont-have-a-chance-in-the-midst-of-pesticides_us_58c1ec02e4b0c3276fb7831c

Gross reported the fraud he discovered and EPA, FDA, and the entire federal government and the industry panicked. Companies went to their paid lobbyists who went to the paid-for Congressmen and Senators who went to the White House that ordered EPA to minimize and ignore the lab crime and its potential deleterious effects on public and environmental health.

It took seven years, from 1976 to 1983, to shut down IBT. And none of the major pesticides that gained license through the flawless data generating IBT machine lost their "registration" with the EPA. In other words, the fraud and crime of approving pesticides with fake data was never punished. The owners of IBT pesticides did not go to prison. This period of wild industry corruption gave birth to glyphosate, a weed killer that achieved global significance, being the biggest selling pesticide ever. From 1974, when it came to market, to 2014, more than 1.6 billion kilograms [glyphosate](#) drenched America".

In his book, "[Poison Spring: The Secret History of Pollution and the EPA](#)" he wrote in 2014:

"It is simply not possible to understand why the EPA behaves the way it does without appreciating the enormous power of American's industrial farmers and their allies in the chemical pesticide industries, which currently do about \$40 billion per in year business. For decades, industry lobbyists have preached the gospel of unregulated capitalism, and Americans have bought it. Today, it seems the entire government is at the service of the private interests of America's corporate class."

That was three years ago. And yet, as public opinion shifts toward condemnation of the widespread use of toxic chemicals on our food, here in the U.S., government officials entrusted with public health and safety appear more determined than ever to uphold the "rights" of corporations to poison everything in sight—including our children.¹³¹

The International Monsanto Tribunal in The Hague with regard to ecocide

Summary of the advisory opinion of the International Monsanto Tribunal ¹³²

Delivered on the 18th of April 2017 in The Hague, Netherlands

The International Monsanto Tribunal is a unique "Opinion Tribunal" convened by civil society to clarify the legal obligations and consequences of some of the activities of the Monsanto Company. In brief: the five judges of the Monsanto Tribunal agree that:

- **Monsanto has violated human rights to food, health, a healthy environment and the freedom indispensable for independent scientific research.**
- **'ecocide' should be recognized as a crime in international law.**
- **human rights and environmental laws are undermined by corporate-friendly trade and investment regulation.**

*The Monsanto Tribunal hearings allowed for the gathering of testimonies related to various impacts on human health (especially on farmers), soils, plants, aquatic organisms, animal health and biodiversity. These testimonies also included the impacts of spraying crop protection products (herbicides, pesticides). Based on the above findings and to answer Question 1, **the Tribunal concludes that Monsanto has engaged in practices that have negatively impacted the right to a healthy environment.***

Question 2 concerned the alleged infringement on the right to food as recognized in Article 11 of the International Covenant on Economic, Social and Cultural Rights, in Articles 24.2(c) and (e) and 27.3 of the Convention on the Rights of the

¹³¹ <https://www.organicconsumers.org/blog/monsanto-isn%E2%80%99t-feeding-world%E2%80%94it%E2%80%99s-killing-our-children>

¹³² http://www.monsanto-tribunal.org/upload/asset_cache/1016160509.pdf

Child, and in Articles 25(f) and 28.1 of the Convention on the Elimination of All Forms of Discrimination against Women.

The Tribunal heard witnesses' accounts of severe congenital diseases, development of non-Hodgkin lymphomas, chronic diseases, Lasso poisoning or even death occurring after direct or indirect environmental exposure to products manufactured by Monsanto. The Tribunal recalls that this company has manufactured and distributed many dangerous substances. First were PCBs, persistent organic pollutants exclusively commercialized by Monsanto between 1935 and 1979 despite the fact that the company knew about their deleterious health impacts. PCBs are now forbidden by the 2001 Stockholm Convention on Persistent Organic Pollutants. This carcinogenic product also causes problems with fertility and child development, and disrupts the immune system.

