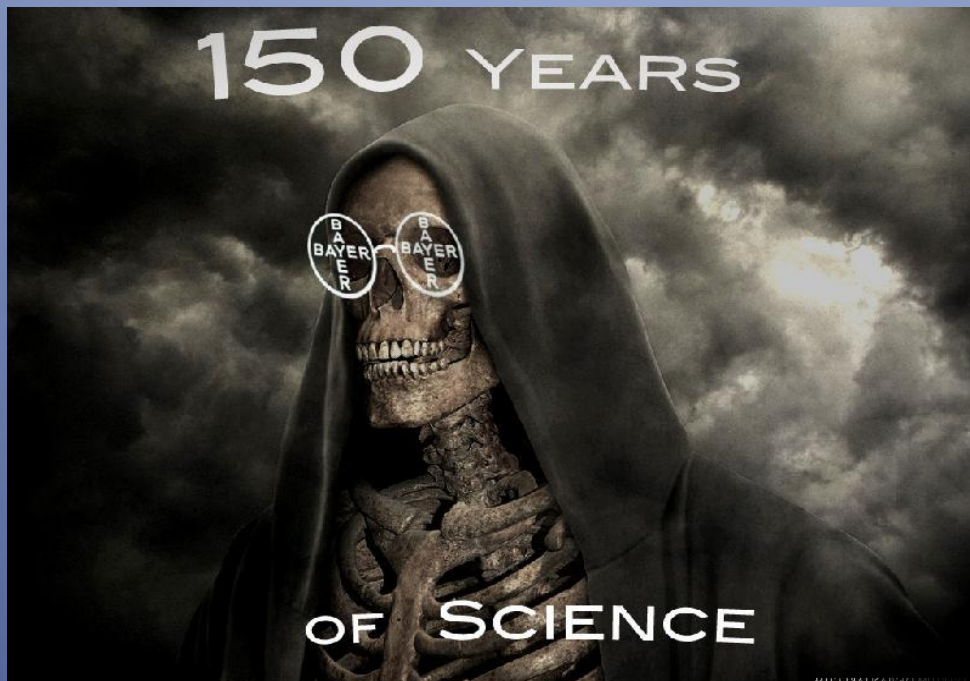




"Coalition against Bayer Dangers, www.CBGnetwork.org" and Photomontage Italy

The Chemicals Regulation Directorate, the European Food Safety Authority and the European Commission

Are in the hands of the Pesticides Industry

Compiled by Rosemary Mason MB ChB FRCA on behalf of a global network of independent scientists, beekeepers and environmentalists 2014

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An email to the Chairman of the Health and Safety Executive asking her to give Swansea City and County Council permission to stop using Roundup® (Glyphos Dakar Pro) on weeds. The only beneficiaries are Pesticides Corporation and their Shareholders. Glyphosate is just converting them into Super-weeds. The citizens of Swansea are being poisoned.	20
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"Corporate totalitarianism ... rules through dispensability and corruption. It treats communities, people, countries, ecosystems and species as disposable and dispensable."

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"Far into the future, the World Controllers have created the ideal society. Through clever use of genetic engineering, brainwashing and recreational sex and drugs, all its members are happy consumers." A description on the back cover of the Vintage 2007 edition of:
Brave New World by Aldous Huxley, 1932.

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‘WAR IS PEACE: FREEDOM IS SLAVERY: IGNORANCE IS STRENGTH’: The Party slogan. “He filled the glasses and raised his own glass by the stem. *‘What shall it be this time?’* he said, still with the same faint suggestion of irony. *‘To the confusion of the Thought Police? To the death of Big Brother? To humanity? To the future?’* *‘To the past,’* said Winston. *‘If there is hope,’* said Winston, *‘it lies in the proles.’* Nineteen Eighty Four by George Orwell, 1949.

Executive Summary

Effects of pesticides on the environment

Invasive species in Britain and Glyphosate-Resistant Super-Weeds in US are the same

We have found historical and chronological evidence to show that the herbicide glyphosate (or other herbicides that are used as alternatives) is responsible for the transformation of garden escapes into super-weeds (in the UK these are termed ‘invasive species’). Japanese knotweed (*Reynoutria japonica*) was introduced into Holland by an amateur Dutch botanist, Van Reynoutre in the late 16th Century. For 500 years it caused few problems. In the early 1900s experiments were made with chemical herbicides. In 1941 2,4-D was discovered in the US and the UK (Rothamsted Research) at the same time. It was commercialized in 1946: atrazine in 1958, dicamba in 1967 and glufosinate in 1991. Glyphosate was introduced into Europe in 1974 and became a global best-selling herbicide because the public was told by industry and the regulators that it was ‘safe.’ Everything changed because it was used repeatedly in the same areas and knotweed developed resistance to it. *“The rampaging spread across Britain in the late 1970s and 80s is regarded as a parable of the dangers of casually introducing alien species into the countryside.”*¹ However, 1969 in the UK² it was still being promoted as a plant suitable for gardens (as was the Balsam species *Impatiens glandulifera* (*royalei*)). Both plants became super-weeds and were classified as invasive species in the 1981 Wildlife and Countryside Act³ (In the US, the first confirmed Glyphosate-Resistant weed,

¹ <http://www.theguardian.com/books/2010/oct/10/weeds-richard-mabey-review>

² Marshall Cavendish Illustrated Encyclopaedia of Gardening 1969.

³ <http://www.legislation.gov.uk/ukpga/1981/69>

rigid ryegrass, was reported in 1998. Super-weeds in the US in GE cropping systems are now a massive problem⁴). A similar situation has occurred in aquatic areas where glyphosate was used for 3 years in rivers in Washington State⁵ (Legal Status of Noxious Weeds⁶). However, in 1996 the Attorney General of the State of New York Consumer Frauds and Protection Bureau, Environmental Protection Bureau had convicted Monsanto for false advertising with regarding the safety of Roundup® herbicide, including its use in water.⁷ Monsanto's claims contradict the following statements required on the EPA-approved label for Roundup® at the time the claims were made: **ENVIRONMENTAL HAZARDS** Avoid direct application to any body of water.⁸

Insecticides and super-pests

In a similar manner target pests have become resistant to insecticides and Bt toxins. Bt-resistant rootworms are now plaguing Minnesota, Iowa and Illinois. This year's severe drought has just made the problem worse. Bruce Potter, an entomologist, said at a workshop in Minnesota: *"In fields with a rootworm problem, the bug damages the cornstalk's ability to absorb water just when it is needed most. With the roots weakened, the plants can also be vulnerable to wind."* A review published recently reveals that resistance has evolved in five of 13 key pest species, three against Bt maize and two against Bt cotton. In 2006, just one species was resistant.⁹ In India, pests are becoming resistant to GM cotton. India now has a pink boll worm resistant to Bollgard I.¹⁰ *"Monsanto introduced Bollgard II in 2006 and is now readying with an insecticide—Round Up Ready Flex (RRF), selectively used for Bt cotton and Bollgard III. Monsanto Corporation is laying the foundation to tie the Indian farmer permanently to its seed and insecticide. And, its strategy is to completely eliminate all native cotton varieties in future, perhaps, 10-15 years from now."* Wang in 2008 showed that *Nilaparvata lugens* (the brown planthopper, a pest on rice) was able to develop 1424-fold resistance to imidacloprid in the laboratory after the insect was selected with imidacloprid for 26 generations.¹¹ Gao *et al.* 2012¹² reported similar problems with western flower thrips: *"insecticide resistance continues to be one of the most important issues facing agricultural production."*

Regulatory Agencies always grant pesticides 'Conditional' Registration

The term 'Conditional' means that the Registration Division has granted the applicant (in the case cited below, Bayer) permission to start selling the product immediately. At the same time Bayer is informed about data that have not yet been completed. On May 30, 2003, Daniel C Kenny of the US EPA Registration Division granted 'conditional' registration for clothianidin to be used for seed treatment use on corn and canola (oil seed rape) to Bayer Corporation.¹³ In the 19-page document, the EPA scientists (as opposed to regulators) had assessed the risks as: *"Clothianidin is highly toxic to honey bees on an acute contact basis. It*

⁴ <http://www.enveurope.com/content/24/1/24>

⁵ <http://farmwars.info/?p=11137>

⁶

<http://agr.wa.gov/plantsinsects/weeds/npdespermits/docs/IPMFreshwaterEmergentNoxiousQuarantineListedWeeds.pdf>

⁷ <http://farmwars.info/?p=11565> page 13

⁸ <http://www.mindfully.org/Pesticide/Monsanto-v-AGNYnov96.htm>

⁹ <http://www.newscientist.com/article/dn23688-superpests-are-fighting-back-against-killer-crops.html>

¹⁰ <http://newindianexpress.com/opinion/Failure-of-Monsanto-Bt-Cotton/2013/12/06/article1930013.ece>

¹¹ [http://www.researchgate.net/publication/23149216_Susceptibility_to_neonicotinoids_and_risk_of_resistance_development_in_the_brown_planthopper_Nilaparvata_lugens_\(Stl\)_Homoptera_Delphacidae](http://www.researchgate.net/publication/23149216_Susceptibility_to_neonicotinoids_and_risk_of_resistance_development_in_the_brown_planthopper_Nilaparvata_lugens_(Stl)_Homoptera_Delphacidae)

¹² <http://www.ncbi.nlm.nih.gov/pubmed/22566175>

¹³ <http://www.epa.gov/opprd001/factsheets/clothianidin.pdf>

has the potential for toxic chronic exposure to honey bees, as well as other non-target pollinators, through the translocation of clothianidin residues in nectar and pollen. In honey bees, the effects of this toxic chronic exposure may include lethal and/or sub-lethal effects in the larvae and reproductive effects in the queen. The fate and disposition of clothianidin in the environment suggest a compound that is a systemic insecticide that is persistent and mobile, stable to hydrolysis, and has potential to leach into ground water, as well as run-off to surface waters. There is evidence of effects on the rat immune system and juvenile rats appear to be more susceptible to these effects.”

Summary of Data Gaps: (Page 18). There were gaps in: Toxicology; Residue Chemistry; Environmental Fate Data and Ecological Effects Data. These included: Additional studies on Developmental Immunotoxicity and Mutagenicity. Data on aerobic aquatic metabolism and a Seed leaching study. Whole sediment acute toxicity to freshwater invertebrates. Field test for pollinators. Were these studies ever completed?

A leaked memo about Clothianidin from the US EPA Environmental Risk Branch

To: Various members of the Registration Division: November 2nd 2010:¹⁴

“The Registrant, Bayer CropScience is submitting a request for registration of clothianidin to be used as a seed treatment on cotton and mustard seed” ...Here are extracts from a 101-page document about why EPA scientists were so concerned: “The major risk concerns are with aquatic free-swimming and benthic invertebrates, terrestrial invertebrates, birds and mammals...Major risk concern is to non-target insects (that is honey bees). Clothianidin is a neonicotinoid insecticide that is both persistent and toxic. Acute toxicity studies to honey bees show that clothianidin is highly toxic on both a contact and an oral basis... Information from standard tests and field studies, as well as other incident reports involving other neonicotinoids, suggests the potential toxic risk to honey bees and other beneficial insects. An incident in Germany already illustrated the toxicity of clothianidin when allowed to drift off site from treated seed during planting... Poses an acute and chronic risk to small birds and mammals when clothianidin treated seeds are applied with no incorporation method... Acute risk to freshwater invertebrates...Acute lethal toxicity to benthic invertebrates also suggests this conclusion. These organisms are an integral part of the freshwater trophic systems and serve as both decomposers/predators that are important for nutrient cycles and a food source for larger predators (e.g. fish). The ecological integrity in these vulnerable areas in the US could therefore be impacted on by the use on cotton at the proposed application rates.”
The potential for clothianidin to move from the treated area to the nearby surface water body has increased significantly since 2003 because the registrant has recently added new uses to the labels...

The compound is toxic to honey bees... The persistence of residues and potential residual toxicity of clothianidin in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive... clothianidin has the properties of a chemical which could lead to widespread groundwater contamination, but no groundwater studies have been conducted to date...extreme mobility and persistence of clothianidin in the environment.

When Dr Tennekes tried to contact this scientist he was no longer at his desk; that is the usual fate of whistle blowers.

US EPA Process Improvement Workgroup: Streamlining the Risk Assessment Process
Administrator Lisa Jackson’s profile on the US EPA website in 2011 had four mission statements. One at random: “We have greater opportunity to protect human health and the

¹⁴ <http://beyondpesticides.org/pollinators/clothianidinepamemo110210.pdf>

environment than before.” December 13th, 2010 Office of Pesticide Programs had run a workshop: Streamlining the Risk Assessment Process. Robert Schulz had designed an electronic programme (e-Builder Dossier) to facilitate the registration of pesticides by the applicants. According to Slide 18, the prime benefits were “*reduced cost to the EPA*”, and “*quicker processing*”. There was no mention of human health or the environment on any one of the 67 power point slides. Slide 35: Historical Product Reregistration Decisions boasted about the EPA record: “*Since 2002, no pesticide products have been suspended by the EPA.*”

The Advisory Committee on Pesticides statement on Immune Effects of Clothianidin

In a letter written on 12 January 2012, the ACP dismissed our hypothesis of immune deficiency in wildlife being caused by clothianidin. “The evaluation in 2002 identified some findings in mammalian toxicity studies suggesting compromise of the immune system. These findings were all at high doses”... “*Whilst your hypothesis on immune deficiency disease in wildlife is interesting, the levels of exposure anticipated from the approved use of products containing clothianidin in the UK are well below those doses found to be delivering these effects in the tests we have already considered.*” In May 2013 our hypothesis: Immune Suppression by the Neonicotinoid Insecticides at the Root of Global Wildlife Declines was published in a peer-reviewed journal.¹⁵

Neonicotinoid clothianidin was found to adversely affect insect immunity and the molecular mechanism is described. The mechanism for imidacloprid is similar

In December 2013, 10 years after conditional registration in the US, and eleven years following registration in the EU, DiPrisco *et al.* showed that clothianidin promotes replication of a viral pathogen in honey bees.¹⁶ “*We describe the molecular mechanisms through which clothianidin adversely affects the immune response and promotes replication of a viral pathogen in honey bees bearing covert infections. The honey bee immunosuppression is similarly induced by a different neonicotinoid imidacloprid.*”

An ex-US EPA employee confirms that the bees in the US have almost gone¹⁷

In December 2013, Vallianatos described the corruption amongst Regulators at the top of the US EPA, and what happened to ecologists who pointed out the effects of these neurotoxic weapon-like biocides which should have no place in agriculture.

He writes: “*In my 25-year experience at the US EPA, nothing illustrated the deleterious nature of "pesticides" and "regulation" better than the plight of honeybees. Here is a beneficial insect pollinating a third of America's crops, especially fruits and vegetables, and we thank it with stupefying killing. Poisoning of honeybees became routine in the mid-1970s with the EPA's approval of neurotoxins encapsulated in dust-size particles that took days to release their deadly gas.*

Some of my EPA colleagues denounced such misuse of science and public trust. They told their bosses those encapsulated neurotoxins were weapon-like biocides that should have no standing in agriculture and pest management. Indeed, one of those EPA ecologists discovered the neurotoxic plastic spheres in the honeybee queens' gut. This meant poison in the honey.

EPA acted with fury. *It forced the scientist out of his laboratory and into paper pushing in Washington. Approval of the industry's neurotoxins expanded to cover most major crops. This meant honeybees had less and less space to search for food without dying.*

¹⁵ <http://www.stmconnect.com/sites/default/files/3-12%20%20JEIT-D-12-00001.pdf>

¹⁶ www.pnas.org/content/early/2013/10/18/1314923110.full.pdf+html

¹⁷ http://www.huffingtonpost.com/evaggelos-vallianatos/honeybees-on-the-verge-of_b_4326226.html

A few days ago I called up a beekeeper inviting him to an environmental conference planned for June 2015. He declined because, he said, there would be no honeybees left in another year or two. "Exposure," he concluded, "as low as one tenth of a part per billion can be fatal to honey bees."

Complaint to the European Commission that clothianidin registration had been illegal
In May 2012 we made a complaint to the EC via the Ombudsman: *"It was only recently, when we studied (EC) 1107/2009 more closely, that we found that clothianidin should never have been registered, in the first place because it failed to fulfil the EU criteria for half-life in soil; this should be no greater than 120 days. (The US EPA conditional registration document for clothianidin in 2003 stated that the aerobic soil metabolism half-life under a variety of soil conditions was 148-1,155 days and the terrestrial field dissipation was 277-1,386 days.)"* The Ombudsman forwarded a reply on 10/07/2012 from Michael Flüh, Head of Unit of EC Health and Consumers Directorate-General: *"The allegation as regards the illegality of the registration of clothianidin is strongly rejected. The assessment of clothianidin, carried out by a Rapporteur Member State (RMS), and peer reviewed by experts from all Member States, concluded that safe uses for this substance exist. The assessment covered the persistence of the substance in soil as well as its toxicity and leaching potential."*

CRD and EFSA have completed the DAR of cyantraniliprole a new systemic insecticide: US EPA says that there were no critical areas of concern identified. But the half-life in soil is illegal under Regulation (EC) No. 1107/2009.

US EPA statement:¹⁸ *"Finally, the European Food Safety Authority (EFSA) has completed the peer review of the Draft Assessment Report prepared by CRD in the UK. The CRD concluded that cyantraniliprole should be considered of low risk, that no critical areas of concern were identified and that it can be approved under Regulation (EC) No. 1107/2009."* This DAR prepared by CRD and the peer review by EFSA is **illegal**. Regulation (EC) No. 1107/2009¹⁹ sets a limit to the persistence of the active substance. In Annex II: *"An active substance, safener or synergist fulfils the persistence criterion where: the half-life in soil is higher than 120 days."* (In 2012, the European Commission had defended the long half-life of clothianidin²⁰ by saying that Registration was not illegal because it had been judged under the previous Council Directives (9/117/EEC and 91/414/EEC). It will not be possible to defend this one under the new Directive.

The US EPA Public Comments document corrected its mistake; it confirmed that the aerobic soil metabolism half-life under a variety of soil conditions is 1327 days (p19) and acknowledged that cyantraniliprole and its degradates may persist in the environment given half-lives ranging from 4 to 1800 days, depending on the soil/environmental scenario (p22). Cyantraniliprole has already been registered as a systemic insecticide in Canada²¹ and Australia²² by DuPont and by Syngenta in combination with thiamethoxam (Fortenza Duo) in Argentina.²³

The Supreme Arrogance and Confidence of Industry and the Regulatory Agencies

¹⁸ <http://www.noticeandcomment.com/Response-to-Public-Comments-on-EPA-s-Proposed-Registration-of-the-New-Active-Ingredient-Cyantraniliprole-fn-99419.aspx>

¹⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:309:0001:0050:EN:PDF>

²⁰ Aerobic half- life in soil of up to 1386 days: IUPAC

²¹ <http://www.hc-sc.gc.ca/cps-spc/pubs/pest/decisions/rd2013-25/index-eng.ph>

²² http://www.apvma.gov.au/registration/assessment/docs/prs_cyantraniliprole_october_2013.pdf

²³ <http://www.syngenta.com/global/corporate/en/news-center/news-releases/pages/131030.aspx>

The responses of the US EPA to the Public Comments (often from expert scientists) on proposed registration of cyantraniliprole are blatantly casual. The US EPA's own evidence of effects on mammals: (thyroid, liver, immune, developmental and reproductive toxicity) is dismissed. As with clothianidin, there are many missing data. Despite the intention for it to be used in residential and urban areas, no urban run-off modelling has been done. No data on mixtures with thiamethoxam had been done, although Syngenta has marketed such a mixture. It appears that the data on surface water concentrations and potential effects on aquatic invertebrates were absent. Data on honey bee larvae are missing. EPA *"does not have a suitable tool for modeling dust-off as a route of exposure from treated seeds"*. Re: impact of mixtures: *"if evidence from incidents or field observations suggests that tank mixed products may be impacting non-target organisms, the EPA can require studies to be conducted."* They recommend: *"a 25-foot buffer for ground applications and a 50-foot buffer for aerial applications are established to minimize risk and are considered appropriate risk mitigation measures"* and: *"the product cannot be applied within 25 feet of bodies of water and there must be a 25 foot uncultivated vegetative filter strip next to the water body."* In conclusion: *"As a result, EPA does not believe the environment or the public would be best served by delaying the registration of cyantraniliprole to complete consultation."* This is the fast-track registration for the benefit of industry that was planned by the EPA OPP in December 2010.

