

## A Second Open Letter to the National Farmers' Union about Chemical and Biological Warfare

### **Glyphosate and the neonicotinoid insecticides are chemical and biological weapons**

Guy Smith  
Vice-President of the NFU

Dear Mr Smith

Are you aware that the pesticides glyphosate and the neonicotinoid insecticides are closely related to agents of chemical warfare developed by the same companies during WW2?

Evaggelos 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.

On 10 June 2017 he wrote about the US EPA poisoning honeybees with chemical and biological weapons.<sup>1</sup>

Excerpts: *"Morally bankrupt governments, regulatory agencies, and farmers have been poisoning honeybees for decades. These "farmers" claim to be following science-based agricultural practices.*

*But what kind of "science" would be blessing farmers spraying their crops with chemicals, which in reality are **chemical and biological weapons**? If this surprises you, let me assure you that most pesticides are relatives of chemical warfare agents. 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."*

*This mentality of showing only one part of the farm story but hiding the deleterious effects of chemical agriculture dominates environmental and public health "protection" in both America, Europe and the rest of the world in 2017. Under the name of science, agribusiness, universities and governments have been hiding the human health effects of contaminated food and drinking water, much less dead honeybees."*

### **Massive fraud in agricultural science and testing and regulation of pesticides**

On 17 June 2017 he wrote the following about the control of farming by petrochemical corporations and the abuse of science:<sup>2</sup>

*Extract: "The triumph of this aggressive form of farming has meant the sidelining of science and the formal, state-supported addiction of farmers to pesticides. In this agricultural context science became a weapon. The petrochemicals industry drafted the pesticide laws in America and Europe. Such blatant power grab infused everything about pesticides with loopholes, secret to the public but crystal clear to the industry and most regulators, politicians, and environmentalists.*

<sup>1</sup> [http://www.huffingtonpost.com/entry/toxic-morality-is-killing-honeybees\\_us\\_593c867fe4b0b65670e56b21](http://www.huffingtonpost.com/entry/toxic-morality-is-killing-honeybees_us_593c867fe4b0b65670e56b21)

<sup>2</sup> [http://www.huffingtonpost.com/entry/playing-political-games\\_us\\_5945789ae4b024b7e0df4c9a](http://www.huffingtonpost.com/entry/playing-political-games_us_5945789ae4b024b7e0df4c9a)

*Testing pesticides for health and ecological effects became a brutal abuse of science. It is a display of concern in a strategy of deception. For example, the massive fraud of the Industrial Bio-test Laboratory made no difference to the corruption engulfing the "registration" of farm sprays. Registration equals government approval with little if any reliable data. From the 1950s to the 1970s, IBT made up most of the results of testing hundreds of pesticides, drugs, and a myriad of other chemicals. Despite the public revelation of the gangster-like behavior of this American lab, and no doubt questionable practices in countless other labs all over the world, nothing happened to eliminate lab corruption."*

**US Scientist Anthony Samsel gave evidence to the California Environmental Protection Agency on 07/06/2017 to advise them on the safe levels of glyphosate**

He wrote:

*"There are no safe levels of glyphosate. Glyphosate is a synthetic amino acid and analogue of our canonical amino acid glycine and participates in plant and animal biology. One microgram of glyphosate technical acid ( N-phosphonylethylglycine) contains 3.561 trillion molecules each capable of integrating with a protein altering shape, folding and function. I am a US scientist and hazardous chemicals materials consultant and expert on the subject of Glyphosate. I am one of few people to have received all of the Monsanto's trade secret sealed studies on glyphosate from the US EPA. The federal agency supplied these documents in excess of 100,000 pages to me under the FOIA with special consideration for my research into this chemical. I now have six peer-reviewed papers on the subject of glyphosate and several more papers on the glyphosate in progress, a short list to some of these studies links are appended. The full series of peer-reviewed glyphosate papers may be found at ResearchGate in the author file under Anthony Samsel. I call on the California Environmental Protection Agency to immediately ban the chemical glyphosate based on the latest scientific research conducted here in the USA. Glyphosate has recently been found to integrate with structural proteins as well as animal i.e. human enzymes that include digestive enzymes pepsin, trypsin and lipase as well as lysozyme."*

After some technical details he finishes the document:

*"The fact that glyphosate integrates with human enzymes should be reason enough to ban this chemical completely. There should be no glyphosate or glufosinate in the food supply nor in drinking water, air or soil. Glyphosate is a synthetic amino acid that should have no place in biology.*

*We are but one biosphere, what affects one affects all."*

Kind regards,

Anthony Samsel

Research Scientist / Consultant SEAPHS Samsel Environmental and Public Health Services P.O. Box 131 Deerfield, NH 03037

*"In the past the world suffered grievously from lack of knowledge, today it suffers from its rejection." ~ Dr. Arthur D. Little*

**A supplementary letter to the California Environmental Protection Agency on 16 June 2017 about nitrosamine contaminants causing cancers**

Extracts: "Glyphosate nitrosamine contaminants. There are no safe levels of the N-nitrosamines of glyphosate found in every glyphosate product and which are also produced in vivo.

*The N-nitrosamines of secondary amines are known to be carcinogenic. The nitrosamines of glyphosate are formed on a secondary amine. I now raise the issue of the N-nitrosamines of glyphosate of which there are several, because they are carcinogens and have all been*

essentially ignored. It appears that Monsanto and the US EPA have hidden the N-nitrosamines of glyphosate from discussion even to the point of editing and redacting data from crucial documents concerning a number of N-nitrosamines of glyphosate. Monsanto glyphosate documents reveal analysis and quantification of five nitrosamines of concern [61]. Out of six lots of Roundup analyzed for NNG, four lots contained NNG residues of 0.61 to 0.78 ppm and two lots had residues from 0.22 to 0.40 ppm NNG. Analysis of six lots of Monsanto Rodeo revealed NNG residues in the range 0.13–0.49.

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The document by Hirsch reference 61 above, also shows significant levels of other nitrosamines of glyphosate one of which was equivalent to the levels found of N-nitrosoglyphosate. Monsanto and the US EPA have suppressed these documents. I find that the hiding of these documents and this information is most disturbing. The public and scientific community deserve to know and have access to these important documents.. SEE: Hirsch, R.H., Augustin, D.J. Nitrosamine analyses of Roundup herbicide, Rodeo herbicide, MON 0139 and Polado Technical (unpublished study RD835). St Louis, Missouri: Monsanto Agricultural Company (4 November 1987).

Of the many types of cancers detailed in the Monsanto animal studies the data of which is shown in Glyphosate pathways to modern diseases IV, I draw your attention to the data on malignant lymphoma. Statistically significant data was found in the female rats of the 1981 Lankas and Hogan study and I have extracted that data and posted it to ResearchGate for convenience. A copy is included at the end of this letter. You will note that malignant lymphoma occurred in 14 different tissues. You will also note that the female control rats not fed glyphosate were not stricken by this type of malignant cancer. Only the glyphosate treated rats of this sex and groups receiving glyphosate in the diet got malignant lymphoma. Glyphosate can be seen in this light, as a causal agent of malignant lymphoma. This is not coincidence.”

### **Prof Séralini won an award for his rat feeding studies on GMOs and glyphosate associated with liver and kidney diseases and tumours**

On 16 October 2015 Prof Gilles-Eric Séralini was awarded Whistleblower of the Year by German Scientists for his work on GMOs and Glyphosate. Citation: “He was the first to publish animal test results demonstrating the toxic and carcinogenic properties of the most commonly used herbicide worldwide, the glyphosate-based “Roundup” by carrying out a two-year feeding test on rats. After the research was published, Prof Séralini was attacked by a vehement campaign by ‘interested circles’ from the chemical industry as well as the industry-financed British Science Media Centre.”<sup>3</sup> It was a shared award.

### **The UK Science Media Centre (SMC) is funded by industry, hosted by the Wellcome Trust, which in part funds it together with the British Government**

The UK SMC is able to feed journalists with a corporate agenda. The Séralini 2-year feeding study that showed that rats fed GM Maize and Roundup developed liver and kidney damage and hormone and sex-dependent tumours gave the opportunity for Monsanto scientists to claim fraudulent science. It was not reported by the UK media (apart from John Vidal in *The Guardian*) but had widespread coverage throughout the world, particularly in France.

### **Guy Smith NFU Vice President said that there was no scientific consensus on the 3-year study on neonicotinoid insecticides and bees on 29 June 2017**

He quoted the UK Science Media Centre (SMC). However the SMC calls upon lobbyists to pose as experts. Syngenta is given the longest and final entry.