*Secondly, glyphosate (ingredient in Roundup) is considered in some studies as a carcinogenic product while other reports, such as the one from the European Food Safety Authority (EFSA), conclude the opposite. In an opinion issued on the 15th of March 2017 and related to the classification of glyphosate, the European Chemicals Agency (ECHA) indeed estimated that this product could not be classified as a carcinogen, as a mutagen or as toxic for reproduction. The Tribunal however stresses that this classification does not take into account the risks of exposure, with residues found in food, drinking water and even in human urine. The commercialization of Roundup-resistant GMO crop seed has resulted in widespread distribution and use of this product. It is classified as "probably carcinogenic to humans" by the World Health Organisation's (WHO) International Agency for Research on Cancer. Other reports assert the genotoxicity of glyphosate on humans and animals. Last but not least, internal Monsanto documents released in March 2017 as a result of a court order of the U.S. District Court, Northern District of California (San Francisco) show that **Monsanto has manipulated science**. This makes hollow the so-called scientific controversy about the risks glyphosate pose on health.*

Thirdly, the use of GMO seed raises multiple questions. There is a distinct lack of scientific consensus about the impacts of GMOs on human health. The controversy is embedded in a context of opacity on GMO studies, and even on the inability of researchers to conduct independent research. The "Monsanto Papers" cast light on practices of systematic manipulation of scientific studies, and on the influence exerted on experts by Monsanto. There is no political consensus on the cultivation of GMOs either. The UN Special Rapporteur on the Right to Food, an independent expert, calls for the need to follow the precautionary principle at the global level. The Tribunal concludes that Monsanto has engaged in practices that negatively impacted the right to health.

Question 4 concerned the alleged infringement on the freedom indispensable for scientific research, as guaranteed by Article 15(3) of the International Covenant on Economic, Social and Cultural Rights, as well as the freedoms of thought and expression guaranteed in Article 19 of the International Covenant on Civil and Political Rights.

The "freedom indispensable for scientific research" closely relates to freedom of thought and expression, as well as the right to information. It is therefore key to safeguarding other fundamental rights, such as the right to health, food, water and a healthy environment. This freedom engenders the requirement to ensure that scientific researchers are able to express themselves freely and are protected when acting as whistle-blowers. Some of Monsanto's practices mentioned in the testimonies of agronomists and molecular biologists have resulted in court convictions for the company. Among those practices are: illegal GMO plantations; resorting to studies misrepresenting the negative impacts of Roundup by limiting the analysis to glyphosate only while the product is a combination of substances; massive campaigns aiming at discrediting the results of independent scientific studies. These strategies led, for example, to the withdrawal of a study published in an international journal and to the loss of a job for a scientist working in a governmental health agency.

In response to Question 4, the Tribunal concludes that Monsanto's conduct is negatively affecting the right to freedom indispensable for scientific research. Conduct such as intimidation, discrediting independent scientific research when it raises serious questions about the protection of the environment and public health, suborning false research reports, putting pressure on governments are transgressing the freedom indispensable for scientific research. This abuse is exacerbated by exposure to health and accompanying environmental risks, which deprive society the possibility to safeguard fundamental rights. Taking direct measures to silence scientists or attempting to discredit their work constitutes conduct that abuses the right to freedom indispensable for scientific research and the right to freedom of expression. This negatively affects the right to information.

Question 6 asked the Tribunal if the activities of Monsanto could constitute a crime of ecocide, understood as causing serious damage or destroying the environment, so as to significantly and durably alter the global commons or ecosystem services upon which certain human groups rely.

Developments in international environmental law confirms the increased awareness of how environmental harm negatively affects the fundamental values of society. Preserving dignity for present and future generations and the integrity of ecosystems is an idea that has gained traction in the international community. As an evidence of these developments, and according to the Policy Paper on Case Selection and Prioritisation from September 2016, the Prosecutor of the ICC wants to give particular consideration to Rome Statute crimes involving the illegal dispossession of land or the destruction of the environment. However, despite the development of many instruments to protect the environment, a gap remains between legal commitments and the reality of environmental protection. The Tribunal assesses that international law should now precisely and clearly assert the protection of the environment and the crime of ecocide. The Tribunal concludes that if such a crime of ecocide were recognized in international criminal law, the activities of Monsanto could possibly constitute a crime of ecocide. Several of the company's activities may fall within this infraction, such as the manufacture and supply of glyphosate-based herbicides to Colombia in the context of its plan for aerial application on coca crops, which negatively impacted the environment and the health of local populations; the large-scale use of dangerous agrochemicals in industrial agriculture; and the engineering, production, introduction and release of genetically engineered crops. Severe contamination of plant diversity, soils and waters would also fall within the qualification of ecocide. Finally, the introduction of persistent organic pollutants such as PCB into the environment causing widespread, long-lasting and severe environmental harm and affecting the right of the future generations could fall within the qualification of ecocide as well.

