

## **Why is life expectancy faltering? The British Government has worked with Monsanto and Bayer since 1949**

A Special Report in the *Observer* on 23 June 2019 asked the question: Why is life expectancy faltering?<sup>1</sup>

*“For the first time in 100 years, Britons are dying earlier. The UK now has the worst health trends in western Europe – and doctors and experts believe that the impact of austerity is a major factor. In a few days, a team of researchers, statisticians and geographers will gather at University College London to tackle an issue of increasing concern for doctors and health experts. They will investigate why many UK citizens are now living shorter, less healthy lives compared with the recent past. “The emergence of faltering life expectancy in Britain has caused particular alarm because it reverses a trend that has continued, almost unbroken, for close to 100 years. It is a perfect storm,”* says Danny Dorling, professor of social geography at Oxford University, who has organised the London meeting. *“Our faltering life expectancy rates show we have now got the worst trend in health anywhere in western Europe since the second world war. To achieve that, we must have made a lot of bad decisions,”* he said.

On top of the health impacts on the elderly and the deprived, there has also been a worrying change in infant mortality rates – as was acknowledged last week by the Office for National Statistics. It reported that in 2017, there were 3.9 deaths per 1,000 live births in the UK. In 2016, there were 3.8. *“Infant mortality had been reducing since the 1980s and reached an all-time low in 2014. But since then the rate has increased every year,”* said Vasita Patel, a senior research officer at the ONS. *“The one in 2017 is significantly higher than the one in 2014.”* To explain this alarming increase in infant mortality, Dorling blames a host of factors: *“Fewer midwives, an overstrained ambulance service, general deterioration of hospitals, greater poverty among pregnant women and cuts that mean there are fewer health visitors for patients in need – all these factors are involved.”*

## **We are being poisoned by weedkiller and other pesticides in our food and weedkiller sprayed indiscriminately on our communities. The media remain silent.**

After WW2, in 1949, following the Nuremberg trials, the Westminster Government invited Monsanto to set up a chemical factory in Newport, Wales, as far away from London as possible. They also worked with Bayer, the former IG Farben, the private chemical company that collaborated with the Nazis.<sup>2</sup> *“It built a factory next to Auschwitz, Poland, so it could exploit Jewish slave labour in its oil and rubber production plant. In total, some 300,000 detainees from Auschwitz were employed in IG Farben’s workforce, supplying the company with free labour. The company housed the workers in its own concentration camp, with the horrendous conditions there and in the factory leading to an estimated 30,000 deaths. On top of this, an unknown number of workers deemed unfit to continue working at the factory were sent to the death camp at Auschwitz. Alongside the brutal conditions of the labour camp, IG Farben also sanctioned drug experiments on live, healthy inmates. IG Farben was probably the most well-known corporate participant in the Holocaust, and the company’s history sheds a chilling light on how genocide became tied in with economics and business.”*

Both companies used factories that had made chemical weapons in the war to make chemicals for agriculture from the same ingredients. From then on, Monsanto’s factory in Wales manufactured PCBs until 1977 and a number of other dangerous chemicals. Monsanto was found to be dumping toxic waste in the River Severn, public waterways and sewerage. After that they paid a contractor to illegally dump *“thousands of tons of cancer-causing chemicals - among them PCBs, dioxins and Agent Orange derivatives”* at two quarries in Wales: Brofiscin (80,000 tonnes) and Maendy (42,000 tonnes) between 1965 and 1972. In 1968 US documents showed that Monsanto tried to decide whether or not to come clean about the dangers of the chemicals. They stopped making PCBs in Anniston US in 1971 because of scandals about PCBs on the health of the population and wildlife. However, the

<sup>1</sup> <https://www.theguardian.com/society/2019/jun/23/why-is-life-expectancy-falling>

<sup>2</sup> <https://www.newhistorian.com/ig-farben-opens-factory-at-auschwitz/3822/>

British government led by Ted Heath agreed to ramp up production at the Monsanto plant in Newport. Alabama is more than 50 million square miles: Wales is 8,000 square miles. In 2003 when toxic effluent from the quarry starting leaking into people's streams in Grosfaen just outside Cardiff, the Environment Agency - a government agency concerned with flooding and pollution – was hired to clean up the site in 2005. <sup>3</sup>