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<sup>3</sup> [http://neu.vdw-ev.de/wp-content/uploads/2015/10/Presseinformation-Whistleblower-Preisverleihung-2015\\_150917\\_eng.pdf](http://neu.vdw-ev.de/wp-content/uploads/2015/10/Presseinformation-Whistleblower-Preisverleihung-2015_150917_eng.pdf)

Colin Macilwain, a science policy writer from Edinburgh who has worked as a reporter and an editor from both sides of the Atlantic wrote about plans to replicate Britain's Science Media Centre (SMC) in the United States, which he said was "fraught with danger."<sup>4</sup>

*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.*

## **The science of endocrine and nervous system disrupting chemicals**

**Professor Séralini, who has studied glyphosate for 30 years, says that Roundup is an endocrine and a nervous system disruptor (ENDs).<sup>5</sup>**

*"Abstract: Roundup and other glyphosate-based herbicides are the most widely used pesticides in the world; their residues are among the main pollutants in surface waters. Their use has increased through the spraying of 80% of edible agricultural GMOs, which also contain high levels of their residues. They are composed of glyphosate (35–40% in general) and adjuvants that are around 1,000 times more toxic than glyphosate alone, and are also endocrine disruptors below toxic thresholds. All endocrine disruptors (ED) are also nervous system disruptors (ND), because they act as "spam" for cell–cell communication, in the sense that they are spurious messages (or molecules) sent to a group of organisms or cells, impeding and slowing down, and in some cases accelerating, the physiological communication system. Therefore, they should be called ENDs (endocrine and nervous system disruptors). From 0.1 ppb in chronic tests in vivo, Roundup is highly tumorigenic, provoking hormone-dependent tumours, other hormonal imbalances, and important liver and kidney toxicities. Pesticide adjuvants play the same role in other pesticide formulations. The declared active principles often appear to be by far the least toxic compounds after water in formulations. Unfortunately for public health, they are the only substances tested by companies for regulatory purposes over the long term in vivo. Thus, the acceptable daily intakes deduced from these tests are 1000–10 000 times too high. In regulatory tests the deleterious effects in rats are compared with historical data on rat pathologies. Analysis of laboratory rodent feeds sourced from five continents reveals that they are so contaminated by pollutants that comparison to these hence inappropriate controls generally masks the chronic pathologies provoked by the pesticides and other chemicals tested. The disputes with industry representatives and lobby groups that arose in the course of this research are also summarized in this short review. Finally, potential methods of improving transparency and advancing scientific knowledge are recommended."*

**Séralini's team won defamation and forgery cases on the team's GMO and pesticide research.<sup>6</sup> Neither of these events vindicating Séralini was reported in the British media**

<sup>4</sup> <http://www.nature.com/news/two-nations-divided-by-a-common-purpose-1.10224>

<sup>5</sup> <http://www.amsi.ge/jbpc/31515/15-3-abs-3.htm>

On 25 November 2015, the High Court of Paris indicted Marc Fellous, former chairman of France's Biomolecular Engineering Commission, for "forgery" and "the use of forgery", in a libel trial that he lost to Prof Gilles-Eric Seralini. The Biomolecular Engineering Commission has authorised many GM crops for consumption.

In September 2012, an article written by Jean-Claude Jaillette in Marianne magazine said that "researchers around the world" had voiced "harsh words" about the research of Seralini and his team on the toxic effects of a GMO and Roundup over a long term period – research that was supported by the independent organisation CRIIGEN. The journalist wrote of a "scientific fraud in which the methodology served to reinforce pre-determined results".

Seralini, his team, and CRIIGEN challenged this allegation in a defamation lawsuit. They were assisted by the notaries Bernard Darteville and Cindy Gay. On 6 November 2015, after a criminal investigation lasting three years, the 17th Criminal Chamber of the High Court of Paris passed sentence. Marianne magazine and its journalist were fined for public defamation of a public official and public defamation of the researchers and of CRIIGEN, which is chaired by Dr Joel Spiroux de Vendômois.

Nicolas DeFarge described how he was unable to get a job because the defamation resulted in some of Seralini's young researchers were blacklisted.

### **Theo Colborn's crucial research in the early 1990s into the chemicals that were changing humans and the environment was ignored**

The late Theo Colborn<sup>7</sup> (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.<sup>8</sup> 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.*"

### **EDCs interfere with delicate hormone systems in sexual development**

PCBs travel into the testes and sperm of male polar bears and make them infertile.<sup>9</sup> Atrazine makes 1 to 5 out 10 male frogs unable to reproduce because they lack testosterone controls including sperm.<sup>10</sup> Is that what Colborn predicted would happen to humans who are confused about their gender or sex?

### **What is an endocrine disrupting chemical?**

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<sup>6</sup> <http://www.gmoseralini.org/seralinis-team-wins-defamation-and-forgery-court-cases-on-gmo-and-pesticide-research/>

<sup>7</sup> <http://endocrinedisruption.org/about-tedx/theo-colborn>

<sup>8</sup> *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.

<sup>9</sup> <http://www.smithsonianmag.com/science-nature/polar-bears-may-be-suffering-lingering-impacts-pollutants-banned-nearly-40-years-ago-180961276/>

<sup>10</sup> <https://www.sciencedaily.com/releases/2010/03/100301151927.htm>

For most chemicals, *'the dose makes the poison.'* The more you give, the more effect you get, so for regulators it is possible to define a 'safe dose'. The most worrying are those known as 'endocrine disrupting chemicals' (EDCs). They act on delicate hormone systems in the human body and for them there may be no safe dose for exposure. Some governments such as Sweden want the criteria for EDCs to be defined, because there is current evidence of: 1) a high incidence, and increasing trends, of many endocrine-related disorders in humans; 2) observations of endocrine-related effects in wildlife populations; 3) identification of chemicals with endocrine disrupting properties linked to disease outcomes in laboratory studies.

*"Endocrine-related disorders in humans are manifest by:*

- *Increases in low semen quality in young men (up to 40%)*
- *Incidence of genital malformations has increased over time*
- *Adverse pregnancy outcomes and birth defects has increased in many countries*
- *Neurobehavioural disorders related to thyroid dysfunction has increased*
- *Endocrine-related cancers (breast, endometrial, ovary, prostate, testicular and thyroid cancers) have been increasing over the past 40–50 years*
- *Earlier onset of breast development in young girls which leads to breast cancer*
- *The prevalence of obesity and type 2 Diabetes is increasing. The WHO estimates that 1.5 billion adults worldwide are overweight or obese and that the number with type 2 diabetes increased from 153 million to 347 million between 1980 and 2008"*

Naturally the Agrochemical Industry is reluctant to define EDCs, because they know that it will impact on their sales. They are trying to weaken the criteria for how to define them.

**Massive criticism of the US EPA came from US endocrinologists: 'toxicologists understanding of hormones is still stuck in the last century': hormones act at extremely low doses<sup>11</sup>**

*"In 2002, the relevance of EDCs to people and their biological mechanisms were poorly understood"* says Andrea Gore (Professor of Pharmacology and Toxicology, University of Texas at Austin in the USA). But a flood of papers since then by *"academic researchers and epidemiologists with no conflicts of interests"*, Gore emphasises, has led to a radical reappraisal of the hazards posed by EDCs. Standard toxicology assumes that as the dose of a chemical increases, so does its effect, and vice versa. This is a monotonic dose response. Safe exposure standards are usually set by exposing an experimental animal to a high dose of a chemical, and then successively decreasing doses until the effects of the chemical are no longer detectable. But this logic falls apart if the compound under investigation happens to cause a non-monotonic dose response—i.e., there is no linear relation between dose and response, and a significant response can be caused at a low dose despite there being no or little response at a high dose. *"Hormones act at extremely low doses; furthermore, actions of hormones (or EDCs) at one dose may not predict outcomes at another dose"*, Gore points out. Linda Birnbaum, the straight-talking Director of the US National Institute of Environmental Health Sciences (NIEHS), one of the National Institutes of Health, sums up the mood of frustration. *"There are some people still stuck in the last century"*, she says. And although she stresses that the EPA can *"only do so much"*, she continues that *"the EPA's focus on endocrine disruption is very much on oestrogen, androgen, and thyroid. Well guess what, there are lots of other endocrine systems. Ten years ago we were thinking things were pretty simple, it turns out to be a lot more complicated"*, and many regulators, in Birnbaum's opinion, are not capturing that complexity. *"Context is everything"*, she says. *"You can have a completely different response to the same hormone, possibly going through the same receptor system,*

<sup>11</sup> [http://www.thelancet.com/journals/landia/article/PIIS2213-8587\(13\)70057-3/fulltext](http://www.thelancet.com/journals/landia/article/PIIS2213-8587(13)70057-3/fulltext)

*in one tissue than you'd have in another tissue. And that response can be very time dependent; not only chronic versus acute but developmentally."*

For example one study<sup>12</sup> found that breast cancer cell proliferation is accelerated by glyphosate in extremely low concentrations. *"The present study used pure glyphosate substance at log intervals from 10<sup>-12</sup> to 10<sup>-6</sup> M. These concentrations are in a crucial range which correlated to the potential biological levels at parts per trillion (ppt) to parts per billion (ppb) which have been reported in epidemiological studies."*

## **The delay for the European Chemical Agency's Harmonized Classification**

### **Decision delayed by the European Commission to await a report**

On 28 June 2016, the unelected European Commission unilaterally announced that the license for glyphosate was to be extended for 18 months without meaningful restrictions to await the Report by the European Chemicals Agency (ECHA). This was after member states repeatedly could not reach an agreement to renew the approval. I submitted my comments to ECHA on 15/07/2016.