The Monsanto Tribunal: contributing to the development of International law

The goal of the Monsanto Tribunal is to evaluate whether or not Monsanto's activities are complying with international law. Through the case of Monsanto, the Tribunal considers an example of a multinational corporation whose behavior ignores the damages their decisions cause to health, environment and scientific independence. The aim of the Tribunal is to give a legal opinion on the environmental and health damage caused by the multinational Monsanto. This process will use existing international law but also contribute to the international debate to include the crime of ecocide into international criminal law. It will also give people all over the world a well-documented legal file to be used in lawsuits against Monsanto and similar chemical companies.

The Monsanto Papers

What are the Monsanto Papers?

59 lawsuits against Monsanto Co. are pending in U.S. District Court in San Francisco filed by people alleging that exposure to Roundup herbicide caused them or their loved ones to develop non-Hodgkin lymphoma, and that Monsanto covered up the risks. The lead case is 3:16-md-02741-VC. On March 13th, U.S. District Judge Vince Chhabria ruled — over Monsanto's objections — that documents obtained by plaintiffs through discovery could be unsealed.¹³³ Other cancers have been linked to Roundup as well: Bone, Colon Cancer, Kidney Cancer, Liver Cancer, Melanoma, Pancreatic Cancer and Thyroid Cancer
It is a long (79-page) legal document but I will point out a few relevant parts:

(Page 11 line 6) The “Science” Underlying the Registration of Glyphosate

“In 1964, glyphosate was patented as a descaling agent for industrial boilers, due to glyphosate’s ability to combine with, and thus strip, metallic minerals. Ex. 14. Monsanto introduced it as an herbicide in the 1970s, and EPA approved its sale, based mainly on toxicology studies by Industrial Bio-Test (“IBT”) laboratory that the “FDA/EPA found to generate fraudulent data.”

Page 14 line 1 Dr Williams Heydens admitted that he ‘ghost-wrote’ an article for Gary Williams: *“Roundup herbicide does not pose a health risk to humans”* when their own scientists privately wrote that: *“[t]he terms glyphosate and Roundup cannot be used interchangeablyFor example you cannot say that Roundup is not a carcinogen...we have not done the necessary testing on the formulation to make that statement.”*

Page 14 line 13 Kier and Kirkland (Prof James Kirkland who appeared to support EFSA at the recent Public Hearing on 11th October 2017 into The Monsanto Papers and Glyphosate) wrote a paper that had also been drafted by Monsanto.

(After the hearing into the Monsanto Papers in Brussels EFSA insisted that the review had little bearing on EFSA’s finding that glyphosate is safe, *“because its verdict was based mainly on its assessment of the original studies, not reviews of studies.”*)

Page 43/44 line 28 Christophe Gustin (a Monsanto scientist) in 2008 wrote in an email: *“everyday users of Roundup are never exposed to just Roundup but the cocktail of other ingredients in the formulated products, such as surfactants.”* Indeed, Monsanto’s internal studies have observed that *“surfactants are able to increase glyphosate absorption through the skin,”* but Monsanto has failed to report the results to the US EPA.

A paper released by Baum Hedlund was a letter from Marion Copley who died from breast cancer and said glyphosate was originally designed as a chelating agent: she believed it is the identical process involved in tumor formation. ¹³⁴

A letter written by the late Marion Copley a US EPA toxicologist who had worked for 30 years for the EPA to her colleague Jess Rowland accusing him of conniving with Monsanto to bury the agency’s own hard scientific evidence that it is *“essentially certain”* that glyphosate, the key ingredient in Monsanto’s Roundup weed killer, causes cancer. The date of the letter comes after Copley left the EPA in 2012 and shortly before she died from breast cancer at the age of 66 in January 2014. She accuses Rowland of having *“intimidated staff”* to change reports to favor industry, and writes that research on

¹³³ <http://baumhedlundlaw.com/pdf/monsanto-documents/daubert-brief/Plaintiffs-1-Response-in-Opposition-to-Monsanto-Companys-Daubert-and-Summary-Judgment-Motion.pdf>

¹³⁴ <https://www.organicconsumers.org/sites/default/files/marioncopleyletter.pdf>

glyphosate, the key ingredient in Monsanto's Roundup, shows the pesticide should be categorized as a "probable human carcinogen."

