

Open Letter to 5th Viscount Ridley and Editor-in-Chief of *The Times*

The Rt Hon, the 5th Viscount Ridley
House of Lords

Dear Lord Ridley

I read your article in *The Times* 18 May 2016: "A time to embrace GM crops and reap the rewards."¹ I am surprised that the Editor-in-Chief of *The Times* accepted it without proof.

I would respectfully challenge your assertions and those of the NAS Report

Your Lordship and the *National Academy for Sciences, Engineering and Medicine* Report on GE Crops Experiences and Prospects from which you quote,² claim that GE crops need fewer pesticides. **I think I smell an industry rat.** I find it hard to believe that so many experts on GE crops, in a 407 page Report, could possibly forget this paper by Benbrook on the massive increases in glyphosate use in Trends in glyphosate herbicide use in the United States and globally (2016) which states that, "*Since 1974 in the U.S., over 1.6 billion kilograms of glyphosate active ingredient have been applied, or 19 % of estimated global use of glyphosate (8.6 billion kilograms). Globally, glyphosate use has risen almost 15-fold since so-called "Roundup® Ready," genetically engineered glyphosate-tolerant crops were introduced in 1996. Two-thirds of the total volume of glyphosate applied in the U.S. from 1974 to 2014 has been sprayed in just the last 10 years*"³ [See page 3 for further discussion]

The Golden Rice promoted by you has not yet been approved. The *American Journal of Clinical Nutrition* was forced to retract the paper reporting that GE rice was an effective Vitamin A supplement (although a wealthy philanthropist offered to bank-roll the lawsuit in court. Adrian Dubbock from the Golden Rice Humanitarian Board based in Switzerland said: "*My understanding is that this person is very troubled by socially important issues that affect the disadvantaged*"). In fact it was illegally trialled on children by scientists in Tufts University without the knowledge of the Chinese government.⁴ Funded by the Rockefeller Foundation it was being promoted "*to salvage a morally as well as financially bankrupt agricultural biotech industry.*" ... Despite the fact that paper on Golden Rice has been retracted, your brother-in-law Owen Paterson, the former UK Minister of the Environment, described: "*Opponents of the development of a type of genetically modified (GM) rice enriched with vitamin A are wicked. It's just disgusting that little children are allowed to go blind and die because of a hang-up by a small number of people about this technology*" and your Lordship described it as a "*disgrace*" that Greenpeace still campaigns against it.

"The decline in bumblebees is entirely anecdotal". In your article on bees and bumblebees,⁵ you described "*the claims of a continuing fall in the abundance of bumblebees over the past 20 years seem to be entirely anecdotal.*" Our nature reserve established in 2006 is dramatically declining in biodiversity. We have lost many invertebrate macro-fauna including bumblebees, butterflies and moths. Roundup® has been sprayed for an unknown amount of time and in unknown quantities on Japanese Knotweed in the Swansea area to try to

¹ <http://www.thetimes.co.uk/edition/news/time-to-embrace-gm-crops-and-reap-the-rewards-tnkzsgdc9>

² <https://www.sciencebasedmedicine.org/national-academy-of-sciences-report-on-gmos/> GE Crops Experiences and Prospects 407 page report.

³ <http://enveurope.springeropen.com/articles/10.1186/s12302-016-0070-0>

⁴ <http://www.i-sis.org.uk/goldenRiceScandal.php>

⁵ <http://www.rationaloptimist.com/blog/bees-and-pesticides.aspx>

'eradicate' it. In May 2013 Lord Smith (former Chairman of the Environment Agency) refused our request to monitor glyphosate in the UK. He said it was too expensive. So we sent samples away to Leipzig for analysis. The Contractor Complete Weed Control is applying it blindly. Japanese Knotweed has become a glyphosate-resistant Super-weed. Perhaps you would care to read the article and see what we found.⁶ Very soon, our reserve as well as a wider area, will become a biological desert as Craig Childs found in the US where GM crops are grown.

Is Viscount Ridley in the employment of the Rockefeller Foundation? Or was he paying back the Government for having bailed out Northern Rock?

The 5th Viscount Ridley was Chairman of Northern Rock 2004-2007, the first bank to fail. He was bailed out by tax-payers. He inherited his place in the House of Lords from his father.⁷

In response to a Question asked by The Countess of Mar in the House of Lords about glyphosate, the Defra Deputy spokesperson confirmed the Government's position⁸

On 21 March 2016 Baroness Chisholm of Owlpen (replying on behalf of Lord Gardiner of Kimble, Defra spokesperson in the House of Lords) responded to a question by the Countess of Mar: "*My Lords, the Government support pesticide use where scientific evidence shows that it is not expected to harm people or to have unacceptable effects on the environment. UK experts participated in European Food Safety Authority (EFSA's) assessment of glyphosate and support its conclusions, particularly that glyphosate does not cause cancer. The government therefore supports the continuing use of glyphosate.*"

The final vote on Glyphosate in the EU will take place on 6th June 2016. The British Government is supporting EFSA's assertion that it doesn't cause cancer, despite the International Agency for Research into Cancer (IARC) saying it was probably carcinogenic. The EU Commission wants to re-approve it for 9 years with no restrictions. This is supported by the Glyphosate Task Force, the European Crop Protection Association and Britain. However, farming communities in Latin America report cancers, birth defects, infertility and DNA changes since being exposed to GM Roundup® Ready Crops⁹

The Amazing Glyphosate Revolt Grows¹⁰

William Engdahl, veteran reporter for New Eastern Outlook: "*There is an absolutely amazing international revolt against the most deadly and most widely used weed killer in world agriculture—glyphosate...The genie is out of the bottle. One of the world's most important eugenics projects to maim and ultimately reduce human population is on the brink of being banned much as DDT decades ago.*"

In this article, he exposes the corruption in the European Commission and the European Food Safety Authority and the conflicts of interest in the WHO/UN/JMPR, a committee that confirmed that glyphosate was not a carcinogen.

Engdahl states at the end: "What is amazing about the entire ongoing battle over glyphosate re-approval is that opposition and awareness that the EU Commission is willing by any means possible to bow to the chemical industry glyphosate weed-killer cartel and approve a probable carcinogen, is growing by leaps and bounds, and internationally. That awareness is

⁶ http://www.i-sis.org.uk/How_Roundup_Poisoned_My_Nature_Reserve.php

⁷ https://en.wikipedia.org/wiki/Matt_Ridley

⁸ Food safety: glyphosate:

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

⁹ <http://www.amsi.ge/jbpc/31515/15-3-abs-2.htm> : Cancer and detrimental reproductive effects in an Argentine agricultural community environmentally exposed to glyphosate

¹⁰ <http://journal-neo.org/2016/05/23/the-amazing-glyphosate-revolt-grows/>

in turn bringing light to the very dark corners of the world of GMO itself, something that Bill Gates, David Rockefeller, Monsanto, Syngenta and friends are none too able to withstand. To date the EU Commission has received a staggering 1.5 million citizen petitions demanding they not re-approve glyphosate. The opposition to EU Commission approval of glyphosate has taken on a self-expanding character and that has the agribusiness weed-killer cartel alarmed. The process is exposing to the general public, for the first time in such a clear manner, the degree of corruption in not only Brussels but also in the so-called scientific bodies that advise it on what is safe and what not."

The Open Letter from America¹¹ was from 60 million American citizens to David Cameron (and the rest of the EU) warning them not to authorize GM crops. It confirmed the devastating effects on human health and the environment. GM is not about public good or feeding the hungry as lobbyists claimed, but about corporate control of the food system It was delivered to 10 Downing Street on 11 November 2014.¹²

"In our country, GM crops account for about half of harvested cropland. Around 94% of the soy, 93% of corn (maize) and 96% of cotton grown is GM. The UK and the rest of the EU have yet to adopt GM crops in the way that we have, but you are currently under tremendous pressure from governments, biotech lobbyists, and large corporations to adopt what we now regard as a failing agricultural technology...Studies of animals fed GM foods and/or glyphosate, however, show worrying trends including damage to vital organs like the liver and kidneys, damage to gut tissues and gut flora, immune system disruption, reproductive abnormalities, and even tumors.³⁵...These scientific studies point to potentially serious human health problems that could not have been anticipated when our country first embraced GMOs, and yet they continue to be ignored by those who should be protecting us. Instead our regulators rely on outdated studies and other information funded and supplied by biotech companies that, not surprisingly, dismiss all health concerns.

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

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

National Academy of Sciences: GE Crops Experiences and Prospects¹³

The above letter appears to contradict the Report of the National Academy of Sciences. There were three points which the Press and Viscount Ridley missed in their headlines which hailed the safety of GM crops

- ***Why were no farmers invited except for two?*** Food and Water Watch said: "*The NRC did not invite any of the thousands of U.S. farmers and countless international farmers who are critical of or opposed to GMOs — some of whom have suffered economic losses because of the technology. The NRC did not disclose that [the two farmers invited] both of these farmers also had served as paid advocates of industry, having previously received funding from Monsanto or a Monsanto-funded advocacy*

¹¹ www.theletterfromamerica.org

¹² https://twitter.com/beyond_gm/status/532224079605288960

¹³ <https://www.sciencebasedmedicine.org/national-academy-of-sciences-report-on-gmos/>

group.”¹⁴

- The Report claimed that fewer pesticides were used...but missed out the report by Benbrook on massively increased herbicide use that I pointed out on page 1.
- The Report failed to mention the funding from the Corporations. Among other conflicts, Food & Water Watch found that the NRC (and its parent organization, the National Academy of Sciences): • takes millions of dollars in funding from biotechnology companies • invites sponsors like Monsanto to sit on high-level boards overseeing the NRC’s work • invites industry-aligned, pro-GMO scientists to author NRC reports • draws scientific conclusions based on industry science • operates at times as a private contractor for corporate research.

Glyphosate is a biocide: it kills life. What has happened in the US with GM crops confirms what is happening to our nature reserve in the UK

In the US where GM crops are grown it is a biological desert

Correlation of loss of biodiversity with glyphosate levels on an Iowa Farm

Iowa was just one state in which the US Geological Survey (USGS) reported widespread contamination with glyphosate on farmland. Grundy County, Iowa was where Craig Childs spent a long weekend in a monoculture of GM-Roundup® Ready Corn looking for wildlife.¹⁵

“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.”

Robert Krulwich’s blog commented on Craig Child’s description:¹⁶ “Yet, 100 years ago, these same fields, these prairies, were home to 300 species of plants, 60 mammals, 300 birds, hundreds and hundreds of insects. This soil was the richest, the loamiest in the state. And now, in these patches, there is almost literally nothing but one kind of living thing. We’ve erased everything else. There’s something strange about a farm that intentionally creates a biological desert to produce food for one species: us. It’s efficient, yes. But it’s so efficient that the ants are missing, the bees are missing, and even the birds stay away. Something’s not right here. Our cornfields are too quiet.”

Birth defects in animals in Montana correlate with those in humans in the US¹⁷

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

¹⁴ http://www.foodandwaterwatch.org/sites/default/files/ib_1605_nrcinfluence-final-web_0.pdf

¹⁵ <http://www.houseofrain.com/bookdetail.cfm?id=1344621970977> Chapter 6 Species Vanish p 187

¹⁶ <http://www.npr.org/blogs/krulwich/2012/11/29/166156242/cornstalks-everywhere-but-nothing-else-not-even-a-bee>

¹⁷ <http://www.esciencecentral.org/journals/the-high-cost-of-pesticides-human-and-animal-diseases-2375-446X-1000132.pdf>

Monarch Butterflies are being destroyed by glyphosate and a systemic neonicotinoid insecticide clothianidin

In the last 20 years, the populations of Monarch Butterflies in the eastern US have declined by 90 percent¹⁸ associated with the introduction of genetically-modified crops like Roundup® Ready Corn and Soy, (most of which are coated with clothianidin, a long-acting systemic neonicotinoid insecticide).

In February 2015 the US Center for Food Safety produced an 88-page Report: Monarchs in peril; Herbicide-Resistant Crops and the decline of Monarch Butterflies in North America¹⁹

"Unlike many other weed killers, once absorbed it (glyphosate) is translocated (moved internally) to root tissue, where it kills milkweed at the root and so prevents regeneration. The increasingly common practice of growing Roundup® Ready crops continuously on the same fields means that milkweed is exposed to glyphosate every year, with no opportunity to recover. In 1999, common milkweed was found in half of corn and soybean fields, but only 8% of them a decade later."

Loss of biodiversity was also correlated with systemic neonicotinoids in streams in the US No monitoring of levels are done in the US, the UK or Europe

Widespread occurrence of neonicotinoid insecticides in streams in a high corn and soybean producing region in the USA was reported and chemicals were persistent.²⁰ *Pulses of elevated neonicotinoid insecticide concentrations were associated with rainfall events during and shortly after crop planting, which is consistent with the spring flushing of herbicides that has been documented in Midwestern U.S. streams. The insecticides also were detected prior to their first use during the growing season, persisting from use during previous growing seasons.* Based on correlations between loss of butterflies and moths and increases in agricultural pesticides over the same years, the Chief, National Wildlife Refuge System issued a memorandum with regard to agricultural management practices on national wildlife refuges. The use of GMOs and neonicotinoids will be banned from refuges by January 2016.²¹

Herbicides are associated with resistance to antibiotics

Commercial formulations of herbicides induce changes in antibiotic response to *E.Coli* and *S.enterica* serovar Typhimurium; they are biocides

Four different patents have been filed for glyphosate in the US by Monsanto (and granted)

- As a chelator of heavy metals (used to clean boilers) and a wetting agent in 1961²²
- As a herbicide in 1968²³
- As an antibiotic in 2002²⁴
- As an anti-protozoal agent in 2003²⁵

¹⁸ <http://www.newsweek.com/monarch-butterflies-have-declined-90-conservationists-look-extra-protection-267094>

¹⁹ http://www.centerforfoodsafety.org/files/cfs-monarch-report_2-4-15_design_05341.pdf

²⁰ <http://www.bioscienceresource.org/wp/wp-content/uploads/2015/04/Pecenka-and-Lundgren-2015-Early-On-line.pdf>

²¹ http://www.centerforfoodsafety.org/files/agricultural-practices-in-wildlife-management_20849.pdf

²² <http://www.google.com/patents/US3160632>

²³ <http://www.google.com/patents/US3455675>

²⁴ <http://www.google.com/patents/US7771736>

²⁵ <http://patft.uspto.gov/netacgi/nph->

<Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetacgi%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7771736.PN.&OS=PN/7771736&RS=PN/7771736>

"Antibiotic-resistant diseases pose an 'apocalyptic' threat to humans." Vets, farmers and GPs were blamed for overuse of antibiotics.²⁶ In 2013, the Chief Medical Officer told MPs that this issue should be added to the national risk register of civil emergencies. In March 2014 I wrote to inform her that glyphosate had been patented as an antibiotic. I finally had a reply: "Given the detailed regulatory regime for plant protection products, this is the most appropriate place for these issues to be considered."

When Prof Mark Woolhouse, Professor of Infectious Disease Epidemiology at the University of Edinburgh, and Dr Jeremy Farrar, Director of the Wellcome Trust, published an article in *Nature* on 29/04/2014 about the Intergovernmental Panel on Antimicrobial Resistance²⁷ I wrote to inform them that glyphosate had been patented as an antibiotic, but received no reply. Science is being ignored by lobbyists. Here is a scientific paper that confirms it.

Herbicides dicamba, 2,4-D and glyphosate are biocides which have sub-lethal effects on microbes

Kurenbach, B, *et al.* Sublethal Exposure to Commercial Formulations of the Herbicides Dicamba, 2,4-Dichloro- phenoxyacetic Acid, and Glyphosate Cause Changes in Antibiotic Susceptibility in *Escherichia coli* and *Salmonella enterica* serovar Typhimurium. *Mbio; Journal for the American Society of Microbiology*. 2015; Vol 6 1-9.²⁸

IMPORTANCE *Increasingly common chemicals used in agriculture, domestic gardens, and public places can induce a multiple antibiotic resistance phenotype in potential pathogens. The effect occurs upon simultaneous exposure to antibiotics and is faster than the lethal effect of antibiotics. The magnitude of the induced response may undermine antibiotic therapy and substantially increase the probability of spontaneous mutation to higher levels of resistance. The combination of high use of both herbicides and antibiotics in proximity to farm animals and important insects, such as honeybees, might also compromise their therapeutic effects and drive greater use of antibiotics. To address the crisis of antibiotic resistance requires broadening our view of environmental contributors to the evolution of resistance.*

GPs, farmers and vets are blamed for the global apocalypse of antibiotic resistance...but many doctors choose to ignore the fact that glyphosate is an antibiotic as well

Evidence of harm to human health from glyphosate with GMO agriculture

Devastating Impacts of Glyphosate Use with GMO Seeds in Argentina"²⁹

Dr M. Ávila-Vázquez is a neonatal physician belonging to an organisation called the Physicians of Crop Sprayed towns of Argentina. Their first meeting was held in 2010³⁰ and they have just had their third.