### **Here is an extract from my submission to ECHA for the reassessment of glyphosate:**

*"The German Rapporteur Member State (BfR) claimed that **glyphosate has minimal effects on biodiversity**. I challenged EFSA's Dr José Tarazona and Dr Bernhard Url about this between November 2015 and February 2016. I sent them evidence to the contrary. Dr Tarazona said I wasn't to worry because there were still 'data gaps'. Yet, despite these 'data gaps', the unelected European Commission re-licensed glyphosate for 18 months while the European Chemical Association (ECHA) produced its verdict.*

#### **Long-term exposure of a Nature Reserve to ultra-low dose Roundup® causes massive declines in biodiversity**

*We have done a 10-year (2006-2016) observational study of biodiversity on a small Nature Reserve exposed to ultra-low dose Roundup® sprayed on Japanese knotweed outside our area. Japanese knotweed has become a Roundup-resistant super-weed and just grows more strongly each year spray is applied (like super-weeds in GM cropping systems in the US).*

*From 2006 to 2010 we documented 143 different species of moth, four species of bush-cricket, 20 species of butterfly, six species of bumblebee and numerous dragonflies, damselflies, grass-hoppers, many beetles including ladybirds and the rare oil-beetle, many forms of hover flies and solitary bees, vigorous pond life including whirligig beetles, water boatmen and giant diving beetles; and bats. In 2013 biodiversity began to decline both in species and in numbers. This was documented in a paper in 2014.<sup>13</sup> Moths have almost completely vanished. Declines in biodiversity continued in 2015 and 2016 because Swansea City and County Council had employed a commercial national contractor Complete Weed Control, to embark on a 3-year-programme of eradication of Japanese Knotweed with Dakar Pro, (a commercial form of Roundup) in the Ilston Valley not far from our reserve (as well as the Clyne Valley). They said they would continue 'while Roundup is still legal'. Photographs of our bee hotel taken on 29/06/2015 and on 06/07/2016 show the disappearance of our solitary bees."*

In 2017, our dragonflies had gone after 518 kg Roundup (Dakar Pro) had been sprayed over streets and pavements in Swansea after the Council's war on weeds in 2016.

<sup>12</sup> <http://www.ncbi.nlm.nih.gov/pubmed/23756170>

<sup>13</sup> [http://www.i-sis.org.uk/How\\_Roundup\\_Poisoned\\_My\\_Nature\\_Reserve.php](http://www.i-sis.org.uk/How_Roundup_Poisoned_My_Nature_Reserve.php)

*“By 2017 when ECHA has finally decided on whether on not to re-license glyphosate, our Nature Reserve will be a biological desert as described by Craig Childs in his book Apocalyptic Planet: Field Guide to the Future of the Earth.<sup>14</sup>*

*The state of Iowa was just one area in which the US Geological Survey reported widespread contamination of soil, air, rainwater and river water with glyphosate and its longer-acting metabolite AMPA ( $\alpha$ -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid).<sup>15</sup>*

*Grundy County Iowa was where Craig Childs spent a long weekend in a monoculture of GM “Roundup® Ready” corn looking for wildlife. “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 ... 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.”*

### **The European Commission cited the European Chemical Agency Report to give support to their renewal of the license for glyphosate**

Published on 15/03/2017 ECHA said the available scientific evidence did not meet the criteria to classify glyphosate as a carcinogen, as a mutagen or as toxic for reproduction **but it caused severe eye damage and was toxic to aquatic life with long lasting effects.**<sup>16</sup>

Jack de Bruijn, in charge of risk assessment, explains that ECHA's role is in the labelling and classification of chemicals. *“We only look at the hazardous properties of a chemical,”* he said, *“not at the risks that occur when you use a chemical.”*

## **The Monsanto Tribunal, the UN Human Rights Council and the International Criminal Court in The Hague**

### **An environmental lawyer from the Monsanto Tribunal commented on ECHA’s statement**

Koffi Dogbevi from Wisconsin-Madison Law School US wrote to me on 27 June 2017. *“It is interesting to see that ECHA’s Committee for Risk Assessment (RAC) agreed to maintain the classification of glyphosate as a substance causing serious and irreversible effect on the eye (Eye Dam. 1, H318) and being toxic to aquatic life with long-lasting effects (Aquatic Chronic 2, H411), and at the same time reaching the conclusion that glyphosate is safe and non-hazardous. While this imbroglio seems to relate to the distinction between hazard (the intrinsic potential to cause harm) and risk (the probability of harm occurring at a given exposure), it is clear that any reasonable person would assert that a product causing an irreversible harm on the eye, and having a long-lasting toxicity impact on aquatic life, is likely a dangerous product.*

*Hazardous materials/substances were covered, in the European Union under the Dangerous Substances Directive (DSD) and the Dangerous Preparations Directive (DPD), regulations that are currently replaced by the EC Regulation No 1272/2008 of 16 December 2008 on the classification, labelling and packaging of substances and mixtures. It is very interesting to notice that glyphosate is listed under the EC Regulation No 1272/2008 as substance causing eye irritation (Eye Dam. 1, H318), toxic to the aquatic environment (Aquatic Chronic 2, H411), and having an acute toxicity (H302) which is a Hazard Category 4. However, it is very troubling to see that the ECHA not only voluntarily omitted the acute toxicity characteristic (H302/ hazard category 4) of glyphosate, but also*

<sup>14</sup> Childs, C. *Apocalyptic Planet. Field Guide to the Future of the Earth*, ch. 6, Species Vanish, p. 187. New York: Vintage Books (2013)

<sup>15</sup> <http://onlinelibrary.wiley.com/doi/10.1111/jawr.12159/abstract>

<sup>16</sup> <https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>



*exonerate itself of any risk assessment task that may lead to unexpected or non-provisionary outcome, and classified glyphosate as safe and non-hazardous substance.”*

### **ECOCIDE LAW AND MONSANTO PAST AND PRESENT ACTIVITIES** <sup>17</sup> Page 29:

#### **“3.3. Liability and redress under Ecocide law**

*Under the proposed ecocide amendments, the court shall establish principles relating to reparations to, or in respect of, victims, including restitution, compensation, rehabilitation, transitional justice measures, and environmental restoration, including reimbursement for consequential losses arising from injury, loss of life, diminution of health or well-being, economic losses, ecosystem productivity and services losses, or losses to cultural life. With regards to the analyses provided in this paper, it appears that the risks on human health and environment occurring from present and past activities of Monsanto are likely to undermine or create and/or increased risk of undermining the continuing survival or wellbeing of a population.*

*In fact, our analysis demonstrated that Roundup or the consequential reliance on glyphosate herbicide as result of engineered seeds has caused widespread and severe harm to ecosystems that undermine or create a risk of undermining the wellbeing of local populations. Also, Genetic Contamination, Agent Orange, and PCB, have caused ecological damages and severe harm to the population, the agricultural environment upon which farmers and indigenous people rely for their livelihood, and have therefore diminished the peaceful enjoyment of the environment by inhabitants. This clearly undermines or creates a risk of undermining the wellbeing and/or continuing survival of these populations as set out by the EEE proposed ecocide law. The ease and irreversibility of gene flow make it an outstanding example of long-term and severe environmental harm. The hidden but deeply insidious effects of transgenic, Agent Orange, and PCB contaminations, should raise just as much alarm as the more visible environmental harms such as air or water pollution.*

*As discussed above, the author of the crime of ecocide would be liable, not for his intent or actual knowledge, but because he has reason to know or should have known that his actions could have caused the damages.”*