"Jess,

Since I left the agency with cancer [breast] I have studied the tumor process extensively and I have some mechanism comments which may be very valuable to CARC based on my decades of pathology experience. Glyphosate was originally designed as a chelating agent and I strongly believe that is the identical process involved in tumor formation."

In a 1-page letter Dr Copley makes 14 observations about chelators and/or glyphosate, including that they are endocrine disruptors, suppress the immune system, damage the kidneys or pancreas which can lead to clinical chemistry changes that favor tumor growth; glyphosate kills bacteria in the gut, the gastrointestinal system is 80% of the immune system making the body susceptible to tumors.

Dr Copley ends with the statement: "I have cancer, and I don't want these serious issues in HED [EPA's Health Effects Division] to go unaddressed before I go to my grave. I have done my duty."

A 5-page letter that Baum Hedlund Attorneys sent to Europe 31/10/2017

It starts:

Dear Members of the European Commission, Parliament and Member States,

"We are expecting more documents from the ongoing U.S. litigation to be de-classified in the near future, a number of which pertain to communications between Bfr, BVL, EFSA, and Monsanto that may of interest to European lawmakers."

(There are links to six expert independent scientists who have shown statistically significant elevated risks between exposure to glyphosate-based formulations and NHLs.)

And ends:

"Following such exhaustive analysis, Dr. Portier was able to conclude that "glyphosate probably causes NHL based on the human, animal and experimental evidence and that, to a reasonable degree of scientific certainty, the probability that glyphosate causes NHL is high. Portier Reb. Rpt. at 24.

It is imperative that European regulatory agencies and lawmakers are presented with transparent and reliable evaluations of the scientific data on Glyphosate Based Formulations and cancer. We hope that a review of the above experts' opinions will contribute to the protection of the health of Europeans."

Monsanto exposed: the Monsanto Papers continued¹³⁵

*"Over 2017 an incredible number of secret documents from various industries and companies were made public. In March 2017, an American Judge Vince Chhabria ruled – over Monsanto's objections – that certain **internal documents** could be unsealed in the frame the multidistrict litigation glyphosate cancer case. Four months later, a **new batch** of company records was released. Attorneys for Baum Hedlund who were leading the lawsuit against Monsanto for Roundup causing cancers issued an unprecedented statement."¹³⁶*

"It was important to release the documents now because they not only pertain to the ongoing litigation, but also to larger issues of public health and safety, while shedding light on corporate influence over regulatory bodies," according to Baum Hedlund attorneys Brent Wisner and Pedram Esfandiary. "This is a look behind the curtain," said Wisner. "These show that Monsanto has deliberately been stopping studies that look bad for them, ghostwriting literature and engaging in a whole host of corporate malfeasance. They

¹³⁵ <https://usrtk.org/pesticides/mdl-monsanto-glyphosate-cancer-case-key-documents-analysis/>

¹³⁶ <https://www.alternet.org/environment/just-released-docs-show-monsanto-executives-colluding-corrupted-epa-officials-manipulate>

[Monsanto] have been telling everybody that these products are safe because regulators have said they are safe, but it turns out that Monsanto has been in bed with U.S. regulators while misleading European regulators."

One of the Court Documents released was an email from Donna Farmer, Monsanto Senior Toxicologist: "*The terms glyphosate and Roundup cannot be used interchangeably nor can you use "Roundup" for all glyphosate-based herbicides any more. For example you cannot say that Roundup is not a carcinogen...**we have not done the necessary testing on the formulation to make that statement.**"*

Robert F. Kennedy, Jr., another of the plaintiffs' attorneys said, "*This trove marks a turning point in Monsanto's corporate life. They show Monsanto executives colluding with corrupted EPA officials to manipulate and bury scientific data to kill studies when preliminary data threatened Monsanto's commercial ambitions, bribing scientists and ghostwriting their publications, and purchasing peer review to conceal information about Roundup's carcinogenicity, its toxicity, its rapid absorption by the human body, and its horrendous risks to public health and the environment.*"

Monsanto's activities in Wales

Monsanto and the UK Government came to an agreement on PCBs in Wales

In 1968 US documents showed that Monsanto tried to decide whether or not to come clean about the dangers of PCBs.