Their first meeting reported: *"That the processes of soyization, monoculture, direct sowing, intense farming ... have affected our natural co-existence in the following order: Health: Reduction in the average age and height in crop-sprayed towns due to malnutrition, and a decrease of the body's natural defenses. Birth defects, mutagenesis, miscarriages, depression and suicide, disorders of the central nervous system and other neurological pathologies;*

²⁶ <http://www.theguardian.com/society/2013/jan/23/antibiotic-resistant-diseases-apocalyptic-threat>

²⁷ <http://www.nature.com/news/policy-an-intergovernmental-panel-on-antimicrobial-resistance-1.15275>

²⁸ <http://mbio.asm.org/content/6/2/e00009-15.full.pdf+html>

²⁹ http://www.i-sis.org.uk/Devastating_Impacts_of_Glyphosate_Argentina.php

³⁰

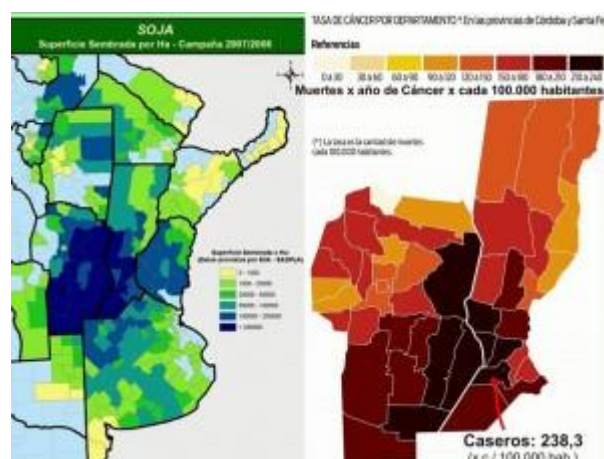
http://www.agrarkoordination.de/fileadmin/dateiupload/Roundup_Co/INGLES_Report_from_the_1st_National_Meeting_Of_Physicians_In_The_Crop-Sprayed_Towns_2_.pdf

disabilities, spina bifida, lupus, leukemia and other types of cancers; chloracne and other skin problems; asthma, allergies, and other respiratory and lung-related problems; male sterility and impotence; hormonal disruption and other hormonal disorders; diminished childhood development; prolonged febrile syndrome without focus; children's increased vulnerability to pollutants; anemia, multiple sclerosis, cerebral ischemia, death."

Advertising the Argentinian 3rd National Conference of Physicians of Crop Sprayed towns 2015³¹

The Pre-conference flyer stated: "Gradually, physicians working in those towns have joined in that claim, affirming that their patients are becoming ill with cancer, as well as endocrine, immune and reproductive disorders, in new ways that did not exist before sprayings, a common practise related to GM crops.

The system is upheld on the basis of denying and hiding the impact on agricultural health and repeating the claims made by multinational companies (which supply pesticides and transgenic seeds), about the non-toxic nature of their agricultural poisons (for instance, "**you can drink Round Up without any danger**", and "**glyphosate is like salty water**".)"



Distribution of crops resistant to glyphosate and distribution of cancer mortality in Cordoba and Santa Fe, according Minagria and provincial Ministry of Health

The paper by Dr Ávila-Vázquez is titled: Cancer and detrimental reproductive effects in an Argentine agricultural community environmentally exposed to glyphosate.³²

Birth defects in seven regions of Argentina

A report of the many types of birth defects in seven geographical areas of Argentina³³ was also excluded from the BfR glyphosate re-assessment (in Spanish, with an English abstract). High frequencies regional analysis showed the following significant results: severe hypospadias; spina bifida, microtia, cleft lip with cleft palate, polycystic kidney, postaxial polydactyly and Down syndrome; postaxial polydactyly; omphalocele, gastroschisis, cleft lip without cleft palate, cleft lip with cleft palate, anorectal atresia/stenosis, indeterminate sex, preaxial polydactyly and pectoral agenesis; cleft lip without cleft palate.

Academic fraud and corruption: University scientists caught conspiring with Monsanto to

³¹ <http://www.reduas.com.ar/3rd-national-conference-of-physicians-of-crop-sprayed-towns/>

³² <http://www.amsi.ge/jbpc/31515/15-3-abs-2.htm>

³³ <http://www.ncbi.nlm.nih.gov/pubmed/21132229> [Births prevalence of 27 selected congenital anomalies in 7 geographic regions of Argentina]. Campaña H et al.

manipulate public opinion on GMOs³⁴

Dave Murphy EcoWatch, September 12, 2015

"Last weekend (September 2015), *The New York Times* released a stunning expose of how Monsanto and the biotech industry enlisted allegedly independent public university scientists in a deceptive campaign to lobby state legislators in Pennsylvania, interfere with ballot initiatives in Oregon and Colorado and paper over risks of high pesticide usage on the Hawaiian island of Kauai...

For background on how this current story originally broke, you have to go back to Aug. 6, when the international science journal *Nature* reported that more than 4,600 pages of emails from University of Florida plant scientist Kevin Folta ³⁵ "*reveal his close ties to the agriculture giant Monsanto ... and other biotechnology-industry interests*" ...

Congenital anomalies have increased in the UK compared with Sweden

Even though GM Roundup Ready crops haven't yet been introduced into the UK, glyphosate has been sprayed pre-harvest on non-organic crops since 1980.

Deaths from in the under 5s in the UK are twice those of Sweden ³⁶ and the three main causes are prematurity, congenital malformations and infections. The mortality rates for the three main causes of death in the UK (prematurity, congenital malformations and infections) were 138.5, 112.1 and 63.9, respectively, per 100 000 children for the three years 2006-2008. The mortality rates for the same three conditions in Sweden were 10.1, 88.6 and 34.8, respectively.

Chemical brain drain in Britain

In 2007 The Faroes Statement: Human Health Effects of Developmental Exposure to Chemicals in Our Environment: ³⁷ was published by Grandjean *et al.* Twenty-five experts in environmental health from eleven countries contributed. "*The periods of embryonic, foetal and infant development are remarkably susceptible to environmental hazards. Toxic exposures to chemical pollutants during these windows of increased susceptibility can cause disease and disability in infants, children and across the entire span of human life*".

Children living in Britain are the most exposed to agricultural chemicals compared with other European Countries (hence the term 'chemical brain drain'³⁸)

Academic performance of 15-year-olds has deteriorated since the 1990s said Michael Gove, the former UK Education Secretary; 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. ³⁹ 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

³⁴ <http://ecowatch.com/2015/09/12/scientists-conspire-monsanto-gmos/>

³⁵ <http://www.nature.com/news/gm-crop-opponents-expand-probe-into-ties-between-scientists-and-industry-1.18146>

³⁶ <http://adc.bmj.com/content/early/2015/07/15/archdischild-2014-308059>

³⁷ <http://www.ncbi.nlm.nih.gov/pubmed/18226057>

³⁸ <http://brainrain.dk/>

³⁹ [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)

having ranked 4th in the tests taken in 2000. The UK has made little progress and remains among the average, middle-ranking countries, in 26th place for mathematics and 23rd for reading, broadly similar to three years ago. Michael Gove said since the 1990s, various test performances in UK schools had been "at best stagnant, at worst declining".⁴⁰

A 2016 OECD study also shows that in England the young have lower basic skills than their counterparts in Europe⁴¹

"So although adults approaching retirement age (55-65 year-olds) in England compare reasonably well with their counterparts in other countries, younger people are lagging badly behind (see Figure 1). Other things being equal (including migration) this means that in time the basic skills of the English labour force could fall further behind those of other countries. In many countries rising education attainment has driven better basic skills. But while in England many young people are more likely than their parents' generation to continue to further and higher education, too many still have weak basic skills."

There are an estimated 9 million working aged adults in England (more than a quarter of adults aged 16-65) with low literacy or numeracy skills or both

This reflects England's overall performance in the Survey of Adult Skills - around average for literacy, but well below average for numeracy relative to other OECD countries in the Survey (OECD, 2013). These 9 million people struggle with basic quantitative reasoning or have difficulty with simple written information. They might, for example, struggle to estimate how much petrol is left in the petrol tank from a sight of the gauge, or not be able to fully understand instructions on a bottle of aspirin. Here they are referred to as 'low-skilled'. Weak basic skills reduce productivity and employability, damage citizenship, and are therefore profoundly implicated in challenges of equity and social exclusion. This report explores the factors behind these findings, and proposes policy solutions.

Children in the UK have been exposed to toxic chemicals at home and at school from the earliest stage of development in utero when their brain is only the size of that of an insect

Dr Henk Tennekes was the first independent researcher to recognize the extreme toxicity of low levels of systemic neonicotinoid insecticides, which have become widespread in the environment.⁴² They cause a virtually irreversible blockage of postsynaptic nicotinic acetylcholine receptors (nAChRs) in the central nervous system of insects (to which the human foetus is also exposed). He said the damage is cumulative, and with more exposure more receptors are blocked. He predicted that there may be no safe level of exposure. Many independent scientists have demonstrated that the neonicotinoid insecticides have effects on the mammalian brain, particularly on the foetus. In 2000, Tomiwaza *et al.* showed that neonicotinoids acted on mammalian nicotinic acetylcholine receptors as well as those of insects, but considered that the selective nature of its binding (i.e. less affinity than in insects) made them safe for human exposure.⁴³ However, they are long acting and are now widespread in the environment. Clothianidin, for example, has a half-life in soil of up to 1386 days so it accumulates in the soil yet farmers apply neonicotinoids blindly the following year. There are several papers that have shown harmful effects of neonicotinoids on mammalian nicotinic acetylcholine receptors. (Li *et al.*,⁴⁴ Abou-Donia *et al.*⁴⁵ and Kimura-Kuroda *et al.*⁴⁶)

⁴⁰ <http://www.bbc.co.uk/news/education-25187997>

⁴¹ <https://www.oecd.org/unitedkingdom/building-skills-for-all-review-of-england.pdf>

⁴² http://farmlandbirds.net/sites/default/files/Tennekes_2010_2.pdf

⁴³ <http://pubs.acs.org/doi/abs/10.1021/jf000873c>

⁴⁴ <http://www.tandfonline.com/doi/abs/10.1080/15287390701613140#.VdmL8fVhHw>

⁴⁵ <http://www.tandfonline.com/doi/abs/10.1080/15287390701613140#.VdmL8fVhHw>

⁴⁶ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0032432>

OECD publication Reviews of Health Care Quality: the UK is falling behind the EU

The OECD publication Reviews of Health Care Quality: United Kingdom 2016 Raising Standards⁴⁷

“The United Kingdom’s health systems have long made the quality of care a high priority, pioneering many tools and policies in this area. Yet despite being a global leader in monitoring and improvement, the United Kingdom does not consistently perform well on international quality benchmarks. Why?”... “Based on international benchmarks of health care quality, notably OECD, some indicators for the UK show average or disappointing performance. Survival estimates for breast cancer, cervical and colorectal cancer, for example, are all below the OECD average...”

Humans and the environment are being silently poisoned by thousands of untested and unmonitored chemicals: risks from prenatal exposure denied by UK government doctors

The International Federation of Gynecology and Obstetrics (FIGO), a group representing OB-GYNs from 125 countries, released a report detailing the detrimental health effects caused by even small exposure to common chemicals like the ones found in pesticides, plastics, and air pollution.⁴⁸ Documented links between prenatal exposure to environmental chemicals and adverse health outcomes span the life course and include impacts on fertility and pregnancy, neurodevelopment, and cancer. The global health and economic burden related to toxic environmental chemicals is in excess of millions of deaths and billions of dollars every year. On the basis of accumulating robust evidence of exposures and adverse health impacts related to toxic environmental chemicals, the International Federation of Gynecology and Obstetrics (FIGO) joins other leading reproductive health professional societies in calling for timely action to prevent harm. FIGO recommends that reproductive and other health professionals advocate for policies to prevent exposure. The health problems are even greater for babies exposed in the womb, who face increased risks of cancer, reduced cognitive function, and even miscarriage or stillbirth. The organization cited concerns about the sharp increase over the past four decades in chemical manufacturing, which continues to grow by more than 3 per cent every year. Some 30,000 pounds of chemicals were manufactured or imported for every person in the United States in 2012 alone—a whopping 9.5 trillion pounds in total. Annually, the FIGO authors write, chemical manufacturing leads to 7 million deaths and billions in health care costs. In an article in the UK about why we should eat organic food,⁴⁹ the journalist said that in 31,000 tonnes of chemical are used in farming in the UK each year.

In 2012, Séralini and his team in France published a 2-year rat feeding study of GMO maize and Roundup. Chronic hormone and sex dependent pathologies occurred; males developed tumours at 4 months and females at 7 months⁵⁰

“The health effects of a Roundup®-tolerant genetically modified maize (from 11% in the diet), cultivated with or without Roundup®, and Roundup® alone (from 0.1 ppb in water), were studied 2 years in rats. In females, all treated groups died 2–3 times more than controls, and more rapidly. This difference was visible in 3 male groups fed GMOs. All results were hormone and sex dependent, and the pathological profiles were comparable. Females developed large mammary tumours almost always more often than and before controls, the pituitary was the second most disabled organ; the sex hormonal balance was modified by

⁴⁷ http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/oecd-reviews-of-health-care-quality-united-kingdom-2016_9789264239487-en#page19

⁴⁸ http://www.figo.org/sites/default/files/uploads/News/Final%20PDF_8462.pdf

⁴⁹ <http://www.theguardian.com/commentisfree/2015/oct/07/why-should-i-eat-organic-google>

⁵⁰ <http://dx.doi.org/10.1016/j.fct.2012.08.005>

GMO and Roundup® treatments. In treated males, liver congestions and necrosis were 2.5–5.5 times higher. This pathology was confirmed by optic and transmission electron microscopy. Marked and severe kidney nephropathies were also generally 1.3–2.3 greater. Males presented 4 times more large palpable tumors (kidney) than controls which occurred up to 600 days earlier. Biochemistry data confirmed very significant kidney chronic deficiencies; for all treatments and both sexes, 76% of the altered parameters were kidney related. These results can be explained by the non-linear endocrine-disrupting effects of Roundup®, but also by the overexpression of the transgene in the GMO and its metabolic consequences.”

Authors’ highlights:

1. A Roundup®-tolerant maize and Roundup® provoked chronic hormone and sex dependent pathologies.
2. Female mortality was 2–3 times increased mostly due to large mammary tumours and disabled pituitary.
3. Males had liver congestions, necrosis, severe kidney nephropathies and large palpable tumours.
4. This may be due to an endocrine disruption linked to Roundup® and a new metabolism due to the transgene.
5. GMOs and formulated pesticides must be evaluated by long term studies to measure toxic effects.

The UK Science Media Centre is funded by industry and hosted by the Wellcome Trust; in 2012 ‘experts’ and European Food Safety Authority scientists⁵¹ said the conclusions of Séralini’s 2-year rat feeding study with GM maize (with or without Roundup®) caused tumours, liver and kidney damage were not supported by the data

The SMC sponsors include AstraZeneca, BP, Coca-Cola, L’Oreal, Monsanto, Syngenta and Nature Publishing Group. The Centre provides a rapid ‘expert’ opinion for journalists. The Director Fiona Fox admits that it was set up in the wake of Dr Árpád Pusztai publishing his paper in 1999 which showed that rats fed on GM potatoes had stunted growth and a repressed immune system.⁵² On 10 August 1998 in a Granada ‘World in Action’ broadcast⁵³ Dr Pusztai raised questions about the safety of GM food in the human diet on the basis of the study. The news flashed around the world. Professor Robert Orskov OBE who had worked at the Rowett Institute for 33 years was told that phone calls went from Monsanto, the American firm that produces 90% of the world’s GM food, to Clinton and then to Blair. “Clinton rang Blair and Blair rang James” (Professor James, Director of the Rowett Institute). “There is no doubt he was pushed by Blair to do something. It was damaging the relationship between the USA and the UK, because it was going to be a huge blow for Monsanto.” Dr Pusztai lost his job and his Laboratory in the Rowett Institute was closed down.

Some scientists commenting on several Séralini studies for the SMC went out of their way to conceal their conflicts of interest: one even tried to conceal his identity: for example the Chairman of EFSA GMO Panel Joe Perry declared no conflicts of interest
Professor Joe N. Perry, Visiting Professor of Biometry, University of Greenwich, said: “This paper appears to be based on the same data as Seralini’s previous 2012 paper, with no real new information and only minor rephrasing and a few new references. Therefore, I doubt whether my conclusions would differ from those of the vast majority of independent members of the scientific community, who concluded in 2012 that there was insufficient evidence to justify the claims of CRIIGEN and Giles-Eric Seralini. However, I do welcome

⁵¹ <http://www.efsa.europa.eu/en/press/news/121128>

⁵² <http://www.thelancet.com/pdfs/journals/lancet/PIIS0140673698058607.pdf>

⁵³ <http://news.bbc.co.uk/1/hi/health/149882.stm>

Seralini's promise to publish his raw data and my hope is that all organisations involved in GM risk assessment will, wherever possible in the future, publish in full their raw data in the spirit of full transparency and openness."