### **The Verdict of the Judges of the International Monsanto Tribunal**

#### **Summary of the advisory opinion of the International Monsanto Tribunal** <sup>18</sup>

Delivered on the 18<sup>th</sup> 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*

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[https://www.academia.edu/29309281/ECOCIDE\\_LAW\\_AND\\_MONSANTO\\_PAST\\_AND\\_PRESENT\\_ACTIVITIES](https://www.academia.edu/29309281/ECOCIDE_LAW_AND_MONSANTO_PAST_AND_PRESENT_ACTIVITIES)

<sup>18</sup> [http://www.monsanto-tribunal.org/upload/asset\\_cache/1016160509.pdf](http://www.monsanto-tribunal.org/upload/asset_cache/1016160509.pdf)

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 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 says one of our human rights is a right to information. What has happened to British journalism since 1981?**

News International bought *The Sunday Times* and *The Times* newspapers in 1981. That is why the truth is hidden from the British people. There are five millionaires colluding with the British Government to control what people hear. Harold Evans (Editor of *The Times* 1981-1982) in *The Long Read* on 28 April 2015:<sup>19</sup> "The fact that they (Margaret Thatcher and Rupert Murdoch) met at all, on 4 January 1981, was vehemently denied for

<sup>19</sup> <https://www.theguardian.com/uk-news/2015/apr/28/how-margaret-thatcher-and-rupert-murdoch-made-secret-deal>

30 years... 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... 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.**"

**After the phone-hacking scandal and the Leveson Report why is Rupert Murdoch now considered to be suitable individual to buy Sky?**

**The International Criminal Court in The Hague is extending its remit to include ecocide<sup>20</sup>**

The UN-backed court, which sits in The Hague, has mostly ruled on cases of genocide and war crimes since it was set up in 2002. It has been criticized for its reluctance to investigate major environmental and cultural crimes, which often happen in peacetime. In a *change of focus*, the ICC said on September 15 2016 it would also prioritize crimes that result in the "destruction of the environment", "exploitation of natural resources" and the "illegal dispossession" of land. It also included an explicit reference to 'land-grabbing'. Environmental destruction and land-grabs could lead to governments and individuals being prosecuted for crimes against humanity by the international criminal court.<sup>21</sup>

**Global Agricultural Corporations are severely criticised by Hilal Elver the UN Special Rapporteur on the right to food<sup>22</sup>**

The Report presented to the UN human rights council on 08/03/2017 is severely critical of the global corporations that manufacture pesticides, accusing them of the "*systematic denial of harms*", "*aggressive, unethical marketing tactics*" and heavy lobbying of governments which has "*obstructed reforms and paralysed global pesticide restrictions*". The report authored by Hilal Elver the UN Special Rapporteur on the right to food and co-authored by Baskut Tuncak, the UN's special rapporteur on toxics, says pesticides have "*catastrophic impacts on the environment, human health and society as a whole*", including an estimated 200,000 deaths a year from acute poisoning. Its authors said: "*It is time to create a global process to transition toward safer and healthier food and agricultural production.*"

"*It is a myth,*" said Hilal Elver. "*Using more pesticides is nothing to do with getting rid of hunger.*"<sup>23</sup> According to the UN Food and Agriculture Organisation (FAO), we are able to feed 9 billion people today. Production is definitely increasing, but the problem is poverty, inequality and distribution."

Elver said many of the pesticides are used on commodity crops, such as palm oil and soy, not the food needed by the world's hungry people: "*The corporations are not dealing with world hunger, they are dealing with more agricultural activity on large scales.*"

<sup>20</sup> <https://www.theguardian.com/global/2016/sep/15/hague-court-widens-remit-to-include-environmental-destruction-cases>

<sup>21</sup> <https://www.icc-cpi.int/Pages/item.aspx?name=pr1238>

<sup>22</sup> <http://www.pan-uk.org/site/wp-content/uploads/United-Nations-Report-of-the-Special-Rapporteur-on-the-right-to-food.pdf>

<sup>23</sup> <https://www.theguardian.com/environment/2017/mar/07/un-experts-denounce-myth-pesticides-are-necessary-to-feed-the-world>

The Report says: “*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.

**One of Monsanto’s own long term studies in rats in 1990<sup>24</sup> showed an increased risk of cataracts following exposure to Roundup® as well as cancers**

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.<sup>25</sup> Annual rates of admission for cataract surgery in England rose 10-fold from 1968 to 2003: from 62 episodes per 100,000 population in 1968 to 637 in 2004. A 2016 study by the WHO also confirmed that the incidence of cataracts had greatly increased:<sup>26</sup> ‘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. The rat study on cataracts was one of many that Anthony Samsel obtained under FOI from US EPA. He said: “*Forty years of glyphosate exposure have provided a living laboratory where humans are the guinea pigs.*” Some UK farmers started spraying glyphosate on crops pre-harvest in 1980 at the suggestion of a scientist working for Monsanto<sup>27</sup> and on grassland in 1985 on the advice of another Monsanto scientist.<sup>28</sup>

**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*:<sup>29</sup> “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 (RCEP) notes, ‘*there is... no such policy in the UK, nor does the*

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<sup>24</sup> Stout, L.D. & Ruecker, F.A. Chronic study of glyphosate administered in feed to albino rats. Unpublished Study, Project No. MSL-10495. Monsanto Agricultural Company (2,175 pp.) EPA MRID 416438-01 (26 September 1990)

<sup>25</sup> <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955650/>

<sup>26</sup> [http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196_eng.pdf)

<sup>27</sup> O’Keeffe MG. The control of Agropyron repens and broad-leaved weeds pre-harvest of wheat and barley with the isopropylamine salt of glyphosate; 1980. pp. 53–60. Proceedings of British Crop Protection Conference-Weeds.

<sup>28</sup> Stride CD, Edwards RV, Seddon JC. Sward destruction by application of glyphosate before cutting or grazing; 1985. pp. 771–778. British Crop Protection Conference – Weeds 7B–6.

<sup>29</sup> Van den Bosch, R. *The Pesticide Conspiracy*: USA Doubleday & Company (1978): Dorchester, UK: Prism Press (1980).

*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.<sup>30</sup> 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.”* and the Royal Commission created under Royal Warrant in 1970, was closed down in 2011 as part of the Coalition Government’s spending cuts. Britain still uses aerial spraying as derogation from the EU recommendations.

### **The State of Nature Report 2016 compiled by 50 organisations<sup>31</sup>**

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.”*

### **Biodiversity Intactness Index correlates with pesticide usage**

This is a link to an animated pictorial representation but it is not easily findable.<sup>32</sup> *“Of 218 countries assessed, the UK is ranked 189: it is 29th lowest out of 218: Countries below are the Republic of Ireland, USA, Hong Kong and Macao. This means that nature is faring worse in the UK than in most other countries. UK 165 species are considered critically endangered and likely to go extinct. England 109 species are critically endangered and likely to go extinct. Scotland 65 species are critically endangered and are likely to go extinct. Northern Ireland 45 species are critically endangered and likely to go extinct. Wales 41 species are critically endangered and likely to go extinct.”* Around 75% of the UK is managed for food production. How we manage that land is key to the state of Nature.

### **The NFU’s response to the State of Nature Report 2016**

It was astounding to see the complete denial of the NFU and Defra about The State of Nature Report. NFU vice-president Guy Smith said *“intensification of farming had ended in the early 1990s.”* that farmers *“were using less fertiliser and pesticides than ever”* and a spokeswoman from Defra said: *“Protecting our previous environment and supporting our world-leading farmers, a cornerstone of our economy, will form an important part of our EU exit negotiations.”* Have Fera and the pesticides industry kept farmers in the dark? *The Guardian* European Environment journalist Arthur Neslen interviewed George

<sup>30</sup> Industry’s Statistics: British Agrochemical Association London 1976

<sup>31</sup>

[http://www.rspb.org.uk/Images/State%20of%20Nature%20UK%20report\\_%2020%20Sept%20m9-424984.pdf](http://www.rspb.org.uk/Images/State%20of%20Nature%20UK%20report_%2020%20Sept%20m9-424984.pdf)

<sup>32</sup> <https://www2.rspb.org.uk/whatwedo/stateofnature2016>

Eustice the Farming Minister about Brexit on 30/05/2016.<sup>33</sup> He was alleged to have said: “*The birds and habitats directives would go,*” (referring to two key pieces of European environmental law). “*A lot of the national directives they instructed us to put in place would stay. But the directives’ framework is so rigid that it is spirit-crushing.*” On **pesticides**, he said “*the EU’s precautionary principle needed to be reformed in favour of a US-style risk-based approach, allowing faster authorisation.*”

#### **Food and Environment Research Agency (FERA) survey of pesticides 1988 to 2014**

These indicate that Pesticide Residues on British food are increasing annually. A survey of pesticide (active substances) usage on Oil Seed Rape (OSR) 1988-2014 showed that the number of active substances applied had increased from 5 in 1988 to 15 in 2014 (Fig 1) and the number of treatments had increased from 5 in 1988 to 12 in 2014 (Fig 2). In 2014, herbicides were used on 98.4% OSR and seed treatments on 95.8%.