They stopped making PCBs in Anniston US in 1971 because of scandals about PCBs on the health of the population and wildlife. However, the British government led by Ted Heath agreed to ramp up production at their Monsanto plant in Newport. The UK government, which knew of the dangers of PCBs in the environment in the 1960s, allowed their production in Wales until 1977.¹³⁷

Alabama is more than 50 million square miles: Wales is 8,000 square miles.

The toxic waste was illegally dumped at Brofiscin Quarry west of Cardiff (and in 5 other quarries in Wales). According to engineering company WS Atkins, in a report prepared for the agency and the local authority in 2005 **but never made public**, Brofiscin Quarry contains at least 67 toxic chemicals. Seven PCBs have been identified, along with vinyl chlorides and naphthalene. The unlined quarry is still leaking, the report says. "*Pollution of water has been occurring since the 1970s, the waste and groundwater has been shown to contain significant quantities of poisonous, noxious and polluting material, pollution of ... waters will continue to occur.*"¹³⁸

Conflicts of interest in the European Commission

European Legislation was set up for the benefit of the agrochemical industry: exchanges between Monsanto Europe and the Health Commissioner confirm this Monsanto Europe replied to Health Commissioner Andriukaitis on 04/04/2016 to say that the 24 Glyphosate Task Force GTF members were prepared to grant very limited access to the data.¹³⁹

¹³⁷ <https://www.theguardian.com/guardian/2007/feb/12/frontpagenews.uknews>

¹³⁸

http://www.theecologist.org/The_Brofiscin_Monsanto_Files/777777/burying_the_truth_the_organal_ecologist_investigation_into_monsanto_and_brofiscin_quarry.html

¹³⁹ https://ec.europa.eu/commission/sites/cwt/files/letter_1.pdf

From this very revealing letter we learn that the current EU legislation is set up to “*protect intellectual property and confidential information from public disclosure...All confidential data ...shall be deleted or redacted (Regulation 1107/2009, Article 63).*” Much of the industry data submitted to the German Rapporteur Member State was redacted.

The European Parliament has no legislative function in the approvals process

According to the European Glyphosate Task Force, the renewal process is legislated for by means of a Commission Regulation (No. 1107/2009). Therefore, the European Parliament has no legislative function within the framework of the approval process.¹⁴⁰ However, Baum Hedlund sent the *Monsanto Papers* to four members of the European Parliament after their request for advice.¹⁴¹

Successive Heads of Pesticide Unit, Health and Consumers Directorate General (DG Sante) European Commission appear to have no appropriate specialist knowledge

Michael Flüh admitted to being a non-scientist (in a video) and Klaus Berend who replaced him after Michael Flüh resigned (possibly as a result of guilt about destroying our nature reserve: he certainly announced to me his resignation) is an expert in the REACH specifications of plastics in aviation.

(REACH (Registration, Evaluation, Authorisation and Restriction of Chemical substances): The Biocidal Product Regulation (BPR, Regulation (EU) 528/2012) concerns the placing on the market and use of biocidal products, which are used to protect humans, animals, materials or articles against harmful organisms, like pests or bacteria, by the action of the active substances contained in the biocidal product.)

European Commission decision on middle management staff¹⁴²

Page 2 (2) Middle managers should not only have a *very good knowledge of their subject areas*, they should also be outstanding in managing work and people.

Page 5 Article 4 The role of heads of unit is regarded as particularly important. They shall possess specific management (i.e. work organisation, people management and, where relevant, financial resources management) competencies and *an appropriate degree of specialist knowledge and technical expertise.*

ILSI formerly described as “key partner for European industry” but changed

Not long ago ILSI described itself as a “*key partner for European industry*” but it now says that it is a “*non-profit guided by scientific and environmental concerns*” and that it **does not lobby** or make policy recommendations.

This new description of ILSI was endorsed by Dr Philippe Verger, Department of Food Safety and Zoonoses, WHO. He is also secretary of the UN panel on glyphosate. He said that ILSI could best be called a “meeting place” for scientific discussions.