Declared interests: None declared

In comments on the Seralini study investigating the contaminants in laboratory rodent diets,⁵⁴ some Science Media Centre's experts⁵⁵ once again failed to declare conflicts of interest.

Prof Maurice Moloney did not declare that he had been involved in the development of Roundup® Ready crops in Canada. He said: *"The Institute's core benefaction is from Potash Corp (a fertilizer, not pesticide, company) and the taxpayers (Govt) of Saskatchewan"*.

Professor Boobis also commenting on the Seralini study failed to declare that he was Vice-President of the International Life Science Institute (ILSI) Europe. In 2012, the ILSI group took a \$500,000 (£344,234) donation from Monsanto and a \$528,500 donation from the industry group CropLife International,⁵⁶ which represents Monsanto, Dow, Syngenta and others, according to documents obtained by the US right to know campaign. May 9-13 2016 Prof Boobis chaired the UN's joint meeting on pesticides residues (JMPR) just days before a crucial EU vote on whether to relicence glyphosate, the key ingredient in Monsanto's Roundup® weed killer brand.⁵⁷ The Meeting concluded that glyphosate is unlikely to pose a carcinogenic risk to humans from exposure through the diet.⁵⁸ The following day, Arthur Neslen reported for the Guardian the conflicts of interest on the WHO/UN/JMPR Panel.⁵⁹

The British press including *The Times* is well aware that the Science Media Centre is run by Corporations but, according to a journalist writing in *Nature*, is not worried

*Nature World View 2012:*⁶⁰ *"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."*

Prof Seralini (CRIIGEN, France) won a whistle blower award for his rat feeding studies on GMOs, glyphosate and tumours

On 16 October 2015 Prof Gilles-Eric Seralini was awarded Whistle blower of the Year (a shared award) 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 Seralini was attacked by a vehement campaign by 'interested circles' from the chemical*

⁵⁴ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128429>

⁵⁵ <http://www.sciencemediacentre.org/expert-reaction-to-study-investigating-content-of-and-contaminants-in-laboratory-rodent-diets/>

⁵⁶ Michael Pragnell the present Chairman of Cancer Research UK was Chairman of the industry group CropLife International 2002-2005.

⁵⁷ <http://www.theguardian.com/environment/2016/may/16/glyphosate-unlikely-to-pose-risk-to-humans-unwho-study-says>

⁵⁸ <http://www.who.int/foodsafety/jmprsummary2016.pdf?ua=1>

⁵⁹ <http://www.theguardian.com/environment/2016/may/17/unwho-panel-in-conflict-of-interest-row-over-glyphosates-cancer-risk>

⁶⁰ <http://magz.elibraries.eu/ul/1826/Nature%20Magazine%207389%20-%202012-03-15.pdf>
go.nature.com/klnuna World View Nature 15th March 2012

industry as well as the industry-financed British Science Media Centre.”⁶¹

Fiona Fox Director of the UK SMC boasted that the Séralini study went virtually unreported in the UK, but was highly publicized world-wide, “particularly France, where it was “front-page news everywhere”, prompting the French government to launch an inquiry into the study's findings.” France was the first to announce a ban on glyphosate, while the British Government agrees with EFSA and refuses to ban it. So the French citizens are aware, but the British public has been kept in ignorance of Séralini’s rat study by the British Media and the fact that non-organic food is contaminated with pesticide residues, including glyphosate. The BBC has been actively promoting Monsanto and GMOs.

Royal Society GMO Questions and Answers published (24 May 2016)

Is the timing of this report significant in trying to assuage the fears of the British public?

Working group: Professor Sir David Baulcombe FRS FMedSci University of Cambridge, Professor Jim Dunwell University of Reading, Professor Jonathan Jones FRS Sainsbury Laboratory, Professor Ottoline Leyser CBE FRS University of Cambridge, Professor John Pickett CBE DSc FRS Rothamsted Research, Sir John Shekel FMedSci FRS Biological Secretary, the Royal Society The Francis Crick Institute. Reviewers: Fiona Fox Science Media Centre, Dr Gavin Hesketh UCL, Professor Richard Jones FRS University of Sheffield, Professor Steve Jones FRS UCL, Professor Chris Leaver CBE FRS FRSE University of Oxford, Dr Robin Lovell-Badge FRS FMedSci MRC National Institute for Medical Research, Professor Judith Petts CBE Vice-Chancellor, University of Plymouth (previously Pro-Vice-Chancellor, University of Southampton) Professor Pamela Ronald University of California, Davis, Professor Nikolas Rose King’s College London.⁶²

Prof Pamela Ronald UC Davis defender of genetically engineered (GE or GMO) crops

Can the scientific reputation of Pamela Ronald, public face of GMOs be salvaged?⁶³ Jonathan Latham PhD writes in *Independent Science News* 12 November 2013. “*Professor Pamela Ronald is probably the scientist most widely known for publicly defending genetically engineered (GE or GMO) crops. However, her scientific research has become the central question in a controversy that may destroy both careers. In the last year Ronald’s laboratory at UC Davis has retracted two scientific papers (Lee et al. 2009 and Han et al 2011) and other researchers have raised questions about a third (Danna et al 2011). The two retracted papers form the core of her research programme into how rice plants detect specific bacterial pathogens*”...

Fiona Fox of the Industry-funded Science Media Centre, whose stated aim was to protect Monsanto, also reviewed the Royal Society GMO Questions and Answers published (24 May 2016). It was strategically close Matt Ridley’s article in *The Times* (18 May 2016)

Prof Jonathan Jones commented adversely on two occasions against Séralini’s paper on the SMC. He has Monsanto links. He, like the German Rapporteur Member State Federal Risk Assessment (BfR), believes that glyphosate only affects plants and not humans.

Prof Jonathan Jones says glyphosate is not poisonous to mammals

January 2012 I had emailed Prof Jones about Monsanto’s GM corn not being sold in France.

⁶¹ http://neu.vdw-ev.de/wp-content/uploads/2015/10/Presseinformation-Whistleblower-Preisverleihung-2015_150917_eng.pdf

⁶² <https://royalsociety.org/~media/policy/projects/gm-plants/gm-plant-q-and-a.pdf>

⁶³ <https://www.independentsciencenews.org/news/can-the-scientific-reputation-of-pamela-ronald-public-face-of-gmos-be-salvaged/>

Dear Rosemary

Glyphosate is not poisonous to mammals- it inhibits EPSP synthase, an enzyme that mammals lack because we obtain aromatic amino acids in our diet. Roundup the herbicide contains surfactants- basically soaps- the consumption of which is ill advised. Roundup is considerably less damaging to the environment than the herbicides it replaced, such as those made by American Cyanamid (now bankrupt).

France has elected to reject the judgement of the European Court that it has no right to block planting of an approved insect resistant maize variety containing MON810. Fortunately Spain and Portugal have not been so stupid and their farmers plant 100k hectares of GM maize which requires less insecticides to control corn borer.

If the cost of deregulation of useful and benign GM traits were lower, there would be more competition for the MNCs from small companies and the public sector.

Regards Jonathan”

This statement by Professor Jonathan Jones is wrong: glyphosate poisons humans in the same way as it poisons plants

Humans and animals have exactly the same pathway as in plants; mammals can only absorb nutrients via the bacteria in their gut; the gut microbiome. The gut microbiome is the collective genome of organisms inhabiting our body.⁶⁴ Pesticide scientists and plant scientists have based their assessment of herbicides on complete ignorance of human physiology. UK public health experts and physicians in the Wellcome Trust and the Royal Society have failed to question the accuracy of the pesticide regulators’ risk-assessor’s knowledge.

Los Angeles County is suing Monsanto for false advertising; it claims on it label precisely what Prof Jonathan Jones and the European Regulators said.

Nancy Swanson, Seattle GMO Examiner, 21 April 2015⁶⁵

Extracts: Today a class action lawsuit was filed in Los Angeles County, California against the Monsanto Corporation. The suit alleges that Monsanto is guilty of false advertising by claiming that glyphosate, the active ingredient in Roundup, targets an enzyme only found in plants and not in humans or animals. Monsanto makes this claim to support the contention that glyphosate is harmless to humans.

In the lawsuit, the argument is made that the targeted enzyme, EPSP synthase, is found in the microbiota that reside in our intestines and therefore this enzyme is found in humans and animals. It is further stated in the lawsuit that there are many human and animal health problems associated with the disruption of our intestinal microbes.

“Because it kills-off our gut bacteria, glyphosate is linked to stomach and bowel problems, indigestion, ulcers, colitis, gluten intolerance, sleeplessness, lethargy, depression, Crohn’s Disease, Celiac Disease, allergies, obesity, diabetes, infertility, liver disease, renal failure, autism, Alzheimer’s, endocrine disruption,” and the WHO recently announced glyphosate is ‘probably carcinogenic.’

Question 14: How are GM Crops regulated?

Answer 14: by the European Food Safety Authority

I wrote to Bernhard Url, Executive Director of EFSA in February 2016 and asked him nine serious questions about the independence of EFSA Committees. He has not as

⁶⁴ <http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html>

⁶⁵ <http://www.examiner.com/article/monsanto-sued-los-angeles-county-for-false-advertising>

yet replied.

Why are the Chairs of the EFSA Panel on Genetically Modified Organisms (GMO) and genetically modified food and feed,⁶⁶ the Scientific Committee and Emerging Risks (SCER)⁶⁷ and Contaminants in the Food Chain (CONTAM)⁶⁸ all British?

Was it part of the plan with industry on 26/06/2012 to facilitate getting GM crops into Britain?

Professor Joe Perry, Chairman GMO Panel formerly worked at Rothamsted Research.

Professor Anthony Richard Hardy, Chairman of SCER, formerly worked for the Central Science Laboratory in York and ADAS, (the science arm of MAFF that recommended in 1980 the advice of a Monsanto scientist that farmers should spray glyphosate on crops pre-harvest.)

Dr Diane Benford, Chairman of CONTAM, currently works for the UK Food Standards Agency.

Prof Huw Jones is another member from Rothamsted Research on the GMO Panel.

Examples of EFSA GMO Panel ‘adopting’ GM without considering environmental consequences

*"The UK Competent Authority and Syngenta had applied for placing on the market of a GM, herbicide tolerant (glyphosate) maize GA21 for food and feed uses, import, processing and cultivation."*⁶⁹ It was adopted by the EFSA on 16 December 2011. Although the EFSA GMO Panel had said that there were no effects on human or animal health or the environment in the Abstract, in the full document, they admitted to the problems of reduction in farmland biodiversity, selection of weed communities and selection of glyphosate-resistant weeds, and destruction of food webs and the ecological functions they provide. Nevertheless, EFSA adopted it, but covered itself by saying *"The magnitude of these potential adverse environmental effects will depend on a series of factors including the specific herbicide and cultivation management applied at farm level, the crop rotation...etc.* and recommended *"case-specific monitoring."*

EFSA GMO Panel adopted GM crops on the grounds that they were safe for human health and the environment

This is despite the many papers that show that super weeds are massively destructive to the environment in the US⁷⁰ and that over a period of 30 years there has been uncontrolled spread and contamination globally by many Genetically-Engineered (GE) plants that are herbicide resistant.⁷¹

Why did the GMO Panel say that glyphosate and GM would not harm Lepidoptera species?

In 2012 the Chairman of the GMO Panel was lead author of a paper in the *Journal of Applied Ecology* "Estimating the effects of Cry1F Bt-maize pollen on a non-target Lepidoptera, using a mathematical model of exposure."⁷² **Conclusion:** *Mitigation measures of risks of Bt-maize to sensitive larvae of non-target lepidopteran species can be effective, but depend on host-plant densities, which are in turn affected by weed-management regimes (sic).* Mathematical modelling failed to predict the near extinction of the migrant Monarch butterfly.

⁶⁶ <http://www.efsa.europa.eu/en/gmo/gmomembers.htm>

⁶⁷ <http://www.efsa.europa.eu/en/scer/scmembers.htm>

⁶⁸ <http://www.efsa.europa.eu/en/contam/contammembers.htm>

⁶⁹ <http://www.efsa.europa.eu/en/efsajournal/pub/2480.htm>

⁷⁰ <http://www.enveurope.com/content/pdf/s12302-016-0070-0.pdf>

⁷¹ http://www.testbiotech.org/sites/default/files/Testbiotech_Transgene_Escape.pdf

⁷² <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.02083.x/pdf>

In February 2015 the US Center for Food Safety produced an 88-page Report: *Monarchs in peril: Herbicide-Resistant Crops and the decline of Monarch Butterflies in North America* ⁷³ (see page 3).

Uncontrolled spread of GE crops: Testbiotech Report on the spread of GE Oil Seed Rape ⁷⁴

GE plants have been grown for 30 years and commercially for 20 years. This independent Report provides a global overview of the uncontrolled escape of GE oil seed rape (OSR) in various regions of the world (US, Canada, Japan, Australia, Switzerland and Germany). In Switzerland where no imports of GE OSR have been allowed since 2008: *"Transgenic OSR was able to survive along rail tracks for long periods because extensive glyphosate spraying of these areas offer them selective advantages."* In Japan: *"plants that proved to be resistant to glyphosate or glufosinate were found at ports and along transportation routes to industry plants where OSR is processed."*

Transgene Escape: Global atlas of uncontrolled spread of genetically engineered plants ⁷⁵

This Report, also from Testbiotech (Germany), makes several recommendations. Most importantly, measures should be put in place immediately to stop any further uncontrolled spread of genetically engineered plants into the environment as far as possible. Comprehensive regulation should be established to strengthen the Precautionary Principle and the release of genetically engineered organisms should not be allowed if they cannot be retrieved.

Conflicts of interest not declared: GMO Panel Chairman is joint author of a Review with EFSA of spread of feral GM herbicide-tolerant OSR: "concerns are not scientifically justified" ⁷⁶

This paper by the Chairman of the GMO panel and EFSA dismiss concerns of escape of GE organisms into the environment. It *"concludes that feral GM herbicide-tolerant oilseed rape in Europe should not be routinely managed, and certainly not in semi-natural habitats, as the benefits of such action would not outweigh the negative effects of management."*

Why did EFSA conceal their own paper that discovered a hidden viral gene in GMO crops?

In January 2012 Prof Du Jardin, University of Liège, Belgium, a Vice-Chairman of the EFSA GMO Panel was the second author of a paper whose first author, Nancy Podevin an EFSA employee, found a hidden viral gene in GMO crops. ⁷⁷ In fact, this paper isn't among Prof du Jardin's selected scientific publications on his Biography for EFSA. Is he anxious to avoid it being discussed? Or has he been threatened by industry? There are at least two independent scientists who have suggested that there are serious questions to be answered about human safety by those in Europe authorising GM.

Jonathan Latham, PhD, Editor of *Independent Science News* has written a Synopsis and he and Allison Wilson have published a pdf. ⁷⁸

Synopsis: *"A scientific paper published in late 2012 shows that US and EU GMO regulators have for many years been inadvertently approving transgenic events containing an*

⁷³ http://www.centerforfoodsafety.org/files/cfs-monarch-report_2-4-15_design_05341.pdf

⁷⁴ www.testbiotech.de/node/891

⁷⁵ http://www.testbiotech.org/sites/default/files/Testbiotech_Transgene_Escape.pdf

⁷⁶ <http://nora.nerc.ac.uk/15307/1/N015307PP.pdf>

⁷⁷ Possible consequences of the overlap between the CaMV 35S promoter regions in plant transformation vectors used and the viral gene VI in transgenic plants.

<http://blogg.slu.se/forskarbloggen/files/2013/02/GMcrops2012-Podevin.pdf>

⁷⁸ <http://www.independentsciencenews.org/commentaries/regulators-discover-a-hidden-viral-gene-in-commercial-gmo-crops/>

unsuspected viral gene. As a result, 54 different transgenic events commercialized internationally contain a substantial segment of the multifunctional Gene VI from Cauliflower Mosaic Virus (CaMV) within them. Among these are some of the most widely grown GMOs, including Roundup® Ready Soybean (40-3-2) and MON810 Maize. The oversight occurred because regulators failed to appreciate that Gene VI overlaps the commonly used CaMV 35S gene regulatory sequence.

The authors of the paper, working for the European Food Safety Authority, concluded that functions of Gene VI were potential sources of harmful consequences. They further concluded that, if expressed, the fragments of Gene VI are substantial enough for them to be functional (Podevin and du Jardin (2012) *GM Crops and Food* 3: 1-5).

This discovery has multiple ramifications for biotechnology. Foremost, there is the immediate question of GMO safety and whether the 54 events should be recalled, but secondly, the failure implicates regulators and the industry in a circle of mutual incompetence and complacency.

The discovery will also strengthen the argument for GMO labelling: if regulators and industry cannot protect the public then why should they not be allowed to protect themselves?"