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

#### **Pesticide usage statistics show massive increase in glyphosate between 2012 and 2014**

Fera statistics showed that in 2012 the area treated by glyphosate was 1,750,000 ha. This had increased in 2014 to 2,250,000 ha. Guy Gagen, Chief Arable Adviser for the NFU, said increased glyphosate use (up one third since 2012, to an area the size of Wales) was probably due to treatment of ‘black grass.’<sup>34</sup> Black grass is a glyphosate-resistant super-weed just like Japanese knotweed. Herbicide resistant black grass, first seen in 1982 (two years after farmers started spraying glyphosate pre-harvest) and is now found on 16,000 farms in 34 counties. Gagen said that spraying wheat could result in traces of glyphosate ending up in bread sold in supermarkets but the amount was well below the maximum residue level set by the EU. A Defra spokesman said: “*There are extensive regulations in place so that people and the environment are protected from pesticides. The approval of glyphosate for use across Europe is being reviewed by the EU Commission.*”

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<sup>33</sup> <https://www.theguardian.com/politics/2016/may/30/brexit-spirit-crushing-green-directives-minister-george-eustice>

<sup>34</sup> <http://www.thetimes.co.uk/tto/environment/article4528297.ece>

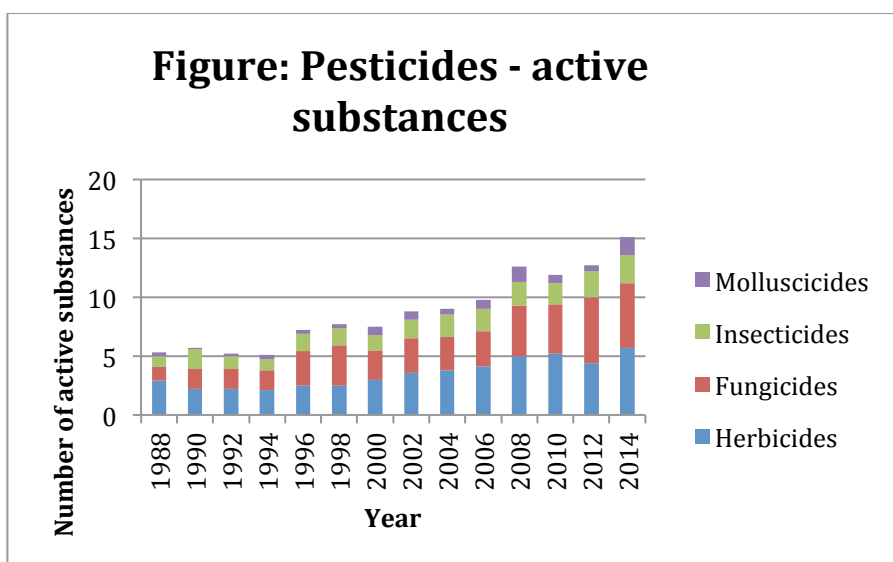


Fig. 1 PESTICIDES: Number of active substances used on Oil Seed Rape in the UK between 1988 and 2014: By kind permission of John Hoar, Hampshire Beekeeper's Spray Liaison Officer. Figures supplied by FERA

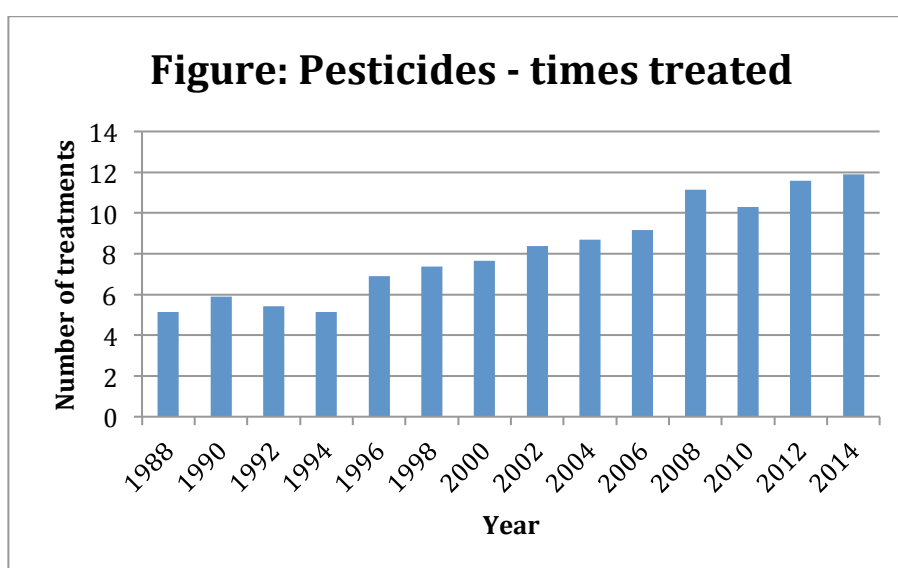


Fig. 2 PESTICIDES TIMES TREATED: used on Oil Seed Rape in the UK between 1988 and 2014: By kind permission of John Hoar, Hampshire Beekeepers Spray Liaison Officer. Figures supplied by FERA

**I wrote to Meurig Raymond, NFU President on 22 October 2015: he replied to my 13-page Open Letter<sup>35</sup> on 17/11/2015. Was it distributed to all NFU members?**

The President of the NFU Meurig Raymond wrote to defend the rights of farmers to use chemicals to protect their crops **even though I had informed him that they were damaging the brains of children in Britain.**

*He replied: "The NFU firmly believes that technologies such as advanced plant breeding, biotechnology and chemical crop protection are a positive and essential part of British farming and food production. There are significant challenges inherent in providing safe, affordable and high quality food in a sustainable way in the context of growing*

<sup>35</sup> <http://tinyurl.com/zrvshse>



*populations, pressure on resources, volatility and a changing climate. We must therefore have all the tools in the box to source solutions to these challenges. The NFU is committed to basing its policies on the most robust scientific evidence and expertise from scientists and regulatory authorities around the world.”*

I had asked for my Open Letter to be sent to all members of the NFU.

Did the Vice-President see my letter? The reply was presumably drafted by the pesticides industry.

### **Healthy Harvest - safeguarding the crop protection toolbox**

In lobbying the EU to protect pesticides in June 2014,<sup>36</sup> The National Farmers' Union (NFU), the Crop Protection Association (CPA) and Agricultural Industries Confederation (AIC) launched *Healthy Harvest- safeguarding the crop protection toolbox*. 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. CPA, AIC and the NFU commissioned Andersons to write a Report: The effect of the loss of plant protection products (i.e. pesticides) on UK Agriculture and Horticulture that predicted dire economic effects on UK farming if pesticides were restricted. <sup>37</sup>

### **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.<sup>38</sup> 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 4<sup>th</sup> in the tests taken in 2000.

In 2016 an OECD study showed that in England the young have lower basic skills than their counterparts in Europe.<sup>39</sup> But adults approaching retirement age (55-65 year-olds) in England compare reasonably well with their counterparts in other countries.

The study says: *“The priority of priorities is therefore to improve the standard of basic schooling in England, improving both average and minimum standards (which are especially weak in England).”*

## **Corporations and the British Government make money out of their citizens being poisoned by agents of chemical and biological warfare**

### **The Chairman of Cancer Research UK (CRUK) has headed several Agrochemical Corporations**

Michael Pragnell, former Chairman of Cancer Research UK (2010-2016) for which work he was awarded a CBE in the 2017 New Years Honours list, was founder of Syngenta and former Chairman of CropLife International. It was created in 2001 from BASF, Bayer,

<sup>36</sup> [https://www.nfuonline.com/healthyharvest\\_final\\_digital/](https://www.nfuonline.com/healthyharvest_final_digital/)

<sup>37</sup> [http://www.cropprotection.org.uk/media/89364/andersons\\_final\\_report.pdf](http://www.cropprotection.org.uk/media/89364/andersons_final_report.pdf)

<sup>38</sup> [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)

<sup>39</sup> <http://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf>

Dow, DuPont, FMC Corp, Monsanto, Sumitomo and Syngenta. The CRUK website says that there is no convincing evidence that pesticides cause cancer. CRUK and Public Health England link cancer to lifestyle choices such as alcohol and obesity.