Verger told the *Guardian*: “*ILSI is not an independent body. That is very clear. Private companies are supporting it and its structure. But the objective of ILSI and of the companies is to create a space for discussion and interaction between the private and public sectors. ILSI’s focus is not to discuss topics of economic interest for individual companies. It is more of a forum.*”

¹⁴⁰ http://www.glyphosate.eu/system/files/sidebar-files/renewal_process_for_glyphosate_faqs_0.pdf

¹⁴¹ <https://usrtk.org/wp-content/uploads/2017/08/Exhibit-Letter-from-plaintiffs-attorneys-to-European-Parliament.pdf>

¹⁴² https://ec.europa.eu/info/sites/info/files/european-commission-decision-on-middle-management-staff_3288_c_2016_en.pdf

Evidence that the health of British people is deteriorating

UK Mortality rates from 2014 the highest for 50 years: they continue to rise¹⁴³

“The period July 2014 to June 2015 saw an additional 39 074 deaths in England and Wales compared with the same period the previous year. While mortality rates fluctuate year-on-year, this was the largest rise for nearly 50 years and the higher rate of mortality has been maintained throughout 2016 and into 2017.”

Rise in UK death rates spread across the age groups not just in the elderly¹⁴⁴

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

UK cancer survival rates trail 10 years behind other European countries¹⁴⁵

Cancer survival rates in the UK are still lagging more than two decades behind those achieved in many European countries, according to new analysis by campaigners on 25th March 2015. The Concord-2 global study looked at survival rates in 67 countries for patients diagnosed with lung, breast, colon and stomach cancers in 1995 to 1999, compared with levels in 2005 to 2009.

A report by ‘Children with Cancer UK’ in 2016 said there were 1,300 more cases per year of cancers in children, particularly in young adults, compared with 1998. The medical correspondent from *The Telegraph* mentioned pesticides as a possible cause but a spokesperson from CRUK said there was no evidence of environmental factors, but the cancers could be caused by radiation or genetic factors. **Colon cancer** in young adults had risen by 200%; **thyroid cancer** doubled; **ovarian cancer** up by 70% and **cervical cancer** up by 50% since 1998.¹⁴⁶

In 2014 in Britain CRUK reported 13,605 new cases of NHL (4,801 deaths)¹⁴⁷

41,265 new cases of bowel cancer (15,903 deaths); 12,523 new cases of kidney cancer (4,421 deaths); 5,550 new cases of liver cancer (5,091 deaths); 5,419 new cases of melanoma (2,459 deaths); 3,404 new cases of thyroid cancer (376 deaths); 10,063 new cases of bladder cancer (5,369 deaths); 9,324 new cases of uterine cancer (2,166 deaths); 7,378 cases of ovarian cancer (4,128 deaths) 9,534 new cases of leukaemia (4,584 deaths); 55,222 new cases of invasive breast cancer (11,433 deaths); 46,690 new cases of prostate cancer (11,287 deaths); 8,919 new cases of oesophageal cancer (7,790 deaths) and 5,501 new cases of myeloma (2,928 deaths); 2,418 new cases of testicular cancer (60 deaths). In the US in 2014 there were 24,050 new cases of myeloma.

¹⁴³ <http://jech.bmj.com/content/early/2017/09/01/jech-2017-209403>

¹⁴⁴ <https://www.theguardian.com/commentisfree/2017/jan/01/good-health-good-society-we-are-suffering>

¹⁴⁵ <http://www.theguardian.com/society/2015/mar/24/uk-cancer-survival-rates-trail-10-years-behind-those-in-european-countries>

¹⁴⁶ <http://www.telegraph.co.uk/science/2016/09/03/modern-life-is-killing-our-children-cancer-rate-in-young-people/>

¹⁴⁷ <http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/non-hodgkin-lymphoma>

Antibiotic resistance an apocalyptic threat to humans

In 2013 Professor Dame Sally Davies claimed that antibiotic resistance is an apocalyptic threat to humans and should be put on the list of civil emergencies. She blamed doctors and vets for overuse. But in 2017, a paper from New Zealand showed that herbicides glyphosate, dicamba and 2-4 D change antibiotic responses to pathogenic bacteria. ¹⁴⁸

US Scientists sound the alarm over global mass poisoning

Editorial: Regulating toxic chemicals for public and environmental health: Lisa Gross and Linda Birnbaum.¹⁴⁹

“By the time President Gerald Ford signed the United States Toxic Substances Control Act in the fall of 1976, tens of thousands of synthetic chemicals had entered world markets with no evidence of their safety... Ford’s signing statement described a law giving the Environmental Protection Agency (EPA) broad regulatory authority to require toxicity testing and reporting to determine whether the chemicals posed risks.” “If a chemical is found to present a danger to health or the environment,” Ford promised, “appropriate regulatory action can be taken before it is too late to undo the damage.”