Industry has complete control over global legal processes and courts

The Agrochemical Corporations alone (and together with the British Government) have ongoing lawsuits against the EC for their 2-year suspension on certain neonicotinoid insecticides and against Civil Society for delaying registration of certain GM crops. If a legal process goes against them (e.g. Georgina Downs' landmark victory in the High Court in November 2008 that ruled that the UK Government's policy on pesticides was not in compliance with European legislation²⁴) was it money from Industry and the British Government that 'arranged' for it to be overturned by the Court of Appeal in May 2009?²⁵ In a similar manner the US Government and US Monsanto have control of judgements by the Supreme Court.²⁶ *"WASHINGTON (Reuters Report 13 January 2014) - The U.S. Supreme Court upheld Monsanto Co's biotech seed patents on Monday, dealing a blow to a group of organic farmers and other activists trying to stop the biotech company from suing farmers if their fields contain a few plants containing the company's genetically modified traits."*

Genetic Engineering and Bt Toxins: The GMO Emperor has no clothes

"We have been repeatedly told that genetically engineered (GE) crops will save the world by increasing yields and producing more food. They will save the world by controlling pests and weeds. They will save the world by reducing chemical use in agriculture. They will save the world with GE drought tolerant seeds and other seed traits that will provide resilience in times of climate change."

All of these claims have been established as false over years of experience all across the world. The Global Citizens Report: "The Emperor Has No Clothes"²⁷ brings together evidence from the ground of Monsanto's and the industry's false promises and failed technology. *The fable that GMOs are feeding the world has already led to large-scale destruction of biodiversity and farmers' livelihoods. It is*



²⁴ <http://www.theguardian.com/environment/2008/nov/15/activists-pollution-pesticides-toxins-defra>

²⁵ <http://www.theguardian.com/environment/2009/jul/07/georgina-downs-pesticides>

²⁶ <http://www.scientificamerican.com/article/monsanto-critics-denied-us-supreme/>

²⁷ <http://www.navdanya.org/component/content/article/19-frontpage-content/118-the-gmo-emperor-has-no-clothes-a-global-citizens-report-on-the-state-of-gmos>

threatening the very basis of our freedom to know what we eat and to choose what we eat. Our biodiversity and our seed freedom are in peril. Our food freedom, food democracy and food sovereignty are at stake.

The New Genetics and Natural versus Artificial Genetic Modification²⁸

Dr Mae-Wan Ho is Director and co-founder of the Institute of Science in Society (ISIS). It is an organisation which seeks to reclaim science for the public good and to promote social responsibility and ecological sustainability in science. She was winner of the 2014 prestigious Prigogine Medal²⁹ for her work in the physics of organisms and sustainable systems pioneered for more than 20 years.

Abstract: *The original rationale and impetus for artificial genetic modification was the “central dogma” of molecular biology that assumed DNA carries all the instructions for making an organism, which are transmitted via RNA to protein to biological function in linear causal chains. This is contrary to the reality of the “fluid genome” that has emerged since the mid-1970s. In order to survive, the organism needs to engage in natural genetic modification in real time, an exquisitely precise molecular dance of life with RNA and DNA responding to and participating in “downstream” biological functions. Artificial genetic modification, in contrast, is crude, imprecise, and interferes with the natural process. It drives natural systems towards maximum biosemiotic entropy as the perturbations are propagated and amplified through the complex cascades of interactions between subsystems that are essential for health and longevity.*

Effects of pesticides on human health

Endocrine Disrupting Chemicals (EDC) – 2012

An assessment of the State of Science of Endocrine Disruptors was prepared for the United Nations Environment Program and the World Health Organization by a group of approximately 50 expert scientists.³⁰

The authors outlined the current evidence of: 1) a high incidence, and increasing trends, of many endocrine-related disorders in humans; 2) observations of endocrine-related effects in wildlife populations; 3) identification of chemicals with endocrine disrupting properties linked to disease outcomes in laboratory studies.

“Endocrine-related disorders in humans are manifest by:

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

The conclusion was: *“It is essential to evaluate associations between EDC exposures and health outcomes by further developing methods for which proof of concept is currently under*

²⁸ <http://www.mdpi.com/1099-4300/15/11/4748/pdf>

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

³⁰ http://unep.org/pdf/9789241505031_eng.pdf

development.” An Editorial in the *Lancet*³¹ concluded: “*there is currently no widely agreed system for assessing the strength of associations between exposure to chemicals (including EDCs) and adverse health outcomes.*”

Glyphosate was not even considered as a candidate for an Endocrine Disrupting Chemical; why was that? The evidence produced in the Report that atrazine was also an EDC was overwhelming; why was atrazine not named as one? The reason is that atrazine is still used extensively in many countries, including the US and Australia and Syngenta relentlessly pursues anyone who says it is harmful.³² It was still used in Britain 4 years after it had been banned in Europe, with disastrous consequences for some people. You can read why here.³³

Pathologies that had been reported in Séralini’s 2 year rat feeding trial (which Monsanto scientist Richard Goodman’s appointment as Associate Editor to *Food and Chemical Toxicology* resulted in retraction) have also been reported in humans

- Chronic hormone and sex dependent pathologies.
- Female mortality in rats was 2–3 times increased mostly due to large mammary tumours. Breast tumours in humans. Cancer Research UK (CRUK) Breast Cancer European Age-Standardised Incidence Rates, females, Great Britain: 1975-2010³⁴ has increased from 75 per 100,000 in 1975 to in excess of 125 per 100,000 in 2010.
- Male rats had liver congestion, necrosis, severe kidney nephropathies and large palpable tumours. Acute Kidney Injury in humans. Deaths from acute kidney injury in the US plotted against glyphosate applied to GE corn and soy and percentage of GE corn and soy planted between 1990 and 2010 show highly significant correlations.³⁵ An increase in the UK of “*sudden loss of kidney function*” been has reported by NICE³⁶ and “*costs the NHS between £434m and £620m a year – more than it spends on breast, lung and skin cancer combined.*” Kidney cancers in humans CRUK Kidney Cancer: European Age-Standardised Incidence Rates per 100,000, by sex, Great Britain, 1975-2010. These are sex dependent. In males kidney cancers have increased from 7 per 100,000 in 1975 to 16 per 100,000 in 2010; in females they have increased from 3 per 100,000 in 1975 to 8 per 100,000 in 2010. In the US Incidence of Kidney and Renal Pelvis Cancer plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US has increased from 10 per 100,000 to between 15 and 16 per 100,000. Liver cancer in humans CRUK:³⁷ The incidence of liver cancer was 2 per 100,000 in 1975 in males and 7 per 100,000 in 2010. In 1975, the incidence in females was 1 per 100,000 in 1975 and 3 per 100,000 in 2010. “*In 2010, the male female ratio was around 17:10*”. Persons with liver and bile duct cancer plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US showed highly significant correlations.³⁸
- Séralini suggested that: “*This may be due to an endocrine disruption linked to Roundup® and a new metabolism due to the transgene.*” Evidence of endocrine

³¹ [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)60564-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60564-4/fulltext)

³² www.newyorker.com/reporting/2014/02/10/140210fa_fact_aviv

³³ <http://farmwars.info/?p=11565> pages 24-27.

³⁴ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/incidence/#trends>

³⁵ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>

³⁶ <http://www.theguardian.com/society/2013/aug/28/kidney-care-lives-nice>

³⁷ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/liver/incidence/#trends>

³⁸ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>

disruption in humans. Thyroid cancer: CRUK statistics: Thyroid cancer, European Age-Standardised Incidence Rates, Great Britain, 1975-2008.³⁹

Thyroid cancer incidence rates have increased overall in Great Britain since the mid-1970s. *The rise is bigger for females than males, with rates increasing by 159% between 1975-1977 and 2008-2010.* Malignant melanoma: Age standardised incidence rates per 100,000 by sex, Great Britain; CRUK.⁴⁰ *Since the early 70s, death rates in men have increased by 185 per cent compared to a rise of only 55 per cent in women. But incidence rates are similar with 17.2 men per 100,000 diagnosed compared with 17.3 women. There has been a fourfold increase in incidence since 1975, when 4 women per 100,000 diagnosed compared with 3.2 men per 100,000.* This bears out the sex-dependency of certain pathologies in rats; the incidence is similar, but men are much more likely to die from malignant melanoma.

US Kids' Health Report October 2012

A Generation in Jeopardy: How pesticides are undermining our children's health & intelligence.⁴¹

"This report draws from academic and government research, focusing on studies published within the past five years, to chronicle the emerging threat of – with over 1 billion pounds applied on farms and homes annually– to children's health." ... "Our current system of industrial agriculture and pest control relies on chemical inputs sold by a handful of corporations. These multinational corporations wield tremendous control over the system, from setting research agendas to financing, crop selection and inputs throughout the production and distribution chain. Not surprisingly, these same corporations also hold significant sway in the policy arena, investing millions of dollars every year to influence voters, lawmakers and regulators at both the state and federal level to protect the market for pesticides. The result is agriculture, food and pest control systems that serve the interests of these corporations well. It does not, however, serve farmers, who have lost day-to-day control of their operations and are putting themselves and their families in harm's way.

Substantial increase in neurological deaths 1979-2010

Ten major developed Western countries and 10 smaller Western countries were studied.⁴² There was a major reduction in general mortality in all 20 countries, but total neurological deaths rose substantially between 1980 and 2010 in both sexes in 16 out of 20 western countries; in particular early onset Parkinson's, Alzheimer's and other Dementias, and Motor Neurone Disease. Female neurological deaths in 9 out of 10 countries were greater than males. The authors thought the causes were likely to be epigenetic rather than hereditary. Another paper elucidated the pathological mechanisms by which the herbicide glyphosate could cause Parkinson's disease and other neurodegenerative disorders.⁴³

Brain tumour statistics are devastating to families in the UK

Brain Tumour Research UK Statistics in 2012⁴⁴

³⁹ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/thyroid/incidence/>

⁴⁰ <http://info.cancerresearchuk.org/cancerstats/faqs/#>

⁴¹ <http://www.panna.org/publication/generation-in-jeopardy>

⁴² <http://dx.doi.org/10.1016/j.phe.2012.12.018> Pritchard, C. *et al.* Changing patterns in mortality from neurological deaths in the 10 major developed countries 1979-2010 Public Health (2013)

⁴³ <http://www.sciencedirect.com/science/journal/08920362>

<http://www.activistpost.com/2012/04/roundup-herbicide-linked-to-parkinsons.htm>

⁴⁴ www.braintumourresearch.org

- *“The statistics speak for themselves. Something has to be done. Too many people are being faced with the devastating diagnosis each year: brain tumours kill more children and adults under the age of forty than any other cancer and five year survival remains the same as it did thirty years ago. We need to raise significant amounts to fund research into this dreadful disease if we are to identify the causes, advance treatments and ultimately find a cure for brain tumours.*
- *Brain tumours kill more children and adults under the age of forty than any other cancer and five year survival remains the same as it did thirty years ago.*
- *Brain tumours are the biggest cancer killer of UK children.*
- *More people under 40 die of a brain tumour than from any other cancer.*
- *Only 12% of males diagnosed with a brain tumour and 15% of females survive beyond 5 years (compared with 50% for all cancers).*
- *Brain tumours are a particularly devastating form of cancer with one of the lowest survival rates.”*

Global epidemics of Autism and Attention Deficit Hyperactivity Disorder (ADHD)

On June 12/13th 2013, an Autism conference was held in Edinburgh.⁴⁵ Dr Martha Herbert, an expert on Autism from Harvard Medical School, was an invited speaker. Dr Herbert believes the culprit is an environmental toxin in autistic children that interferes with nutrient absorption. *“We need to get them built up again, getting the gut micro-flora sorted out.”* The US has had an even more dramatic (and earlier) rate of increase than in Scotland (261% for boys and 385% for girls between 1997 and 2008).⁴⁶

In the US:

- In 1970: one child in 10,000 was born with Autism
- In 2007: one child in 150 was born with Autism
- In 2009: one child in 100 was born with Autism
- In 2013: one child in 50 was born with Autism

If the rate continues to increase *'pro-rata'* Dr Stephanie Seneff predicts that by 2025, one child in two in the US will develop Autism.⁴⁷

Dr Nancy Swanson has constructed a graph of the number of children with autism plotted against glyphosate use on GE corn and soy.⁴⁸ The plot is shown using data from US Department of Education for the number of autistic children. Baron Cohen *et al.* in a study of 66 female adolescents with anorexia nervosa and 1,609 female adolescents without showed that girls with anorexia have elevated autistic traits.⁴⁹ This corresponds with the effects of glyphosate on the human gut microbiome causing micronutrient and amino acid deficiency.

Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study⁵⁰

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.

⁴⁵ <http://www.scotsman.com/lifestyle/autism-unlocking-a-generation-1-2944710>

⁴⁶ 87222060-CDC-Autism-Study-March-2012.pdf

⁴⁷ <http://www.youtube.com/watch?v=JB4GFyiewHQ>

⁴⁸ Autism data were obtained from the U.S. Department of Education, which keeps track of school age children receiving services under the Individuals with Disabilities Education Act (IDEA).

⁴⁹ Baron-Cohen et al. Molecular Autism 2013, 4:24 <http://www.molecularautism.com/content/4/1/24>

⁵⁰ [Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study at age 42](#)

- Men born in 1970 are far more likely to be overweight than women.

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”.⁵¹ 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.⁵²

Excess risk of cancers in those exposed to pesticides (farming, commercial, home and garden)⁵³

Abstract: A growing number of well-designed epidemiological and molecular studies provide substantial evidence that the pesticides used in agricultural, commercial, and home and garden applications are associated with excess cancer risk. This risk is associated both with those applying the pesticide and, under some conditions, those who are simply bystanders to the application.

Only One Chance: How Environmental Pollution Impairs Brain Development⁵⁴

Prof Philippe Grandjean, Professor of Environmental Health, Harvard University and University of Southern Denmark.

“Today, one out of every six children suffers from some form of neurodevelopmental abnormality. The causes are mostly unknown. Some environmental chemicals are known to cause brain damage and many more are suspected of it, but few have been tested for such effects. The brain’s development is uniquely sensitive to toxic chemicals, and even small deficits may negatively impact our academic achievements, economic success, risk of delinquency, and quality of life. Chemicals such as lead, mercury, polychlorinated biphenyls (PCBs), arsenic, and certain solvents and pesticides pose an insidious threat to the development of the next generation’s brains”⁵⁵

Prof Philippe Grandjean’s new book gives a courageous account of how, over the years, industrial chemicals have damaged children’s brains and describes how each industry has fought to protect its products. The Pesticides Industry is no different. A major human and environmental disaster is upon us.

⁵¹ <http://www.ncbi.nlm.nih.gov/pubmed/23842577> The state of US health, 1990-2010: burden of diseases, injuries, and risk factors

⁵² <http://www.ncbi.nlm.nih.gov/pubmed/23668584> UK health performance: findings of the Global Burden of Disease Study 2010

⁵³ <http://onlinelibrary.wiley.com/doi/10.3322/caac.21170/full>

Michael C. R. Alavanja, Matthew K. Ross, Matthew R. Bonner Increased Cancer Burden Among Pesticide Applicators and Others Due to Pesticide Exposure. *CA Cancer J Clin* 2013 American Cancer Society

⁵⁴ Only one chance: How environmental pollution impairs brain development – and how to protect the brains of the next generation Oxford University Press

⁵⁵ www.chemicalbraindrain.info

Corporate Control and Corporate Espionage against ‘non-profits’

Politicians, pesticides industry and philanthropists in the UK and the US

1989 David Sainsbury via the Gatsby Foundation funded the Sainsbury Laboratory for Plant and Microbial Sciences on the Campus of the John Innes Centre Norwich. *“This Laboratory was opened on the campus of the John Innes Centre in 1989 and has established a global reputation in plant and microbial science. The Lab is dedicated to daring, long-term research which will help reduce crop losses to important diseases.”*

1996 David Sainsbury made large annual donations to the Labour Party (1996-2008).

1997 He was made a Life Peer (Baron Sainsbury of Turville) by Tony Blair after Labour came into power.

1998 Tony Blair appointed Lord Sainsbury as Minister for Science at the Department of Trade and Industry.

2001 Under Tony Blair’s Government the Department of the Environment was merged with the Ministry of Agriculture, Food and Fisheries to become ‘Defra’ the Department of the Environment, Farming and Rural Affairs. Since then, the Environment has been ignored; hence the current disastrous floods in coastal areas and flood plains.

2006 Lord Sainsbury,⁵⁶ Tony Blair and the Natural Environment Research Council (NERC) closed the Wildlife Research Stations to balance NERC’s budget. Some of the money went to Dundee for “Crops for the Future” Programme. Lord Sainsbury, who was the first Minister to be questioned by the Police under the Cash for Peerages scandal, left office in 2006.

Since 2006 Lord Sainsbury has influenced the educational and the political systems in the UK at many levels in order to promote his personal project of introducing GM crops and GM foods “to feed the world”. He is donor of multiple Plant Research Laboratories for GMO development via the Gatsby Foundation.⁵⁷ (The philanthropic Gates’ Foundation is also supporting GM in Africa⁵⁸ and in July 2012 gave \$10 million to the John Innes Centre for their GM Research). In addition the Gatsby Foundation has funded many partnerships in Medicine and Neuroscience,⁵⁹ none of which appear to mention pesticides as aetiology.⁶⁰

2014 Andrew Sells was appointed to be Chair of Natural England.⁶¹ An investment banker with a venture capitalist business, he was obliged to declare on his application form his donations: “During the last 5 years I have donated £143,000 to the Conservative Party.”⁶² In Britain, the environment is indeed being controlled by Corporations.

Tony Blair, Monsanto and the Royal Society combine to discredit Dr Arpad Pusztai when he found that rats fed GM potatoes had complications; his lab was closed down

Another scandal involved Tony Blair and the Royal Society.⁶³ There are many credible witnesses. On 10 August 1998 in a Granada ‘World in Action’ broadcast⁶⁴ Dr Arpad Pusztai explained his research that showed that rats fed with genetically modified potatoes had

⁵⁶ In a House of Lords debate Lord Sainsbury praised the NERC for “grasping the nettle”. He said that NERC had seen a fall in contract research in recent years and the Wildlife Stations were not making enough money from getting private research contracts. “In today’s multidisciplinary world, basic research increasingly should be done in a multi-disciplinary environment like universities.”

⁵⁷ <http://farmwars.info/?p=12217> or <http://tinyurl.com/k4x7o2r> pages 12-14

⁵⁸ <http://www.gatesfoundation.org/jobs/office-locations>

⁵⁹ <http://www.gatsby.org.uk/en/Neuroscience.aspx>

⁶⁰ <http://www.brainfacts.org/diseases-disorders/cancer/articles/2008/glioma-brain-tumors/>

⁶¹ <http://www.monbiot.com/2013/12/06/transylvanian-count-to-chair-bloodbank/>

⁶² <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenvfru/890/89010.htm>

⁶³ <http://www.psrast.org/pusztblair.htm>

⁶⁴ <http://news.bbc.co.uk/1/hi/health/149882.stm>

suffered immune damage. He 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 which 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. What Prof Orskov probably did not know was that ex-Monsanto employees dominate the White House.⁶⁵ The political corruption of Monsanto has been documented in this admirable article.⁶⁶ Since 1982, many Monsanto employees have rotated in and out of influential positions in the US Government: Obama appointed Michael Taylor to the FDA, Roger Beachy as Head of USDA and Tom Vilsack as the Commissioner of USDA. Obama failed to implement GM labelling of foods as he had promised, partly because the Grocery Manufacturer’s Association (Monsanto included) which represents the processed food leaders, managed to organise a successful anti-GMO labelling campaign, but only as a result of illegal money-laundering. Under the Obama administration the USDA approved GMO alfalfa⁶⁷ and sugar beet. Mitt Romney would probably have been worse: “*The presidential candidate helped Monsanto transform from teetering, scandal-plagued chemical firm into shiny new ag-biotech giant.*”⁶⁸

Revolving doors in the UK Pesticides Safety Directorate (PSD, now CRD)

1997 Dr Peter Campbell went straight from being the Head of Ecotoxicology Branch at the Pesticides Safety Directorate (PSD) in York into the post of Head of Ecological Sciences at Syngenta. From that time on (if not before) Syngenta worked within the UK Government.