In Norway, on 24/01/2013 GenØk⁷⁹ published a similar assessment at the request of the Norwegian Directorate for Nature Management.⁸⁰

Why didn't EFSA report these papers (1) showing the presence of Bt toxin in pregnant women and their fetuses; and (2) Bt toxin was not broken down in digestion and had toxic effects on mice?

Maternal and fetal exposure to pesticides associated to genetically modified foods in Eastern Townships of Quebec, Canada⁸¹ showed the presence of glufosinate herbicide, its metabolite 3- methylphosphinicopropionic acid (3-MPPA) and Cry1Ab protein (a Bt toxin) in pregnant women, their fetuses and in non-pregnant women. Another study showed that Bt insecticidal toxins similar to those engineered into GM Bt crops were not broken down in digestion, as is claimed by the industry and regulators, but had toxic effects on the blood of mice.⁸² Cytotoxicity was also demonstrated on human cells of Cry1Ab and Cry1Ac Bt insecticidal toxins alone, or with a glyphosate-based herbicide.⁸³

Other European Countries are informed by their Press, but not Britain

The Press in France, Germany, Denmark and Sweden write freely about exposure to pesticides being damaging to human health: *Le Monde*⁸⁴ newspaper in France revealed that the Federal German RMS (BfR) is in the hands of the Agrochemical Industry

The French investigative journalist Stéfane Foucart exposed the BfR on 30 March 2015: "*The BfR was already under suspicion over its peculiar risk evaluations; for example it declared glyphosate to be 'harmless' despite massive evidence to the contrary.*" ***Le Monde*** revealed that one third of the Members of the ***BFR Commission on Pesticides and their***

⁷⁹ GenØk – Centre for Biosafety is a non-commercial foundation located in the research environment at the University of Tromsø and Forskningsparken (the Science Park). GenØk's vision is safer use of biotechnologies.

⁸⁰ <http://genok.com/arkiv/723/>

⁸¹ <http://www.sciencedirect.com/science/article/pii/S0890623811000566>

⁸² <http://www.esciencecentral.org/journals/hematotoxicity-of-bacillus-thuringiensis-as-spore-crystal-strains-cry1aa-cry1ab-cry1ac-or-cry2aa-in-swiss-albino-mice-2329-8790.1000104.php?aid=11822>

⁸³ <http://onlinelibrary.wiley.com/doi/10.1002/jat.2712/abstractn>

⁸⁴ FOUCART, S. 2015. Noire semaine pour l'expertise. *Le Monde (Paris)* article 30.III.2015 http://www.lemonde.fr/idees/article/2015/03/30/noire-semaine-pour-expertise_4605627_3232.html?xtmc=neonicotinoides&xtcr=1

Residues are directly employed by the chemical industry; others came from the ‘dubious’ Bee Institutes. The satirical comment from *Le Monde* was, that in Germany: “people from the pesticide industry give expert safety advice on their own products”. Walter Haefeker President of the European Professional Beekeepers’ Association (EPBA) confirmed this: “Dr. Karsten Hogardt, Federal Office of Consumer Protection and Food Safety (BVL) stated that the BVL sees itself as: **‘a service for its clients, the plant protection industry’**.⁸⁵ *In this role it is ‘advised’ by an expert group of ‘risk-managers’ including many from the pesticide industry”*. Haefeker said: *“It is shocking and disgraceful, that no independent scientists are allowed in the regulation, or licensing, of pesticides in Germany”*.

Unanswered letters from the UK Government, Civil Servants, Media and Academic Bodies
My Open Letters to the CMO England, The Wellcome Trust and Public Health England;⁸⁶ The Director General of the BBC and former Defra Minister Lord de Mauley;⁸⁷ and the Editor-in-Chief of the British Medical Journal⁸⁸ (among many others) were unanswered.

Open Letter to the National Farmers’ Union

The President of the NFU **did** reply to my 13-page Open Letter to the NFU,⁸⁹ but possibly he hadn’t read it very carefully. Meurig Raymond wrote to defend the right 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 compared with their counterparts in Europe**.

“Dear Ms Mason

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 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.

Meurig Raymond President”

Healthy Harvest-safeguarding the Crop Protection toolbox: June 2014

The National Farmers’ Union (NFU), the Crop Protection Association (CPA) and Agricultural Industries Confederation (AIC) launched *Healthy Harvest – safeguarding the crop protection toolbox* in June 2014. The NFU and pesticide companies continually defend the use of pesticides for economic reasons and complain at any attempt to restrict the 320 at their disposal. One farmer defended aerial spraying of bracken with a herbicide.⁹⁰ 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.⁹¹

⁸⁵ <http://podcasts.haefeker.org/?p=132>

⁸⁶ <http://tinyurl.com/h86wej5> Open Letter to the CMO England, the Wellcome Trust and Public Health England

⁸⁷

<http://www.moraybeedinosaurs.co.uk/neonicotinoid/mason/Open%20letter%20to%20the%20Director-General%20of%20the%20BBC.pdf>

⁸⁸ <http://tinyurl.com/h5avpdo>

⁸⁹ <http://tinyurl.com/zrvshse> Open Letter to the NFU

⁹⁰ https://www.nfuonline.com/healthyharvest_final_digital/ The impact of losing plant protection products on UK Food Production

⁹¹ http://www.cropprotection.org.uk/media/89364/andersons_final_report.pdf

The Executives of the NFU have locked my email address out of their system: was this advised by the Crop Protection Association? Had the CPA drafted the NFU reply?

Confirmation 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 to France where women have had virtually no increase in BMI over 40 years

The Chief Medical Officer for England blamed lifestyle choices for obesity.

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".⁹² *The Lancet* study says there is zero chance that the world can meet the target set by the UN for halting the climbing obesity rate by 2025.

"Over the past 40 years, we have changed from a world in which underweight prevalence was more than double that of obesity, to one in which more people are obese than underweight," said senior author Prof Majid Ezzati from the School of Public Health at Imperial College London. "The English-speaking world is particularly badly affected. **The UK will have the highest obesity among both men and women in Europe, at 38%.**

In contrast: "Against the trend of steadily rising weight, women in some countries had virtually no increase in BMI over the 40 years – in Singapore, Japan, and a few European countries including Czech Republic, Belgium, **France**, and Switzerland."

Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study⁹³

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.⁹⁴

Link between mid-life obesity and dementia: a twin study⁹⁵

Both overweight and obesity at midlife independently increase the risk of dementia, Alzheimer's disease and vascular dementia. Genetic and early-life environmental factors may contribute to the midlife high adiposity-dementia association.

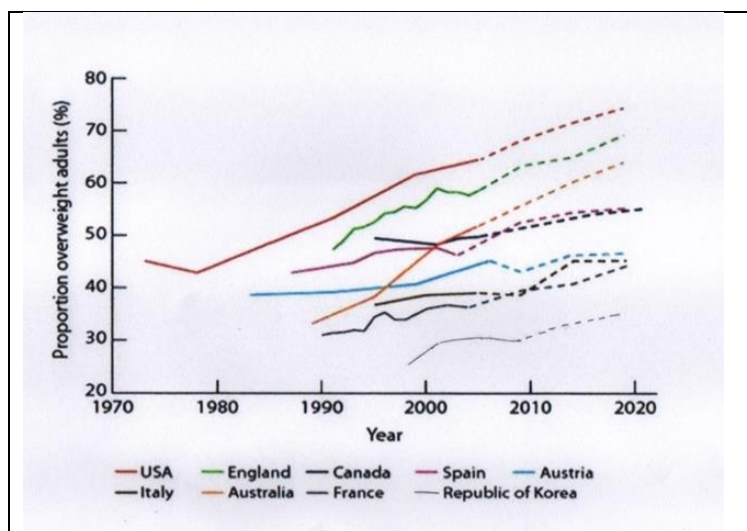
Obesity levels in England are second only to the US and are running a parallel course to the US

⁹² <http://www.theguardian.com/society/2016/mar/31/one-fifth-of-worlds-adults-will-be-obese-by-2025-study-predicts>

⁹³ [Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study at age 42](#)

⁹⁴ The use of glyphosate for desiccation on both barley and wheat was accepted by the brewing and distilling industries in 2007 therefore it is probable that men are more likely to be overweight because of the consumption of beer or whisky with glyphosate residues
<http://www.grainfarmers.co.uk/seeddownloads/Roundup%20on%20seed%20%20milling%20and%20malting.pdf>

⁹⁵ <http://www.ncbi.nlm.nih.gov/pubmed/21536637>



Historical and projected overweight rates in OECD countries⁹⁶

Exposure to glyphosate residues

Some of the UK population has been exposed to glyphosate residues in foods since 1980, even without growing GM Glyphosate-Tolerant crops.⁹⁷ The US has had GM crops since 1996. The third area with the most overweight adults is Australia, where obesity levels started to rise steeply in 1990 and by 2000 have overtaken Spain and Canada, both of which have GMs. There are 553 glyphosate products registered in Australia. Glyphosate use on GM crops is accelerating. GM canola was registered in 2003, but bans in NSW and Victoria were lifted in 2008.⁹⁸ Canola has been registered to be desiccated since October 2014⁹⁹ and sunflowers since 2012.¹⁰⁰ However, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is promoted as Australia's 'pre-eminent public scientific research body'. *"Although ostensibly publicly funded, CSIRO has, in reality, been encouraged to get 30% of its funding from business, with the CSIRO top management encouraging its staff to go to 40%."* According to John Stocker, CSIRO's former Chief Executive: *"Working with the transnationals makes a lot of sense, in the context of market access. There are very few Australian companies that have developed market access in the United States, in Europe and in Japan, the world's major marketplaces. Yes, we do find that it is often the best strategy to get into bed with these companies."*¹⁰¹

Children: Almost one in four Australian children (23%) is overweight or obese and one in three expected to be by 2025 (AIHW 2012). Children who are obese are more likely than other children to develop asthma, type 2 diabetes, cardiovascular conditions and some cancers. Cancer Research UK website shows similar trends for certain cancers.

Soil Association's campaign NOT IN OUR BREAD:¹⁰² the UK's position is anomalous
Meeting on 15 July 2015 in London between the Soil Association and a Scientific Panel¹⁰³

⁹⁶ Healthy Choices OECD Health Ministerial Meeting, Paris, 7-8 October 2010

<http://www.oecd.org/health/ministerial/46098333.pdf>

⁹⁷ <http://www.hgca.com/media/185527/is02-pre-harvest-glyphosate-application-to-wheat-and-barley.pdf>

⁹⁸ <http://www.sbs.com.au/news/article/2012/11/15/factbox-gm-foods-australia>

⁹⁹ <http://www.farmweekly.com.au/news/agriculture/cropping/general-news/new-canola-weed-control-option/2714416.aspx>

¹⁰⁰ http://www.australianoilseeds.com/about_aof/news/glyphosate_as_a_desiccant_in_sunflowers

¹⁰¹ <http://www.gmwatch.org/latest-listing/1-news-items/13325-csiro-in-bed-with-multinationals>

¹⁰² <http://www.soilassociation.org/notinourbread>

The scientific panel included Professor Christopher Portier one of the co-authors of the World Health Organisation's International Agency for Research on Cancer's (IARC) recent report that determined Glyphosate's status as a probable carcinogen. Portier reiterated the IARC's conclusions, and said: ***"Glyphosate is definitely genotoxic. There is no doubt in my mind."***

Dr Robin Mesnage of the Department of Medical and Molecular Genetics at Kings College in London, revealed new data analysis showing Round Up®, the most common brand of Glyphosate-based herbicides, is 1,000 times more toxic than Glyphosate alone due to the inclusion of other toxic chemicals in its mix. Claire Robinson, an editor at GMWatch.org gave the international perspective looking at moves by other countries to ban Glyphosate; *"Outside the United Kingdom, the reaction to the WHO IARC report has been dramatic. Some retailers in Switzerland and Germany have removed Glyphosate products and France has committed to do so by 2018 and German states are calling for an EU-wide ban. The Danish Working Environment Authority has declared it as a carcinogen and El Salvador and Sri Lanka have banned it and the Colombia government has banned aerial spraying on coca crops."*

Peter Melchett, Soil Association policy director said; *"If Glyphosate ends up in bread it's impossible for people to avoid it, unless they are eating organic. On the other hand, farmers could easily choose not to use Glyphosate as a spray on wheat crops – just before they are harvested. This is why the Soil Association is calling for the immediate ending of the use of Glyphosate sprays on wheat destined for use in bread."*

GM foods are not substantially equivalent to non-GM

Animals in the UK are fed with imported GM soya and maize that has been shown by Bøhn *et al.*¹⁰⁴ to have marked compositional differences from organic and conventional soya beans (i.e. GM food and feed is not substantially equivalent to non-GM as claimed by the FDA in 1992.)¹⁰⁵

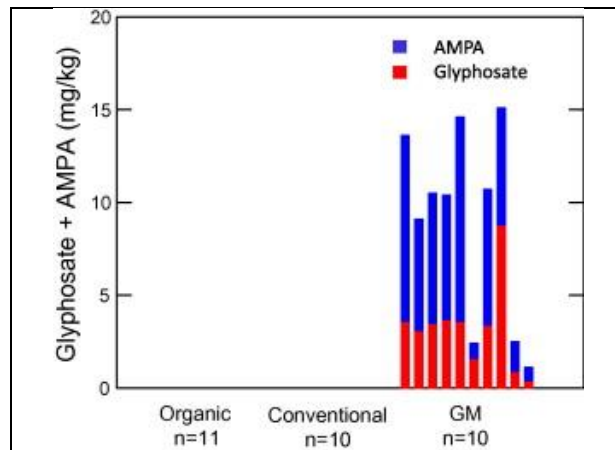
- Glyphosate tolerant GM soybeans contain high residues of glyphosate and AMPA (mean 3.3 and 5.7 mg/kg, respectively).
- Soybeans from different agricultural practices differ in nutritional quality.
- Organic soybeans showed a more healthy nutritional profile than other soybeans; more sugars, protein, and zinc. Organic soybeans also contained less total saturated fat and total omega-6 fatty acids than both conventional and GM-soy.

"Using 35 different nutritional and elemental variables to characterise each soy sample, we were able to discriminate GM, conventional and organic soybeans without exception, demonstrating substantial non-equivalence" in compositional characteristics for 'ready-to-market' soybeans"

¹⁰³ <http://www.soilassociation.org/news/newsstory/articleid/8110/soil-association-calls-for-ban-on-glyphosate-the-world-s-most-widely-sold-weedkiller>

¹⁰⁴ <http://www.sciencedirect.com/science/article/pii/S0308814613019201>

¹⁰⁵ <http://www.fas.org/biosecurity/education/dualuse-agriculture/2.-agricultural-biotechnology/us-regulation-of-genetically-engineered-crops.html>



From: Compositional differences in soybeans (Organic, Conventional and GM.) from Iowa, USA.
Diagram by kind permission of Professor Thomas Bøhn, Genøk, Centre for Biosafety, Norway.

In a commentary on the paper Bøhn wrote:

Extreme Levels” of Roundup® in Food Became the Industry Norm:¹⁰⁶ “Roundup® Ready GM-soy accumulates residues of glyphosate and aminomethylphosphonic acid (AMPA) and GM soy also differs markedly in nutritional composition compared with soybeans from other agricultural practices. Organic soybean samples also showed a more healthy nutritional profile (e.g. higher in protein and lower in saturated fatty acids) than both industrial conventional and GM soybeans. Lack of data on pesticide residues in major crop plants is a serious gap of knowledge with potential consequences for human and animal health. How is the public to trust a risk assessment system that has overlooked the most obvious risk factor for herbicide tolerant GM crops, i.e. high residue levels of herbicides, for nearly 20 years? If it has been due to lack of understanding, it would be bad. If it is the result of the producer’s power to influence the risk assessment system, it would be worse.”

UK Food and Environment Research Agency (FERA) survey of pesticides 1988 to 2014 confirms that Pesticide Residues on British food are increasing annually

A survey of pesticide (active substances) usage on Oil Seed Rape (OSR) 1988-2014¹⁰⁷ 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.¹⁰⁸ 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**. This excludes the unknown amount of glyphosate sprayed in the Amenity Sector,¹⁰⁹ by private companies and in the home. In Wales, Estate Agents require that house sellers eradicate Japanese knotweed, an invasive weed, before they can put the house on the market. Councils are unaware that Japanese knotweed has become a glyphosate- resistant super weed, as in the US with GM crops which are ‘Roundup-Ready’.

¹⁰⁶ <http://www.independentsciencenews.org/news/how-extreme-levels-of-roundup-in-food-became-the-industry-norm/>

¹⁰⁷ Pesticide usage on oilseed rape 1988-2014. John Hoar; (Hampshire BKA Spray Liaison Officer) using data published by Fera; Beecraft. February 2015 Volume 98 No 2, page 14.