That’s not what happened. The 60,000-plus chemicals already in commerce were grandfathered into the law on the assumption that they were safe. And the EPA faced numerous hurdles, including pushback from the chemical industry that undermined its ability to implement the law. Several articles explore the failure of regulations to keep hazardous chemicals from polluting our food, air, and drinking water. Maricel Maffini and her colleagues describe the failure of regulators to account for health risks associated with the thousands of chemicals introduced into the food system since 1958, when Congress authorized the Food and Drug Administration to ensure the safety of substances added to food. Chemicals from agriculture, industry, and other commercial uses routinely enter drinking water supplies.”

Joseph M Braun and Kimberley Gray: Challenges to studying the health effects of early life environmental chemical exposures on children’s health. ¹⁵⁰

Maricel V Maffini, Thomas G Neltner, Sarah Vogel: We are what we eat: Regulatory gaps in the United States that put our health at risk. ¹⁵¹

“The American diet has changed dramatically since 1958, when Congress gave the United States Food and Drug Administration (FDA) the authority to ensure the safety of chemicals in food. Since then, thousands of chemicals have entered the food system. Yet their long-term, chronic effects have been woefully understudied, their health risks inadequately assessed. The FDA has been sluggish in considering scientific knowledge about the impact of exposures—particularly at low levels and during susceptible developmental stages. The agency’s failure to adequately account for the risks of perchlorate—a well-characterized endocrine-disrupting chemical—to vulnerable populations is representative of systemic problems plaguing the regulation of chemicals in food. Today, we are faced with a regulatory system that, weakened by decades of limited resources, has fallen short of fully enforcing its mandates. The FDA’s inability to effectively manage the safety of hundreds of chemicals is putting our children’s health at risk.”

¹⁴⁸ <http://mic.microbiologyresearch.org/content/journal/micro/10.1099/mic.0.000573>

¹⁴⁹ <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2004814>

¹⁵⁰ <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2002800>

¹⁵¹ <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2003578>

US House Science Committee wants to investigate a Government Scientist for doing Science¹⁵²

Republicans on the House Science Committee are accusing Linda Birnbaum, director of the National Institute of Environmental Health Sciences, of lobbying. In letters sent to the [Inspector General](#) and [acting secretary](#) of the Department of Health and Human Services, Reps. Lamar Smith and Andy Biggs wrote that they were “conducting oversight” of Birnbaum’s activity in response to a [editorial](#) she wrote in a scientific journal.

Birnbaum’s [editorial](#), which the journal [PLOS Biology](#) published in December, *addressed the gaps in the regulation of toxic chemicals. Though there are more than 85,000 chemicals approved for use in commerce, she noted in the piece, “U.S. policy has not accounted for evidence that chemicals in widespread use can cause cancer and other chronic diseases, damage reproductive systems, and harm developing brains at low levels of exposure once believed to be harmless.”*

Birnbaum called for more research on the risks posed by chemicals and, in the sentence that the representatives appear to consider lobbying, noted that “closing the gap between evidence and policy will require that engaged citizens — both scientists and non-scientists — work to ensure that our government officials pass health-protective policies based on the best available scientific evidence.”

A toxicologist who has headed NIEHS and the National Toxicology Program since 2009, Birnbaum received no funding for writing the editorial, as she notes in the piece, nor does she recommend any specific policy, piece of legislation, or action in it beyond being engaged citizens.

Nevertheless, Biggs and Smith, who have both received money from Koch Industries, Exxon Mobil, and other companies that have a financial interest in limiting research on the environmental effects of chemicals, noted that their “committee suspects this activity may be a violation of the anti-lobbying act.” The two Republican members of Congress also called on the DHHS Inspector General to analyze their concerns so that he might “launch a full-scale review of the situation.”

The Union of Concerned Scientists’s Andrew Rosenberg dismissed the representatives’ letters as “codswallop.”

Rosemary Mason MB ChB FRCA
31 January 2018

Compiled over 7 years with information from a global network of beekeepers, scientists, farmers, independent journalists, environmentalists, physicians and concerned citizens.

¹⁵² <https://theintercept.com/2018/01/22/linda-birnbaum-niehs-house-science-committee/>