2001 Dr Caroline Harris went from the UK PSD (Manager of Human Health Group/Head of Pesticides Chemistry) to be a Corporate Vice President of *Exponent Inc.*⁶⁹

2009 Dr Harris was appointed to the UK Advisory Committee on Pesticides (despite conflicts of interest).

2013 Bayer CropScience commissioned *Exponent Inc.* to do a critical review of the EFSA risk assessment that had resulted in EFSA banning certain neonicotinoid insecticides that were toxic to bees. Dr Harris is an expert on Maximum Residues Limits in Food and Risk Assessment of Pesticides Residues to human health. She is a member of the International Life Sciences Institute (ILSI) whose current membership in Europe consists of 61 Global Corporations⁷⁰ (including the six Agrochemical Giants) with massive resources that are seeking to control the world’s food supply. Dr Harris is on both the Projects Team and the IUPAC Subcommittee on Crop Protection Chemistry.⁷¹

2012 Dr Helen Thompson Chief Bee Scientist at Fera/Defra was commissioned by Syngenta to write a report on Neonicotinoids and Bees.⁷²

⁶⁵ <http://farmwars.info/?p=12217> or <http://tinyurl.com/k4x7o2r> pages 9-11 Monsanto

⁶⁶ <http://www.seattleorganicrestaurants.com/vegan-whole-food/political-corruption-Monsanto.php>

⁶⁷ *Medicago sativa*, also called lucerne, is a perennial flowering plant in the pea family (Fabaceae) and is cultivated as an important forage crop in many countries around the world

⁶⁸ <http://www.motherjones.com/tom-philpott/2012/09/romney-monsanto-bain>

⁶⁹ Dr Caroline Harris: Corporate Vice-President of Exponent. “*Exponent, Inc., a research and scientific consultant firm with clients from industry (including crop protection) and government*”

⁷⁰ <http://www.ilsa.org/Europe/Pages/currentmembers.aspx>

⁷¹ http://www.iupac.org/home/about/members-and-committees/db/division-committee.html?tx_wfqbe_pi1%5bpublicid%5d=604

⁷² <http://www.defra.gov.uk/publications/files/pb13937-neonicotinoid-bees-20130326.pdf>

2013 She joined Syngenta in September 2013 after EFSA had criticised her Fera paper on bumblebees and neonicotinoid insecticides⁷³ saying that the science was flawed.

- The Regulatory Agencies in Europe are being controlled by Corporations. There are 61 Corporate Members of the International Life Sciences Institute (ILSI)⁷⁴ and its Project Team. ILSI is based in Washington DC. Half of the members of the Project Team are on the International Union of Pure and Applied Chemistry (IUPAC) Sub-Committee for Crop Protection Chemistry and are linked to global corporations around the world; these include Big Ag, Food Corporations, Healthcare, Biotech Corporations and Media Organisations.
- Global control of food, seeds, farmers and ordinary people. The aim of the Corporations appears to be to confine children indoors and to encourage them to become obsessed by consumerism and competition. People are persuaded to experience the world through electronic gadgets, celebrities, entertainment, gambling and virtual reality. In addition, the public is fed with a diet of misinformation.
- The Depopulation Agenda. Another plan, as revealed by Michael Delaney of the US FDA, is an agenda to achieve global 'Depopulation.'⁷⁵ This is why Regulatory Agencies continue to authorise pesticides, GMOs and food stuffs that they know are toxic to human health and the environment.
- GM foods are only for the poor, not for the rich. Monsanto CEO Hugh Grant told Bloomberg that genetically modified foods are good for poor people who can't afford organic.⁷⁶ When Monsanto had an on-site restaurant, GM food was banned. Presumably it is not for the 'Global Elite.'⁷⁷ The House of Commons continues to bar genetically modified food from its restaurants and cafés, despite a drive by ministers for the technology to be more widely accepted.⁷⁸ A recent notice was found in the Chinese Ministry of Education Offices⁷⁹ *"Is GM food harmful to human health, at present is without consensus within the academia. But, as GM food only appeared for a rather short period, making it is very difficult at present to appropriate assess its' impact on long-term safety and mankind development, thus further research and longer time is required for verification. To eliminate the concerns of diners, and to assure safety health for our staff members, our Ministry of Education Office Canteen temporarily will not use food oil containing GM ingredients and GM food materials, please enjoy your food without any such concern."* The Ministry of Agriculture Office on Sep. 28, 2011 had issued an "official letter" to the Ministry of Education Office, requesting them to take measures to stop the trend for local education bureaus to ban canteens of schools in their region to purchase GM food oil and GM food material.
- Corporate Espionage Against Non-Profit Organisations describes how Corporations suppress opposition to their advancement. They employ firms to infiltrate green parties, repress activists (sometimes by physical means, particularly in Third World

⁷³

http://www.fera.defra.gov.uk/scienceResearch/scienceCapabilities/chemicalsEnvironment/documents/report_PS2371Mar13.pdf

⁷⁴ <http://www.ilsil.org/Europe/Pages/currentmembers.aspx>

⁷⁵ http://www.mpwhi.com/fda_says_so_what.htm

⁷⁶ <http://2paragraphs.com/2013/05/monsanto-ceo-says-gmo-food-good-for-poor-people/>

⁷⁷ <http://www.collective-evolution.com/2013/04/24/is-there-a-global-depopulation-agenda-being-played-out/>

⁷⁸ <http://www.telegraph.co.uk/earth/environment/10135908/GM-foods-kept-off-the-menu-at-Westminster.html>

⁷⁹ http://blog.sina.com.cn/s/blog_4bb17e9d0102ebun.html

countries) and to hack computers to obtain private information.⁸⁰ Monsanto employed Total Intelligence Solutions (TIS) to protect the Corporation's name (page 33). Cofer Black (Chair of TIS) added that Total Intelligence "would develop into acting as intel arm of Monsanto." According to documents, Monsanto paid Total Intelligence \$127,000 in 2008 and \$105,000 in 2009. The techniques used in corporate espionage against non-profits are outlined on page 47. Is this the sort of repression that TIS would be required to do around the world?⁸¹ Here is a 2012 Report: Combatting Monsanto: Grassroots resistance to the corporate power of agribusiness in the era of the 'green ,economy' and a changing climate.⁸² It is compiled by *La Via Campesina*,⁸³ *Friends of the Earth International* and *Combat Monsanto*. Many countries have banned GMO crops. This Report also documents many crimes committed by the Corporate Industries in their quest for seed and pesticide dominance (including the killing and serious injury by shooting of peasant farmer activists in Brazil when peacefully occupying a Syngenta testing site to prevent the sowing of GM seeds near the national park).⁸⁴

- The War on Democracy: How corporations and spy agencies use 'security' to defend profiteering and crush activism⁸⁵ by Dr Nafeez Ahmed (Executive Director of the Institute for Policy Research and Development).
- Illegal thefts from my computer. When 3-years' worth of outgoing emails were removed from my computer in November 2013 it constituted an offence of Unlawful Interception under the Regulation of Investigatory Powers Act 2000.⁸⁶ But complaints to my server (BT Yahoo) have been ignored. Governments, Corporations, GCHQ and NSA appear to be above the law and are accountable to no-one.
- Wikileaks Cables are not just about security. When France made moves to ban Monsanto's GM corn in 2007, a US Embassy cable recommended drawing up list of countries for retaliation over opposition to genetic modification.⁸⁷ Ambassador Craig Stapleton wrote on 14/12/2007:⁸⁸ "*Country team Paris recommends that we calibrate a target retaliation list that causes some pain across the EU since this is a collective responsibility, but that also focuses in part on the worst culprits.*" *The list should be measured rather than vicious and must be sustainable over the long term, since we should not expect an early victory. Moving to retaliation will make clear that the current path has real costs to EU interests and could help strengthen European pro-*

⁸⁰ <http://www.corporatepolicy.org/spookybusiness.pdf>

⁸¹ <http://farmwars.info/?p=12140> page 14-16.

⁸² <http://www.groundwork.org.za/Press%20Releases/Monsanto%20Publication%20-%20EN%20Final%20Version.pdf>

⁸³ An international movement which brings together millions of peasants, small and medium-size farmers, landless people, women farmers, indigenous people, migrants and agricultural workers from around the world. It defends small-scale sustainable agriculture as a way to promote social justice and dignity. It strongly opposes corporate driven agriculture and transnational companies that are destroying people and nature

⁸⁴ <http://www.slideshare.net/earthislandphils/ppt-verdict-against-the-big-six-agrochemical-companies-syngenta-bayer-monsanto-dow-dupont-and-basf>

<http://www.agricorporateaccountability.net/en/page/ppt/167>

⁸⁵ <http://www.theguardian.com/environment/earth-insight/2013/nov/28/war-on-democracy-corporations-spy-profit-activism>

⁸⁶ <http://www.legislation.gov.uk/ukpga/2000/23/contents> : (1) It shall be an offence for a person intentionally and without lawful authority to intercept, at any place in the United Kingdom, any communication in the course of its transmission by means of— (a) a public postal service; or (b) a public telecommunication system.

⁸⁷ <http://www.theguardian.com/world/2011/jan/03/wikileaks-us-eu-gm-crops/print>

⁸⁸ <http://wikileaks.org/cable/2007/12/07PARIS4723.htm> It appears that the site has been blocked in the US, so if you fail, please try http://www.bibliotecapleyades.net/ciencia/ciencia_monsanto81.htm

biotech voices," said Stapleton, who with Bush co-owned the Dallas/Fort Worth-based Texas Rangers baseball team in the 1990s. The cables show that US diplomats were working directly for GM companies such as Monsanto. It is no wonder that the US and the UK were anxious about the Wikileaks' exposures.

- Transparency.org and revolving doors in the UK Government⁸⁹ The organisation *Transparency* grades countries in terms of perception of corruption. Denmark scores as the most transparent; the UK is number 14 and the US number 18. With regard to the UK: *"Stronger regulations for the 'revolving door' between government and businesses are needed. Furthermore, a mandatory register of lobbyists in legislation would bring about transparency."*...*"Given the links between foreign and domestic corruption, the anti-corruption agenda can be more effective if the Anti-Corruption Champion extends its authority to cover corruption within the UK."*
- President Obama, when seeking office, promised labelling of GM in foods. But he has been subjugated by ex-Monsanto Vice-Presidents in control of the FDA and the USDA and Tom Vilsack, U.S. Secretary of Agriculture, a former Monsanto Lawyer. *"I know of no health reasons that would require GMO labeling"* (to the American Farm Bureau Federation.⁹⁰) The Grocery Manufacturer's Association (GMA) was the largest single donor to the "no" to GMO labelling campaign. The GMA tried to hide their actual donors from the public thus contravening state laws. They face a money laundering lawsuit from the state Attorney General.⁹¹ *"They dumped more than \$22 million into fighting against GMO labeling. Exactly \$550 of the "no" campaign's dollars came from inside Washington State. This was a classic example of out-of-state corporate interests pouring massive money into maintaining control of our food systems."* Attorney General Ferguson: Public Disclosure Commission.⁹² Cash Contributions for: Grocery Manufacturers Association against I-522.
- Why are Brussels and the UK Government keeping quiet about the Transatlantic Trade and Investment Partnership?⁹³ *"The purpose of it is to remove the regulatory differences between the US and European nations."* But would also enable *"big business to sue the living daylights out of governments which try to defend their citizens. It would allow a secretive panel of corporate lawyers to overrule the will of parliament and destroy our legal protections."*
- The British public is being kept in the dark because of the control by the Media Corporations. Pesticides should never be mentioned as a potential cause of diseases that are now overwhelming the Western world; most 'experts' and politicians blame alcohol, tobacco, lifestyle, obesity, lack of exercise and air pollution.
- Global Cancer Research Organizations are also carefully controlled. A study of mutations from 7,042 cancers by the UK Sanger Institute revealed that 21 distinct mutational signatures that alone, or in combination, drive 30 different types of

⁸⁹ <http://www.transparency.org/country#GBR>

⁹⁰ <http://www.naturalindependent.com/archives/10830/former-monsanto-man-tom-vilsack-i-know-of-no-health-reasons-that-would-require-gmo-labeling/>

⁹¹ <http://www.atg.wa.gov/uploadedFiles/Complaint-20131016-Conformed.pdf> Attorney General Ferguson. Public Disclosure Commission. Secret illegal donations to the Grocery Manufacturers Association from 180 corporations including Del Monte, the Coca-Cola Company, Pepsico, Nestle USA, Campbell Soup Company, Ocean Spray Cranberries, Kellogg's and General Mills.

⁹²

<http://www.pdc.wa.gov/MvcQuerySystem/CommitteeData/contributions?param=R1JPQ01BIDAwnQ====&year=2013&type=initiative>

⁹³ <http://www.theguardian.com/commentisfree/2013/nov/04/us-trade-deal-full-frontal-assault-on-democracy>

cancer.⁹⁴ Prof Nic Jones, Chief Scientist at Cancer Research UK (whose Chairman is Michael Pragnell who founded Syngenta), referring to the new genetic map of cancer mutations, was silent on the subject of pesticides. He could only suggest smoking and overexposure to UV rays as possible causes of faults in DNA that can lead to cancer. The CRUK website on Pesticides and Cancer denies any link: *“For now, the evidence is not strong enough to give us any clear answers. But for individual pesticides, the evidence was either too weak to come to a conclusion, or only strong enough to suggest a “possible” effect. The scientific evidence on pesticides and cancer is still uncertain and more research is needed in this area.*⁹⁵ World Health Organization: International Agency for Research on Cancer at Lyons, France (IARC). Press Release: *WHO: Cancer risk rising around the world; Western medicine failing globally.*⁹⁶ Dr David Forman Head of Cancer Information told the media that tobacco and alcohol are the two primary drivers of cancers.

- Most medical researchers fail to mention pesticides as a cause of cancers. Is that to ensure that money continues to come to fund their genetic research?⁹⁷ The BMA, JAMA and the Royal Society have endorsed GM crops and food.
- However, Global Corporations and their Lobbyists will not be able to avoid chemical contamination of the environment merely by eating organic food. While plants and pests can rapidly develop resistance to herbicides and insecticides, humans cannot. They and their children will sustain DNA damage from increasing levels of environmental pollutants. Philippe Grandjean’s book: ⁹⁸ Only One Chance and the 2012 US Kids’ Health Report: A Generation in Jeopardy⁹⁹ will tell you much of what is happening, and will happen in the future, to our children.
- The British Government has joined forces with Monsanto, EFSA and the EU Commission is to fight civil society in the EU Court¹⁰⁰ to defend the right to import Monsanto’s transgenic soybean Intacta® which produces an insecticide and is resistant to glyphosate herbicides such as Roundup®.
- Destruction of terrestrial, aquatic and marine environments. The use of pesticides around the world has produced biological deserts.¹⁰¹ Massive declines in birds and aquatic invertebrates in the US have been reported due to the neonicotinoid insecticides¹⁰² the effects of which: *“should be considered, not on a farm scale, but in the context of whole watersheds and regions...many of those impacts may be mediated through the aquatic environment.”* A major pollution incident on the River Kennet, one of the remaining pristine chalk streams in the UK, was discovered on 1st July 2013. Chlorpyrifos an organophosphate, one of a group of pesticides that had, in theory, been banned in 1982¹⁰³ wiped out insect and fresh water shrimp populations in the River Kennet that are food for fish, birds and amphibians. An Environment

⁹⁴ <http://www.nature.com/nature/journal/vaop/ncurrent/full/nature12477.html>

⁹⁵ <http://www.cancerresearchuk.org/cancer-info/healthyliving/cancercontroversies/pesticides/>

⁹⁶ http://www.iarc.fr/en/media-centre/pr/2013/pdfs/pr223_E.pdf

⁹⁷ Upton Sinclair: *“It’s difficult to get a man to understand something if his salary depends upon his not understanding it.”*

⁹⁸ www.chemicalbraindrain.info

⁹⁹ <http://www.panna.org/publication/generation-in-jeopardy>

¹⁰⁰ <http://www.testbiotech.de/en/node/898>

¹⁰¹ <http://farmwars.info/?p=12140> page 28

¹⁰² http://www.abcbirds.org/abcpprograms/policy/toxins/Neonic_FINAL.pdf

¹⁰³ <http://www.newburytoday.co.uk/2013/kennet-pollution-hunt-for-culprit>

Agency spokesman described chlorpyrifos as “*a common agricultural pesticide*.”¹⁰⁴ The WWF Living Planet Report 2010¹⁰⁵ has shown that biodiversity is declining faster in freshwater, than in any other biome, including coral reefs and tropical forests. Amphibians, particularly tadpoles, are considered to be environmental indicators of indirect ecosystem effects because of their unique niche at the boundary of the aquatic-terrestrial ecosystems as well as their sensitivity to pollutants. While tadpoles feed on periphyton,¹⁰⁶ adult amphibians are strictly insectivorous animals. This was the first group of vertebrates to be affected by the epidemics of disease caused by uncommon pathogens in the late 1990s.¹⁰⁷

- Flooding in Britain over the last few years is likely to spread toxic pesticides. This was precisely what happened in Australia in 2011/2012. In 2011, Australia (New South Wales and Queensland) had disastrous floods. The Darling River area had suffered prolonged drought followed by heavy rain and flooding. On March 11th Bourke Township experienced a massive fish kill.¹⁰⁸ An eye witness said: “*It was phenomenal; you couldn’t see the water, there were carp gasping for breath and crayfish crawling onto the bank.*” Counting the dead fish passing Bourke Weir at 100/sec. Geoff Wise estimated 8 million per day and the event continued for 5 days; 40 million dead fish was said to be an underestimate. It was described as a ‘Black Water’ event and attributed to lack of oxygen from organic material being washed down the river following flooding of a plain. But beekeepers suspected otherwise: “*why were the crayfish trying to escape the water if it was only due to lack of oxygen?*” *Agricultural land borders 2,500 km of the Darling River. Cotton is grown in the area; more than 95% is seed-treated GMO and 96% is imidacloprid treated.* Overall, native species were hit quite hard by the blackwater, whereas pest species – particularly juvenile carp – remained highly abundant. This was presumably due to the pest species’ higher tolerance of anoxic conditions.¹⁰⁹ Sugar plantations Clothianidin and glyphosate run-off from the sugar plantations are probably responsible for the destruction of marine grasses and mass deaths of dugongs and sea turtles that were reported in 2011 after severe flooding in Australia.¹¹⁰ The Queensland Coast is the biggest area for sugar cane in Australia. Clothianidin (Sumitomo Shield Systemic insecticide) had been granted registration by the APVMA for use on the very low-lying sugar cane farms. On both the US EPA & the APVMA websites for clothianidin it states: This product is highly toxic to aquatic invertebrates Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. The Great Barrier Reef off the Queensland Coast has been threatened by UNESCO

¹⁰⁴ Two organophosphates are still being authorised in the UK. In 2009, the total agricultural area treated with chlorpyrifos was 277,593 ha and in 2010 dimethoate 48,264 ha.

¹⁰⁵ WWF Report: Biodiversity, biocapacity and development: Living Planet Report 2010.

¹⁰⁶ <http://en.wikipedia.org/wiki/Periphyton> Periphyton is a complex mixture of algae, cyanobacteria, heterotrophic microbes, and detritus that are attached to submerged surfaces in most aquatic ecosystems. It serves as an important food source for invertebrates, tadpoles, and some fish.