Syngenta is a member of the **European Glyphosate Task Force** (GTF), a consortium of companies joining resources and efforts in order to renew the European glyphosate registration with a joint submission, and of the International Life Sciences Institute (ILSI). 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 organization whose mission is to provide science that improves human health and well-being and safeguards the environment*" and allegedly has charity status.

**CRUK, the CMO for England and PHE claim that alcohol is linked with seven forms of cancer: this 'alleged fact' is endlessly reinforced by the UK media until people in the UK are brainwashed and believe it to be true**

An article was published in the *British Medical Journal* on 9 April 2016<sup>40</sup> reporting a survey commissioned by **Cancer Research UK** 'People lack awareness of link between alcohol and cancer.' The Report produced by researchers at the University of Sheffield 'comes ahead of the consultation closing on how well new drinking guidelines proposed by the UK's Chief Medical Officers in January 2016, are communicated.'<sup>41</sup>

*"Almost 90 per cent of people in England don't associate drinking alcohol with an increased risk of cancer"* Alison Cox, **Cancer Research UK's** Director of Cancer Prevention. She said: *"The link between alcohol and cancer is now well established, and it's not just heavy drinkers who are at risk. Drinking alcohol is linked to an increased risk of seven different cancers - liver, breast, bowel, mouth, throat, oesophageal (food pipe), laryngeal (voice box) - but when people were asked "which, if any, health conditions do you think can result from drinking too much alcohol?" just 13 per cent of adults mentioned cancer."* Dr Penny Buykx, a senior research fellow at The University of Sheffield and lead-author of the report, said: *"We've shown that public awareness of the increased cancer risk from drinking alcohol remains worryingly low. People link drinking and liver cancer, but most still don't realise that cancers including breast cancer, mouth and throat cancers and bowel cancer are also linked with alcohol, and that risks for some cancers go up even by drinking a small amount."*

**Cancer Research UK Chief Executive Sir Harpal Kumar on 1 July 2017 on smoking**

*"Most people are unaware that smoking causes 14 types of cancer."* CRUK staff should coordinate their statements on causes of cancer a bit better!

**Syngenta, AstraZeneca and the UK government have a mutually beneficial relationship with each other at the expense of the British people**

By 2011 CRUK was donating money (£450 million/year) to the Government's Strategy for UK Life Sciences and AstraZeneca (Syngenta's parent company) was providing 22 compounds to academic research to develop medicines in the UK.<sup>42</sup>

AstraZeneca manufactures six different anti-cancer drugs mainly aimed at breast and prostate cancer. The Corporation has links in Asia, including Hospitals in China, Japan, Korea, and collaborators in Russia. In 2013 AstraZeneca's Oncology Website had the

<sup>40</sup> <http://www.bmj.com/content/353/bmj.i1881>

<sup>41</sup> <http://www.cancerresearchuk.org/about-us/cancer-news/press-release/2016-04-01-9-in-10-dont-link-alcohol-and-cancer>

<sup>42</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/32457/11-1429-strategy-for-uk-life-sciences.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32457/11-1429-strategy-for-uk-life-sciences.pdf)

following portentous prediction: “Cancer claims over 7 million lives every year and the number continues to rise. Deaths are estimated to reach 12 million by 2030.”<sup>43</sup>

### **One Corporation promotes cancer; the other Corporation tries to cure it**

Monsanto’s PCBs, Agent Orange, dioxins and glyphosate have all been manufactured in Wales. The toxic waste has similarly been dumped in quarries around Wales and the leak from Brofiscin Quarry was the biggest environmental disaster that was never reported to the public because it was covered up.<sup>44</sup>

In Alabama the community received compensation for dumping of waste from PCBs.<sup>45</sup> In a Washington Post article by Michael Grunwald in 2002: [Monsanto Held Liable For PCB Dumping](#). “An Alabama jury yesterday found that Monsanto Co. engaged in “outrageous” behavior by releasing tons of PCBs into the city of Anniston and covering up its actions for decades, handing 3,500 local residents a huge victory in a landmark environmental lawsuit.”

But Wales has received no compensation. Yet Alabama is more than 50 million square miles: Wales is only 8,000 square miles. PCBs will never disappear.

### **Genetic defects for scientists at the Crick Institute to work on**

PCBs, Agent Orange, dioxins, glyphosate and many other man-made chemicals cause genetic defects. Many farmers have sprayed Glyphosate on crops since 1980 at the suggestion of a Monsanto scientist. The increasing numbers of pesticide residues that are found in food are charted on page 15/16. That is why Britain has become the number one global centre for researching and finding cures for these diseases.

### **The Francis Crick Institute opened in 2016<sup>46</sup>**

“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. An independent organisation, its founding partners are the Medical Research Council (MRC), **Cancer Research UK, the Wellcome Trust, UCL (University College London), Imperial College London and King's College London**. The Crick was formed in 2015, and in 2016 it moved into a brand new state-of-the-art building in central London which brings together 1500 scientists and support staff working collaboratively across disciplines, making it the biggest biomedical research facility under a single roof in Europe.” The Wellcome Trust hosts the industry-funded UK Science Media Centre.

### **Glyphosate and other pesticides earn billions**

For the UK government and Pharmaceutical Companies from the sales of statins, anti-hypertensives, antidepressants, diabetic medication, anti-cancer drugs, weight-reducing drugs, vaccines and drugs to treat dementia etc.

### **Biocides Regulations in the European Union make a lot of money for European Regulators and the Pesticides Industry**

**REACH (Registration, Evaluation, Authorisation and Restriction of Chemical substances):** The Biocidal Product Regulation (BPR, Regulation (EU) 528/2012)

<sup>43</sup> <http://www.astrazeneca.co.uk/medicines/oncology>

<sup>44</sup>

[http://www.theecologist.org/The\\_Brofiscin\\_Monsanto\\_Files/777777/burying\\_the\\_truth\\_the\\_organal\\_ecologist\\_investigation\\_into\\_monsanto\\_and\\_brofiscin\\_quarry.html](http://www.theecologist.org/The_Brofiscin_Monsanto_Files/777777/burying_the_truth_the_organal_ecologist_investigation_into_monsanto_and_brofiscin_quarry.html)

<sup>45</sup> [https://www.washingtonpost.com/archive/politics/2002/02/23/monsanto-held-liable-for-pcb-dumping/43c7bdd6-4203-4320-9e4d-51365817671a/?utm\\_term=.e187c188836a](https://www.washingtonpost.com/archive/politics/2002/02/23/monsanto-held-liable-for-pcb-dumping/43c7bdd6-4203-4320-9e4d-51365817671a/?utm_term=.e187c188836a)

<sup>46</sup> <https://www.crick.ac.uk/about-us/>

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.<sup>47</sup>

*“REACH is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while **enhancing the competitiveness of the EU chemicals industry**. It also promotes alternative methods for the hazard assessment of substances in order to reduce the number of tests on animals.”*

It came into force on 02/08/07.

*Exponent Inc.* is a company that helps chemical firms with **REACH** compliance.<sup>48</sup> It describes itself as *“a research and scientific consultant firm with clients from industry (including crop protection) and government.”* *Exponent Inc.* was employed by Bayer to criticise EFSA’s work on neonicotinoids and bees in 2013. It also contributed to a review by a Dow employee (Dow manufactures chlorpyrifos that is still authorised by CRD) that concluded that *“exposure to specific pesticides during critical periods of brain development and neurobehavioral outcomes is not compelling.”*<sup>49</sup> Dr Caroline Harris, a Vice-President of *Exponent Inc.* was on the UK Advisory Committee on Pesticides even before it became the Expert Committee on Pesticides (a conflict of interest).

### **EFSA’s assessment for bat species shows little understanding of the living world**

When Stahlschmidt & Bruhl analysed insecticide residues in food items in an apple orchard in Germany in 2012,<sup>50</sup> they found that EFSA, in their pesticide risk assessments, do not consider bats as a separate species; insectivorous mammals are represented by the generic indicator species ‘shrew.’ As the authors observe, bats and shrews are very different. Bats feed on a wide range of flying insects and arthropods that they take from the tops of trees; they are long-lived with low reproduction rates and they have hibernation periods in which lipophilic pesticides can accumulate.