*“Firstly, the Agency repeatedly failed to hold Monsanto accountable for its role in the pollution (a role that Monsanto denied from the outset). Secondly, the Agency consistently downplayed the dangers of the chemicals themselves, even claiming that they offered no “identifiable harm or immediate danger to human health” in their official report.”*

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

### **Shockingly high levels of weedkiller in UK oat-based cereals <sup>4</sup>**

We read an article in the UK *Guardian* about breakfast cereals in the US having weed killer in oat-based cereals. The UK *Guardian* reported: *“There was no indication that the claims related to products sold outside the US.”* In view of this statement by the *Guardian*, we sent samples of four oat-based breakfast cereals marketed for children in the UK to the Health Research Institute, Fairfield, Iowa, an accredited laboratory for glyphosate testing. Kellogg No added sugar granola with apricot and pumpkin seeds Barley Flakes 27% Oats 23% Rye 13% Wheat flour Oat flour; Quaker Oat so Simple: Quaker Whole Grain Rolled Oats; Weetabix Oatibix 100% wholegrain oats; Nestle Multigrain Cheerios: Whole Grain Oat Flour 29.6% Whole Grain Wheat 29.6% Whole Grain Barley Flour 17.9% Whole Grain Corn Flour 2.1% Whole Grain Rice Flour 2.1%.

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

Type of breakfast cereal marketed for children Product description	Glyphosate level ng/g	AMPA ng/g	Effective glyphosate level ng/g
Kelloggs No added sugar granola with Apricot & pumpkin seeds	499.90	ND	499.90
Quaker/Oat So simple/Original Microwaveable Oats	464.23	24.04	500.28
Weetibix Oatibix 100% wholegrain oats	318.85	16.96	344.28
Nestle Multigrain Cheerios Whole Grain Oat Flour 29.6% Whole Grain Wheat 29.6% Whole Grain Barley Flour 17.9% Whole Grain Corn Flour 2.1% Whole Grain Rice Flour 2.1%.	137.29	ND	137.29

<sup>3</sup> <https://theecologist.org/2007/oct/11/burying-truth-orginal-ecologist-investigation-monsanto-and-brofiscin-quarry>

<sup>4</sup> <https://www.dailymail.co.uk/health/article-6315209/Revealed-UK-cereals-contain-potentially-harmful-amounts-WEEDKILLER.html>

### **Open Letter from America warning about the hazards of GM Crops and glyphosate**

14/11/2014: Living with GMOs: Citizen to Citizen: <sup>5</sup> From nearly 60 million citizens in the US to citizens, politicians, and regulators in the UK and the rest of the EU about the hazards of genetically modified crops was delivered to 10 Downing Street. *"We, the undersigned, are sharing our experience and what we have learned with you so that you don't make our mistakes. Signatories include NGOs, groups, academics, scientists, farmers, food manufactures, and high-profile individuals representing some 60 million Americans. We strongly urge you to resist the approval of genetically modified crops, to refuse to plant those crops that have been approved, to reject the import and/or sale of GM-containing animal feeds and foods intended for human consumption, and to speak out against the corporate influence over politics, regulation and science."*

David Cameron ignored the warning, kept the letter secret from the public and passed it to Defra. The European Food Safety Authority and the European Commission also ignored the letter. They continued to authorize GM crops for food and feed, colluded with the European Glyphosate Task Force and allowed them to write the re-assessment of glyphosate.

### **The Glyphosate Task Force omitted studies from South America where GM crops are grown**

The 3<sup>rd</sup> National Conference of Physicians of Crop-sprayed Towns of Argentina<sup>6</sup>

The paper by Dr Ávila-Vázquez is titled: Cancer and detrimental reproductive effects in an Argentine agricultural community environmentally exposed to glyphosate.<sup>7</sup>

#### **Extracts: Birth defects and increasing cancer**

After 18 years of systematic sprayings, health teams in fumigated towns detect a change in the pattern of diseases in their populations: respiratory problems are much more common and are linked to the application of agricultural poisons, as is chronic dermatitis. Similarly, during fumigation, epileptic patients convulse much more frequently, and depression, immune and endocrine disorders are more frequent. High rates of miscarriages are recorded (up to 23 % of women of reproductive age had at least one abortion in the past 5 years) and consultations for infertility in men and women have significantly increased. Herds of goats belonging to farmers and indigenous people in some areas record up to 100 % of abortions or premature deaths due to malformations linked to pesticide exposure. Increased thyroid disorders and diabetes are also detected in local people.