¹⁰⁸ <https://secure.fera.defra.gov.uk/pusstats/surveys/documents/arable2014v2.pdnf>

¹⁰⁹ Amenity_Pesticide_Report_Final Feb 2011.pdf

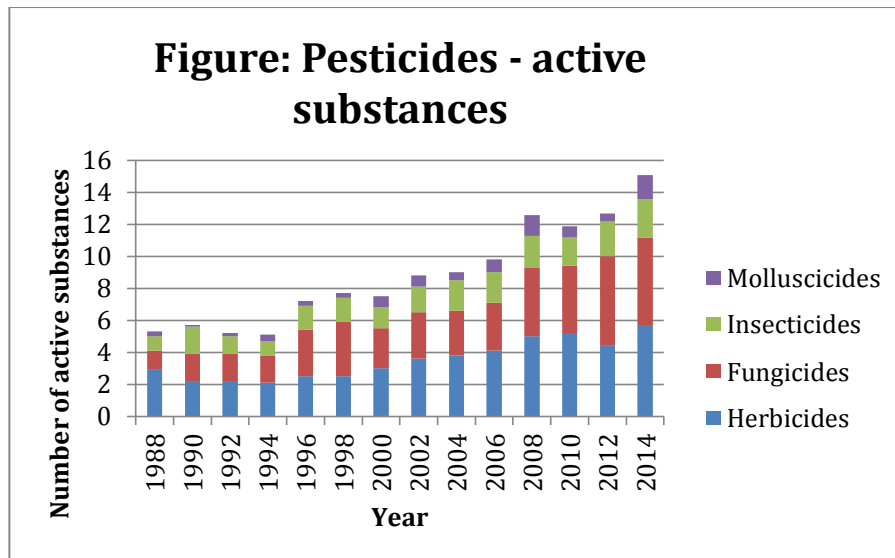


Fig. 1 PESTICIDES: Number of active substances used on Oil Seed Rape in the UK between 1988 and 2014: By kind permission of John Hoar, Hampshire Beekeeper's Spray Liaison Officer. Figures supplied by FERA

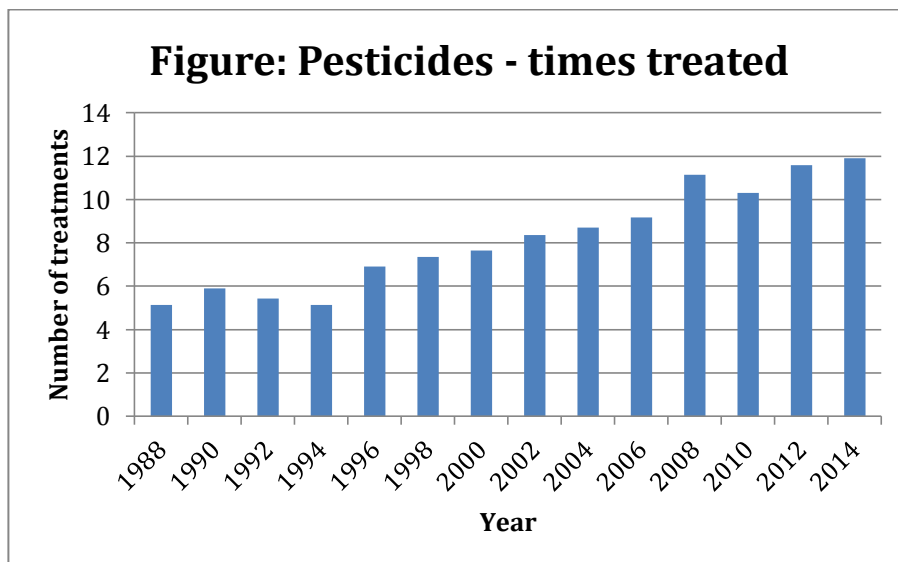


Fig. 2 PESTICIDES TIMES TREATED: used on Oil Seed Rape in the UK between 1988 and 2014: By kind permission of John Hoar, Hampshire Beekeepers Spray Liaison Officer. Figures supplied by FERA

Farmers use more carcinogenic weed killer: The Times August 15 2015¹¹⁰

*"Farmers have sharply increased their use of a weed killer that has been classified as 'probably carcinogenic in humans.'" Ben Webster, The Times Environment Correspondent said. "More than 1,700 tonnes of glyphosate were sprayed on crops last year, up a third on 2012, according to the Department for Environment, Food and Rural Affairs (Defra). The total area sprayed with the weed killer grew by almost 500,000 hectares to 2.1 million hectares, an area the size of Wales." Guy Gagen, chief arable adviser for the National Farmers' Union, said that glyphosate usage had probably increased to control black-grass,*¹¹¹

¹¹⁰ <http://www.thetimes.co.uk/tto/environment/article4528297.ece>

¹¹¹ HERBICIDE RESISTANT BLACKGRASS, FIRST SEEN IN 1982 IS NOW FOUND ON 16,000 FARMS IN 34 COUNTIES. This is a glyphosate-resistant super weed, the same as in GM in the US and Japanese Knotweed in the UK. Does the NFU understand super weeds and do they really want GMO technology?

a weed that is resistant to weaker herbicides. He said: “No farmer would be wanting to put a chemical on a crop when he doesn’t need to.” He added 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.”

EFSA’s Reasoned Opinion Panel increases MRLs at the request of industry (Monsanto in this case, to 100 times the previously authorised MRL)

Monsanto Europe asked EFSA to set the import tolerance for glyphosate in lentils “in order to accommodate the authorised desiccation use of glyphosate in lentils in the US and Canada” from 0.1 mg/kg to 10 mg/kg¹¹² (i.e. 100 times: January 2012). EFSA had granted similarly elevated MRLs for glyphosate on wheat and GM soya.

The founder of Syngenta was appointed Chairman of CRUK in 2010: conflicts of interest

Since November 2010 Michael Pragnell MA MBA has been the Chairman of Cancer Research UK (CRUK). He was the founder of Syngenta and CEO of Syngenta AG based in Switzerland (from its public listing in 2000 to the end of 2007).¹¹³ He was Chairman of CropLife International from 2002 to 2005. Not surprisingly, *The Guardian* revealed on 30/05/2016 that Scientists funded by Cancer Research UK who spend their lives hunting for cures for the disease, are among thousands of academics whose pensions are invested in the tobacco industry.¹¹⁴

Who decided to substitute alcohol for glyphosate as the prime cause of human cancers?

An article by Anne Gulland was published in the British Medical Journal on 9 April 2016¹¹⁵ that reported 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.’¹¹⁶

“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

¹¹² <http://www.efsa.europa.eu/en/efsajournal/pub/2550.htm>

¹¹³ http://www.sourcewatch.org/index.php/Michael_Pragnell

¹¹⁴ <https://www.theguardian.com/business/2016/may/29/cancer-scientists-pensions-invested-in-tobacco->

[bat?utm_source=esp&utm_medium=Email&utm_campaign=GU+Today+main+NEW+H+categories&utm_term=174706&subid=5939743&CMP=EMCNEWEML6619I2](http://www.bmj.com/content/353/bmj.i1881)

¹¹⁵ <http://www.bmj.com/content/353/bmj.i1881>

¹¹⁶ <http://www.cancerresearchuk.org/about-us/cancer-news/press-release/2016-04-01-9-in-10-dont-link-alcohol-and-cancer>

alcohol, and that risks for some cancers go up even by drinking a small amount."

Diseases in the UK and the US reflect their citizen's exposure to pesticides

Many diseases in the UK and the US are spiralling out of control

Diseases in the US and the UK are similar. In the US correlations between the diseases and applications of glyphosate are very high.¹¹⁷ Hypertension; stroke; diabetes, incidence and prevalence; obesity; lipoprotein metabolism disorder; Alzheimer's; senile dementia; Parkinson's; multiple sclerosis; autism; inflammatory bowel disease; intestinal infections; end-stage renal disease; acute kidney failure; cancers of the thyroid, liver, bladder, pancreas and kidney and myeloid leukaemia .

How glyphosate damages human metabolism by suppressing metabolic pathways

Samsel A and Seneff S (2013) Glyphosate's suppression of Cytochrome P450 enzymes and amino acid biosynthesis by the gut microbiome: Pathways to Modern Diseases.¹¹⁸

Abstract: *Glyphosate, the active ingredient in Roundup®, is the most popular herbicide used worldwide. The industry asserts it is minimally toxic to humans, but here we argue otherwise. Residues are found in the main foods of the Western diet, comprised primarily of sugar, corn, soy and wheat. Glyphosate's inhibition of cytochrome P450 (CYP) enzymes is an overlooked component of its toxicity to mammals. CYP enzymes play crucial roles in biology, one of which is to detoxify xenobiotics. Thus, glyphosate enhances the damaging effects of other food borne chemical residues and environmental toxins. Negative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body. Here, we show how interference with CYP enzymes acts synergistically with disruption of the biosynthesis of aromatic amino acids by gut bacteria, as well as impairment in serum sulfate transport. Consequences are most of the diseases and conditions associated with a Western diet, which include gastrointestinal disorders, obesity, diabetes, heart disease, depression, autism, infertility, cancer and Alzheimer's disease. We explain the documented effects of glyphosate and its ability to induce disease, and we show that glyphosate is the "textbook example" of exogenous semiotic entropy: the disruption of homeostasis by environmental toxins.*

Glyphosate, pathways to modern diseases II: Celiac sprue and gluten intolerance.¹¹⁹

Samsel A and Seneff S . Glyphosate, pathways to modern diseases II: Celiac sprue and gluten intolerance

Abstract: *Celiac disease, and, more generally, gluten intolerance, is a growing problem worldwide, but especially in North America and Europe, where an estimated 5% of the population now suffers from it. Symptoms include nausea, diarrhea, skin rashes, macrocytic anemia and depression. It is a multifactorial disease associated with numerous nutritional deficiencies as well as reproductive issues and increased risk to thyroid disease, kidney failure and cancer. Here, we propose that glyphosate, the active ingredient in the herbicide, Roundup®, is the most important causal factor in this epidemic. Fish exposed to glyphosate develop digestive problems that are reminiscent of celiac disease. Celiac disease is associated with imbalances in gut bacteria that can be fully explained by the known effects of glyphosate on gut bacteria. Characteristics of celiac disease point to impairment in many*

¹¹⁷ http://www.organic-systems.org/journal/92/JOS_Volume-9_Number-2_Nov_2014-Swanson-et-al.pdf

¹¹⁸ <http://www.mdpi.com/1099-4300/15/4/1416>

¹¹⁹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3945755/>

cytochrome P450 enzymes, which are involved with detoxifying environmental toxins, activating vitamin D3, catabolizing vitamin A, and maintaining bile acid production and sulfate supplies to the gut. Glyphosate is known to inhibit cytochrome P450 enzymes. Deficiencies in iron, cobalt, molybdenum, copper and other rare metals associated with celiac disease can be attributed to glyphosate's strong ability to chelate these elements. Deficiencies in tryptophan, tyrosine, methionine and selenomethionine associated with celiac disease match glyphosate's known depletion of these amino acids. Celiac disease patients have an increased risk to non-Hodgkin's lymphoma, which has also been implicated in glyphosate exposure. Reproductive issues associated with celiac disease, such as infertility, miscarriages, and birth defects, can also be explained by glyphosate. Glyphosate residues in wheat and other crops are likely increasing recently due to the growing practice of crop desiccation just prior to the harvest. We argue that the practice of "ripening" sugar cane with glyphosate may explain the recent surge in kidney failure among agricultural workers in Central America. We conclude with a plea to governments to reconsider policies regarding the safety of glyphosate residues in foods.

Glyphosate, pathways to modern diseases III: Manganese, neurological diseases, and associated pathologies

Samsel A, Seneff S. Glyphosate, pathways to modern diseases III: Manganese, neurological diseases, and associated pathologies. *Surg Neurol Int* 2015; 6:45.¹²⁰

Abstract: Manganese (Mn) is an often overlooked but important nutrient, required in small amounts for multiple essential functions in the body. A recent study on cows fed genetically modified Roundup®-Ready feed revealed a severe depletion of serum Mn. Glyphosate, the active ingredient in Roundup®, has also been shown to severely deplete Mn levels in plants. Here, we investigate the impact of Mn on physiology, and its association with gut dysbiosis as well as neuropathologies such as autism, Alzheimer's disease (AD), depression, anxiety syndrome, Parkinson's disease (PD), and prion diseases. Glutamate overexpression in the brain in association with autism, AD, and other neurological diseases can be explained by Mn deficiency. Mn superoxide dismutase protects mitochondria from oxidative damage, and mitochondrial dysfunction is a key feature of autism and Alzheimer's. Chondroitin sulfate synthesis depends on Mn, and its deficiency leads to osteoporosis and osteomalacia. *Lactobacillus*, depleted in autism, depend critically on Mn for antioxidant protection. *Lactobacillus* probiotics can treat anxiety, which is a comorbidity of autism and chronic fatigue syndrome. Reduced gut *Lactobacillus* leads to overgrowth of the pathogen, *Salmonella*, which is resistant to glyphosate toxicity, and Mn plays a role here as well. Sperm motility depends on Mn, and this may partially explain increased rates of infertility and birth defects. We further reason that, under conditions of adequate Mn in the diet, glyphosate, through its disruption of bile acid homeostasis, ironically promotes toxic accumulation of Mn in the brainstem, leading to conditions such as PD and prion diseases.

Samsel A, Seneff S. Glyphosate pathways to modern diseases IV cancer and related pathologies¹²¹

Abstract: particularly in the United States, has increased dramatically in the last two decades, in step with the widespread adoption of Roundup®-Ready core crops. The World Health Organization recently labelled glyphosate as "probably carcinogenic." In this paper, we review the research literature, with the goal of evaluating the carcinogenic potential of glyphosate. Glyphosate has a large number of tumorigenic effects on biological systems,

¹²⁰ http://www.surgicalneurologyint.com/temp/SurgNeurolInt6145-4381109_121011.pdf

¹²¹ https://www.academia.edu/17751562/Glyphosate_pathways_to_modern_diseases_IV_cancer_and_related_pathologies

including direct damage to DNA in sensitive cells, disruption of glycine homeostasis, succinate dehydrogenase inhibition, chelation of manganese, modification to more carcinogenic molecules such as N-nitrosoglyphosate and glyoxylate, disruption of fructose metabolism, etc. 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. Here, we support these correlations through an examination of Monsanto's early studies on glyphosate, and explain how the biological effects of glyphosate could induce each of these cancers. We believe that the available evidence warrants a reconsideration of the risk/benefit trade-off with respect to glyphosate usage to control weeds, and we advocate much stricter regulation of glyphosate.

The CMO England and Public Health England puts the blame on people not Corporations

These diseases have been blamed on public lifestyle (such as overeating, lack of exercise, alcoholism and smoking,¹²²) a failure of GPs, hospitals, isolation or global warming. Britain must be the only country in the EU where the citizens haven't been told that glyphosate has been declared a probable carcinogen to humans, according to WHO International Agency for Research into Cancer (IARC).¹²³

Global burden of disease study 2010 shows declines in the health of the UK and US

Between 1990 and 2010, Britain and the US have slipped down the scale of health compared with other wealthy nations and the patterns of disease are remarkably similar.

In the US: "However, morbidity and chronic disability now account for nearly half of the US health burden, and improvements in population health in the United States have not kept pace with advances in population health in other wealthy nations".¹²⁴ In the UK: "The performance of the UK in terms of premature mortality is persistently and significantly below the mean of EU15+ and requires additional concerted action... premature mortality from several major causes such as cardiovascular disease and cancers...In terms of premature mortality worsening ranks are most notable for men and women aged 20-54 years. Increases in Alzheimer's disease, breast cancer, oesophageal cancer, congenital anomalies "and a growing burden of disability, particularly from mental disorders" are all acknowledged.¹²⁵

The CMO England blames alcohol for liver damage and liver cancer

Evidence of glyphosate residues and liver damage has been found in Danish dairy cattle fed GM soya and maize¹²⁶ and Séralini's rats. That is not due to alcohol but to glyphosate residues from farm animals being fed GM soya and GM maize. Grotesque birth defects in piglets in Denmark correlated with glyphosate residues in organs.¹²⁷

¹²² <https://www.theguardian.com/business/2016/may/29/cancer-scientists-pensions-invested-in-tobacco-bat>

¹²³ [http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045\(15\)70134-8.pdf](http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045(15)70134-8.pdf) Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate.

¹²⁴ <http://www.ncbi.nlm.nih.gov/pubmed/23842577> The state of US health, 1990-2010: burden of diseases, injuries, and risk factors

¹²⁵ <http://www.ncbi.nlm.nih.gov/pubmed/23668584> UK health performance: findings of the Global Burden of Disease Study 2010

¹²⁶ Glyphosate in urine of cows in Denmark; metabolic changes in blood parameters including increased lipid profile marker cholesterol <http://dx.doi.org/10.4172/2161-0525.1000186> This is the first study showing the extent of the exposure to glyphosate of Danish dairy cattle and its impact on different blood parameters.