### **A global industry has emerged to give advice on Biocides Regulation. The British Government is also making a lot of money out of it because BiocidesHub is based in the UK**

As with the regulation of pesticides, it is controlled by the pesticides industry and based in the UK. Biocides Symposia are held regularly around the world to *“get up-to-speed on all that’s new in biocidal products regulation”* to *“stay one step ahead.”* Courses are from £300-400 per day to \$1585 for a Symposium. A multitude of firms have clients from *‘industry, crop protection and government’*. Chemical Watch **BiocidesHub** (Shrewsbury) offers 13 Events on Biocides Regulation in 2016, ranging from beginners courses to advanced courses.

**BIOCIDES HAVE NO PLACE IN AGRICULTURE. A BIOCIDES IS A SUBSTANCE THAT IS KILLING ALL LIFE**

## **Some chemicals that cause diseases**

### **Neurobehavioural effects of developmental toxicity**<sup>51</sup>

*“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*

<sup>47</sup> <https://echa.europa.eu/regulations/biocidal-products-regulation>

<sup>48</sup> <http://www.exponent.com/REACH/>

<sup>49</sup> <http://www.ncbi.nlm.nih.gov/pubmed/23777200>

<sup>50</sup> <http://onlinelibrary.wiley.com/doi/10.1002/etc.1834/full>

<sup>51</sup> [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)

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.

### **Increase in cancers in children: in 15-24 year olds cancers have increased 40% since 1998<sup>52</sup>**

*The Telegraph* Science Editor Sarah Knapton put her head above the parapet to mention 'pesticides' although it is absent from the headline. "New analysis of government statistics by researchers at the charity [Children with Cancer UK](#) found that there are now 1,300 more cancer cases a year compared with 1998, the first time all data sets were published. The rise is most apparent in teenagers and young adults aged between 15 and 24, where the incident rate has risen from around 10 cases in 100,000 to nearly 16. Researchers say that although some of the rise can be explained by improvements in cancer diagnoses and more screening, the **majority is probably caused by environmental factors**. Diagnoses of colon cancer among children and young people has risen 200 per cent since 1998, while thyroid cancer has doubled. Ovarian and cervical cancers have also risen by 70 per cent and 50 per cent respectively."

### **UK cancer survival rates trail 10 years behind other European countries**

[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 25<sup>th</sup> March 2015.<sup>53</sup> 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.

### **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".<sup>54</sup> *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

<sup>52</sup> <http://www.telegraph.co.uk/science/2016/09/03/modern-life-is-killing-our-children-cancer-rate-in-young-people/>

<sup>53</sup> <http://www.theguardian.com/society/2015/mar/24/uk-cancer-survival-rates-trail-10-years-behind-those-in-european-countries>

<sup>54</sup> <http://www.theguardian.com/society/2016/mar/31/one-fifth-of-worlds-adults-will-be-obese-by-2025-study-predicts>

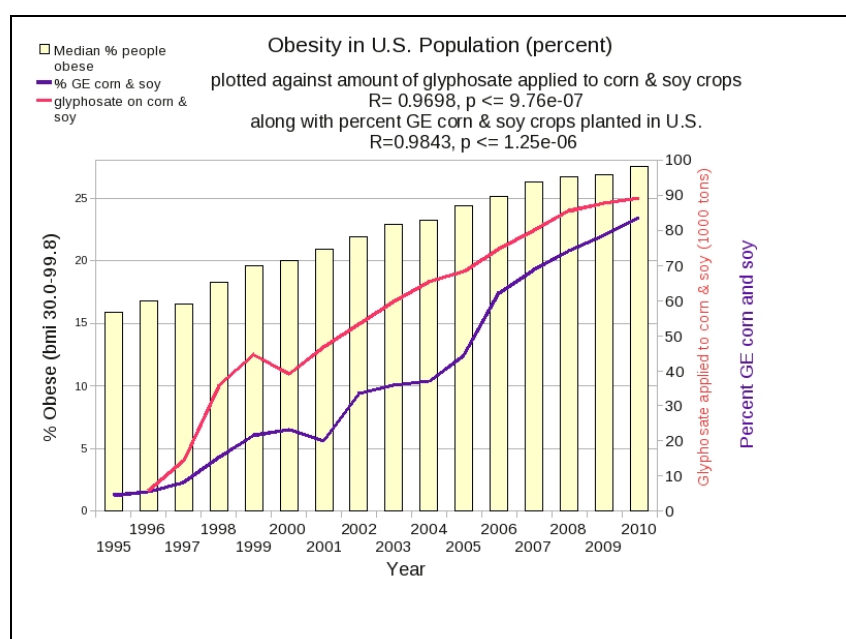
Imperial College London. *“The English-speaking world is particularly badly affected. **The UK will have the highest obesity among both men and women in Europe, at 38%.** In contrast: “Against the trend of steadily rising weight, women in some countries had virtually no increase in BMI over the 40 years – in Singapore, Japan, and a few European countries including Czech Republic, Belgium, **France**, and Switzerland.”*

### Overweight & obesity in mid-life: Evidence from the 1970 British Cohort Study<sup>55</sup>

The Centre for Longitudinal Studies based at the Institute of Education University of London published their latest report on 9 November 2013.

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

- 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.



Graph 1 US data for % GE corn and soy crops planted and glyphosate applied to corn & soy plotted against % of U.S. population who are obese (BMI 30.0-99.8). Crop and glyphosate data from the USDA; obesity data from U.S. CDC. By kind permission of Dr Nancy Swanson.

### Many false labeling lawsuits are building up

Monsanto claims on its label on Roundup that glyphosate targets an enzyme that is found in plants, fungi and bacteria but is not found in humans and animals. Plaintiffs in a lawsuit in June 2017 against Monsanto and Scotts label assert that this is a false and deceptive claim, as this enzyme is found in the gut bacteria of ‘people and pets’ and glyphosate can disrupt the health and functioning of their immune system.

A coalition of attorneys, invigorated by their lawsuit representing cancer victims against Monsanto Co., is tackling the world’s most popular weedkiller on multiple fronts. They are veteran environmental attorney and political scion Robert F. Kennedy, Jr.; Aimee Wagstaff of Andrus Wagstaff LP in Lakewood, Colo.; Michael Miller of the Miller Firm LLC in Orange, Va.; Michael Baum and Brent Wisner of Baum Hedlund Aristei Goldman PC in Los Angeles; and Robin Greenwald of Weitz & Luxenberg PC in New York. They are now extending to another legal challenge.<sup>56</sup> On June 20, they joined other attorneys in filing a complaint that accuses the company of falsely advertising that glyphosate works by targeting an enzyme that is not found in people or pets.

<sup>55</sup> [Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study at age 42](#)

<sup>56</sup> <https://www.bna.com/monsanto-foes-are-n73014461009/>

They are teaming up with another law firm that is building a name on suing food companies for making such claims.

### **Why are decisions on glyphosate made by a group of plant scientists?**

That the Standing Committee on Plants, Animals, Food and Feed is allowed to make decisions on glyphosate displays a total lack of knowledge of human physiology amongst regulators in the European Commission and the US EPA. Health Commissioner Vytenis Andriukaitis claims to be a doctor. He should be ashamed of his ignorance.

### **On 18<sup>th</sup> of April 2017, the Verdict of the Monsanto Tribunal in The Hague, Netherlands was delivered; a follow up was sent on 14<sup>th</sup> June 2017**

Full Report <sup>57</sup>

Summary <sup>58</sup>

**Amsterdam 14<sup>th</sup> June 2017.** The Monsanto Tribunal wrote the following letter to me about the next steps. I had given written testimony to the Judges: Roundup has poisoned our nature reserve.

“Dear Rosemary Mason

After the presentation of the Advisory Opinion of the Monsanto Tribunal judges on April 18, much work is ahead of us.