More and more children are born with defects in these areas, especially if the first months of pregnancy coincide with the time of spraying. Down's syndrome, spina bifida, myelomeningocele (neural tube defect), congenital heart disease, etc. are diagnosed more frequently in those areas; in some towns and during some years, at triple the normal rates, and directly linked to increased pesticide applications around the towns [3, 4] (see Figure 1). Neural tube defects are among the most common developmental birth defects observed, which is consistent with lab studies and farm observations. ...Increasing pesticide residues in foods made with grains are a growing concern in Europe, and its danger has become evident especially after investigations by the French researcher Gilles-Eric Séralini [27]. Recently, glyphosate was detected in urine of students from the University of Berlin and other Europeans from 18 different countries, and was less high in those on organic diets; in cattle and rabbits similar results were obtained: higher levels of glyphosate in urine and tissues from those fed GM fodder [28]. The export market to Europe is poised to shrink as consumers reject GMOs and glyphosate tainted food. To overcome the problems caused by the resistance of weeds and insects, the biotech industry (Monsanto, Bayer, Dow, Dupont, etc.) is providing more of the same. New transgenic seeds are promoted, which are tolerant to glyphosate, glufosinate and 2,4-D [29]. Do we want yet higher levels of more and more dangerous herbicides in our food, when the existing burden on health is already intolerable?"

<sup>5</sup> <http://www.theletterfromamerica.org/>

<sup>6</sup> <http://reduas.com.ar/3rd-national-conference-of-physicians-of-crop-sprayed-towns/>

<sup>7</sup> [http://www.i-sis.org.uk/Devastating\\_Impacts\\_of\\_Glyphosate\\_Argentina.php](http://www.i-sis.org.uk/Devastating_Impacts_of_Glyphosate_Argentina.php)

### Neurotransmitter changes in the brain from exposure to Glyphosate-based herbicides

Many papers come from Latin American countries where they grow almost exclusively GM Roundup Ready Crops that Monsanto forced on them in 1996. Here are three papers.

Behavioral impairments following repeated intranasal glyphosate-based herbicide administration in mice.<sup>8</sup>

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

Martínez, M. A., Ares, I., Rodríguez, J. L., Martínez, M., Martínez-Larrañaga, M. R., & Anadón, A. (2018). Neurotransmitter changes in rat brain regions following glyphosate exposure. *Environmental Research*, 161, 212-219.<sup>9</sup>

Highlights:

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

Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in immature rat hippocampus: Involvement of glutamate excitotoxicity.<sup>10</sup>

**This is why there are so many mental health and psychiatric disorders, depression, suicides, anxiety and violence among children and adults, (politicians included)**

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

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

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

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

<sup>8</sup> <https://www.sciencedirect.com/science/article/pii/S0892036217301526>

<sup>9</sup> <https://www.sciencedirect.com/science/article/pii/S0013935117316730>

<sup>10</sup> <https://www.sciencedirect.com/science/article/pii/S0300483X14000493>

<sup>11</sup> <https://www.theguardian.com/environment/2017/nov/06/the-eu-and-glyphosate-its-time-to-put-childrens-health-before-pesticides>

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

**ECHA's Committee for Risk Assessment (RAC) agrees to maintain the current harmonised classification of glyphosate as a substance causing serious eye damage and being toxic to aquatic life with long-lasting effects. RAC concluded that the available scientific evidence did not meet the criteria to classify glyphosate as a carcinogen, as a mutagen or as toxic for reproduction.** <sup>12</sup>

**Helsinki, 15 March 2017** – RAC assessed glyphosate’s hazardousness against the criteria in the Classification, Labelling and Packaging Regulation. They considered extensive scientific data in coming to their opinion.

The committee concluded that the scientific evidence available at the moment warrants the following classifications for glyphosate according to the CLP Regulation:

- Eye Damage 1; H318 (Causes serious eye damage)
- Aquatic Chronic 2; H411 (Toxic to aquatic life with long lasting effects)

RAC concluded that the available scientific evidence did not meet the criteria in the CLP Regulation to classify glyphosate for specific target organ toxicity, or as a carcinogen, as a mutagen or for reproductive toxicity.