¹²⁷ <http://omicsonline.org/open-access/detection-of-glyphosate-in-malformed-piglets-2161-0525.1000230.pdf>

Cancers in pets have increased similarly over that time: is that due to alcohol?

The American Veterinary Medical Foundation notes that *“Cancer is the leading cause of death in older pets accounting for almost half of the deaths of pets over 10 years of age.”* According to Samsel¹²⁸ mammary tumours are common in dogs and cats and the incidence is increasing. He analysed 9 brands of dog and cat food and found significant levels of glyphosate and AMPA in all of them. Séralini’s group wrote a paper *‘Laboratory Rodent Diets Contain Toxic Levels of Environmental Contaminants: Implications for Regulatory Tests’*. *We describe the contamination with environmental pollutants of 13 laboratory rodent diets from 5 continents.*¹²⁹ This was criticised by the industry-funded UK Science Media Centre.¹³⁰

Is it significant that Sir Paul Nurse came from the Rockefeller Foundation? The President of the Royal Society was President of the Rockefeller University in New York: and yes, the Rockefeller Foundation developed GM Crops

Sir Paul Nurse was appointed to Rockefeller private University in 2003 and finished in 2010. *“After he assumes the Royal Society presidency, Nurse will maintain a laboratory on the Rockefeller campus and will have an on-going relationship with the university.”*¹³¹ The Rockefeller Foundation did the earliest research on GMOs and founded the science of ‘molecular biology’ that reduced the complexity of life to a single gene that was not stable.¹³²

The sixth mass extinction and chemicals in the environment: our environmental deficit is now beyond nature’s ability to regenerate¹³³

Two papers about the future of the planet appeared within a month of each other (June/July 2015): *Accelerated modern human-induced species losses: Entering the sixth mass extinction* was the first (5 pages long).¹³⁴ The six authors calculated the average rate of vertebrate losses over the last century and compared it with the background rate of losses. They estimated it to be up to 114 times the background rate and asserted that this rate of losses of biodiversity indicated that a sixth mass extinction is already under way. The authors described themselves variously as ecologists, field biologists, paleobiologists or population biologists, but all held two beliefs in common: that the conservation of natural ecosystems is essential to human health; but that the accelerated losses of biodiversity are a result of human activity. *Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation–Lancet Commission on planetary health* was the second paper (56 pages, with 23 authors). At least 10 of the authors were associated with the Rockefeller Foundation, although only one curriculum vitae acknowledged the fact. Sarah Whitmee was seconded to the Foundation to serve as lead author of the Report and member of the Foundation’s secretariat. One author worked as an environmental health scientist in the Office of the Science Adviser at the United States Environmental Protection Agency and was lead author of a paper *Biodiversity loss affects global disease ecology*. This paper made no mention of pesticides. Most of the remainder are eminent public health doctors. The

¹²⁸

https://www.academia.edu/17751562/Glyphosate_pathways_to_modern_diseases_IV_cancer_and_related_pathologies

¹²⁹ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128429>

¹³⁰ <http://www.sciencemediacentre.org/expert-reaction-to-study-investigating-content-of-and-contaminants-in-laboratory-rodent-diets/>

¹³¹ <http://newswire.rockefeller.edu/2010/04/23/paul-nurse-to-resign-as-rockefeller-president-to-become-president-of-royal-society-of-london-in-december/>

¹³² <http://www.globalresearch.ca/doomsday-seed-vault-in-the-arctic-2/23503>

¹³³ <http://www.amsi.ge/ibpc/31515/15-3-abs-5.htm>

¹³⁴ <http://advances.sciencemag.org/content/advances/1/5/e1400253.full.pdf>

Rockefeller Foundation funded the initial research on genetically modified organisms in the early 1940s and founded the science of molecular biology, a highly reductionist programme aimed at “understanding” life. The Rockefeller Foundation gives financial support to the global spread of GMO technology; and to research on the biofortification of crops, the introduction of nutrients into crops by genetic engineering techniques for the supposed benefit of third world countries.

Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation–Lancet Commission on planetary health:¹³⁵ no mention of pesticides

The Rockefeller/Lancet Commission on Planetary Health never mentioned pesticides. According to the Report, the key drivers of ecosystem change in the last 60 years were: *“Increases in the amounts of nitrogen and phosphorus entering the environment through agricultural fertiliser run-off and soil erosion.”* This is what Defra said in 2011 the Synthesis of the UK National Ecosystem Assessment:¹³⁶ *“Major increases in fertiliser use, particularly nitrogen and phosphorus, have adversely affected aquatic ecosystems through runoff.”* **What about pesticides?**

The scientists who contributed to the 56-page RF /Lancet Commission Report failed to mention the serious threats of exposure to the most widespread chemicals in the global environment, glyphosate (an endocrine disrupter) and the systemic neonicotinoid insecticides. Neither of them is routinely measured in the environment by governments or their departments of agriculture. However, there is plenty of evidence that humans and the environment are completely saturated with chemicals.

When discussing overpopulation, why were references to Prof Paul Ehrlich’s work omitted from the RF/Lancet Commission Report?

The Bing Professor of Population Studies in the Department of Biological Sciences at [Stanford University](#) and President of Stanford's Center for [Conservation Biology](#), Ehrlich has warned about overpopulation since his first book, *The Population Bomb*, hit the headlines in 1968.¹³⁷ Since then, he has written about this phenomenon in increasingly urgent terms.^{138,139} Here are some apposite observations taken from these two works: There have been increasing signs of great toxic peril for humanity and its life-support systems, with a growing threat from the release of hormone-disrupting chemicals that could even be shifting the human sex ratio and reducing sperm counts;

- Agriculture is a leading cause of losses of biodiversity and ecosystem services;
- An industrial agricultural revolution has created a technology-dependent global food system;
- *But* it has also created serious long-run vulnerabilities, especially in its dependence on stable climates, crop monocultures, industrially produced fertilizers and pesticides, petroleum, antibiotic feed supplements and rapid, efficient transportation;
- Farming is a principal source of global toxification, *pace* Rachel Carson;
- Soils are being degraded;
- *“Growth can continue forever if it’s in service industries”*, and *“technological innovation will save us”* are fables;
- Worship of “free” markets should be deprecated;
- Without significant pressure from the public demanding action, we fear there is little chance of changing course fast enough to forestall disaster;

¹³⁵ <http://www.thelancet.com/commissions/planetary-health>

¹³⁶ file:///C:/Users/Rosemary/Downloads/uk_nea_synthesis_report.pdf

¹³⁷ Ehrlich, P. R. *The Population Bomb*. New York: Buccaneer Books (1968).

¹³⁸ <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1000330>

¹³⁹ <http://rspb.royalsocietypublishing.org/content/280/1754/20122845.short>

- This will require developing mechanisms to force big corporations (including those in big agriculture and big pharma) to bear social responsibilities like the real individuals whose rights they legally want to assume;
- Adverse symptoms of exposure to synthetic chemicals are making some scientists increasingly nervous about effects on the human population;
- Elected officials and other leaders have almost no knowledge of science.

Genetically Engineered Foods: The Biggest Fraud in the History of Science. Governments and leading scientific institutions have systematically misrepresented the facts about GMOs and the scientific research that casts doubt on their safety

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

His book reveals how governments and leading scientific institutions have systematically misrepresented the facts about GMOs and the scientific research that casts doubt on their safety.¹⁴⁰

GM Watch reported: "The book features a foreword by the renowned primatologist Dame Jane Goodall, who will also speak at the conference, hailing it as "without doubt one of the most important books of the last 50 years."

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

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

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

** Covered up the extensive warnings of its own scientists about their dangers*

** Lied about the facts*

** And then violated federal food safety law by permitting these foods to be marketed without having been proven safe through standard testing*

"Druker's well-referenced book points out that if the FDA had actually heeded its own experts' advice, told the truth and obeyed the law, the GM food venture would have imploded and never gained traction anywhere." There were extensive media resources¹⁴¹

but the launch wasn't reported in the mainstream media. It is not surprising since members of eminent societies and some editors of scientific journals and philanthropists in the UK & US are supporting GM.¹⁴²

¹⁴⁰ <http://www.gmwatch.org/index.php/news/archive/2015-articles/15973>

¹⁴¹ <http://beyond-gm.org/alterd-genes-twisted-truth-media-resources/>

¹⁴² Royal Society, Wellcome Foundation, Bill & Melinda Gates, Lord David Sainsbury and the Gatsby Foundation, Rothamsted Research, John Innes Centre, Sainsbury Laboratory, Civil Servants from Defra, NFU, James Hutton Institute, BIS, Offices of Life Sciences, Centre for Food Security, Food Standards Agency, etc.

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

Open Letter to the UK Royal Society can be read [here](#).¹⁴³

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

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

Unless you promptly take these steps, it will demonstrate that your commitment to promoting GM foods is stronger than your commitment to honoring the truth and upholding the integrity of science. FURTHER, whether or not you own up to your irresponsible actions and take the steps specified above, I challenge you to read my book and specifically list any inaccurate statements of fact that you find in it, accompanied by an explanation of why the statement is erroneous and a reference to the evidence that corroborates your assertion.”

The Royal Society supports GM crops but refuses to have a rational debate about them

Dr Brian John of GM-Free-Cymru wrote an Open Letter to the President of the Royal Society Sir Paul Nurse on 26/01/2011.¹⁴⁴ It was in response to a BBC Horizon programme in which Sir Paul examined some of the reasons why the public at large is profoundly sceptical about science and scientists with regard to global warming and GM. Dr John says: “For more than a decade now, scientists working in the GM field have mounted vicious personal attacks (sometimes politically rather than scientifically motivated) upon serious scientists who have had the temerity to discover ‘uncomfortable things about GM crops and foods’. This trend started with the vitriolic treatment meted out (with the Royal Society in the vanguard) on Arpad Pusztai and Stanley Ewen a decade ago, and continued with the crucifixion of Ignacio Chapela and David Quist, Angelika Hilbeck, Maewan Ho, Judy Carman, Gilles-Eric Séralini, Andrés Carrasco, Manuela Malatesta, Christian Velot, Irina Ermakova and many others... You will be aware that there has never been a single piece of epidemiological research to back up the claims that GM foods are entirely safe to eat. Since the earliest days of the GM enterprise, the industry has set itself against such research, and governments, regulators and august bodies like the Royal Society have connived in this cunning little plan, allowing GM advocates like Julian Little (Bayer) to trot out this sort of nonsense: ‘two trillion meals containing GM ingredients have been consumed with no adverse health effects.’ As we all know, there are abundant animal feeding studies that show that GM components in the diet lead to physiological changes and cell damage. The American Academy of Environmental Medicine drew attention to studies that indicate “serious health risks associated with GM food consumption including infertility, immune dysregulation, accelerated aging, dysregulation of genes associated with cholesterol synthesis, insulin regulation, cell signalling, and protein formation, and changes in the liver, kidney, spleen and gastrointestinal system”. They concluded that: “There is more than a casual association between GM foods and adverse health effects. There is causation ...”

Steven Druker says that there has been silence following his challenge to the Royal Society “The Royal Society wants us to take its word that GM crops are safe and healthy”, writes

¹⁴³ http://beyond-gm.org/wp-content/uploads/2015/03/DRUKER_OPEN-LETTER-TO-THE-ROYAL-SOCIETY_Final.pdf

¹⁴⁴ http://www.gmfreecymru.org.uk/open_letters/Open_letter26Jan2011.html

Steven Druker on June 2015 in *The Ecologist*.¹⁴⁵ *"But it refuses to retract its errors, apologise to those whose reputations it has impugned, or enter into constructive debate on the issue. To restore its scientific integrity, it must abide by its own motto... Scientific truths are not merely asserted, nor are they created by the authority of the speaker, no matter how eminent. They must be firmly rooted in evidence and rational argument."*

Druker talks about the Royal Society's preposterous pretensions

"But neither he nor the Society have acknowledged the errors, or provided any reply to the allegations made. Instead, the misrepresentation of reality has been amplified. In response to [media inquiries about the challenge](#), here's the official statement that the institution provides:" "The Royal Society bases its views on evidence, evidence that has been closely scrutinized by people with expert knowledge and that has stood up to that scrutiny. Personal opinions and unsubstantiated anecdotes are unhelpful to having a rational public debate on science and the use of new technologies."

The Society dismissed one of the most rigorous studies yet performed on a GMO food

"Nor has the Society faced up to the fact that it dispensed multiple misrepresentations, and otherwise behaved unethically, in order to discredit the solid, and unsettling, research conducted at the Rowett Institute under the direction of Dr. Arpad Pusztai, one of the world's foremost experts in food safety. That study¹⁴⁶ is still one of the most rigorous yet performed on a GM food, and it's still highly relevant because it controlled for the effects of the new foreign protein - which entails that the adverse results it registered were attributable to a broader feature of the genetic engineering process itself. And that is why proponents of GM foods cannot abide it and have ardently attacked it - with the Royal Society leading the charge.

*As documented in my letter, first the Society savaged the research without having seen the complete data, which prompted the editor of *The Lancet* to rebuke it for its "breath-taking impertinence." It then strove to prevent the research from being published. And after the research eventually was published in *The Lancet* despite the attacks, the Society continued to misleadingly malign it."*

Royal Society's 'deafening silence' on GMOs

Colin Todhunter wrote in *The Ecologist* on 03/06/2015:¹⁴⁷ *"It is now three months since Steven Druker addressed the Royal Society in his open letter and 44 days since 20 April. There appears to have been no response from The Royal Society - and certainly not a public one - except for a brief and deliberately insulting statement issued today."* (See the underlined statement above).

"The Royal Society is the preeminent scientific body within the UK that advises the government. It therefore has an obligation to the British public to provide a public response and 'put the record straight' on GMOs - not least because the current staunchly pro-GMO Cameron-led administration will [likely sanction the planting of GM crops](#) in England within the next couple of years, and the Transatlantic Trade and Investment Partnership (TTIP) deal could [open the floodgates to GM](#) foods appearing on the shelves of UK supermarkets."

The purpose of The Royal Society is, according to its website, to "recognise, promote, and

¹⁴⁵

http://www.theecologist.org/blogs_and_comments/commentators/2921277/the_royal_societys_assault_on_the_science_of_gm_foods_must_cease.html

¹⁴⁶ <http://www.thelancet.com/pdfs/journals/lancet/PIIS0140673698058607.pdf>

¹⁴⁷

http://www.theecologist.org/blogs_and_comments/commentators/2893487/gmos_the_royal_society_vs_deafening_silence.html

support excellence in science and to encourage the development and use of science for the benefit of humanity."

Gottfried Glöckner and Gilles-Éric Séralini have published new scientific data on Bt toxins and a thorough study of the records show that this GMO Bt maize is most probably toxic over the long term.¹⁴⁸ Pathology reports on the first cows fed with Bt176 maize (1997–2002)

"Over the years, and coinciding with regular increases in GMO content of the diet (0–40%), the proportion of healthy cows with high milk yield diminished from 70% (normal rate) to only 40%. At the peak of mortalities in 2002, 10% of the cows died, preceded by a long-lasting paresis syndrome without hypocalcemia or fever, but with kidney biochemical failure and mucosa or epithelial problems." The only toxicological test, before being commercialized, was conducted by Novartis (subsequently Syngenta) in the United States, and consisted of feeding 4 cows for 15 days; one cow died after a week. This was the GM maize Bt176, which produced an insecticidal Bt toxin and contained an antibiotic resistance marker gene. Prof Séralini had access to the veterinary records as well as the farmer's archives.

Syngenta (Germany)¹⁴⁹ was subsequently charged with lying; they had never informed Glöckner about the outcome of their US study nor of numerous other dangers from feeding with Bt176 corn that were already known to them. They were legally obliged to do so and because they did not do so, the company is liable for the destruction of Glöckner's 65 cows.

Contamination by more chemicals (190 of them) from hydraulic fracturing

Public Health England's troubled trail¹⁵⁰

Jonathan Gornall, investigative journalist for the *British Medical Journal*, once again highlighted the poor record of Public Health England at protecting the public. In fact members of the House of Commons Health Select Committee on 19 November 2013 questioned the priority of the Report of the Impact of Fracking which concluded that the risks to public health were low.¹⁵¹

"In conclusion, the currently available evidence indicates that the potential risks to public health from exposure to the emissions associated with shale gas extraction will be low if the operations are properly run and regulated. In order to ensure this, regulation needs to be strongly and robustly applied." This is at odds with the Report from the American Chemical Society (see below).