¹⁰⁷ <http://www.ncbi.nlm.nih.gov/pubmed/11516378>

¹⁰⁸ http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/402790/Fish-Kills-FAQ-August-2011.pdf

¹⁰⁹ <http://ecosmagazine.com/paper/EC12419.htm>

¹¹⁰ <http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/australia/8753630/Mass-starvation-of-dugongs-and-turtles-on-Great-Barrier-Reef.html>

that it will lose status as a World Heritage Site.¹¹¹ A study of coral cover published in 2012 showed that between 1985 and 2012 the GBR had lost 50% of its coral.¹¹² Glyphosate and its degradation product AMPA has been shown to be persistent in seawater particularly under conditions of darkness. Samples of microbial populations and seawater around have shown that glyphosate run-off is contributing to the destruction of the Great Barrier Reef.¹¹³

- Disappearance of invertebrates. In 2001, in response to claims in a pesticide fact sheet, Bayer experts from different scientific fields issued a ‘position paper’ on the systemic neonicotinoid insecticide imidacloprid:¹¹⁴ *“The use of imidacloprid in agriculture does not entail unacceptable harmful effects for the environment as the substance will disappear under all circumstances from the compartments soil, water and air.” “Although the substance is stable in sterile water in the dark, it decomposes readily under the influence of light. Biotic processes under the influence of microbes present in natural water and its sediments present another mechanism for the elimination of imidacloprid.”* No-one told the Bayer experts from different scientific fields that microbes are invertebrates. They will be poisoned just as readily as the target organisms, non-target invertebrates (other pollinators) and the organisms that break down the soil. That is why the residues are so persistent. The half-life of clothianidin in soil is up to 1386 days. Environment Canada’s National Water Research Institute showed: *“Clothianidin is the most persistent neonicotinoid residue and was present in wetlands in agricultural fields as a result of either snowmelt run-off or other transport mechanisms.”*¹¹⁵ In the Bee study by Krupke *et al.* in which the authors measured clothianidin and thiamethoxam residues, they *“found neonicotinoids in the soil of each field we sampled, including unplanted fields.”*¹¹⁶ Professor EO Wilson¹¹⁷ said: *“If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago. If insects were to vanish, the environment would collapse into chaos.”*
- Environmental Damage by Transgene Escape from GE crops.
Report on the spread of GE Oil Seed Rape.¹¹⁸
GE plants have been grown for 30 years and commercially for 20 years. The Report provides a global overview of the uncontrolled escape of GE oil seed rape 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.¹¹⁹ This report makes several recommendations. Most importantly, measures should be put in place immediately to stop any further uncontrolled spread of

¹¹¹ <http://www.reuters.com/article/2012/06/02/us-australia-environment-reef-idUSBRE85103T20120602>

¹¹² <http://www.pnas.org/content/109/44/17995.full>

¹¹³ <http://www.sciencedirect.com/science/article/pii/S0025326X14000228>

¹¹⁴ http://www.beekeeping.com/articles/us/imidacloprid_bayer.htm

¹¹⁵ http://www.traceorganic.com/2013/presentations/JBailey%202013_WCTOW.pdf

¹¹⁶ <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0029268>

¹¹⁷ An eminent field entomologist from Harvard: in his autobiographical book: *The Naturalist* he has documented massive global declines of ant colonies at the hand of man.

¹¹⁸ www.testbiotech.de/node/891

¹¹⁹ http://www.testbiotech.org/sites/default/files/Testbiotech_Transgene_Escape.pdf

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.

Email to Ms Judith Hackitt, Chair of the Health and Safety Executive, to ask her to instruct Swansea City and County Council to stop spraying glyphosate because it is converting weeds into super-weeds and poisoning the citizens of Swansea. The contractor, Complete Weed Control Ltd, is actually being paid for this service.

Dear Ms Hackitt

Congratulations on the fortieth anniversary of the Health and Safety at Work Act.¹²⁰ However, amongst your undoubted successes you have a disastrous failure.

One division, which acts as the delivery body for regulating plant protection products authorised for sale, supply, use and storage in the UK is not, as its logo claims:

Chemicals Regulation Directorate – Protecting the health of people and the environment

It primarily acts to protect the Agrochemical Corporations and their profits. This has caused devastation of the health of people around the world and the environment has been destroyed.

In South Wales glyphosate was present in tap water in August 2013 and glyphosate and other pesticide residues are found in staple foods

In South Wales there are epidemics of Obesity, type 2 Diabetes, Autism and many other diseases. Although these epidemics are global, Wales bears more of a burden of disease than either England or Scotland. In addition the PISA¹²¹ scores for children in mathematics, reading and science are below those of England and Scotland. Why should that be? Because of the impacts of glyphosate, industrial South Wales has been over-run with so-called ‘invasive’ weeds. Swansea has become known as: “*the Japanese Knotweed Capital of the World. In Swansea, one of the worst affected parts of Britain, its total biomass is now said to exceed 62,000 tonnes. According to BBC Wales:*¹²² “*Japanese knotweed was first introduced to the UK as an ornamental plant in the 19th Century, but it has since spread rapidly, damaging plant biodiversity as well as hard structures, such as buildings, paving stones and flood defences.*” In fact, this applies to the majority of the industrial South Wales Valleys. The primary chemical used for eradication is glyphosate. This probably accounts for the massive recent increases in depressive illnesses (secondary to depletion of serotonin and tryptophan caused by glyphosate). In one South Wales Valley, one in six of the population is receiving anti-depressant medication.

However, it is a myth, possibly promoted by the pesticides industry, that the plant was introduced in Victorian times. It arrived in the 15th Century. For 500 years there was little problem. Chemical weed-killers were introduced from the 1940s onwards; 2,4-D, atrazine, dicamba and glufosinate, and weeds became resistant to their action. In 1969 Japanese knotweed was still being recommended as a garden plant. Glyphosate was introduced in 1974 and became very popular. It was used repeatedly; so that by 1981¹²³ it was classified as an invasive plant (in fact a New Law concerning Invasive Species has just been enacted.¹²⁴)

¹²⁰ <http://www.hse.gov.uk/news/judith-risk-assessment/40th-anniversary-of-act.htm>

¹²¹ ¹²¹ <http://www.oecd.org/newsroom/asian-countries-top-oecd-s-latest-pisa-survey-on-state-of-global-education.htm>

¹²² http://news.bbc.co.uk/1/hi/wales/south_west/8557491.stm

¹²³ <http://www.legislation.gov.uk/ukpga/1981/69>

¹²⁴ WILDLIFE LAW: CONTROL OF INVASIVE NON-NATIVE SPECIES 2014. LAW COM No 342. HC1039.

However, repeated applications of glyphosate do not kill it, but only makes the plant grow bigger and stronger. Glyphosate has transformed it into a monster that cannot be killed by chemical means, probably as a result of resistance arising in one of the plant metabolic pathways; e.g. in the shikimate pathway.¹²⁵

On 02/09/2013 with information from a global network of independent scientists, toxicologists, beekeepers, environmentalists, Governments, Industry and Regulators we compiled a document: Glyphosate: Destructor of Human Health and Biodiversity.¹²⁶ We sent it to our Welsh Assembly Member Mrs. Edwina Hart. As you can see, in August 2013, we had found glyphosate in our drinking water and six times as much a river that drained a previous industrial area where glyphosate had been used repeatedly to destroy noxious weeds, such as Japanese knotweed and Himalayan Balsam, both of which plants now thrive on abandoned ground.

Mrs. Hart wrote to Swansea City and County Council. On 18/09/2013 Richard Staton, the Technical and System Development Manager, replied. He said that they would continue to use glyphosate until HSE instructed them to stop.

- We are writing to HSE to ask you to instruct the Council to stop spraying herbicides; it is a total waste of money. Weeds develop resistance to chemicals.
- Humans are being slowly poisoned. We provide evidence in a series of documents that the health of the UK has deteriorated steadily over the last 30 or so years.
- Britain (in common with the US) has allowed Agrochemical Corporations into the heart of Governmental regulatory systems.¹²⁷ Both have adopted systems of agriculture that are chemically based. Both have encouraged the supply of chemicals for use in homes and gardens. Exposure to chemicals in the environment is increasing because Governments have been persuaded by the Agrochemical and Pharmaceutical Corporations that they are essential for business and the economy.
- The Regulators and Government Agencies have refused to accept the concept of epigenetics,¹²⁸ the impact which environmental chemicals have on the development of the unborn foetus (which has been acknowledged world-wide). Defra and the CRD have declined to ban chemicals from the house and garden and the Department of Health has refused to endorse avoidance of pesticide exposure during pregnancy.
- The health of rural communities where adults, children and babies are regularly exposed to pesticide spraying has deteriorated. Georgina Downs, who herself had been exposed to toxic sprays from childhood, founded the UK Pesticides Campaign¹²⁹ in 2001. She says that the existing UK Government policy and approvals system fundamentally fails to protect people in the countryside from pesticides, particularly

¹²⁵

http://www.pnas.org/content/107/3/1029.abstract?ijkey=e2066eddc44aa8e0f054b2e1ccb0fdcc5a6b000c&keytype=tf_ipsecsha Gene amplification confers glyphosate resistance in *Amaranthus palmeri*

¹²⁶ <http://farmwars.info/?p=11565>

¹²⁷ <http://www.bis.gov.uk/assets/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf> Secret meeting with industry: <http://tinyurl.com/9jbce4g> , <http://tinyurl.com/8ahylza> , <http://tinyurl.com/92rrain> Secret letter between Owen Paterson & Syngenta.

¹²⁸ <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199985388.001.0001/acprof-9780199985388> www.chemicalbraindrain.info

¹²⁹ <http://www.pesticidescampaign.co.uk/>

rural residents. Her evidence to the Parliamentary Environmental Audit Committee on Insects and Insecticides in Session 2012/13 can be read here.¹³⁰

- Urban populations are now becoming sicker too. Many people and animals have pesticide residues in their urine. This proves that they are now present in food.
- Pesticide residues in staple foods have increased particularly since the Regulatory Agencies authorised herbicides for desiccation of crops.¹³¹ These include bread, cereals, cakes, lentils, chick peas, beer and whisky and all junk foods from the US.
- Four epidemiological studies that were published in 2013 confirm that the health of UK citizens and their children is deteriorating.
- In an article in the BMJ on Drug Regulation, an FDA official admitted that: “*the clinical trial system is broken.*”¹³² This in part referred to the withholding of data from the results of clinical trials by the Pharmaceutical Corporations and approval of drugs without proof of their effectiveness, or adequate assessment of their side effects.
- House of Commons Committee of Public Accounts Report: ‘Access to clinical trial information and the stockpiling of Tamiflu’ 2013-2014, confirmed that the situation in the UK is no better.¹³³
- The US Kids’ Health Report was published in October 2012: A Generation in Jeopardy: How pesticides are undermining our children’s health & intelligence.¹³⁴ The words describing the FDA are very similar to words used about the Pesticide Corporations in the US “*And the health of children across the country is compromised by exposure to pesticides used to control pests in agriculture and where they live, learn and play. In short, the system is broken.*”
- There is a close (and mutually beneficial) relationship between the Pesticides Industry and the Pharmaceutical Industry. One causes diseases by chemicals and genetic engineering; the other tries to cure diseases by more chemicals and gene therapy. Both Industries have been investing a lot of money in human health.¹³⁵
- In Europe there have been conflicts of interest within EFSA and the EU, with revolving doors between the industry and key EU posts.¹³⁶
- Amounts of herbicides (especially glyphosate) applied to crops and weeds are steadily increasing and the current systemic insecticides have very long half-lives in soil.
- If the Government authorises GM crops to be grown in the UK, the herbicide load will increase even more. A recent article from the US shows that total herbicide volume applied to GM Corn, Cotton and Soybeans increased from 240,500,000 lbs/year in 1994 to 301,000,000 lbs/year in 2010.¹³⁷ Dow has applied in the US for

¹³⁰ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m28.htm>

¹³¹ <http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRiF/about-PRiF>

¹³² <http://www.bmj.com/content/347/bmj.f6980>

¹³³ The Department of Health (the Department) spent £424 million on stockpiling Tamiflu, an antiviral medicine used in the treatment of influenza, for use in a pandemic, but had to write off £74 million of its Tamiflu stockpile as a result of poor record-keeping by the NHS. There is a lack of consensus over how well Tamiflu works, in particular whether it reduces complications and mortality. Discussions over this issue among professionals have been hampered because important information about clinical trials is routinely and legally withheld from doctors and researchers by manufacturers

¹³⁴ <http://www.panna.org/publication/generation-in-jeopardy>

¹³⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32457/11-1429-strategy-for-uk-life-sciences.pdf

¹³⁶ <http://jech.bmj.com/content/67/9/717>

¹³⁷ <http://www.motherjones.com/tom-philpott/2014/01/usda-prepares-greenlight-chemical-war-weeds>

new GE seeds. In a January 3 [press release](#),¹³⁸ Dow noted that "an astonishing 86 percent of corn, soybean and cotton growers in the South have herbicide-resistant or hard-to-control weeds on their farms," as do more than 61 percent of farms in the Midwest. "Growers need new tools now to address this challenge," Dow insisted. According to Tom Philpott: "The use of 2,4-D—the less toxic half of the infamous Vietnam-era defoliant Agent Orange—had been dwindling for years, but the rise of Roundup®-resistant super-weeds has revived it."

- The British Government has joined forces with Monsanto, EFSA and the EU Commission to fight civil society in the EU Court to defend the right to import Monsanto's transgenic soybean Intacta® which produces an insecticide and is resistant to glyphosate herbicides such as Roundup® (23/09/2013).¹³⁹
- The British Government is in favour of the application to authorise EU cultivation of GM maize Pioneer 1507 which is engineered to be resistant to glufosinate.¹⁴⁰
- However, the Scottish and Welsh Governments are firmly opposed to GM cultivation. Whitehall Government has no mandate to vote in favour of these GM crops.
- Dr Nancy Swanson, a Physicist from the US, has made graphs of correlations between glyphosate applied to crops and percentage of GM Soy and Corn planted plotted against the incidence or prevalence (or Death Rates) of various diseases. (Using data from the US Department of Agriculture (USDA) and the Center for Disease Control (US CDC).¹⁴¹)

We would be very grateful if you could instruct Swansea City and County Council to stop using glyphosate.

Yours sincerely

Rosemary Mason MB ChB FRCA

Background documents

A snapshot of glyphosate use in the geographical area of the City and Council Swansea

No-one in the Council maintains records of the total amounts of glyphosate used in the area. This is not surprising. Glyphosate had been authorized by the Chemicals Regulation Directorate (CRD) and, according to a Monsanto document: Glyphosate uses in Europe,¹⁴² "it is efficacious, economical and environmentally benign". Record keeping would have involved huge amounts of paperwork by hard-pressed Councils.

¹³⁸ Dow's Enlist GE corn and soybeans are genetically engineered (GE) to be resistant to several herbicides, including one known as 2,4-D.

¹³⁹ <http://www.testbiotech.de/en/node/898>

¹⁴⁰ Glufosinate is an old herbicide that has been banned in several European Countries. Independent research shows that it is teratogenic in mice and rats and affects the glutamate receptors in the brains of immature or foetal rats. It is a suspected carcinogen which doubled the incidence of birth defects in children of pest applicators. In the EU it was included in Annex 1 on 1/10/2007 and Bayer CropScience submitted an updated doc in September 2009 which was evaluated in Sweden. Despite risks to non-target arthropods and small herbivorous mammals and a high long-term risk for mammals, EFSA approved it in March 2012.

¹⁴¹ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>

¹⁴² <http://www.monsanto.com/products/Documents/glyphosate-background-materials/Agronomic%20benefits%20of%20glyphosate%20in%20Europe.pdf>

Monsanto's recommendations for use in urban areas¹⁴³

“Roundup® Pro Biactive and ProBiactive 450 can be used at any time of the year as long as weeds are green and actively growing”. However, in 2012 CRD imposed new rules. “From 2012 new rules from the regulator, Chemicals Regulation Directorate prohibits blanket spraying of any herbicide on non-porous hard surfaces. Targeted treatment of weeds must be undertaken on roads, pavements, concrete and paved areas and drains must not be oversprayed.” Was this crucial message passed on to the men that do the work?

The Agrochemical Industry's herbicides have turned UK garden escapes into thugs

Japanese knotweed *Reynoutrie japonica* (syn. *Polygonum cuspidatum*) was introduced into Europe in the mid-16th Century by an amateur botanist from the Netherlands, Van Reynoutrie (syn: Karel van Sint Omaars).¹⁴⁴ The myth that it was brought in by the Victorians in the late 19th Century, as stated by BBC Wales, has been deliberately spread, presumably by the pesticides industry.¹⁴⁵ For about 500 years it appears to have caused minimal trouble, until the introduction of chemical herbicides in the early 1900s. However, even in the 1969 edition of the Marshall Cavendish Illustrated Encyclopedia of Gardening, knotweed was still being recommended as a suitable plant for gardens. In fact, with regard to the compact variety: “*It is the most desirable garden form having received the RHS's Award of Merit.*” A member of the Balsam species *Impatiens royalei* (syn: *I glandulifera*) which was similarly recommended for garden cultivation has also become a monster on waste ground in urban situations.

Chemical herbicides: In 1941 2,4-D was discovered by scientists in the US and Rothamsted Research UK at the same time. It was commercialized in 1946, atrazine in 1958, dicamba in 1967 and glufosinate in 1991. Glyphosate was introduced into Europe in 1974 and became a global best-selling herbicide because the public was told by industry and the regulators that it was ‘safe.’ The public believed these assurances of safety, therefore it was used repeatedly in the same areas so that weeds developed a resistance to it. The mechanism of resistance of plants to herbicides is explained below. Richard Mabey said: “*Its rampaging spread across Britain in the late 1970s and 80s is regarded as a parable of the dangers of casually introducing alien species into the countryside.*”¹⁴⁶ However, Pearman and Walker in 2009¹⁴⁷ suggested the problem of alien species could be with our perception. They occur mainly in urban and suburban areas; in disturbed or abandoned ground where their root systems can take hold. It is one of the first species to colonize settled volcanic lava, and can tolerate extreme levels of acidity and mineral pollution.¹⁴⁸ Because of their strong underground root systems we have unwisely employed repeated applications of the same chemicals to eradicate them.

¹⁴³ <http://www.monsanto-ag.co.uk/content.output/165/165/Roundup/Amenity/Streets%20and%20Pavements.msp>

¹⁴⁴ Van Reynoutrie (or Karel van Sint Omaars) (1533-1569) H. Wille: The discovery of the scientific heritage of Karel van Sint Omaars (1533-1569). The Libri Picturati a 16-30 in the Jagiellon Library in Krakow. *Scientiarum Historia* 22 (1996) 2 67.

¹⁴⁵ http://news.bbc.co.uk/1/hi/wales/south_west/8557491.stm

Winston Smith in Orwell's 1984 was employed to re-write history; presumably this is the task of lobbyists.

¹⁴⁶ Flora Britannica: Richard Mabey 1996; page 106.

¹⁴⁷ Pearman & Walker: Alien plants in Britain: a real or imagined problem? *British Wildlife* October 2009.

¹⁴⁸ Richard Mabey: Weeds: The Story of Outlaw Plants. Profile Books 2010

Glyphosate-Resistant Super-weeds in GM crops and Noxious Weeds in aquatic habitats in Washington State¹⁴⁹ have the same ‘root’ cause as invasive weeds in the UK

The weeds are also being treated identically; with the same herbicide that has caused them.

To begin with the industry denied that super-weeds were a problem with herbicide-resistant GE crops. However, in a Jan 3 (2014) a press release by Dow Chemical, to justify bringing back 2,4-D a toxic herbicide related to the defoliant Agent Orange, the company noted that "an astonishing 86 percent of corn, soybean and cotton growers in the South have herbicide-resistant or hard-to-control weeds on their farms," as do more than 61 percent of farms in the Midwest. "Growers need new tools now to address this challenge," Dow insisted.¹⁵⁰

Benbrook reported in 2012:¹⁵¹ "Today, the Weed Science Society of America (WSSA) website lists 22 Glyphosate-Resistant (GR) weed species in the U.S. Over two-thirds of the approximate 70 state-GR weed combinations listed by WSSA have been documented since 2005, reflecting the rapidly spreading nature of the GR weed problem. These factors trigger a perfect storm for the emergence of GR weeds. Research has traced the resistance mechanism in Palmer amaranth (*Amaranthus palmeri*) to 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) gene amplification. Resistant weed populations from Georgia contained 5-fold to 160-fold more copies of the EPSPS gene, compared to susceptible plants. Moreover, EPSPS gene amplification is heritable, leading Gaines et al.¹⁵² to warn that the emergence of GR weeds "endangers the continued success of transgenic glyphosate-resistant crops and the sustainability of glyphosate as the world's most important herbicide."