**In 2017, there were more than 1.3 million European citizens petitions for a ban on glyphosate.** <sup>13</sup>

**The President of the European Commission, Jean-Claude Juncker**, signed the Final version of the commission proposal. It says: *“In its opinion, the Committee for Risk Assessment of the Agency (European Chemicals Agency) concluded by consensus that on the basis of the information currently available, no hazard classification for carcinogenicity is justified for glyphosate.”* <sup>14</sup>

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

**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>15</sup> (1927-1914) was the first to research and write about Endocrine Disrupting Chemicals (EDCs), man-made chemicals that became widespread in the environment after WW II. In a book published in 1996, *The Pesticide Conspiracy*, Colborn, Dumanoski and Peters revealed the full

<sup>12</sup> <https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa>

<sup>13</sup> <https://euobserver.com/science/139951>

<sup>14</sup>

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

<sup>15</sup> <http://endocrinedisruption.org/about-tedx/theo-colborn>

horror of what was happening to the world as a result of contamination with EDCs. 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 shown to be EDCs. Many of these residues are found in humans in the UK. 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.”*  
\*manufactured by Monsanto; + manufactured by Syngenta.

### **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>16</sup> Atrazine makes 1 to 5 out of 10 male frogs unable to reproduce because they lack testosterone controls including sperm.<sup>17</sup> Glyphosate is an endocrine disruptor. All endocrine disruptors (ED) are also nervous system disruptors (ND). Therefore, they should be called ENDS (endocrine and nervous system disruptors)<sup>18</sup> Is that what Colborn predicted would happen to humans who are confused about their gender or sex?

### **Monsanto continued selling PCBs for years despite knowing the health risks**

Arthur Neslen, the Guardian Europe Environment correspondent wrote on 09/08/2017: [Polychlorinated biphenyls \(PCBs\) are long-lived pollutants](#) that were mass produced by Monsanto between 1935 and 1977 for use as coolants and lubricators in electrical equipment such as transformers and capacitors. Monsanto began manufacturing PCBs in 1935, after acquiring the Swann chemical company. It went on to dominate global production.<sup>19</sup> [Monsanto](#) continued to produce and sell toxic industrial chemicals known as PCBs for eight years after learning that they posed hazards to public health and the environment, according to legal analysis of documents put online in a vast searchable archive.

### **CONTAMINATION: The results of WWF-UK's Bio-monitoring Survey November 2003<sup>20</sup>**

On the second page there was a picture of a baby superimposed by a challenge: **WHO CARES WHERE THE CHEMICALS END UP?** This was an advertisement that appeared in the media in 2002. Industry representatives disputed whether the statements in the Report were factually correct. They complained to the Advertising Standards Agency and asked them to withdraw the advertisement. The ASA found WWF's scientific research to be above reproach on all fronts and rejected every technical complaint. But despite being ruled factually accurate and being in the public interest, the advertisement was nevertheless banned on the grounds that it was 'unduly alarming'.

### **Executive summary**

WWF visited 13 locations in England, Northern Ireland, Scotland and Wales in the summer of 2003 and took blood samples from 155 volunteers. Lancaster University analysed the samples for 78 chemicals: 12 organo-chlorine pesticides (including DDT and lindane), 45 PCB congeners and 21

<sup>16</sup> <http://www.smithsonianmag.com/science-nature/polar-bears-may-be-suffering-lingering-impacts-pollutants-banned-nearly-40-years-ago-180961276/>

<sup>17</sup> <https://www.sciencedaily.com/releases/2010/03/100301151927.htm>

<sup>18</sup> <http://www.amsi.ge/jbpc/31515/15-3-abs-3.htm>

<sup>19</sup> <https://www.theguardian.com/environment/2017/aug/09/monsanto-continued-selling-pcb-for-years-despite-knowing-health-risks-archives-reveal>

<sup>20</sup> <http://www.wwf.org.uk/filelibrary/pdf/biomonitoringresults.pdf>

*polybrominated diphenyl ethers (PBDE) flame retardants, including those found in the commercially traded penta-, octa- and deca-BDEs.*

*WWF believes that this survey provides the first data on the concentrations of PCBs, organo-chlorine pesticides and PBDEs in the UK population's blood serum. Further, these results form the most comprehensive and largest data-set of organo-halogen chemical concentrations in humans in the UK in the last 10 years at least. In addition, the survey is the first that tries to link findings of chemical contamination to people's lifestyles.*