*"The handling of the evidence for its controversial report on e-cigarettes (19 August 2015)"*¹⁵² adds to questions about the credibility of the organisation's advice. This review of the up-to-date evidence on e-cigarettes reported that *'e-cigarettes are 95% safer than tobacco.'*

Hydraulic Fracturing (Fracking) Report of the American Chemical Society

Environmental engineer William Stringfellow and colleagues at Lawrence Berkeley National Laboratory and the University of the Pacific told the American Chemical Society meeting in

¹⁴⁸ <http://scholarly-journals.com/sjas/archive/2016/January/pdf/Gl%C3%B6ckner%20and%20S%C3%A9ralini.pdf>

¹⁴⁹ <http://www.gmwatch.org/latest-listing/1-news-items/13926-syngenta-charged-with-lying-over-cattle-deaths>

¹⁵⁰ <http://www.bmj.com/content/351/bmj.h5826>

¹⁵¹ <https://www.gov.uk/government/publications/shale-gas-extraction-review-of-the-potential-public-health-impacts-of-exposures-to-chemical-and-radioactive-pollutants>

¹⁵² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/457102/E-cigarettes_an_evidence_update_A_report_commissioned_by_Public_Health_England_FINAL.pdf

San Francisco that they scoured databases and reports to compile a list of the chemicals commonly used in fracking. Such additives which are necessary for the extraction process, include: acids to dissolve minerals and open up cracks in the rock; biocides to kill bacteria and prevent corrosion; gels and other agents to keep the fluid at the right level of viscosity at different temperatures; substances to prevent clays from swelling or shifting; distillates to reduce friction; acids to limit the precipitation of metal oxides. The researchers assembled a list of 190 of them, and considered their properties.¹⁵³ For around one-third of them, there was very little data about health risks, and eight of them were toxic to mammals. Fracking is a highly controversial technique, and has not been handed a clean bill of health by the scientific societies.

The Task Force on Shale Gas

Lord Chris Smith, former Chairman of the Environment Agency, was appointed in October 2014 to lead the independent, industry-funded Task Force on Fracking to look into the risks and benefits of fracking in the UK.¹⁵⁴ On 15 July 2013 *The Independent* newspaper had revealed the conflicts of interest at the heart of decision making.¹⁵⁵

Lord Browne: The former BP boss is chairman of Cuadrilla, which is exploring for shale gas in Lancashire and West Sussex. He is lead "non-executive" across Government, meaning that he helps recruit other non-executives to Whitehall.

Baroness Hogg: The non-executive for the Treasury sits on the board of BG Group, which has significant shale gas assets in the United States.

Sam Laidlaw: The non-executive to the Transport Department is also chief executive of British Gas owner Centrica, which recently bought a 25 per cent stake in Cuadrilla's most promising shale gas prospect.

Ben Moxham: A former executive at BP when Lord Browne was at the helm, he followed the peer to Riverstone Holdings, which owns 42 per cent of Cuadrilla. Moxham was energy adviser at No 10 but quit in May.

Lord Howell: George Osborne's father-in-law is also president of the British Institute of Economics, whose backers include BP and BG Group. A senior Conservative peer, who is George Osborne's father-in-law, provoked anger and surprise today after he suggested "fracking" for shale gas should be limited to the North East of England because it has "*large and uninhabited and desolate areas*".¹⁵⁶

In March 2015, Lord Chris Smith told the Guardian he was hugely sceptical about fracking.¹⁵⁷

However, Lord Chris Smith changed his mind. On September 16th 2015: Third Report of the Task Force on Shale Gas was published: Assessing the Impact of Shale Gas on Climate Change.¹⁵⁸ Extract from Conclusions and Recommendations: "*Therefore the Task Force concludes – in line with the thinking of relevant forecasting organisations – that there is a requirement for gas to play a significant role in the UK's energy mix in the short and medium term. The evidence suggests that the impact of shale gas on the climate is similar to that of*

¹⁵³ <http://fracfocus.org/chemical-use/what-chemicals-are-used>

¹⁵⁴ <http://www.theguardian.com/environment/2014/oct/21/former-environment-agency-head-to-lead-industry-funded-fracking-task-force>

¹⁵⁵ <http://www.independent.co.uk/news/uk/politics/revealed-fracking-industry-bosses-at-heart-of-coalition-8707589.html>

¹⁵⁶ <http://www.independent.co.uk/news/uk/politics/former-energy-minister-lord-howell-george-osborne-s-father-in-law-says-it-s-fine-to-frack-in-empty-8738634.html>

¹⁵⁷ <http://www.theguardian.com/environment/2015/mar/25/lord-smith-hugely-sceptical-of-fracking-for-shale-oil-in-the-uk>

¹⁵⁸

<https://darkroom.taskforceonshalegas.uk/original/8879c0b838c6e09864638cbd6902b190:7f5b9e74c66410cff3253321938981d6/right-report.pdf>

conventional gas and less than that of LNG. If this is the case, based on the evidence outlined above, the Task Force is persuaded that, if properly regulated, implemented and monitored, shale gas should be explored as a potential gas source to meet UK energy needs. The Task Force also believes that everything possible should be done to minimise the climate impact of gas extraction in the UK."

Government does another U-turn on pledge to ban fracking in National Parks

On December 16 2015 MPs voted to allow [fracking](#) under Britain's national parks, drawing accusations that the government has sneaked the measure through parliament without a proper debate.¹⁵⁹ *"Ministers used a statutory instrument – a form of secondary legislation – to push through the new rules, which means legislation can pass into law without a debate in the House of Commons. MPs voted in favour by 298 to 261. The new rules allow fracking 1,200 metres below national parks and sites of special scientific interest, as long as drilling takes place from outside protected areas. This comes despite the government previously pledging an outright ban on the controversial technique for extracting shale gas in such areas."*

Aliso Canyon Southern California US ruptured on 23 October 2015; planes had to be diverted

Suzanne Goldenberg US Environment Correspondent reports:¹⁶⁰ A single gas well leak is California's biggest contributor to climate change. Rupture of Aliso Canyon well has released more than 77,000 metric tons of methane and refocused attention on America's accident-prone infrastructure

The broken well at the Aliso Canyon natural gas storage site has released more than [77,000 metric tons](#) of the powerful climate pollutant methane since the rupture was first detected on 23 October, according to a counter created by the Environmental Defense Fund. The leak was finally permanently capped on February.¹⁶¹

Media giants control everything we see, hear and read – through television, radio, newspapers, magazines, books, films, and large portions of the Internet. Corporate control of finance and food with no democracy

Bilderberg group 2015: George Osborne, Rona Fairhead BBC Trust, two Google Executives, The Editor in Chief of the Economist, Chief Economics Commentator, The Financial Times discuss a New World Order; an all-powerful corporate-controlled, global government with no democracy

For over 14 years, Daniel Estulin¹⁶² has investigated and researched the far-reaching influence of the Bilderberg Group on business and finance, global politics, war and peace, and control of the world's resources and its money. In a review of the book (May 25 2014), Stephen Lendman¹⁶³ wrote: *"CBS and other media giants control everything we see, hear*

¹⁵⁹ <http://www.theguardian.com/environment/2015/dec/16/fracking-under-national-parks-approved-by-mps-amid-acrimony>

¹⁶⁰ <http://www.theguardian.com/environment/2016/jan/05/aliso-canyon-leak-california-climate-change>

¹⁶¹ <http://www.latimes.com/local/lanow/la-me-ln-porter-ranch-gas-leak-permanently-capped-20160218-story.html>

¹⁶² Daniel Estulin: The True Story of the Bilderberg Group 2009

¹⁶³ <http://www.globalresearch.ca/the-true-story-of-the-bilderberg-group-and-what-they-may-be-planning-now/13808>

and read – through television, radio, newspapers, magazines, books, films, and large portions of the Internet. Their top officials and some journalists attend Bilderberg meetings – on condition they report nothing.” The list of participants for the last 15 years or so shows that the CEO of Syngenta attended regularly (as part of the UK delegation) and must be a core member.¹⁶⁴ He occupies a powerful position amongst the global élite and presumably shares Bilderberg’s objectives of creating a New World Order with an all-powerful corporate-controlled, global government with no democracy, manufactured crises and perpetual wars. Syngenta is ruthless in its pursuit of individual scientists who challenge its products,¹⁶⁵ but has lost court cases against it in the US for contaminating water supplies with atrazine¹⁶⁶ and in Germany it was criminally charged for denying knowledge that its GM Bt 176 corn killed livestock.¹⁶⁷ The participants at Bilderberg 2015¹⁶⁸ included George Osborne Chancellor of the Exchequer, Ed Balls, former Chancellor of the Exchequer and representatives from the Economist, the Financial Times and the Chairman of the BBC Trust, Rona Fairhead. The BBC promotes the agrochemical industry at every opportunity, although industry bias is consistently denied.¹⁶⁹ The Bilderberg Group was started in 1954 by David Rockefeller.

Bilderberg Objectives

The Group’s grand design is for “a One World Government (World Company) with a single, global marketplace, policed by one world army, and financially regulated by one ‘World (Central) Bank’ using one global currency.” Their “wish list” includes:

- one international identify (observing) one set of universal values;
- centralized control of world populations by “mind control;” in other words, controlling world public opinion;
- a New World Order with no middle class, only rulers and servants (serfs), and, of course, no democracy;
- a zero-growth society without prosperity or progress, only greater wealth and power for the rulers;
- manufactured crises and perpetual wars;
- absolute control of education to program the public mind and train those chosen for various roles;
- centralized control of all foreign and domestic policies; one size fits all globally;
- using the UN as a *de facto* world government imposing a UN tax on “world citizens;”
- expanding NAFTA and WTO globally;
- making NATO a world military;
- imposing a universal legal system; and
- a global welfare state where obedient slaves will be rewarded and non-conformists targeted for extermination.

The Bilderberger-Rockefeller scheme is to make their views “so appealing (by camouflaging them) that they become public policy (and can) pressure world leaders into submitting to the ‘needs of the Masters of the Universe.’ ” The “free world press” is their instrument to disseminate “agreed-upon propaganda.”

¹⁶⁴ <http://www.biblebelievers.org.au/bball.pdf>

¹⁶⁵ <http://www.newyorker.com/magazine/2014/02/10/a-valuable-reputation>

¹⁶⁶ <http://www.atrazinesettlement.com/utility/GetFile/c3e918bf-742a-41fa-8af6-0637bcf0b253>

¹⁶⁷ <http://www.i->

[sis.org.uk/Syngenta_Charged_for_Covering_Up_Livestock_Deaths_from_GM_Corn.php](http://www.i-sis.org.uk/Syngenta_Charged_for_Covering_Up_Livestock_Deaths_from_GM_Corn.php)

¹⁶⁸ <http://www.bilderbergmeetings.org/participants2015.html>

¹⁶⁹

https://www.academia.edu/15195199/Effects_of_pesticides_on_humans_and_the_environment_Why_are_the_British_Government_and_the_BBC_protecting_industry

Why has the British Government decided secretly to collude with these two criminal companies against their own people?

Have they bought into the Rockefeller and Gates' depopulation agenda?

Steven MacMillan¹⁷⁰ reminds us of the criminal activities of Bayer and the Rockefeller Foundation that funded the Nazis during WW1 and WW2. Bayer AG – the German pharmaceutical and chemical corporation – is reportedly considering a bid for the agrochemical and biotechnology corporation, Monsanto.

Bayer and Monsanto: A Marriage Made in Hell¹⁷¹

"In a world infected with a plethora of immoral multinational corporations, it is hard to think of two corporations who have more nefarious histories than Bayer AG and Monsanto. Considering this, it is a harrowing prospect that the two corporations could potentially strike a deal in the near future."

Bayer and the Nazi War Machine

"Fast-forward a decade or so, and Bayer was playing an integral part in amalgamating numerous chemical companies into one. The merger resulted in the creation of the most infamous chemical company in modern history – I.G. Farben. As the late Anthony C. Sutton – a former Economics Professor at California State University and Research Fellow at Stanford University's Hoover Institution – wrote in his book, Wall Street and the Rise of Hitler: "The Farben cartel dated from 1925, when organizing genius Hermann Schmitz (with Wall Street financial assistance) created the super-giant chemical enterprise out of six already giant German chemical companies – Badische Anilin, Bayer, Agfa, Hoechst, Weiler-ter-Meer and Griesheim-Elektron. These companies were merged to become I.G. Farben. Twenty years later the same Hermann Schmitz was put on trial at Nuremberg for war crimes committed by the I.G. cartel. Other I.G. Farben directors were placed on trial but the American affiliates of I.G. Farben and the American directors of I.G. itself were quietly forgotten; the truth was buried in the archives... Without the capital supplied by Wall Street, there would have been no I.G. Farben in the first place and almost certainly no Adolf Hitler and World War II."

*Along with other chemical corporations at the time such as Dow Chemical, Monsanto produced the military herbicide [Agent Orange](#) which contained high quantities of the deadly chemical Dioxin. Between 1961 and 1971, the US Army sprayed between 50 and 80 million litres of Agent Orange across Vietnamese jungles, forests and strategically advantageous positions. It was deployed in order to destroy forests and fertile lands which provided cover and food for the opposing troops. The [fallout was devastating](#), with Vietnam estimating that **400,000 people died or were maimed due to Agent Orange**, as well as 500,000 children born with birth defects and up to two million people suffered from cancer and other diseases. Millions of US veterans were also exposed and many have developed similar illnesses. The consequences are still felt today, and will continue to be felt for decades to come; with [cancer rates, birth defects and other diseases](#) still causing devastation to the victims and their families.*

Given the history of these corporations and the atrocities they have been complicit in, the last sector they should be involved in is the agricultural industry."

William Engdahl says¹⁷² *"It can be said that the Rockefeller Foundation's funding of genetic*

¹⁷⁰ Steven MacMillan is an independent writer, researcher, geopolitical analyst and editor of [The Analyst Report](#), especially for the online magazine ["New Eastern Outlook"](#)

¹⁷¹ <http://journal-neo.org/2016/05/21/bayer-and-monsanto-a-marriage-made-in-hell/>

manipulation, of genetics since World War II, as I document in my Seeds of Destruction book, is about eugenics or race purity as the Nazis practiced during the Third Reich. Little known is the fact that the Nazi eugenics, otherwise known as creation of the "Master Race," was financed by...the Rockefeller Foundation. Monsanto has been in the orbit of Rockefeller core assets, now joined by Bill Gates, since World War I."

The Lancet collaboration with the Rockefeller Foundation

It is therefore disturbing that *The Lancet* decided to collaborate with The Rockefeller Foundation in a joint venture¹⁷³ [Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation–Lancet Commission on planetary health](#) see page

Glyphosate used as a defoliant in Columbia

FARC-EP International writes about "[Glyphosate: powerful chemical weapon of transnational power](#)"¹⁷⁴ and "[A crime against humanity](#)"

"It's no casualty that Agent Orange and Glyphosate have been used in two wars led by the United States, and both are produced by the multinational Monsanto. Agent Orange was used during the Vietnam War as a weapon of war and glyphosate is used in Colombia for the same purpose."

During the war against coca crops in Columbia glyphosate sprayed by air was used as defoliant. However, since it was declared by IARC carcinogenic to humans Columbia has banned its use on coca.

Alfredo Molano Bravo says: *"The aircraft with its wings full of Roundup - herbicide produced by criminal Monsanto- and with armored bellies to avoid the gringo pilots gutted to the ground with their airplanes, will take off again in Cauca, Putumayo, North Santander, Antioquia, Chocó, Caquetá, Meta, Guaviare and Nariño...They suspended the spraying while they armored the aircrafts against guerrilla fire. They do care for protecting the airplanes; however, they don't care if the population gets cancer, if congenital malformations occur in the babies of peasants and indigenous women and if children will continue to be born with genetic deformities as has been happening."*

Professor Robert Bellé of the Station Biologique de Roscoff (under the authority of the CNRS (Centre Nationale de la Recherche Scientifique) and the Université Pierre et Marie Curie) is an expert on the toxic effects of formulated glyphosate on human cells. In 2007 he investigated aerial spraying of glyphosate on some 1.5 million hectares in Colombia says: *"Formulated glyphosate is causing the early stages of cancerization."* Many studies have shown that one of the effects of glyphosate on human beings, is that 5% will have cancer problems, 3% will beget children with malformations, and 2% will have fertility problems [4]. For this reason, those who pronounce themselves against this crime do so, using scientific arguments.

The British Government still permits aerial spraying of pesticides including glyphosate

The British Government still permits aerial spraying of pesticides on rural communities, despite the EU advising against it. When The Royal Commission on Environmental Pollution (RCEP) condemned aerial spraying and confirmed that rural communities had no protection against farmer's spraying crops on them and their children, The RCEP was closed on 1 April

¹⁷² <http://journal-neo.org/2016/05/23/the-amazing-glyphosate-revolt-grows/>

¹⁷³ <http://www.thelancet.com/commissions/planetary-health>

¹⁷⁴ <http://farc-epeace.org/index.php/component/k2/item/337-about-glyphosate-powerful-chemical-weapon-of-transnational-power/337-about-glyphosate-powerful-chemical-weapon-of-transnational-power.htm>

2011, as part of the [Coalition Government's](#) spending cuts.¹⁷⁵

Monsanto has used British journalists, politicians and farmers as guinea pigs too

All these organisations have been misguidedly protecting Monsanto's interests. However, Monsanto has concealed its secret studies of glyphosate's carcinogenicity in the US EPA. Studies that gained glyphosate's authorisation in the first place were fraudulent. Hugh Grant CEO of Monsanto, in an interview with *Here and Now's* Robin Young and Jeremy Hobson in March 2016 reported in Real Independent News and Film (RINF) said: ¹⁷⁶ *"Roundup is not a carcinogen. It's 40 years old, it's been studied; virtually every year of its life it's been under a review somewhere in the world by regulatory authorities."* **But Grant is lying.**

Prior to entering the seed business, [Monsanto produced polychlorinated biphenyls](#), commonly known as PCBs, from 1935 to 1979. The toxic compounds were used to insulate electronics before being outlawed by the U.S. Environmental Protection Agency due to human health and environmental concerns.