Resistant Palmer amaranth (*Amaranthus palmeri*) has spread dramatically across southern states since the first resistant populations were confirmed in 2005, and already poses a major economic threat to U.S. cotton production. Some infestations are so severe that cotton farmers have been forced to leave some crops un-harvested." In an article¹⁵³ in the same issue, Bowles states: "Now an important new resistance mechanism is evident in glyphosate resistant populations of the particularly damaging weed species, *Amaranthus palmeri*. This weed infests large areas of US crop land, can devastate crop yield, and, together with some other *Amaranthus* species, must be controlled to ensure productivity of global crops. The report by Gaines et al. in this issue of PNAS, documents that this weed species has shown yet another evolutionary tool, gene amplification, to resist an herbicide. Although gene amplification is a well-characterized phenomenon in plant evolution, here we see this response evolving in plants under anthropogenic selection pressures."

Statement by the Swansea City and Council Parks Service

Richard Staton on behalf of the Parks Service confirmed that they and their contractor use glyphosate-based products that have been approved by Defra. Complete Weed Control Ltd¹⁵⁴ passed on a series of work sheets for a 'snapshot' of amounts used between 20th April and 29th May 2013. The total was 50,500 ml of glyphosate for 1st applications, at the start of the

¹⁴⁹

<http://agr.wa.gov/plantsinsects/weeds/npdespermits/docs/IPMFreshwaterEmergentNoxiousQuarantineListedWeeds.pdf>

¹⁵⁰ <http://www.motherjones.com/tom-philpott/2014/01/usda-prepares-greenlight-chemical-war-weeds>

¹⁵¹ <http://www.enveurope.com/content/24/1/24>

¹⁵²

http://www.pnas.org/content/107/3/1029.abstract?ijkey=e2066eddc44aa8e0f054b2e1ccb0fdcc5a6b000c&keytype=tf_ipsecsha Gene amplification confers glyphosate resistance in *Amaranthus palmeri*

¹⁵³ <http://www.pnas.org/content/107/3/955.full> Accompanying article by Gene amplification delivers glyphosate-resistant weed evolution by Stephen B. Powles.

¹⁵⁴ Glyfos Dakar Pro from Headland Amenity Products from Cambourne in Cambridgeshire.

spraying season.¹⁵⁵ However, every application of glyphosate, every year, makes the plant grow bigger and stronger so that more glyphosate has to be applied (see above, super-weeds in the US). Why is the Council paying for a chemical to be applied that does not eliminate the target weeds, but makes them more resistant just as the Glyphosate-Resistant GM crops in the US? Why pay contractors to poison the ground water (and the citizens of Swansea) with glyphosate? There is no alternative but to cut them regularly using machinery. Why not get the Environment Department to organize community work parties to cut it by hand in parks and gardens?



2012 Japanese knotweed invasion around a proposed building site in the Swansea Valley¹⁵⁶ “There are major problems and cost implications with moving the Knotweed from site so in co-operation with the Council's Planning Department it was agreed to bury below the building using a membrane but with a spraying regime on the peripherals of the site. This has saved an enormous amount of money as the original cost of removal to a site in England of £3.6 million. The strands dominated extensive areas of the site, mainly around the perimeter. They were 2-3 metres in height and formed a closed canopy.”

Other weeds on which glyphosate is used

The fact that weeds are sprayed with glyphosate in highly populated areas was confirmed when a man on a quad bike with a knapsack was seen spraying the kerbs and pavements, past the Primary School, the Library and the Doctor's surgery in Pennard Village. Why not leave them to the cows that regularly wander the area? In addition Monsanto recommends its use: “around structures on farms, amenity and industrial areas and on railways” and glyphosate is used by farmers and in gardens. Each application only increases the chance of weeds becoming resistant and humans being exposed to more chemicals.

Urban and suburban populations are at greater risk of exposure to glyphosate

Urban populations¹⁵⁷ are more at risk during heavy rainfall from run-off¹⁵⁸ than are rural populations. All this suggests that the population of Swansea has been exposed massive amounts of glyphosate over the last 20 or so years without being made aware of it.

¹⁵⁵ These were 1st Application Dates; the 2nd application dates were yet to be filled in [Housing Recharges, contracts 1-3; Housing Sites Contracts 1-3, Sheltered Housing Contracts 1-3; Additional Sites for Swansea Housing; Caermawr Car Park; Paviland Park No map reference].

¹⁵⁶ <http://www.swansea.gov.uk/index.cfm?articleid=15838>

¹⁵⁷ <http://www.sciencedirect.com/science/article/pii/S0045653510007411>

Rotterdam Council voted to ban Roundup® from the streets because of its toxicity¹⁵⁹

“Just a short while ago, on June 27th [2013] the Rotterdam city council voted to ban Monsanto’s controversial Roundup herbicide. The initiative was begun largely thanks to a citizen run petition campaign appropriately named, “Non-toxic Sidewalks for Our Children”, along with a lot of support from the Green Party to get it passed.

While glyphosate (Roundup’s “active” ingredient) has long been believed to be quite non-toxic, recent studies have shown that to be very much untrue. The herbicide, currently the most used in the world by a large margin, has been found to be especially harmful when combined with the adjuvants labeled as “inert ingredients” which are designed to increase delivery of the pesticide to target plant”.

EFSA only evaluates plain glyphosate; the formulated forms have a highly toxic stabiliser, a commercially secret ingredient that allows it to penetrate surfaces

Virtually all the companies have their own brand of glyphosate; Monsanto’s is Roundup®. Bayer Garden has Super Strength Glyphosate.¹⁶⁰ Each is ‘formulated’ with a highly toxic stabiliser, a commercially secret ingredient, which allows it to penetrate surfaces in the manner of corrosive detergents. Four independent papers have confirmed this. In the first paper nine formulations were studied.¹⁶¹ They showed that all formulations are more toxic than glyphosate alone. Among them, POE-15 appears to be the most to be the most toxic principle against human cells, even if others are not excluded. A paper in 2014 confirmed that G formulations have adjuvants working together with the active ingredient and causing toxic effects that are not seen with acid glyphosate.¹⁶² A more recent paper¹⁶³ showed that *“Roundup® was by far the most toxic among the herbicides and insecticides tested. Most importantly, 8 formulations out of 9 were several hundred times more toxic than their active principle. Our results challenge the relevance of the Acceptable Daily Intake for pesticides because this norm is calculated from the toxicity of the active principle alone.”*

Monsanto found guilty in courts around the world for false claims about Roundup®

Glyphosate is not environmentally benign. Monsanto Corporation has been repeatedly convicted in Law Courts around the world for not telling the truth about the safety of its best-selling weed-killer, Roundup®. Despite being found guilty every time Monsanto continues to promote the myth.

- 1996 The Attorney General of the State of New York, Consumer Frauds and Protection Bureau, Environmental Protection Bureau. False advertising by Monsanto regarding the safety of Roundup® herbicide (glyphosate)¹⁶⁴.
- 2001 French environmental groups had brought the case on the basis that glyphosate, the main ingredient of Roundup®, is classed as "dangerous for the environment" by the European Union. France's highest court confirmed an earlier judgment that

¹⁵⁸ <http://www.ncbi.nlm.nih.gov/pubmed/21128261>

¹⁵⁹ <http://www.gmwatch.org/index.php/news/archive/2013/14865-rotterdam-bans-monsanto-s-roundup-as-part-of-new-green-initiative>

¹⁶⁰ <http://www.bayergarden.co.uk/en/data/Products/s/Super-Strength-Glyphosate.aspx>

¹⁶¹ Ethoxylated adjuvants of glyphosate-based herbicides are active principles of human cell toxicity.

Toxicology 2013. <http://dx.doi.org/10.1016/j.tox.2012.09.006>

¹⁶² <http://www.ncbi.nlm.nih.gov/pubmed/24434723> Glyphosate Commercial Formulation Causes Cytotoxicity, Oxidative Effects, and Apoptosis on Human Cells: Differences With its Active Ingredient. Chaufan G et al.

¹⁶³ <http://www.hindawi.com/journals/bmri/aip/179691/>

¹⁶⁴ <http://www.mindfully.org/Pesticide/Monsanto-v-AGNYnov96.htm>

Monsanto had falsely advertised its herbicide as "biodegradable" and claimed it "left the soil clean."

- 2004 Brazil. "To affirm in advertising that transgenic soy seeds were beneficial to the environment, has cost to the multinational Monsanto American Agrochemicals fined \$250,000 by the Federal Regional Court of Brazil. Monsanto used misleading advertising to promote the soybeans, in year 2004, encouraging consumption of GM seeds when even they were prohibited in Brazil. And they not only encouraged their consumption, but also claimed that these seeds were highly beneficial to the environment. This consideration took into account to the Court of Justice headquartered in the Porto Alegre City."¹⁶⁵
- 2007/2008 "In the latest ruling, France's Supreme Court upheld two earlier convictions against Monsanto by the Lyon criminal court in 2007, and the Lyon court of appeal in 2008, the AFP news agency reports."
- "In Brazil, Monsanto has been convicted by a court for false advertising claims that GM soy and the herbicide glyphosate, as used in the 'no-till with herbicides' model of cultivation, are beneficial to the environment. This is not the first time Monsanto has been convicted by a court for false advertising over claims that its glyphosate-based herbicides are safe and environmentally friendly. Court rulings against Monsanto's misleading advertising of glyphosate herbicides as safe for human health and the environment date back to the 1990s."¹⁶⁶

Glyphosate is now used to dry crops before harvest as well as for weed control

Pre-harvest application of glyphosate to wheat and barley in the UK was suggested as early as 1980, but its routine use as a drying agent 7-10 days before harvest began in 2006. Monsanto's document: The agronomic benefits of glyphosate in Europe [2010]¹⁶⁷ p 3: "Since its discovery in the early 1970's the unique herbicidal active ingredient glyphosate 'has become the world's most widely used herbicide because it is efficacious, economical and environmentally benign.' These properties have enabled a plethora of uses which continue to expand to this day providing excellent weed control both in agricultural and non-crop uses to benefit mankind and the environment. Glyphosate has an "excellent safety profile to operators, the public and the environment". The document outlined at least 16 use areas (p 3) from vegetation control on land throughout agricultural production, on GM Roundup® Ready Crops and on non-agricultural land "around structures on farms, amenity and industrial areas and on railways" (p 4). In 2004 it was used on 13% wheat area. By 2006 it became used more routinely for weed control or pre-harvest treatment (at least 40% cereal and 80% oilseed rape, p 21). This increases glyphosate residues in animal and human food.

Glyphosate is also used for ripening sugar cane 'to increase the sucrose content'

In the US and Latin America, glyphosate is used to ripen sugar-cane.¹⁶⁸ "Chemical ripening of sugar cane is an important component to profitable sugar production in the United States as well as other sugarcane industries throughout the world." But the price paid for sugar cane to be profitable to the corporations is an alarming increase in renal failure in young male agriculture workers in Louisiana and South America. Louisiana's death rate per 100,000 from nephritis/kidney disease is 26.34 per 100,000 as compared with a US rate of 14.55.¹⁶⁹

¹⁶⁵ <http://cimalatinamerica.blogspot.co.uk/2012/08/brazil-brazilian-court-convicts-monsanto.html>

¹⁶⁶ <http://bit.ly/OZ9icp>

¹⁶⁷ <http://www.monsanto.com/products/Documents/glyphosate-background-materials/Agronomic%20benefits%20of%20glyphosate%20in%20Europe.pdf>

¹⁶⁸ <http://dx.doi.org/10.1614/WS-D-09-00001.1>

¹⁶⁹ Network Coordinating Council (May 2013) 2012 Annual Report: Quoted in Samsel & Seneff

Costa Rica has a similar pattern of chronic renal disease.¹⁷⁰ In 2005 Cerdas reported that: “in the north part of the country, in Guanacaste, in the last five years there has been an epidemic of chronic renal failure. The demographic features of patients are very interesting. All are young men, between the ages of 20 and 40 years, with a clinical and pathologic picture of chronic interstitial nephritis. The most interesting feature of these patients is epidemiologic—all of them are long-term sugar-cane workers. A specific study of their work environment is needed to determine what in their daily activities puts them at increased risk for chronic renal failure.”

Studies show that ripening sugar cane does not improve the sugar yield per hectare
“Sub-lethal doses of glyphosate are applied by aircraft four to six weeks prior to harvest.”

Since 1948, the United States Department of Agriculture (USDA) has evaluated compounds to enhance natural sucrose concentration of sugarcane stalks many of which are classified as herbicides. Glyphosate [N-(phosphonomethyl) glycine], a nonselective systemic herbicide, has been utilized since 1980 as a sugarcane ripener in Louisiana.¹⁷¹

In 2012, Syngenta Crop Protection provided an alternative sugarcane ripener in the U.S: trinexapac-ethyl (Palisade) which is a plant growth regulator. However, two recent scientific papers suggest that there are no economic benefits from using ripeners. A dissertation by Orgeron from Louisiana State University and Agricultural and Mechanical College: Sugarcane growth, sucrose content, and yield response to the ripeners glyphosate and trinexapac-ethyl and a paper in the Journal of the American Society of Sugar Cane Technologists¹⁷² Trinexapac-ethyl. Will It Increase Early Season Sugar Accumulation?

The science of sugar cane ripening by chemicals was flawed

If the use of ripeners was of economic benefit to the sugarcane producers, there would be an improved sugar yield per hectare. But both papers concluded that neither glyphosate nor trinexapac-ethyl improved sugar yields per hectare. Only industry will benefit, and at the expense of the sugar cane workers’ health and the burden of kidney failure on the health services of all the countries in which ripeners are used on sugar cane.

Investigations of chronic kidney disease affecting the sugar cane workers

The International Consortium of Investigative Journalists (ICIJ) began investigating the epidemics of kidney disease and constructed a map to show the statistics in four Central American countries. “The disease’s cause remains a mystery. A key contributing factor and potential culprit: dehydration and heat stress from strenuous labor. Researchers also suspect that exposure to an unknown toxin may trigger onset of the disease.”¹⁷³ “The Costa Rican government has launched a study into the causes of chronic kidney disease in its sugarcane producing northern region...”

Sugar industry has vehemently denied responsibility for deaths from kidney disease

“Sub-lethal doses of glyphosate are applied by aircraft four to six weeks prior to harvest.”

Are the government and the industry aware of this standard practice of ripening?

¹⁷⁰ <http://www.nature.com/ki/journal/v68/n97s/full/4496413a.html>

¹⁷¹ http://etd.lsu.edu/docs/available/etd-11072012-134904/unrestricted/Orgeron_diss.pdf

¹⁷² <http://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=10756302&AN=88976324&h=8f7mn9LRt7y9mxqHfeNgXsHcP9NHioy2bFjNd14rg40TOBXubBXqTt%2fhS1mhtY5wGusr0nVR7JshOqUgl7KvNQ%3d%3d&crl=c>

¹⁷³ <http://www.icij.org/project/island-widows/thousands-sugar-cane-workers-die-wealthy-nations-stall-solutions>

...At the same time one of the country's biggest sugar producers said it is revamping its worker health and safety policies.¹⁷⁴ The Costa Rica study will seek to answer one of the thorniest and most politically sensitive questions surrounding what regional health experts call an epidemic: whether the illness should be classified as an occupational disease. Many workers believe the malady is caused by pesticide exposure and working conditions. They have demanded compensation from the sugar industry, which has vehemently denied responsibility.”



This map of Central America shows the number of kidney disease deaths in 2009, as well as the increase in mortality rates over the four-year period from 2005-2009 and has been compiled by the International Consortium of Investigative Journalists¹⁷⁵

“LA ISLA, Nicaragua (The Island of Widows)¹⁷⁶ — Maudiel Martinez is 19 years old and has a shy smile, a tangle of curly black hair and a lean, muscular build shaped by years of work in the sugarcane fields. For most of his adolescence, he was healthy and strong and spent his days chopping tall stalks of cane with his machete.

Now Martinez is suffering from a deadly disease that is devastating his community along with scores of others in Central America, where it has decimated the ranks of sugarcane workers. The same illness killed his father and his grandfather and affects all three of his older brothers.

"This disease eats our kidneys from inside us," Martinez said. "We don't want to die, and we feel grief because we already know that we're hopeless." Martinez' illness stands at the heart of a lethal mystery — and legacy of neglect by industry and governments, including the United States, which have resisted pleas for aggressive action to spotlight the malady and find a remedy. Wealthier nations are more focused on spurring biofuels production in the region's sugarcane industry and keeping up the heavy flow of sugar to U.S. consumers and food manufacturers than the plight of those who harvest it.¹⁷⁷

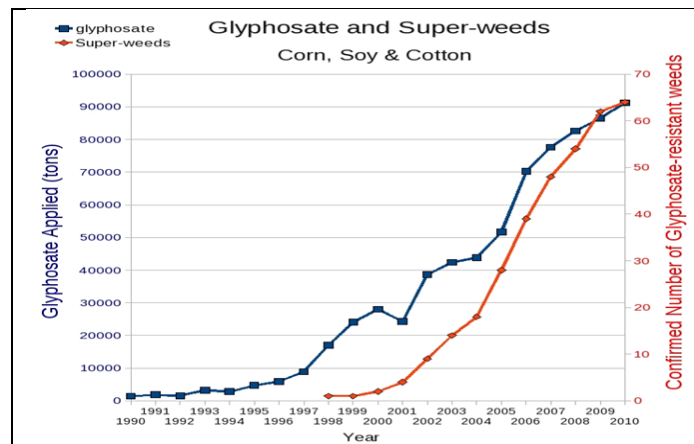
¹⁷⁴ <http://www.publicintegrity.org/2012/02/06/8095/costa-rica-study-kidney-disease-afflicting-sugarcane-workers>

¹⁷⁵ <http://www.icij.org/project/island-widows>

¹⁷⁶ <http://www.publicintegrity.org/world/island-widows>

¹⁷⁷ <http://lab.org.uk/thousands-of-sugar-cane-workers-die-as-wealthy-nations-stall-on-solutions>

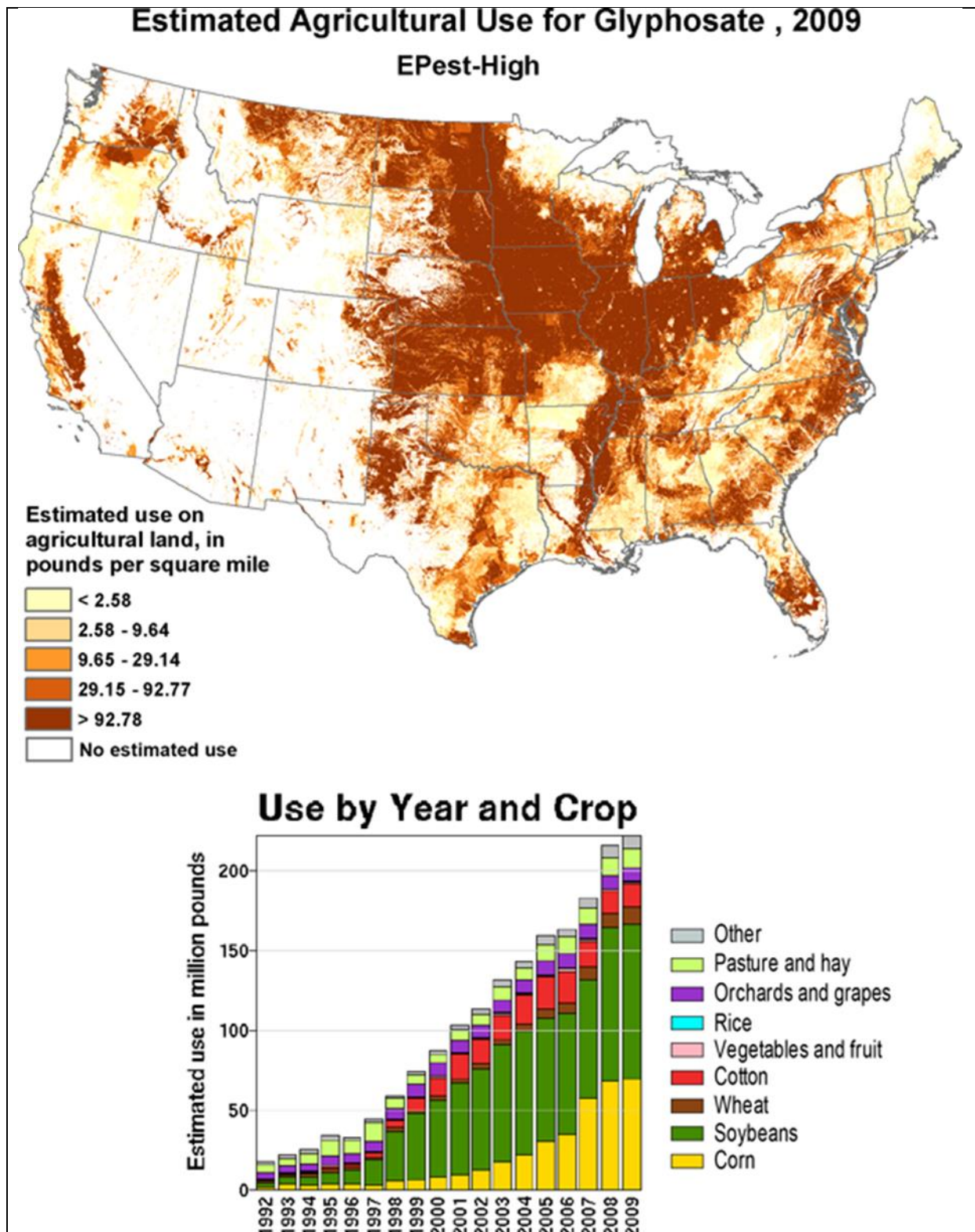
“Little noticed by the rest of the world, chronic kidney disease (CKD) is cutting a swath through one of the world's poorest populations, along a stretch of Central America's Pacific Coast that spans six countries and nearly 700 miles. Its victims are manual laborers, mostly sugarcane workers.” A growing community of researchers is calling for recognition of a new illness not yet included in medical manuals: "Mesoamerican nephropathy," "endemic agricultural nephropathy" or "sugarcane nephropathy." The director of El Salvador's national CKD program has written of a "Mesoamerican Regional Nephropathy" that would one day be internationally recognized.