#### **FINDINGS** (Abbreviated)

- *Every person tested is contaminated by a cocktail of known highly toxic chemicals which were banned from use in the UK during the 1970s and which continue to pose unknown health risks.*
- *We found 70 (90 per cent) of the 78 chemicals we looked for in the survey. The highest number of chemicals found in any one person was 49 - nearly two thirds (63 per cent) of the chemicals looked for...*

#### **The Royal Society of Medicine Conference on pesticides safety in November 2017<sup>21</sup>**

At the Royal Society of Medicine Conference on pesticides safety the Soil Association organised by its Policy Director, the late Peter Melchett, presented alarming figures. Under FOI request FERA Science (previously a government agency, now privatized) provided figures that showed that the number of active ingredients applied to wheat had risen **12-fold** from 1.7 in 1974 to 20.7 in 2014; that those applied to potatoes had risen **5.8** times from 5.3 in 1975 to 30.8 in 2014; that those applied to onions and leeks had risen **18-fold** from 5.3 in 1975 to 30.8 in 2014.

#### **Declines in educational attainment in Britain over recent years; children in the UK have had maximum exposure to pesticides under the British Government's collusion with industry**

The UK ratings have declined significantly in the Programme for International Student Assessment. PISA is a worldwide study by the Organisation for Economic Co-operation and Development (OECD) in member and non-member nations of 15-year-old school pupils' scholastic performance on mathematics, science, and reading.<sup>22</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>23</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).*"

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

A Senior Monsanto scientist had claimed that glyphosate didn't accumulate but was excreted unchanged from the body<sup>24</sup> and referred back to the glyphosate re-assessment in Europe in 2002. However, Monsanto's secret studies had revealed otherwise. Samsel and Seneff wrote paper IV on

<sup>21</sup> <https://www.soilassociation.org/news/2017/november/rapid-increase-in-pesticide-use-and-new-evidence-of-health-impacts-of-very-low-doses/>

<sup>22</sup> [https://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-%20\(PISA\)/PISA-2012/index.html](https://www.cmec.ca/252/Programs-and-Initiatives/Assessment/Programme-for-International-Student-Assessment-%20(PISA)/PISA-2012/index.html)

<sup>23</sup> <http://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf>

<sup>24</sup> <https://gmoanswers.com/ask/hi-does-senior-monsanto-scientist-dan-goldstein-still-maintain-if-ingested-glyphosate-excreted>

Glyphosate: [Glyphosate, pathways to modern diseases IV: cancer and related pathologies](#)<sup>25</sup> and concluded that: “*significant evidence of tumours was found during these investigations*”. Ridley and Mirly (1988) (for Monsanto) found bioaccumulation of <sup>14</sup>C- labelled glyphosate in Sprague Dawley rat tissues. Residues were present in bone, marrow, blood and glands including the thyroid, testes and ovaries, as well as major organs, including the heart, liver, lungs, kidneys, spleen and stomach (Table 11 Page 127). The eye is included in this list. [Table 8 Page 126](#): Incidence and occurrence of ophthalmic degenerative lens changes by glyphosate.

[Table 9 Page 126](#): Data on unilateral and bilateral cataracts (all types) and Y-suture opacities, excluding “prominent Y suture”, following glyphosate exposure to rats. Stout & Rueker (1990) commissioned for Monsanto.

### **Samsel found <sup>14</sup>C labelled glyphosate detected in cartilage; is it responsible for degeneration of cartilage and knee arthritis?**

Recent anatomical studies of knee arthritis from Harvard show, that when the team factored out the effects of weight and age in the two modern groups, **knee arthritis was still more than twice as common in the group of people who died after 1976, ‘suggesting other factors are involved’**.<sup>26</sup> In England in July 2017 the NHS waiting list for hip replacement and cataract surgery exceeded 4 million.