[Internal memos prove the seed giant knew about the toxicity of PCBs](#) as far back as 1970 but continued production, focusing only on profit revenue; Monsanto earned \$10 million off the pollutants, which are now realized to have contaminated waterways all over the world. Grant had previously told Bloomberg that genetically modified foods are good for poor people who can't afford organic.¹⁷⁷ He said: *"Opponents of GM who want to block genetically modified foods are guilty of 'elitism' that's fanned by social media and fail to consider the needs of the rest of the world."*¹⁷⁸

Hugh Grant can afford to eat organic food, but he has no idea of the extent of pollution of the US environment with glyphosate and neonicotinoid insecticide residues because government and regulators have failed to measure levels. The farmers just apply the chemicals blindly each year. Few can avoid the pollution of water, soil and air by genotoxic and teratogenic herbicides, insecticides and other industrial chemicals.

Just as with PCBs, sealed documents from the US EPA show that Monsanto knew that glyphosate caused cancer in animals but manipulated the data

Monsanto has known since the 1970s that glyphosate causes cancer, according to this paper by researchers Anthony Samsel and Stephanie Seneff. Samsel is the first independent researcher to examine Monsanto's secret toxicology studies on glyphosate...this time in **pristine condition and without redactions** because Monsanto thought they were safely concealed in the US EPA. Samsel obtained the studies through a request to his Senator. With Dr Stephanie Seneff of MIT, he reviewed Monsanto's data. Samsel and Seneff wrote [paper IV on Glyphosate: Glyphosate, pathways to modern diseases IV: cancer and related pathologies](#)¹⁷⁹ and concluded that: *"significant evidence of tumours was found during these investigations"*.

[Extract from IV: Glyphosate has a large number of tumorigenic effects on biological systems, including direct damage to DNA in sensitive cells, disruption of glycine homeostasis, succinate dehydrogenase inhibition, chelation of manganese, modification to more carcinogenic molecules such as N-nitrosoglyphosate and glyoxylate, disruption of fructose](#)

¹⁷⁵ https://en.wikipedia.org/wiki/Royal_Commission_on_Environmental_Pollution

¹⁷⁶ <http://rinf.com/alt-news/latest-news/monsanto-ceo-hugh-grant-insists-roundup-safe-adamantly-denies-cancer-link/>

¹⁷⁷ <http://2paragraphs.com/2013/05/monsanto-ceo-says-gmo-food-good-for-poor-people/>

¹⁷⁸ <http://www.bloomberg.com/news/2013-05-15/monsanto-sees-elitism-in-social-media-fanned-opposition.html>

¹⁷⁹

https://www.academia.edu/17751562/Glyphosate_pathways_to_modern_diseases_IV_cancer_and_related_pathologies

metabolism, etc. 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.

In 1985 the US EPA classified glyphosate as a Group C carcinogen but changed to Group E in 1991¹⁸⁰

An archival document from the US EPA revealed that some US EPA staff colluded with Monsanto to downgrade the classification of the carcinogenicity of glyphosate. The original Panel comprised of members of the Toxicology Branch of the Hazard Evaluation Division who examined the carcinogenic potential of glyphosate. In a consensus review on March 4 1985 the Committee classified glyphosate as a Group C carcinogen. It 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. However, in 1991 The Health Effects Division Carcinogenicity Peer Review Committee met on June 26 1991 to discuss and evaluate the weight of evidence on glyphosate with particular emphasis to its carcinogenic potential. In a review of the data the Committee concluded that glyphosate should be classified as Group E (evidence of non-carcinogenicity for humans). In order to cover themselves they declared: "It should be emphasized, however, that the designation of an agent in Group E is based on the available evidence at the time of evaluation and should not be interpreted as a definitive conclusion that the agent will not be a carcinogen under any circumstances"

There were signatures of the 11 members present, six members signed *in absentia* but three members refused to sign because they "did not concur." Presumably they knew that the change of classification of glyphosate from Group C to Group E was fraudulent.

One of Monsanto's own long term studies in rats in 1990¹⁸¹ showed an increased risk of cataracts following exposure to Roundup®

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. 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.¹⁸² As reported before, some UK farmers started spraying glyphosate on crops pre-harvest in 1980 at the suggestion of a scientist working for Monsanto¹⁸³ and on grassland in 1985 on the advice of another Monsanto scientist.¹⁸⁴ A 2016 study by the WHO also confirmed that the incidence of cataracts had greatly increased:¹⁸⁵

'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

¹⁸⁰ http://www.epa.gov/opp00001/chem_search/cleared_reviews/csr_PC-103601_30-Oct-91_265.pdf

¹⁸¹ 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)

¹⁸² <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955650/>

¹⁸³ 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.

¹⁸⁴ 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.

¹⁸⁵ http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196_eng.pdf

US EPA. He said: *“Forty years of glyphosate exposure have provided a living laboratory where humans are the guinea pigs.”*

Open letter: Review of the Carcinogenicity of Glyphosate by EFSA and BfR¹⁸⁶

Prof Christopher Portier, Chairman of IARC’s Working Group and a group of over 90 independent scientists wrote an Open Letter to the European Health and Food Safety Commissioner, Vytenis Andriukaitis on 27/11/2015, strongly challenging EFSA’s decision and the BfR report that it was based on. They express deep concern that BfR assesses the widely used herbicide glyphosate as *“unlikely to pose a carcinogenic hazard to humans”*. They consider the BfR evidence point by point and the two most disturbing statements were that:

- BfR used historical controls (*When using historical control data, they should be from studies in the same timeframe, for the same exact animal strain, preferably from the same laboratory or the same supplier and preferably reviewed by the same pathologist*).
- The BfR Addendum dismisses the IARC Working Group (WG) finding that *“there is strong evidence that glyphosate causes genotoxicity”* by suggesting that unpublished evidence not seen by the IARC WG was overwhelmingly negative and that, since the studies that were reviewed were not done under guideline principles, they should get less weight.

To maintain transparency, IARC reviews only publicly available data. Thus the use of confidential data submitted to the BfR makes it impossible for any scientist not associated with BfR to review this conclusion with scientific confidence. Further skewing their interpretation, the BfR did not include evidence of chromosomal damage from exposed humans that was highlighted in the IARC Monograph.

Sixteen eminent and independent scientists published a Consensus Statement on Glyphosate Concerns over use of glyphosate-based herbicides and risks associated with exposures: a consensus statement.¹⁸⁷

The scientists outlined the environmental risks of repeated heavy use of glyphosate-based herbicides (GBH) on fish, butterflies, earthworms and beneficial soil microbes, including its breakdown products of AMPA and formaldehyde contaminating soil and groundwater.... Multiple studies on GBHs have reported effects indicative of endocrine disruption [21–24]. Based on knowledge from studies of other endocrine disruptors, the developing fetus, infants, and children are most at risk. Effects following GBH exposure may not be immediately apparent, because some adverse conditions caused by early-life exposure only manifest in later stages of development and/or in adulthood. These include both acute diseases and chronic health problems...“ increased incidence of severe birth defects in Argentina and Paraguay in areas where GE Roundup Ready crops are widely grown may be linked to the ability of GBHs to increase retinoic acid activity during fetal development [23]⁴. Glyphosate-contaminated soybean feeds used in the pork industry have also been associated with elevated rates of gastrointestinal-health problems and birth defects in young pigs [32]. Related impacts have been observed in poultry [33]. A steadily growing portion of global GBH use is applied in conjunction with multiple other herbicides, insecticides, and fungicides. Herbicide and other pesticide active ingredient safety levels are calculated for each active ingredient separately, despite the fact that tank mixes including two to five, or even more active ingredients account for a significant portion of the volume of pesticides applied. Regulators do not require further testing of such mixtures, nor do they conduct any additional risk assessments designed to quantify possible additive or synergistic impacts

¹⁸⁶ http://www.efsa.europa.eu/sites/default/files/Prof_Portier_letter.pdf

¹⁸⁷ <http://ehjournal.biomedcentral.com/articles/10.1186/s12940-016-0117-0>

among all herbicides applied, let alone the combination of all herbicides, insecticides, fungicides, and other pesticides applied on any given field."

On December 3rd 2015, it was announced that Monsanto, the US-based transnational corporation, is to be put on trial in the International Criminal Court in The Hague for ecocide¹⁸⁸

PARIS – The Organic Consumers Association (OCA), IFOAM International Organics, Navdanya, Regeneration International (RI), and Millions Against Monsanto, joined by dozens of global food, farming and environmental justice groups announced today that they will put Monsanto, a US-based transnational corporation, on trial for crimes against nature and humanity, and ecocide, in The Hague, Netherlands, on World Food Day, October 16, 2016. This International Criminal Court, established in 2002 in The Hague, has determined that prosecuting Ecocide as a criminal offense is the only way to guarantee the rights of humans to a healthy environment and the right of nature to be protected.

The tribunal's website says: "According to its critics, Monsanto is able to ignore the human and environmental damage caused by its products and maintain its devastating activities through a strategy of systemic concealment: by lobbying regulatory agencies and governments, by resorting to lying and corruption, by financing fraudulent scientific studies, by pressuring independent scientists, by manipulating the press and media, etc. The history of Monsanto would thereby constitute a text-book case of impunity, benefiting transnational corporations and their executives, whose activities contribute to climate and biosphere crises and threaten the safety of the planet."

In addition to Monsanto, the tribunal intends to mount a "best case" to denounce "all multinational companies which are driven by the profit motive and thereby threaten human health and the safety of the planet". The initiative is "unique and unprecedented", says Marie-Monique Robin.¹⁸⁹

Should philanthropists be allowed to control the agenda of Governments and the World Health Organization?

Global Justice Now asks pertinent questions about the Bill & Melinda Gates Foundation (BMGF)

Global Justice Now has just bought out a new Report: **Gated Development: Is the Gates Foundation always a force for good?**¹⁹⁰ It asks the question: "Should Bill Gates be setting the global agenda for health and agriculture?"

The Corporations (the Agrochemical Industry and the Pharmaceutical Industry) that the Gates Foundation funds and works closely with are those present at the Bilderberg Meetings whose objectives are to control the world. Monsanto, Cargill, Syngenta, DuPont, Bayer, Nestle, Mondelez and Mars are among the Corporations. "The foundation is also pushing GM research in the UK. In 2012, a team of British plant scientists at the John Innes Centre in Norwich won a \$10 million grant to develop GM cereal crops; this was one of the largest single investments in GM in the UK... The Swindon-based Biotechnology and Biological Sciences Research Council, which also promotes GM research, received an \$8 million grant in 2010 to "support high quality research on sustainable crop production in sub-Saharan Africa

¹⁸⁸ <http://www.monsanto-tribunal.org/>

¹⁸⁹ <http://gmwatch.org/news/latest-news/16576-international-lawyers-and-ngos-launch-tribunal-to-try-monsanto-for-ecocide>

¹⁹⁰ <http://www.globaljustice.org.uk/sites/default/files/files/resources/gated-development-global-justice-now.pdf>

and South Asia... In June 2014, the BMGF gave \$5.6 million to another major GM developer and advocate, Cornell University, "to support a global agricultural communications platform that will improve understanding of science-based agricultural technologies".

Global Justice Now reports that BMGF has an overwhelming focus on vaccines and GM technology. Bill Gates: *"Donor countries, you must increase your investment in vaccines and immunization, even though you are coping with budget crises... All 193 member states, you must make vaccines a central focus of your health systems"*

In his 2015 annual letter, for example, Bill Gates wrote that the next 15 years will see major breakthroughs in poor countries which: *"will be driven by innovation in technology – ranging from new vaccines and hardier crops to much cheaper smartphones and tablets – and by innovations that help deliver those things to more people."*

In September 2014, Margaret Chan, the Director General of the WHO, told the New York Times in an interview about the ebola outbreak in West Africa that "my budget [is] highly earmarked, so it is driven by what I call donor interests. ***When there's an event, we have money. Then after that, the money stops coming in, then all the staff you recruited to do the response, you have to terminate their contracts. So I don't like these kind of ups and downs and ups and downs... When there is no war to fight, these staff would help countries to build preparedness, to build response systems. Just like a fire department. When there is no fire, you help countries to build capacity.***"

The inference in Chan's remarks is that the WHO, whose largest donor is the BMGF, is unable to respond adequately to ebola and other disease outbreaks because donor interests prevent it being able to build public health systems in developing countries.

Jacob Levich, writing in Global Research,¹⁹¹ said: The Gates charitable empire is vast and growing. Within the US, BMGF focuses primarily on "education reform," providing support for efforts to privatize public schools and subordinate teachers' unions. The much larger international divisions target the developing world and are geared toward infectious diseases, agricultural policy, reproductive health, and population control. In 2009 alone, BMGF spent more than \$1.8 billion on global health projects. He confirmed the view of Global Justice Now that the power of the WHO is in the hands of BMGF and its "partners". Levich said: "Emulating his own strategies for cornering the software market, Gates has created a virtual monopoly in the field of public health. In the words of one NGO official, "[y]ou can't cough, scratch your head or sneeze in health without coming to the Gates Foundation." The Foundation's global influence is now so great that former CEO Jeff Raikes was obliged to declare: *"We are not replacing the UN. But some people would say we're a new form of multilateral organization."*

Control of media reports: "It is not inconceivable that you might find yourself some day reading a story about a Gates-funded health project, written up in a newspaper that gets its health coverage underwritten by Gates, reported by a journalist who attended a Gates-funded journalism training program, citing data collected and analysed by scientists with grants from Gates."

Enormous propaganda power

"Even if we were to satisfy ourselves that the Gates Foundation were utterly benign, it would still be worrisome that they wield such enormous propaganda power". Mark Crispin Miller, professor of media, culture and communications at New York University.

¹⁹¹ <http://www.globalresearch.ca/philantrocapi-talism-gates-the-worlds-largest-and-most-powerful-foundation/5383461>

Vaccine programmes

Yet several reports in recent years raise serious questions about the impact of some of these BMGF-funded vaccine trials. Some point to significant numbers of illnesses and even deaths among those being administered vaccines.

The Wellcome Trust (which hosts the industry-funded Science Media Centre) and the Gates Foundation working together on 27/02/2016

Dr Jeremy Farrar of the Wellcome Trust and Dr Trevor Mundel of the Gates Foundation wrote in the Observer/Guardian on 27/02/2016 to appeal for money for vaccines and drugs to fight global diseases.¹⁹² Both have intimate connections with agrochemical and pharmaceutical corporations including Monsanto, Syngenta, Bayer, AstraZeneca and GlaxoSmithKline.¹⁹³

They wrote: ***“A healthy body has three essential systems for staying that way. There is physical fitness, building resilience against threats [A global obesity and diabetic crisis caused by endocrine disrupting chemicals: glyphosate, atrazine, DDT and PCBs]. There is the brain, to spot danger and take action [The brains of the young have been damaged by exposure to environmental chemicals]. And there is the immune system, to neutralise infections that breach other defences.”*** [Our immune systems and that of animals have been destroyed by biocides...in particular the widespread use of glyphosate and the neonicotinoid insecticides]. Jeremy Farrar goes on to say: *The final requirement is a better immune system. **That means a transformed approach to research and development of vaccines and drugs.***

The Wellcome Trust website states: *“We are an independent global charitable foundation dedicated to improving health, because good health makes life better.”*

As William Engdahl said in his article: The Amazing Glyphosate Revolt Grows:¹⁹⁴

“The genie is out of the bottle ...

*To date the EU Commission has received a staggering 1.5 million citizen petitions demanding they not re-approve glyphosate. The opposition to EU Commission approval of glyphosate has taken on a self-expanding character and that has the agribusiness weed-killer cartel alarmed. **The process is exposing to the general public, for the first time in such a clear manner, the degree of corruption in not only Brussels but also in the so-called scientific bodies that advise it on what is safe and what not.**”*

Rosemary Mason 01/06/2016

¹⁹² <http://www.theguardian.com/global-development/2016/feb/27/global-defence-against-virus-zika-ebola-needed>

¹⁹³ <http://www.globaljustice.org.uk/sites/default/files/files/resources/gated-development-global-justice-now.pdf>

¹⁹⁴ <http://journal-neo.org/2016/05/23/the-amazing-glyphosate-revolt-grows/>