Northern Indiana: Giant Ragweed (3m) resistant to glyphosate. Farm-workers have to weed by hand. There are now 22 different weeds that are glyphosate-resistant.

The rise of super-weeds resistant to glyphosate in the US. By kind permission of Dr Nancy Swanson.¹⁷⁸

¹⁷⁸ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>



*Estimated use of glyphosate on agricultural land in pounds per square mile
Bar chart of use by Year and Crop in the US in 2009¹⁷⁹*

¹⁷⁹ http://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2009&map=GLYPHOSATE&hilo=L

Defra Expert Committee on Pesticide Residues in Food¹⁸⁰

This is why we all have glyphosate residues in our bodies: it is in our staple foods

The results from monitoring of Pesticide Residues in food have been published quarterly since 2000. Bread and breakfast cereals are staple foods but there are no maximum residue limits (MRLs) for bread or cereals. Residues in bread are tested twice a year.

2002 3rd Quarter: Comments: “Residues of chlormequat,¹⁸¹ glyphosate and pirimiphos-methyl¹⁸² were found (in bread). These pesticides are commonly used on cereal crops, and residues have been found in other cereal products, therefore these findings are not unexpected. None of the residues found were of concern for consumer health.

2006 3rd Quarter: Comments: “Eating more starchy foods, like bread, is an important part of the Food Standards Agency’s (FSA) advice on healthy eating. The incidence of pesticide residues in bread is relatively high, but our assessment of the risk indicates that the levels we have found in this survey would not be expected to have an effect on health.”

2007 3rd Quarter: Comments: “Eating more starchy foods, like bread, is an important part of the FSA’s advice on healthy eating. We often find pesticide residues in bread but our assessment of the risk indicates that the levels we have found in this survey would not be expected to have an effect on health. We have asked the Secretariat to write to the Home Grown Cereals Authority about the incidence of residues”. I couldn’t find a reply.

2011 3rd/4th Quarters for Lentils: Comments: Sixteen samples of lentils contained glyphosate above the MRL. A new higher level of glyphosate is expected to come into force in summer 2012. None of the residues detected in this survey would be above the new proposed MRL.”

The use of glyphosate for desiccation on both barley and wheat was accepted by the brewing and distilling industries in 2007¹⁸³ therefore it is probable that men are more likely to be overweight because of the consumption of beer or whisky with glyphosate residues. Many foods imported from the US have GM ingredients and will contain glyphosate (or other herbicide residues). These include products which are made from corn or soya, such as energy bars, sugar drinks; and fruit or vegetables. The US still does not require labelling of GM. Animals in the UK are fed with imported GM soya and maize.

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/kg¹⁸⁴ (i.e. 100 times; January 2012). EFSA had granted similarly elevated MRLs for glyphosate on wheat and GM soya.

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

In this Review, Samsel & Seneff argue that Glyphosate, a widely used herbicide, is associated with most of the diseases and conditions associated with those on a Western diet,

¹⁸⁰ <http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRiF/about-PRiF>

¹⁸¹ Chlormequat, a plant growth regulator was present consistently throughout.

¹⁸² pirimiphos-methyl, is an organophosphate insecticide for use in storage. The approval was revoked on 24/03/2011, but it was only finally banned 31/03/2013, presumably to allow stocks to be used up.

¹⁸³ Notes on the use of Roundup® products on malting, milling and seed crops: Monsanto UK Ltd 2007.

<http://www.grainfarmers.co.uk/seeddownloads/Roundup%20on%20seed%20%20milling%20and%20malting.pdf>

¹⁸⁴ <http://www.efsa.europa.eu/en/efsajournal/pub/2550.htm>

including Gastrointestinal Disorders, Obesity, Depression, Autism, Infertility, Cancer and Alzheimer's disease.¹⁸⁵

Prof Jonathan Jones, GMO researcher and Head of the Sainsbury Laboratory claimed in an email to me that: "*Glyphosate is not poisonous to mammals- it inhibits EPSP (5-enolpyruvylshikimate-3 phosphate) synthase an enzyme that mammals lack because we obtain aromatic amino acids in our diet.*"¹⁸⁶ However, I pointed out to him that we can only absorb nutrients by courtesy of the bacteria in our gut, the gut microbiome. This is the term for the collective genome of organisms inhabiting our bodies. Glyphosate disrupts the shikimate pathway within these gut bacteria, without which we cannot survive. Glyphosate is a strong chelator of essential minerals, such as cobalt, zinc, manganese, calcium, molybdenum and sulphate. In addition it kills off beneficial gut bacteria and allows toxic bacteria such as *Clostridium difficile* to flourish. Two key problems caused by glyphosate residues in our diet are nutritional deficiencies, especially minerals and essential amino-acids, and systemic toxicity.

GM Soy is not 'substantially equivalent' to non-GM soy as the FDA asserts

US FDA is responsible for regulating the safety of GM crops that are eaten by humans or animals. According to a policy established in 1992, FDA considers most GM crops as "substantially equivalent" to non-GM crops.¹⁸⁷ In such cases, GM crops are designated as "Generally Recognized as Safe" under the Federal Food, Drug, and Cosmetic Act (FFDCA) and do not require pre-market approval.

A new paper comparing constituents of GM, non-GM and Organic Soy showed that Glyphosate-tolerant GM soybeans contain high residues of glyphosate and AMPA and more total saturated fat and total omega-6 fatty acids. Organic soybeans showed the healthiest nutritional profile with more sugars, such as glucose, fructose, sucrose and maltose, significantly more total protein, zinc and less fibre than both conventional and GM-soy.¹⁸⁸ This study rejects that GM soy is "substantially equivalent" to non-GM soybeans.

To understand the metabolic problems created by glyphosate please watch this video¹⁸⁹

Samsel & Seneff's paper has some complicated metabolic concepts, so we will allow Dr Stephanie Seneff to explain the mechanisms herself. Here she is being interviewed by Jeffrey M. Smith, the Executive Director of the Institute for Responsible Technology and bestselling author of *Genetic Roulette* and *Seeds of Deception*. The whole interview takes about an hour but is worth watching; it explains the mechanism of causation of Autism, Obesity, type 2 Diabetes and Dementia, among other diseases, and suggests micronutrient supplements that have helped to improve, for example, autistic children. Low levels of the amino-acids serotonin and tryptophan account for the massive increases in the incidence of depression (which can't be cured by cognitive therapy).

The gut microbiome; the collective genome of organisms inhabiting our body

Chatelier, E.L. *et al.* Richness of human gut microbiome correlates with metabolic markers *Nature* 29 August 2013; 500: 541-550.¹⁹⁰

¹⁸⁵ <http://www.mdpi.com/1099-4300/15/4/1416>

¹⁸⁶ <http://farmwars.info/?p=11789>

¹⁸⁷ <http://www.fas.org/biosecurity/education/dualuse-agriculture/2.-agricultural-biotechnology/us-regulation-of-genetically-engineered-crops.html>

¹⁸⁸ <http://www.sciencedirect.com/science/article/pii/S0308814613019201>

¹⁸⁹ http://www.youtube.com/watch?v=h_AHLDXF5aw&feature=player_embedded

¹⁹⁰ <http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html>

“We are facing a global metabolic health crisis provoked by an obesity epidemic.” In a multi-author study of obese and non-obese individuals, those with *“low bacterial richness in the gut (23% of the population) are characterized by more marked overall adiposity, insulin resistance and dyslipidaemia and a more pronounced inflammatory phenotype when compared with those with high bacterial richness.”* *“Low richness of gut microbiota has been reported in patients with inflammatory bowel disorder”*. *“Also notable diversity differences were observed between the urban US population and rural populations from two developing countries”*. Current research is underway to try to find the links between Obesity, type 2 Diabetes and Cancers (The Danish newspaper: *Politiken* Sunday 6 October 2013, Københavns Universitet).

Samsel & Seneff’s paper shows that glyphosate is largely responsible for the conditions afflicting people in communities around the world that are eating a Western (non-Organic) diet in the absence of mineral, amino acid and vitamin supplements: Obesity, type 2 Diabetes, Autism, ADHD, Dementia, Hypertension, Strokes, Disorders of Lipoprotein Metabolism, Kidney Cancer, Liver Cancer, Inflammatory Intestinal Disorders such as Ulcerative Colitis and Crohn’s Disease, Liver Failure, Kidney Failure and Parkinson’s Disease.

Will EFSA and the European Commission re-authorise glyphosate in 2014?

Prof Gilles-Eric Séralini and colleagues at CRIIGEN in Caen had questioned the adequacy of Monsanto’s testing both for glyphosate and GM crops.¹⁹¹ In September 2012, Séralini *et al.* published a 2-year feeding study. It provoked chronic hormone and sex dependent pathologies in rats; males developed tumours at 4 months and females at 7 months.¹⁹² A fuller description of what they found can be read here.¹⁹³

Ms Geslain-Lanéelle Executive Director of EFSA, together with industry and GMO supporters claimed it was a flawed study. On 22nd October 2012 I wrote to Dirk Detken, Chief Attorney for the European Food Safety Authority, Subject: EFSA and the Séralini paper on rat tumours. I suggested to him that he should recommend that his Executive Director accepted the study because Monsanto had already done *“experiments”* in humans in Latin America with GM Roundup® Ready Soy. Rural farmers and their families had been affected by birth defects, reproductive problems, cancers and DNA changes shown on blood tests.¹⁹⁴ It appears that the Ms Geslain-Lanéelle must have, in part, taken this advice. In July 2013 EFSA had issued new guidelines for two-year whole food feeding studies to assess the risk of long-term toxicity and carcinogenicity from GM foods...but they were for future establishment of protocols and it sounded optional; *“the decision on a case by case basis.”*¹⁹⁵

Meanwhile, in an unprecedented move, Séralini was asked to retract his paper

Séralini’s research was successfully retracted (14 months after it appeared in the journal) by appointing Richard Goodman, a Monsanto Scientist as an Associate Editor (he also retracted another paper that was dangerous to the GM industry showing that Bt insecticidal toxins were not broken down in digestion and were toxic to mice. This paper was immediately accepted by another journal).¹⁹⁶

¹⁹¹ <http://www.enveurope.com/content/23/1/10>

¹⁹² <http://dx.doi.org/10.1016/j.fct.2012.08.005>

¹⁹³ <http://farmwars.info/?p=12140> Corporate Espionage: The Séralini Affair and Beyond

¹⁹⁴ <http://gmandchemicalindustry9.wordpress.com/european-food-safety-authority-and-the-seralini-paper-on-rat-tumours/>

¹⁹⁵ <http://www.efsa.europa.eu/en/efsajournal/pub/3347.htm>

¹⁹⁶ <http://www.ncbi.nlm.nih.gov/pubmed/23146696>

Has industry made way for glyphosate to be ‘whitewashed’ for its 12-year review in EFSA, the EU and the US?¹⁹⁷

- The Séralini paper has been retracted.
- The Samsel and Seneff (2013) paper has been dismissed as being hypothetical.
- My computer was wiped of any evidence of my letter to Dirk Detken.¹⁹⁸

However:

- My letter to Dirk Detken EFSA Chief Attorney about the Monsanto ‘human studies’ in Latin America¹⁹⁹ confirming birth defects²⁰⁰, reproductive problems, cancers and DNA changes shown on blood tests, has been preserved²⁰¹ and cannot be denied.
- In 2013 birth defects are still occurring in rural Argentina: Dr Medardo Vasquez is a neonatal specialist at the Children's Hospital in Cordoba. *"I see new-born infants, many of who are malformed. I have to tell parents that their children are dying because of these agricultural methods. In some areas in Argentina the primary cause of death for children less than one year old are malformations."* Fritz Kreiss: News Report Sunday 17 March 2013.²⁰²

Are the changes of staff at EFSA significant? Have more hardliners been imported?

Ms Catherine Geslain-Lanéelle, EFSA's Executive Director, resigned on 24 July 2013.²⁰³ Herman Fontier Head of EFSA's Pesticides Unit (who imposed a 2-year moratorium on three neonicotinoid insecticides that were attractive to bees) has also vanished. When he came to give testimony to the Environmental Audit Committee²⁰⁴ he challenged an allegation by Bayer that EFSA's risk assessment was political and hasty. He had merely asked industry to submit the Draft Assessment Reports on which Registration was based and found that there were missing data. Was the reason he had to go because he had challenged industry and found their data to be wanting? Herman Fontier has now been replaced by Luc Mohimont.²⁰⁵

In addition, the allegiances in the legal challenges have subtly altered

Syngenta had submitted a legal challenge to the European Commission's decision to suspend the use of thiamethoxam on bee attractive crops²⁰⁶ (and the National Farmers' Union had

¹⁹⁷ <http://www.governamerica.com/news/7109-how-glyphosate-is-being-whitewashed-for-its-review-in-the-eu-and-the-us>

¹⁹⁸ Corporate Espionage: The Séralini Affair and Beyond (sent to Dirk Detken Chief Attorney to the European Food Safety Authority on 13/12/2013 with cc to Scotland and Europe) at: <http://farmwars.info/?p=12140>

¹⁹⁹ www.researchgate.net/publication/...Six.../72e7e52551e134f539.pdf
<http://www.sciencedirect.com/science/article/pii/B9780444593894000021>

²⁰⁰ <http://farmwars.info/?p=11565> pages 15 and 16

²⁰¹ <http://gmandchemicalindustry9.wordpress.com/european-food-safety-authority-and-the-seralini-paper-on-rat-tumours/>

²⁰² <http://www.nationofchange.org/argentina-s-bad-seeds-1363532747>

²⁰³ On 24 July 2013 Catherine Geslain-Lanéelle, Executive Director of the European Food Safety Authority (EFSA), today announced that she is resigning to take up a new post as Director General for agricultural, agri-food and territorial policies in the French Ministry of Agriculture, Food and Forestry on 1 September 2013

²⁰⁴ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/668/668.pdf>

²⁰⁵ **Q522 Caroline Nokes:** Last week, Bayer told the Committee that your imidacloprid risk assessment at EFSA had not taken into account all of the available research, including studies that had been referenced in earlier draft reports. Their feeling was that EFSA had not given sufficient weight to real-world higher-tier field trials, which showed that imidacloprid was safe. How would you respond to that criticism?

Herman Fontier: I am aware of this allegation made by Bayer; that leaves me a little puzzled, because we have indeed requested applicants to submit all the available data and they have done so, I thought. They had submitted a data package, which we have evaluated from the first to the last study.

²⁰⁶ <http://www.syngenta.com/global/corporate/en/news-center/news-releases/pages/130827.aspx>

announced that they are going to join Syngenta in the lawsuit.) Bayer CropScience was also suing the European Commission²⁰⁷ and is challenging Europe's recent ban on a class of pesticides believed to be killing off millions of bees. Suddenly they have all got together with the British Government in a push to authorise GM crops...²⁰⁸

Chemicals Regulation Directorate and Defra Minister reject evidence about pesticides

In response to an enquiry from Lord Hylton on behalf of our campaign, Lord de Mauley, the Defra Minister and CRD (31/08/2013) (at his request) sent a copy of their 9-page reply to me: Systemic Neonicotinoid insecticides: *"Dr Mason raises a number of points about the effects and properties of chemicals used for termite control. Termites are not a UK pest problem, but the points she raised are addressed through the explanation of various aspects of the EU regulatory system below."* (They had rejected our hypothesis in 2011 about systemic neonicotinoids being at the root of global wildlife declines; but when I informed them that our paper had been published in a peer-reviewed journal²⁰⁹ they were silent.

Glyphosate: *"The review paper by Samsel and Seneff referred to by Dr Mason suggests possible links between exposure to glyphosate and a wide range of human diseases. CRD notes that many of the proposed associations between glyphosate and human disease seem hypothetical rather than being based on convincing evidence to support cause and effect."* Nevertheless the CRD agreed to submit this paper to Germany, the Rapporteur Member State for glyphosate for its review of the chemical.

The Countess of Mar had a similar reply on 27/01/2014 from Lord de Mauley when she sent Defra the Samsel and Seneff paper via Lord Howe (Department of Health). Lord de Mauley confirmed that it had been forwarded to Germany, the RMS.

The Rapporteur Member State (Germany) appears to have rejected it too

The Federal Institute for Risk Assessment (BfR) has just finalised its draft report for the re-evaluation of glyphosate.²¹⁰ *"In conclusion of this re-evaluation process of the active substance glyphosate by BfR the available data do not show carcinogenic or mutagenic properties of glyphosate nor that glyphosate is toxic to fertility, reproduction or embryonal/fetal development in laboratory animals."* However, there is no verifiable evidence for these claims, since the industry studies are still kept hidden (Just as Herman Frontier had discovered). The German government holds the industry data on glyphosate.²¹¹ In addition, there is no mention of glyphosate's disastrous effects on the environment and the evolution of many Super-weeds that are resistant to the herbicide.

A spokesman for GM watch said: *"BfR claims there is no problem with glyphosate and blames any toxicity problems that might occur on an adjuvant (added ingredient) present in some formulations, the surfactant (wetting agent) POEA, which Germany has already restricted. In order to reach its conclusion, BfR glosses over damning evidence of toxicity in the industry studies and dismisses countless studies by independent scientists."*²¹²

²⁰⁷ <http://www.ibtimes.com/bayer-cropscience-fights-europes-pesticide-ban-petition-blasts-bee-killing-chemical-giant-1403820>

²⁰⁸ <http://www.testbiotech.de/en/node/898>

²⁰⁹ <http://www.stmconnect.com/sites/default/files/3-12%20%20JEIT-D-12-00001.pdf>

²¹⁰ http://www.bfr.bund.de/en/the_bfr_has_finalised_its_draft_report_for_the_re_evaluation_of_glyphosate-188632.html

²¹¹ <http://gmandchemicalindustry9.wordpress.com/2014/01/29/petition-to-be-delivered-to-the-german-government-disclose-secret-industry-studies-on-glyphosate-herbicide/>

²¹² <http://www.gmwatch.org/index.php/news/archive/2014/15274-germany-claims-no-problem-with-glyphosate>

However, in 2012, Antoniou *et al* had managed to obtain a copy of the German DAR and in: Teratogenic Effects of Glyphosate-Based Herbicides: Divergence of Regulatory Decisions from Scientific Evidence they pointed out that evidence of teratogenicity had been found, but was minimized.²¹³ *“Many of the malformations found were of the type defined in the scientific literature as associated with retinoic acid teratogenesis. Nevertheless, the German and EU authorities minimized these findings in their assessment and set a potentially unsafe acceptable daily intake (ADI) level for glyphosate. This paper reviews the evidence on the teratogenicity and reproductive toxicity of glyphosate herbicides and concludes that a new and transparent risk assessment needs to be conducted. Germany clearly has not done this.*

A tight schedule for the European Commission’s Health and Consumer’s Directorate: on 05/02/2014 they rejected the new study about Roundup®’s toxicity

A paper published in December 2013²¹⁴ showed that: *“Roundup® was by far the most toxic among the herbicides and insecticides tested. Most importantly, 8 formulations out of 9 were several hundred times more toxic than their active principle. Our results challenge the relevance of the Acceptable Daily Intake for pesticides because this norm is calculated from the toxicity of the active principle alone.”*

Frédéric Vincent, the spokesperson for Health and Consumer Affairs, in rejecting the paper stated that: *“the report did not provide any new information.”* *“It looks like that, in this paper, the test design is very much targeted towards provoking an expected effect, so no reason for a ‘crisis-intervention.’* The European Crop Protection Association (ECPA) - whose members include many of the world’s largest pesticides manufacturers, including BASF Chemicals, Dow Agrosiences, Monsanto and Syngenta - said the new research paper was not up to sufficient standards of scientific enquiry to contribute to the literature on pesticide safety. *“The testing model used by the authors is inappropriate for drawing any conclusions regarding real life toxicity relevant to humans”* (from the ECPA statement).