- 1) The 60-page Advisory Opinion, that for thousands of attorneys worldwide will be an important legal instrument for prosecuting these crimes, is to be spread as widely as possible in legal circles, including UN agencies, environmental organizations and governments. But there is also activity at other levels: courts in some countries are considering hearing individual judges from the Tribunal, because they are evaluating if they can incorporate ECOCIDE as a criminal offense in their national legislation. Likewise, deliberations are underway to address the United Nations to extend the Rome Statute, on which the International Criminal Court is based, to include the criminal offense of ECOCIDE.
- 2) The comprehensive documentation from the hearings of the Monsanto Tribunal is to be provided for a worldwide study on the evaluation of the environmental damage caused by Monsanto over the last 60 years. In particular, long-term damage to health and nature will be considered. The planned collective study is under the supervision of renowned economists. Even today experts estimate that the sum of damages could far exceed the price of the merger with Bayer. This study will provide a basis for launching further collective accusations against Monsanto. Werner Baumann has to ask himself whether he would expect his shareholders, in addition to the high purchase price for Monsanto, to agree with accruals in the two or even three-digit billion range in order to meet all the claims of damage against the firm. The purchase of Monsanto could become a Trojan Horse for Bayer. The Bayer-Monsanto merger will not be as smooth as that of Union Carbide and Dowchemical after the Bhopal disaster in 1984, where the victims and their relatives are still waiting for reparation.
- 3) And perhaps the most important: Several witnesses of the Tribunal have expressed their intention to engage in real lawsuits against Monsanto. If these

<sup>57</sup> [http://www.monsanto-tribunal.org/upload/asset\\_cache/189791450.pdf](http://www.monsanto-tribunal.org/upload/asset_cache/189791450.pdf)

<sup>58</sup> [http://www.monsanto-tribunal.org/upload/asset\\_cache/1016160509.pdf](http://www.monsanto-tribunal.org/upload/asset_cache/1016160509.pdf)

trials come about, witnesses expect us to support them logistically, politically and financially. We will of course, do this, as a promise from the very beginning to help the witnesses after the Tribunal to take legal actions against Monsanto.

### **More than 1 million European Citizens have called for a ban on glyphosate**

By 23 June 2017, the petition against Roundup exceeded 1 million.

**Update on glyphosate renewal:** On May 17 2017, the European Commission announced its intention to renew the license for glyphosate for 10 years despite a petition last year from 1.5 million citizens urging them not to. The British Government and civil servants supported this renewal wholeheartedly. **But are they aware of the implications?** The EU Commission was in a hurry because it didn't want to wait for the Monsanto Papers to come out. However, MEPs have asked for an inquiry into them.

### **What are the Monsanto papers?<sup>59</sup>**

*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.*

There are 50 court documents many of which are very embarrassing to Monsanto and include emails about collusion with scientists in the US EPA, ghost-writing and getting academics to sign, using trolls to terrorize scientists, fraud, false claims and a letter from Marion Copley, an EPA scientist who died from cancer of the breast 4 years ago and wrote to Jess Rowlands her former colleague and accused him of colluding with Monsanto.<sup>60</sup> *"Glyphosate was originally designed as a chelating agent and I strongly believe that is the identical process involved in tumor formation."* She identified 14 properties of glyphosate as a chelator of minerals that make it carcinogenic. *"It is essentially certain that glyphosate causes cancer."*

In addition, there are at least 40 Reporting and Analysis documents.

### **Why are European Regulators and the UK Government in such a hurry?**

Because the US EPA Scientific Advisory Panel of FIFRA is divided in its opinion on the Glyphosate Issue Paper: Evaluation of Carcinogenic Potential. Therefore the US is relying on Europe to say that glyphosate is not a carcinogen.

### **Glyphosate is a carcinogen and EFSA's studies were flawed**

On 28 May 2017 Prof Chris Portier of the International Agency for Research into Cancer wrote to President Juncker to say that EFSA's studies were flawed.<sup>61</sup>

### **Extract: Open letter: Review of the Carcinogenicity of Glyphosate by EChA, EFSA and BfR<sup>62</sup>**

From Dr Christopher Portier to President Juncker

Dear President Juncker

Executive Summary: The European Food Safety Agency (EFSA) and the European Chemical Agency (EChA) have completed their assessments of the carcinogenic potential of glyphosate and concluded that the evidence does not support a classification

<sup>59</sup> <https://usrtk.org/pesticides/mdl-monsanto-glyphosate-cancer-case-key-documents-analysis/>

<sup>60</sup> <https://www.organicconsumers.org/sites/default/files/marioncopleyletter.pdf>

<sup>61</sup> <https://corporateeurope.org/food-and-agriculture/2017/05/scientist-writes-juncker-new-tumour-evidence-found-confidential>

<sup>62</sup> <https://corporateeurope.org/sites/default/files/attachments/letterjuncker28may2017.pdf>



for glyphosate. The raw data for the animal cancer studies for glyphosate have been released, and a reanalysis of these data show eight instances where significant increases in tumor response following glyphosate exposure were not included in the assessment by either EFSA or EChA. This suggests that the evaluations applied to the glyphosate data are scientifically flawed, and any decisions derived from these evaluations will fail to protect public health. I ask that the evaluations by both EFSA and EChA be repeated for all toxicological endpoints and the data underlying these evaluations be publicly released.

### **Cancers probably associated with glyphosate**

The US EPA classified glyphosate as a Group C carcinogen in 1985. This was based on the incidence in rats/mice of **renal tumours, thyroid C-cell adenomas and carcinomas, pancreatic islet cell adenomas, hepatocellular adenomas and carcinomas** in males. In 1991 the classification was changed to non-carcinogenic in humans.<sup>63</sup>

**Samsel and Seneff: Glyphosate, pathways to modern diseases IV: cancer and related pathologies** <sup>64</sup> *Epidemiological evidence supports strong temporal correlations between glyphosate usage on crops and a multitude of cancers that are reaching epidemic proportions, including **breast** cancer, **pancreatic** cancer, **kidney** cancer, **thyroid** cancer, **liver** cancer, **bladder** cancer and **myeloid leukaemia**.*

Genetically-engineered crops, glyphosate and the deterioration of health in the United States of America. Swanson *et al.*<sup>65</sup>

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

*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).*

### **Cancer Research UK (CRUK) website shows increasing trends in cancers**

The Cancer Research UK (CRUK) website shows similarly increasing trends over time in graphs from 1975 (when glyphosate was introduced) for **thyroid** cancer,<sup>66</sup> **breast** cancer,<sup>67</sup> **prostate** cancer,<sup>68</sup> **malignant melanoma**,<sup>69</sup> **liver** cancer,<sup>70</sup> **myeloma**,<sup>71</sup> and **anal** cancer.<sup>72</sup>

<sup>63</sup> [http://www.epa.gov/opp00001/chem\\_search/cleared\\_reviews/csr\\_PC-103601\\_30-Oct-91\\_265.pdf](http://www.epa.gov/opp00001/chem_search/cleared_reviews/csr_PC-103601_30-Oct-91_265.pdf)

<sup>64</sup>

[https://www.academia.edu/17751562/Glyphosate\\_pathways\\_to\\_modern\\_diseases\\_IV\\_cancer\\_and\\_related\\_pathologies](https://www.academia.edu/17751562/Glyphosate_pathways_to_modern_diseases_IV_cancer_and_related_pathologies)

<sup>65</sup> [http://www.organic-systems.org/journal/92/JOS\\_Volume-9\\_Number-2\\_Nov\\_2014-Swanson-et-al.pdf](http://www.organic-systems.org/journal/92/JOS_Volume-9_Number-2_Nov_2014-Swanson-et-al.pdf)

<sup>66</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/thyroid/incidence/>

<sup>67</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/incidence/#trends>

<sup>68</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/prostate/incidence/uk-prostate-cancer-incidence-statistics#trends>

<sup>69</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/skin/incidence/uk-skin-cancer-incidence-statistics#trends>

<sup>70</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/liver/incidence/#trends>

**Multiomics reveal non-alcoholic fatty liver disease in rats following chronic exposure to an ultra-low dose of Roundup herbicide.<sup>73</sup>**

Overall, metabolome and proteome disturbances showed a substantial overlap with biomarkers of non-alcoholic fatty liver disease and its progression to steatohepatosis 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.

In addition, non-organic wine and beer contain significant residues of glyphosate.<sup>74</sup>

**To those who support the renewal of the registration of glyphosate or remain silent about it <sup>75</sup>**

On page 5/6 you can see all the diseases linked to glyphosate/Roundup.

On Pages 7/8 are the conflicts of interest of Professor Alan Boobis in which he was involved with another WHO Committee in 2015 and 2002.

The European Chemicals Agency told me that they had classified glyphosate as toxic to aquatic life with long lasting effects before, in 2002. No wonder the numbers of salmon and trout was classified as critical in 2017.<sup>76</sup>

Rosemary Mason  
MB ChB FRCA

04/07/2017

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<sup>71</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/myeloma/incidence/#trends>

<sup>72</sup> <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/anal-cancer/Incidence/#Trends>

<sup>73</sup> <http://www.nature.com/articles/srep39328>

<sup>74</sup> <http://sustainablepulse.com/2016/02/25/german-beer-industry-in-shock-over-probable-carcinogen-glyphosate-contamination/#.WTXA0RSFDzI>

<sup>75</sup> <http://farmwars.info/wp-content/uploads/2017/06/Rosemary-Mason-Glyphosate-Renewal-EU.pdf>

<sup>76</sup> <http://www.salmon-trout.org/cymru>