### **British women live shorter lives than most other Europeans and nearly 20 years in poor health<sup>27</sup>** Spanish women live the longest, with UK longevity ranked 17th out of 28 EU nations, according to Public Health England’s annual health profile

“There is no reason why we shouldn’t be as healthy as anywhere in Europe,” said Prof John Newton, director of health improvement at PHE.<sup>28</sup> “Many of the causes of chronic, long-term diseases in the UK which shorten lives are preventable. **Obesity** is causing a big surge in the numbers of people developing type 2 diabetes. The report shows the numbers with diabetes are expected to rise swiftly, from just under four million last year to nearly five million in 2035. Along with alcohol, obesity is also one of the factors behind the rise in breast cancer. Apart from the human cost, the bill for the NHS will be huge... The list of the most common site-specific cancers remained unchanged from 2015 in both sexes. Lung cancer, colorectal and anal cancer, and leukaemia and lymphomas were all in the top ten leading causes of death in 2016... Prostate cancer and breast cancer remained amongst the top ten leading causes of death for males and females respectively, both ranked seventh, the same as in 2015. Lung cancer deaths remained the third most common cause of death for males and sixth most common for females in 2016. There has also been an increase in the death rate from lung cancer (8%), kidney disease and other diseases of the urinary system (38%) and chronic lower respiratory disease (18%). When deaths from all cancers are grouped together, cancer accounted for 25.6% of all deaths in females and 30.3% of all deaths in males in 2016. This would make it the leading cause, in 2016, for both sexes. The leading cause of death for women is dementia and Alzheimer’s disease, responsible for 15.8% of deaths, with heart disease second at 8.3%. There has been an increase in the death rate from dementia and Alzheimer’s of more than 60% and deaths from liver disease have increased by 12%.

**Women in 2014-16 were spending nearly 20 years of their life in poor health (19.3 years), while men spent just over 16 years in poor health**, according to data from the Office for National Statistics included in the report. The leading cause of poor health, responsible for more than 22% of the pain

<sup>25</sup> <http://www.amsi.ge/jbpc/31515/11SA15R.pdf>

<sup>26</sup> <http://www.sciencemag.org/news/2017/08/knee-arthritis-americans-has-doubled-1940>

<sup>27</sup>

<http://click.mail.theguardian.com/?qs=bd4bb2980cde506285bbd7433f46e1dcb58fad37ae94d5a5d26dba313aef8ec8b4af965a3c4068bc7770cb3208949b39>

<sup>28</sup> <https://www.gov.uk/government/publications/health-profile-for-england-2018/chapter-2-trends-in-mortality>



*and suffering, is low back and neck pain, which can be caused by a number of things, including injury and rheumatoid arthritis. After that come skin diseases such as acne and psoriasis, says the report. Third for men is sight and hearing loss, while for women it is migraine. Fourth for both is depressive disorders. Long-term conditions such as diabetes, high blood pressure and cancers underlie some of these problems.”*

### **Third trial and largest fine against Monsanto to a couple over Roundup: for the first time the Attorneys were able to reveal Monsanto’s criminal strategy for keeping Roundup on the market**

A [California](#) jury has ordered Monsanto to pay more than \$2bn to a couple that got cancer after using its weedkiller, marking the third and largest verdict against the company over Roundup.<sup>29</sup>

A jury in Oakland ruled Monday that [Monsanto](#), now owned by the German pharmaceutical corporation Bayer, was liable for the non-Hodgkin’s lymphoma (NHL) cancer of Alva and Alberta Pilliod. The jury ordered the company to pay \$1bn in damages to each of them, and more than \$55m total in compensatory damages (13/05/2019).

### **Breaking News: Monsanto hit with \$2 billion verdict in 3<sup>rd</sup> Roundup trial<sup>30</sup>**

Law360 (May 13, 2019, 5:04 pm EDT). Excerpts: Other experts called by the Pilliods testified that the US EPA approved Roundup, based on fraudulent studies by Industrial Bio-test Laboratories. They said the company kept selling the product, even after the fraud was exposed, and refused for decades to conduct certain studies of its Roundup formula, despite requests from the EPA and its own toxicologist. During closings, the Pilliod’s counsel, Brent Wisner, argued that Monsanto spent decades suppressing science linking its product to cancer, by ghost-writing academic articles and feeding the EPA “bad science”. He asked the jury to ‘punish’ Monsanto with a \$1 billion punitive damages award. On Monday 13<sup>th</sup> May the jury sided with the Pilliods and found Monsanto liable for failure to warn claims, design defect claims, negligence claims and negligent failure to warn claims.