Just in time for industry: 11/02/2014 European Commission authorized GM Pioneer Maize despite 19 out of 28 Member States voting against it and only 5 in favour²¹⁵

The European Commission is set to authorize the cultivation of a genetically modified maize crop - the insect-resistant Pioneer 1507 - despite opposition from 19 Member States.

According to the so-called ‘comitology’ rules of the EU, some laws can be approved by the commission if there is no qualified majority in the Council of Ministers rejecting it. During the debate, several ministers pointed to the "absurd situation" where a majority of countries and the European Parliament opposes the law, but the Commission still wants to go ahead. The French, Italian, Luxembourg, and Hungarian ministers were particularly vocal and warned against a growing divide between EU institutions and the public ahead of the May EU elections. *"We have a majority against it, so I don't understand how we can approve this. Even more so ahead of EU elections. This is dangerous for the image of EU institutions, it will fuel the idea that Europe doesn't work or works badly,"* said French EU Affairs Minister Thierry Repentin. Borg pointed out that *“it has been 13 years since the EU Commission first proposed the introduction of this maize crop and that there have been six positive scientific opinions from EFSA since then.”*

All 28 EU commissioners will now have to take a decision on the maize, with the council's legal service pointing out that if "new scientific evidence" arises, the executive can always withdraw the proposal.

²¹³ <http://dx.doi.org/10.4172/2161-0525.S4-006>

²¹⁴ <http://www.hindawi.com/journals/bmri/aip/179691/>

²¹⁵ <http://euobserver.com/environment/123093>

Glyphosate residues are increasingly being found in humans and animals

Evidence of glyphosate residues in humans

Two studies have shown the presence of glyphosate in human urine in urban populations: one from Germany²¹⁶ and a second from cities in 18 countries in Europe.²¹⁷

EFSA Reasoned Opinion Panels have increased the Maximum Residue Levels in food and feedstuffs of glyphosate, neonicotinoid insecticides and many other pesticides at the request on industry; e.g. lentils.²¹⁸

Evidence of GMO harm in pig study²¹⁹

This combined study between the US and Australia was a long-term toxicology study on pigs fed a combined genetically modified (GM) soy and GM maize diet. GM-fed females had on average a 25% heavier uterus than non-GM-fed females, a possible indicator of disease that requires further investigation. Also, the level of severe inflammation in stomachs was markedly higher in pigs fed on the GM diet. The research results were striking and statistically significant. Lead researcher Dr Judy Carman, adjunct associate professor at Flinders University, Adelaide, Australia, said: “*Our findings are noteworthy for several reasons.*

- *First, we found these results in real on-farm conditions, not in a laboratory, but with the added benefit of strict scientific controls that are not normally present on farms.*
- *Second, we used pigs. Pigs with these health problems end up in our food supply. We eat them.*
- *Third, pigs have a similar digestive system to people, so we need to investigate if people are also getting digestive problems from eating GM crops.*
- *Fourth, we found these adverse effects when we fed the animals a mixture of crops containing three GM genes and the GM proteins that these genes produce. Yet no food regulator anywhere in the world requires a safety assessment for the possible toxic effects of mixtures. Regulators simply assume that they can't happen.*

Our results provide clear evidence that regulators need to safety assess GM crops containing mixtures of GM genes, regardless of whether those genes occur in the one GM plant or in a mixture of GM plants eaten in the same meal, even if regulators have already assessed GM plants containing single GM genes in the mixture.”

Glyphosate in urine of cows in Denmark; metabolic changes in blood parameters including increased lipid profile marker cholesterol

This provides the first documented study of the extent of the exposure to glyphosate of Danish dairy cattle and its impact on different blood parameters.²²⁰ Unexpectedly, very low levels of manganese and cobalt were observed in all animals which could be explained by the strong mineral chelating effect of glyphosate. Increased blood serum levels of parameters indicative for cytotoxicity like GLDH, GOT, and CK and the lipid profile marker cholesterol in cows at all farms and high urea levels in half of the farm animals. This is similar to correlations with glyphosate in humans.

²¹⁶ <http://www.ithaka-journal.net/herbizide-im-urin?lang=e>

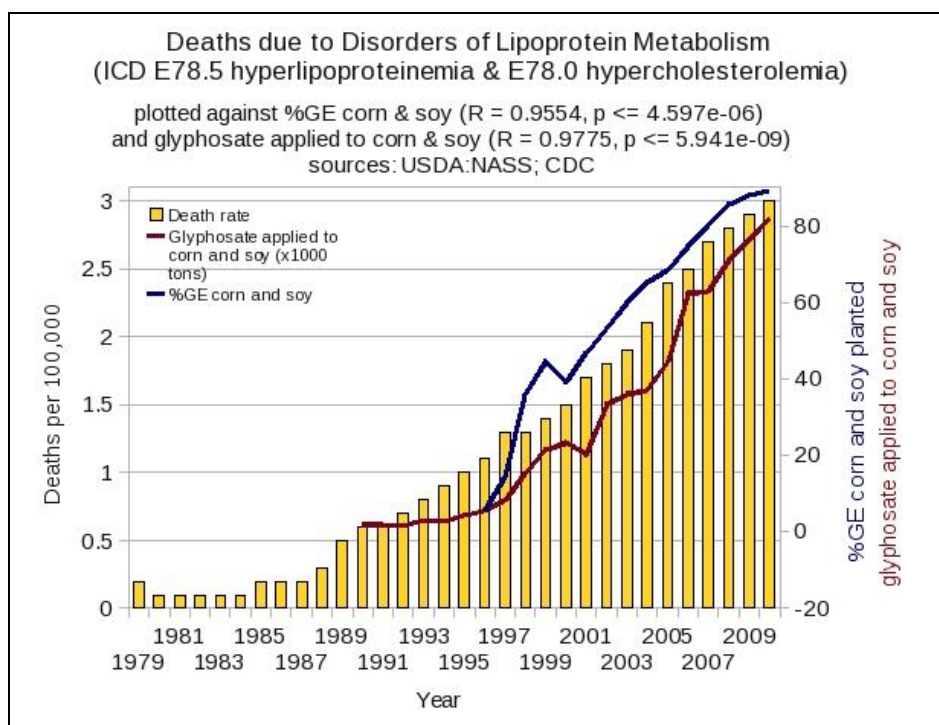
²¹⁷ <http://www.foeeurope.org/weed-killer-glyphosate-found-human-urine-across-Europe-130613>

²¹⁸ <http://www.efsa.europa.eu/en/efsajournal/pub/2550.htm>

²¹⁹ <http://www.organic-systems.org/journal/81/8106.pdf>

²²⁰ <http://dx.doi.org/10.4172/2161-0525.1000186> Krüger et al., J Environ Anal Toxicol 2013, 3:5

A recent Norwegian study describes the nutrient and elemental composition, including residues of herbicides and pesticides, of 31 soybean batches from Iowa, USA. T. Bøhn *et al.*²²¹ found that Glyphosate-tolerant GM soybeans contain high residues of glyphosate and AMPA and more total saturated fat and total omega-6 fatty acids than organic soybeans. Does this fit in with the graph below?



Deaths due to Disorders of Lipoprotein Metabolism plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US: Grateful acknowledgements to Dr Nancy Swanson.²²²

A Special Report on Deformities, Sickness and Livestock Deaths

The real cost of GM and animal feed appeared on 28/11/2013.²²³ As well as the above pig study, several papers have demonstrated the effects of glyphosate on pathogens in farm animals: it destroys beneficial bacteria and allows harmful ones, such as *salmonella*, and *clostridium*, to flourish. The action of glyphosate as a biocide on normal gut flora could be a significant predisposing factor to the increases in *Clostridium botulinum*-associated diseases²²⁴ in cattle which have occurred in Germany over the last 10-15 years.²²⁵ Similar effects have been shown gut bacteria in poultry²²⁶ and on microorganisms in milk.²²⁷ Glyphosate has been found in the urine of urban populations and farmers. “*In the search for the causes of serious diseases of entire herds of animals in Northern Germany especially*

²²¹ <http://www.sciencedirect.com/science/article/pii/S0308814613019201> Compositional differences in soybeans on the market: glyphosate accumulates in Roundup Ready GM soybeans

²²² <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>

²²³

http://www.theecologist.org/News/news_analysis/2176082/deformities_sickness_and_livestock_deaths_the_real_cost_of_gm_animal_feed.html

²²⁴ <http://www.sciencedirect.com/science/article/pii/S1075996411002344>

²²⁵ <https://www.ncbi.nlm.nih.gov/pubmed/23396248/?i=4&from=/15071029/related>

²²⁶ <http://link.springer.com/article/10.1007/s00284-012-0277-2>

²²⁷ <http://link.springer.com/article/10.1007/s00284-012-0098-3>

cattle, glyphosate has repeatedly been detected in the urine, faeces, milk and feed of the animals.²²⁸



A deformed piglet; Siamese twins. Photograph by kind permission of Ib Borup Pedersen, Denmark.

Changeover studies: A Danish farming newspaper Effektivt Landbrug devoted a sizeable part of its 13th April 2012 edition to the discoveries by pig farmer Ib Borup Pedersen that GM soy has a damaging effect both on his animals and on his farming profitability. In the previous 2 years, the farm had experienced piglet diarrhoea and 35 sows had died of stomach problems. In the previous 9 months he had had 13 malformed, but live-born, piglets. Another colleague had had similar experiences. In April 2011 Mr Pedersen changed to GM-free soya, without telling his stockman. Within days the stockman noticed that the piglet diarrhoea had stopped.

In Corporate Espionage: The Séralini Affair and Beyond²²⁹ you can read the following:

- In an unprecedented move, Séralini was asked to retract his paper.
- What the global scientific community said about the retraction of Séralini's paper.
- What Prof Andrés Carrasco and his team in Buenos Aires had shown in 2010; that glyphosate caused malformations in amphibian and chicken embryos, confirming the effects on humans.²³⁰
- Lopez *et al.*²³¹ *Advances in Molecular Toxicology* 2012: Chapter Two - Pesticides Used in South American GMO-Based Agriculture: A Review of Their Effects on Humans and Animal Models.

Abstract: *In South America, the incorporation of genetically modified organisms (GMO) engineered to be resistant to pesticides changed the agricultural model into one dependent on the massive use of agrochemicals. Different pesticides are used in response to the demands of the global consuming market to control weeds,*

²²⁸ <http://www.ithaka-journal.net/druckversionen/e052012-herbicides-urine.pdf>

²²⁹ <http://farmwars.info/?p=12140> or

<http://www.moraybeedinosaurs.co.uk/neonicotinoid/Corporate%20Espionage%20The%20Seralini%20Affair%20and%20Beyond.pdf>

²³⁰ <http://pubs.acs.org/doi/abs/10.1021/tx1001749>

²³¹ http://www.keine-gentechnik.de/fileadmin/files/Infodienst/Dokumente/2012_08_27_Lopez_et_al_Pesticides_South_America_Study.pdf

herbivorous arthropods, and crop diseases. Here, we review their effects on humans and animal models, in terms of genotoxicity, teratogenicity, and cell damage. We also stress the importance of biomarkers for medical surveillance of populations at risk and propose the use of biosensors as sensitive resources to detect undesirable effects of new molecules and environmental pollutants. The compatibility of glyphosate, the most intensively used herbicide associated to GMO crops, with an integrated pest management for soybean crops, is also discussed.

Cancers, birth defects and reproductive problems in farming communities globally

These started around 2001 and are documented on pages 4-13 in Global Human Health in the Hands of the Pesticides Industry.²³² This document was subsequently sent to a number of UK governmental organizations, Ministers and their Scientific Advisers; these include Defra, the ACP, the Environment Agency and the Department of Health; to the Premier of Queensland Australia and the US EPA. Unfortunately I cannot supply the precise dates because 3-years' worth of emails and my contacts list were wiped from my SENT box on November 2013. My contacts were recovered by Yahoo Technical Staff, but my emails could not be retrieved.

Georgina Downs founded the UK Pesticides Campaign 2001²³³

She gave evidence to the Environmental Audit Committee²³⁴ and a brief summary is in the above document pages 14-17.

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

This is the assertion of Georgina Downs who founded UK Pesticides Campaign in 2001. Her evidence to the Parliamentary Environmental Audit Committee on Insects and Insecticides in Session 2012/13 can be read here. Our evidence against the Government Regulatory Agencies about neonicotinoid insecticides can be found here.²³⁵

Georgina Downs has courageously fought legal battles against Defra on behalf of rural communities, who at that time (and still are) being regularly sprayed with pesticides. She had a landmark victory in the High Court in November 2008 that ruled that the UK Government's policy on pesticides was not in compliance with European legislation.²³⁶ It was the first known legal case of its kind to reach the High Court to directly challenge the Government's pesticide policy and approach regarding crop-spraying in rural areas. However, it was not for long. The Court of Appeal overturned the High Court Judgment in May 2009.²³⁷ Chief Executive, Kerr Wilson's Witness Statements cited various reasons for preserving the *status quo*. They were related to alleged financial and economic impacts on manufacturers, farmers and distributors, or the impact on agricultural productivity. On behalf of Defra he did not display any concern whatsoever in relation to the protection of public health. His main concern was with protection of industry and business interests. "The annual market value of pesticide sales is approximately £490m which delivers benefits to farmers, significantly improving agricultural productivity" ... "If, as a result of the Declaration, new approvals could not be granted, there would be important ramifications." Some pro-industry Press reports at the time supported the Government's stance; that if the High Court Judgment stood

²³² <http://agrariancrisis.in/wp-content/uploads/2013/02/Global-Human-Health-in-the-hands-of-the-Pesticides-Industry.pdf>

²³³ <http://www.pesticidescampaign.co.uk/>

²³⁴ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m28.htm>

²³⁵ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m5.htm>

²³⁶ <http://www.theguardian.com/environment/2008/nov/15/activists-pollution-pesticides-toxins-defra>

²³⁷ <http://www.theguardian.com/environment/2009/jul/07/georgina-downs-pesticides>

then the “Government’s pesticide policy would be fundamentally undermined” and that the policy and approvals system “might even grind to a halt.”

We found correspondence between Dave Bench, the then Head of Policy at CRD and Prof David Coggon Chairman of CoT. It was dated September 1st 2009.²³⁸ “Further to my letter dated 11 March 2009, you will be aware that a decision has now been delivered by the Court of Appeal. Although the decision of the Court confirms current policy is in line with EU requirements in this area, Ministers are still keen to continue their review of policy”.

At the bottom of the letter was inscribed CRD’s motto:

Chemicals Regulation Directorate – Protecting the health of people and the environment

Unaware of Georgina Down’s UK Pesticides Campaign for human health, at the start of our campaign for bee health on 6th January 2011, we had written an Open Letter to the Chemicals Regulation Directorate criticising the Government Response to EU Directive (2009/128/EC) on the Sustainable Use of Pesticides. Needless to say, we had no reply.

Here is an extract in which we compared the UK Consultation and Government Decisions with the EU Directive Advice

The Consultation Summary was prepared by the Chemicals Regulation Directorate of the Health and Safety Executive on behalf of Defra.

The following Press Release was issued: “As UK pesticides safety standards are already amongst the highest in Europe, only minor changes are necessary to meet the new requirements and no compelling evidence was provided in the responses to justify further extending existing regulations and voluntary controls.” Lord Henley, the Under-Secretary of State for Defra, expanded further on this statement: “We have to protect the public and the environment from harm and will do so by following sound scientific and other evidence. By making a small number of changes to our existing approach we can continue to help feed a growing global population with high-quality food that’s affordable – while minimising the risks of using pesticides”.

Furthermore, in a debate with Nick Mole, UK and European coordinator of Pesticides Action Network (PAN-UK& EU), conducted on Radio 4’s Farming Today, Lord Henley said that the British had an “ideological dislike of legislation”, there were “dangers of over-legislating” and repeated his assertion that all decisions on the EU Directive (2009/128/EC) were based on “robust scientific evidence.”

We examined the responses to the document closely and discovered that, instead of strengthening the legislation, the responses of the UK government and the CRD had considerably weakened it. In the case of aerial spraying, the UK has opted for derogation. We also observe that whilst the general background is given, the specific points made in the EU Directive seem to have been omitted. We have thus presented the EU’s specific points immediately before, so that it is possible to compare those with the Government responses.

Article 9 Aerial Spraying.

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

²³⁸ <http://cot.food.gov.uk/pdfs/tox200928addendum.pdf>

Government Response: *We do not consider that responsible application of pesticides by aerial spraying poses an unacceptable risk to human health and the environment, and consequently we will use the derogation. We believe that the existing legislation control regime provides a basis for meeting the Directive and this will be adapted to ensure the continuation of properly regulated aerial applications through a consent-based approach. [New guidance for aerial spraying was published on the Defra website in July 2012].*

Article 10 Protection of water

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

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

Our comment: Protection of the aquatic environment is absolutely critical in the case of the neonicotinoids, the undesirable properties of which the Dutch and US researchers have confirmed; their solubility that allows them to leach into surface water, the persistence of residues in aquatic environments, their acute risk to freshwater and benthic invertebrates.

Article 11 Use of pesticides in specific areas

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

Government Response: *We do not consider it necessary to prohibit the use of pesticides in public spaces or conservation areas or to impose new statutory controls on pesticide use in these areas. We believe that the UK can meet its obligations under the Directive through existing statutory and voluntary controls and develop additional voluntary measures.*

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

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

Article 31 included an optional provision that could allow future product authorisations to include obligation to provide advance notice to any neighbours who could be exposed to the spray drift and who have requested to be informed.

Article 67 concerns the keeping of records of pesticides, by both manufacturers and sellers. These are to be made available to a 'competent party', from which a third party may obtain it on request. The British Medical Association with regard to Article 31, wanted advance notification, so that vulnerable patients, such as those suffering from respiratory problems, may be alerted in advance of spraying.

Government Response: *We do not believe that it is appropriate to introduce a statutory requirement for operators to give advanced notice of planned spray operations to members of*

the public living adjacent to sprayed land. We will continue to encourage farmers and spray operators to develop good relations with their neighbours.

We found another subject on which we could find no government comment; research programmes

EU Directive Advice: *Research programmes aimed at determining the impacts of pesticide use on human health and the environment, including studies on high-risk groups, should be promoted.*

Our Comment: Large amounts of pesticides are reputed to be sprayed on US golf courses each year to remove any invertebrate that dares to spoil the greens. A study by Kross *et al.* on 618 golf course superintendents and their workers who managed turf on golf courses in the US, showed that they died of cancer more often than the general public.²³⁹ Two years ago (2008) the EU had intended to ban the use of pesticides on golf courses, but such was the outcry from the powerful golf lobby that golf courses were made an exception. Presumably as the holder of the records of applications of pesticides on golf courses in the UK, the Chemicals Regulation Directorate would be in an ideal position to conduct such a study themselves. This is particularly relevant to Dr Tennekes' observations that these chemicals are similar in structure to known carcinogens. Unfortunately, the public has no direct access to records so any study must be undertaken from your records, and perhaps those of Defra.

Chemicals Regulation Directorate; is it a safety agency or a service agency?

Instead of employing independent scientists, it is presumably easier and cheaper for the UK Government to allow industry to pay a proportion of the Chemicals Regulation Directorate's costs (about 60%). Does this distort its loyalty?