### **Robert F Kennedy Jr. one of the US Attorney’s fighting Bayer in the Courts says Roundup causes a constellation of other injuries apart from Non-Hodgkin’s Lymphoma**

*“Perhaps more ominously for Bayer, Monsanto also faces cascading scientific evidence [linking glyphosate](#) to a constellation of other injuries that have become prevalent since its introduction, including [obesity, depression, Alzheimer’s, ADHD, autism, multiple sclerosis, Parkinson’s, kidney disease, and inflammatory bowel disease, brain, breast and prostate cancer, miscarriage, birth defects and declining sperm counts. Strong science suggests glyphosate is the culprit in the exploding epidemics of celiac disease, colitis, gluten sensitivities, diabetes and non-alcoholic liver cancer which, for the first time, is attacking children as young as 10.](#)*

### **Other actions of Roundup**

*Researchers peg glyphosate as a [potent endocrine disruptor, which interferes with sexual development in children. The chemical compound is certainly a chelator that removes important minerals from the body, including iron, magnesium, zinc, selenium and molybdenum. Roundup \[disrupts the microbiome\]\(#\) destroying beneficial bacteria in the human gut and triggering brain inflammation and other ill effects.](#)*

*The public’s growing concerns with Roundup are, in part, due to Monsanto’s overreaching. For two decades following its licensing in 1974, farmers and gardeners used Roundup as a conventional weedkiller. After Monsanto’s introduction of Roundup Ready seeds in the 1990s, farmers began aerial spraying of the herbicide on entire fields, including newly planted corn, canola and soy genetically altered to thrive in the toxic mist that killed all neighboring weeds.*

<sup>29</sup> <https://www.theguardian.com/business/2019/may/13/monsanto-cancer-trial-bayer-roundup-couple>

<sup>30</sup> <https://www.law360.com>

Then, around 2006 (in the UK, in 1980<sup>31</sup>), Monsanto started marketing Roundup as a [desiccant](#) to dry up oats and wheat immediately before harvest. For the first time, farmers were spraying the chemical directly on food. Roundup sales rose dramatically to 300 million pounds annually in the U.S., with farmers spraying enough to cover every tillable acre in America with a gallon of Roundup. Glyphosate now accounts for about [50% of all herbicide use](#) in the U.S. About [75% of glyphosate use](#) has occurred since 2006, with [the global glyphosate](#) market projected to reach \$11.74 billion by 2023. Never in history has a chemical been [used](#) so pervasively. Glyphosate is in our air, water, plants, animals, grains, vegetables and meats. It's in beer and wine, children's [breakfast cereal and snack bars](#) and mother's breast milk. It's even in our vaccines.

### **Glyphosate causes serious multi-generational health damage to rats**

Washington State University (WSU) researchers have found a variety of diseases and other health problems in the second- and third-generation offspring of rats exposed to glyphosate, the world's most used weed killer. In the first study of its kind, the researchers saw descendants of exposed rats developing prostate, kidney and ovarian diseases, obesity and birth abnormalities.<sup>32</sup>

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

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

More than one-third of the second-generation mothers had unsuccessful pregnancies, with most of those affected dying. Two out of five males and females in the third generation were obese. Skinner and his colleagues call this phenomenon “generational toxicology” and they've seen it over the years in fungicides, pesticides, jet fuel, the plastics compound bisphenol A, the insect repellent DEET and the herbicide atrazine. At work are epigenetic changes that turn genes on and off, often because of environmental influences.

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

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

Defra is quoted as saying that after Brexit: “The most promising crops suitable for introducing to England would be Roundup Ready GA21 glyphosate tolerant crops, which synergises well with herbicides already widely used in the UK. Empowering farmers to use the cutting-edge crop science innovations that are available is certainly one opportunity presented by shifting the responsibility for licencing domestically post-Brexit. Although the blanket spraying of herbicides like Roundup present challenges regarding their impact on the environment and animals, the more obvious solution would be to regulate the technique, not the actual product because it would make that possible.”<sup>33</sup>

Rosemary Mason MB ChB FRCA 25 June 2019

<sup>31</sup> <http://www.hgca.com/media/185527/is02-pre-harvest-glyphosate-application-to-wheat-and-barley.pdf>

<sup>32</sup> <https://www.nature.com/articles/s41598-019-42860-0>

<sup>33</sup> <https://www.politicshome.com/news/uk/foreign-affairs/brexit/opinion/dods-monitoring/95900/future-food-will-defra-embrace-gmos>