Extracts from the CRD Annual Report 2008/2009: *"This has been a very busy year in the approvals group. Applications for product approvals were 9% over business estimates with a total of 1,767 applications received and 1,622 applications completed this year, 96% of which were completed within published targets. Importantly 100% of 'fast track' applications identified by industry as high priority to their business needs were completed within published targets. Achieving this demanding target despite the increase in applications has required diligent application and commitment of evaluating staff and their managers and represents a significant achievement. We continue to support growers and we have completed the first stage of the conversion exercise for the 'Long Term Arrangements for Extension of Use' on non-edible crops. Of the 401 uses requested by growers, the 131 products containing active substances that have already been fully reviewed in the EU review programme, and included on Annex I of Council Directive 91/414/EEC have been completed. The remaining product/uses identified by growers will be automatically included in the on-going re-registration process minimising the impact on industry. We also assisted in the evaluation of new products by helping companies work towards the completion of appropriate dossiers through the provision of detailed advice. This advice has covered both chemical pesticides and biopesticides that we continue to support under our biopesticides scheme. We submitted completed evaluation reports for 5 new active substances where the UK was the EU Rapporteur Member State and issued 3 UK provisional authorisations in advance of Annex I inclusion. In addition we completed 8 'partial dossier' submissions.*

Evidence to the Chief Medical Officer at the Department of Health on 04/03/2013

²³⁹ Kross BC *et al.* Proportionate mortality study of Golf Course Superintendents. *American Journal of Industrial Medicine* 29 (1996): 501-06: Reported a 23% increase in NHL, a 29% increase in prostate cancer and a 17% increase in brain cancer.

Ref: CMOP000759437 [You will be able to retrieve it from the DOH reference]

Thank you for your response to evidence in the doc: Global Human Health in the Hands of the Pesticides Industry. You assure me that many of these documents are under active consideration or “*are likely to have been included in recent literature reviews*” by the Advisory Committee on Pesticides (ACP) and the Committee on Toxicity of Chemicals in Foods, Consumer Products and the Environment (COT). I have examined the Committee on Carcinogenicity (COC) Annual Reports from 2001 to 2011. They have failed to find definite ‘para-occupational’ links between pesticides and cancer. However, there are a number of papers that do not appear to have been considered (or could be in the 2012 Annual Report).

Committee on Carcinogenicity of Chemicals in Foods, Consumer Products and the Environment (COC) COT/COC/ACP Reviews on pesticide exposure and human health

[There are two important extracts that I wish to highlight. Georgina Downs of UK Pesticides Campaign sent the following Review of Pesticides and Human Health from Canada.]

“In 2004, COT/COC was asked by ACP to review Sanborn, M. *et al.* Systematic Review of Pesticides: Human health effects. Ontario College of Family Physicians (2004) The cohort studies all found significant positive associations between pesticide exposure and cancers of the brain, prostate, kidney, leukaemia and Non-Hodgkin’s lymphoma (NHL), the incidence of which is increasing in Canada. A letter explaining the COC epidemiologists’ views was forwarded to the ACP Secretariat. The final conclusion of the ACP was that “the study was flawed.” No other reviews outlined in my letter were studied by the Committee.

In July 2006 COC discussed a recent paper which had claimed that it is feasible that chemical environmental contaminants could be major factors in cancer aetiology. Overall, the committee considered that the hypothesis contained some interesting ideas but that there were insufficient data to support it.

In 2007 The Faroes Statement: Human Health Effects of Developmental Exposure to Chemicals in Our Environment was published by Grandjean *et al.* Twenty five experts in environmental health from eleven countries contributed. It confirmed the hypothesis rejected by COC in July 2006. Epigenetics is the study of gene changes caused by environmental exposure to chemicals in the environment: “*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*”. Has this important document been studied by COC? “

The European Environment Agency had published two Reports on the Precautionary Principle: Late lessons from early warnings in 2001²⁴⁰ and 2013²⁴¹

Government and regulators had rejected our hypothesis about systemic neonicotinoid insecticides being responsible for immune suppression in wildlife

On 04/02/2013 I wrote to Sir John Beddington, Chief Scientific Adviser to the UK Government to tell him that our paper: Immune suppression by neonicotinoid insecticides at the root of global wildlife declines had been published in a peer-reviewed journal.²⁴²

The final paragraph of my letter stated:

“Our children will bear the brunt of this environmental chemical catastrophe

²⁴⁰ http://www.eea.europa.eu/publications/environmental_issue_report_2001_22

²⁴¹ <http://www.eea.europa.eu/publications/late-lessons-2>

²⁴² <http://www.stmconnect.com/sites/default/files/3-12%20%20JEIT-D-12-00001.pdf>

The restrictions on use of certain neonicotinoids on flowering crops might possibly help to save pollinators. But because of the persistence in the environment (a half-life of up to 1386 days depending on the type of soil, in the case of clothianidin) there are, as yet unknown, amounts of pesticide residues in soil and water, some of which are already in wild flowers or will be present in the soil when the next crop is sown.” There was no reply.

Letters to the European Ombudsman about the European Commission and EFSA

Press Release No. 6/2012 Ombudsman investigates whether the Commission should do more to combat bee mortality 17 April 2012.²⁴³ This followed a complaint from the Austrian Ombudsman Board, alleging that the Commission has failed to take into account new scientific evidence arguing in favour of restricting the use of these insecticides. The Ombudsman has asked the Commission to submit an opinion by 30 June 2012.

We first wrote to the European Ombudsman on 17 May 2012. We were allocated a complaint number 1089/2012/BEH. We supplied the background to our complaints about the European Commission.²⁴⁴ On 10 July we had a brief reply from Michael Flüh on behalf of the EC. Ref:Ares (2012) 826257. An observation on point 3 of Michael Flüh’s reply from the European Commission was as follows:

“The allegation as regards the illegality of the registration of clothianidin is strongly rejected. The assessment of clothianidin, carried out by a Rapporteur Member State (RMS), and peer reviewed by experts from all Member States, concluded that safe uses for this substance exist. The assessment covered the persistence of the substance in soil as well as its toxicity and leaching potential.”

We wrote to the Ombudsman:

“Through the Ombudsman, we wish to obtain a copy of the assessment of clothianidin carried out by the relevant Rapporteur Member State. As you can see from the Table below from IUPAC, the value for aerobic degradation in soil of clothianidin is 545 days. In view of these figures it is difficult to believe that persistence was adequately assessed by the RMS, or peer-reviewed by experts from all member states”.

[Reply: Monday 27 August 2012: *The Ombudsman does not hold such a document. Access to documents held by the Commission is governed by Regulation 1049/2001 ...EFSA has adopted a decision concerning access to documents ...According to Article 5 of that decision, applications for are to be made in writing to the Executive Director of EFSA*]

Persistence of neonicotinoid insecticides as expressed by their half-lives (days) in environmental matrices. Source: Footprint Database: International Union of Pure and Applied Chemistry [IUPAC]

Compound	Water		Water-sediment	Soil**
	Photolysis	Hydrolysis*		
Acetamiprid	34	420	NA	3 (2-20)
Clothianidin	0.1	14	56	545 (13-

²⁴³ <http://www.ombudsman.europa.eu/en/press/release.faces/en/11428/html.bookmark>

²⁴⁴ <http://www.moraybeedinosaurus.co.uk/neonicotinoid/mason/Complaint%2010892012BEH%20about%20the%20EC.pdf>

				1386)
Dinotefuran	0.2	Stable	NA	82 (50-100)
Imidacloprid	0.2	~ 365	129	191 (104-228)
Nitenpyram	NA	2.9	NA	8
Thiacloprid	stable	Stable	28	16 (9-27)
Thiamethoxam***	2.7	11.5	40	50 (7-72)

Our final response from the Ombudsman on 03/10/2012; S2012-162816 rejected our complaints. An extract from EFSA's reply (10/08/2012) to our complaint about glyphosate:

- **6. About the fact that the Reasoned Opinion Group of the EFSA has readily granted 'modifications' of Maximum Residue Levels at the request of the pesticides industry**

The legislation has assigned to EFSA the task of MRL applications submitted by industry. In doing so, EFSA uses the internationally agreed methodology (ref). The outcome of the evaluation can be positive or negative. The European Commission then takes the legally binding decision on the amendment of the MRL.

- **9. About the refusal to ban glyphosate**

As briefly outlined above, EFSA does not enjoy regulatory or adjudicatory powers allowing it to "ban" pesticides; this is for the Commission to do where considered necessary by that Institution. Signed: Olivier Ramsayer.

Conflicts of interest at the European Food Safety Authority erode public confidence²⁴⁵

In 2011 Earth Open Source published an 18-page document: Europe's pesticide and food safety regulators – Who do they work for?²⁴⁶ "Some prominent EFSA regulators have conflicts of interest, holding positions in organisations that are funded by the same companies whose products they are supposed to regulate. This report shows that over a period of many years, influential EFSA managers and regulators have been heavily involved with a US-based organisation called the International Life Sciences Institute (ILSI), which is funded by multinational pesticide, chemical, GM seed, and food companies." Angelo Moretti resigned in 2011 from EFSA after he had failed to declare conflicts of interest because he had shares in a company that helped companies needing to comply with EU Regulations. "ILSI has also taken control of the environmental risk assessment for GM crops. It has set up a body called the Center for Environmental Risk Assessment (CERA) to "develop and apply sound science to the environmental risk assessment of agricultural biotechnologies". But Earth Open Source's investigation revealed much more about Moretti and many other regulators. In a paper published in 2012 by the BMJ Publishing Group Ltd further exposure of changes that had weakened legislation and bent the rules towards industry. "EFSA experts involved in assessing the risks of GM foods have attracted criticism. In 2010, 12 out of 21 experts on the GMO Panel...had conflicts of interest as defined by the Organisation for

²⁴⁵ <http://jech.bmj.com/content/67/9/717>

²⁴⁶ http://earthopensource.org/files/pdfs/Europes-pesticide-and-food-safety-regulators/Eu_pesticidefoodsafety.pdf

Economic Cooperation and Development (OECD.)” Chair of EFSA’s Management Board Diána Bánáti had a longstanding relationship with the industry-funded ILSI. In May 2012 she had to resign from EFSA and re-joined ILSI as Executive Director. Suzy Renkens Scientific Coordinator of EFSA’s GMO Panel was criticised by the European Ombudsman over her failure to deal with conflicts of interest. She left EFSA in 2008 and stepped straight into a job with Syngenta.

Harry Kuiper was Chair of the GMO Panel from 2003 to 2012. He had been at the forefront of the criticism of Dr Arpad Pusztai’s paper in 1998 on rats fed GM potatoes which was published in the Lancet.²⁴⁷ “He had been involved in the risk assessment of every GM food submitted to EFSA since the Agency was set up. Throughout his term of office he retained links with ILSI...Even the design of EFSA’s GMO risk assessment standards was influenced by an ILSI Task Force headed by a Monsanto employee.”

Stuttgart Peace Prize for Dr Arpad Pusztai in 2009

Dr Arpad Pusztai and his wife Dr Susan Bardocz were awarded the Stuttgart Peace Prize in 2009.²⁴⁸ *“The award is for their tireless advocacy for independent risk research. Both have made an essential contribution to a broader understanding of the dangers of genetic manipulation. The award also honours their courage and scientific integrity as well as their undaunted insistence on the public's right to know.”*

In response to the letter of congratulation from Claire Robinson and Jonathan Matthews of GMWatch, Dr Pusztai sent an email reply on 10 August 2008.

“Dear Claire and Jonathan,

I thought that I should write to you on the 10th anniversary of my 150 seconds of TV “fame” and tell you what I think now. It is very appropriate to write to you because you have provided the most comprehensive service to inform people about the shenanigans of the GM biotechnology industry and its advocates.

On this anniversary I have to admit that, unfortunately, not much has changed since 1998. In one of the few sentences I said in my broadcast ten years ago, I asked for a credible GM testing protocol to be established that would be acceptable to the majority of scientists and to people in general. 10 years on we still haven't got one. Instead, in Europe we have an unelected EFSA GMO Panel with no clear responsibility to European consumers, which invariably underwrites the safety of whatever product the GM biotech industry is pushing onto us.”We must not underestimate the financial and political clout of the GM biotechnology industry. Most of our politicians are committed to the successful introduction of GM foods. We must therefore use all means at our disposal to show people the shallowness of these claims by the industry and the lack of credible science behind them, and then trust to people's good sense, just as in 1998, to see through the falseness of the claims for the safety of untested GM foods.

Let's hope that on the 20th anniversary I shall not have to write another warning letter about the dangers of untested GM foods!

*Best wishes to all
Arpad Pusztai”*

International Life Sciences Institute (ILSI): Is it a private club for Corporations?

²⁴⁷ <http://download.thelancet.com/pdfs/journals/lancet/PIIS0140673605767088.pdf>

²⁴⁸ <http://www.gmwatch.org/latest-listing/1-news-items/11801-pusztai-to-receive-stuttgart-peace-prize->

Harry Kuiper left as Chairman of the GMO panel in 2012 because Corporate Europe Observatory, Christoph Then of Testbiotech, CRIIGEN and Earth Open Source had all complained about Conflicts of Interest in EFSA because of Kuiper's links with ILSI. The current membership of ILSI Europe consists of 61 organisations.²⁴⁹ This list represents Global Corporations (including the six Agrochemical Giants) with massive resources that are seeking to control the world's food supply. The Project Team Members consist of 18 members from around the world. Many of the individuals and organisations are names that are familiar from our 3 years of research. There are members from the US EPA and the USDA, from Dow and from the Japanese Mitsui Chemicals Agro. ILSI is an industry organisation based in Washington, DC, USA. It claims to be "*a non-profit, worldwide organization whose mission is to provide science that improves human health and well-being and safeguards the environment*" and allegedly has charity status.

One of the Project Team Members, Dr Caroline Harris, is also a member of the supposedly independent UK Advisory Committee on Pesticides. She is Corporate Vice-President of *Exponent Inc.*²⁵⁰ She worked for 15 years for the UK Pesticides Safety Directorate (PSD) and will have known Dr Peter Campbell Head of Ecotoxicology in the PSD. Both went through the revolving doors to high positions in Industry. Peter Campbell in 1997 became Head of Ecotoxicology in Syngenta. Dr Harris went straight into *Exponent Inc.* Dr Helen Thompson from Fera defected in 2013, after having done commissions for Syngenta.²⁵¹ It is these individuals and corporations that control GMO and pesticide authorisation in Europe and with whom the British Government has strong links.²⁵² FOI declarations discovered a compromising letter from Owen Paterson to Syngenta Switzerland assuring them of his support against the neonicotinoid ban in Europe.²⁵³

Projects Team overseen by the IUPAC Subcommittee on Crop Protection Chemistry²⁵⁴
The two lists have nine people in common (including Dr Harris). A name on the IUPAC Subcommittee is notably absent from the Project Team. Dr Gijs Kleter from Wageningen University wrote papers with Harry Kuiper in 2002 and 2007. Since 2007 papers about GM Crops for which Kleter was the main author included co-authors Unsworth and Harris.

Current membership of the GMO panel: Has it improved since Harry Kuiper left?
Chairman: Prof Joe Perry: Registered conflicts of interest.²⁵⁵ He retired as a Rothamsted employee in June 2006. Indeed, apart from his name and email address there was little to indicate that he had been there. He seems to have 'disappeared' to become 'Rothamsted's man in Europe.' From July 2006 he has been permanently employed on various GMO Committees, until he took over from Harry Kuiper in 2012 as Chairman of the GMO panel.

²⁴⁹ <http://www.ilsa.org/Europe/Pages/currentmembers.aspx>

²⁵⁰ Dr Caroline Harris is Corporate Vice-President of Exponent. "*Exponent, Inc., a research and scientific consultant firm with clients from industry (including crop protection) and government*"

²⁵¹ <http://farmwars.info/?p=11565> page 40-41

²⁵² Attendees on: <http://tinyurl.com/9jbce4g> Agenda on: <http://tinyurl.com/8ahylza> Summary on: <http://tinyurl.com/92rrajn>

²⁵³ <http://www.guardian.co.uk/environment/interactive/2013/apr/29/environment-secretary-letter-syngenta-insecticide-ban>

²⁵⁴ http://www.iupac.org/home/about/members-and-committees/db/division-committee.html?tx_wfqbe_pi1%5bpublicid%5d=604

²⁵⁵ <http://www.efsa.europa.eu/en/gmo/gmomembers.htm>

Prof Perry states at the bottom of Page 2: *In terms of time, over 98% of my working time consists of advisory work as an expert on the GMO panel of EFSA, which is ongoing since 2006. For this I receive only expenses.* How does he earn enough money on which to live?

In 2012 he was lead author in a paper in the Journal of Applied Ecology²⁵⁶ “Estimating the effects of Cry1F Bt-maize pollen on non-target Lepidoptera using a mathematical model of exposure.”

“A 14-parameter mathematical model integrating small- and large-scale exposure was used to estimate the larval mortality of hypothetical species with a range of sensitivities, and under a range of simulated mitigation measures consisting of non-Bt maize strips of different widths placed around the field edge” Synthesis and applications. 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.

If you find this paper difficult to understand, then listen to Prof Perry explaining The Risks of GMOs to a Residential Conference of Christians in Science.²⁵⁷ At the beginning of his recorded lecture²⁵⁸ he says: *“I don’t know anything about the science of GMs.”* This becomes very clear as he struggles to explain it to a lay audience. If you fast forward to 20.27 min, he then tries to explain the risk to a non-target species of moth. He finally comes up with a recommended distance between a Bt crop and a theoretical Nature Reserve of 30 metres to mitigate the risks to a non-target unknown species of moth.

First Vice-Chairman of the GMO Panel: Dr Gijs A. Kleter, Wageningen University. Dr Kleter is Harry Kuiper’s protégé who is a member of the IUPAC Sub-Committee on Crop Protection Chemistry and is the lead author for a number of publications for which some co-authors appear to be “dummies.” It is difficult to find any scientific credentials for John Unsworth, apart from being Project Leader of the Project Team to prepare the Website for ILSI.org. Dr Caroline Harris has a 28-year history of working for industry. She has written 26 papers, eight of which are with Dr Kleter as first author. Some of the papers have 16 authors.

Second Vice-Chairman of the GMO Panel: Prof. Patrick Du Jardin: Gembloux Agro-Bio Tech; Plant Biology Unit; University of Liège; Gembloux, Belgium.

In January 2012 Prof Du Jardin was second author of a paper whose first author, Nancy Podevin an EFSA employee, found a hidden viral gene in GMO crops.²⁵⁹ 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.²⁶⁰

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*

²⁵⁶ <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.02083.x/pdf>

²⁵⁷ <http://www.cis.org.uk/conferences/past-conferences/residential-2012/>

²⁵⁸ http://www.cis.org.uk/upload/conferences/Residential2012/Joe_Perry.mp3

²⁵⁹ 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>

²⁶⁰ <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 GenØk²⁶¹ published a similar assessment at the request of the Norwegian Directorate for Nature Management.²⁶²

Conflicts of interest of Anne Glover CSO to the European Parliament

Professor Glover, in an interview with EurActiv²⁶³ said: “There is no substantiated case of any adverse impact on human health, animal health or environmental health, so that’s pretty robust evidence, and I would be confident in saying that there is no more risk in eating GMO food than eating conventionally farmed food.” She said the precautionary principle no longer applies as a result. “The evidence with which I work is independent; the evidence with which I work does not change according to political philosophy. And that should give people a lot of confidence.” She is not independent. According to Glover's declaration, as reported by Damerval,²⁶⁴ “Professor Glover is a shareholder in a biotech company and set up the firm Remedios, which was named Scotland’s “Best New Biotechnology Company” for Biotech Scotland by its industry peers.²⁶⁵ She will be a leading speaker at a conference in Africa to persuade them to grow GM crops. She sits on the board of Science Business, alongside representatives of Microsoft, Sanofi and BP; members include biotechnology companies.” Glover said that discomfort around the subject of GM crops in the 1980s and 1990s was “a generation ago, we’ve moved on and the challenges are completely different.” Corinne Lepage MEP for France (and former French Minister of the Environment) says Anne Glover is wrong.²⁶⁶ “However, regarding the environmental impact of GMOs, the evidence is overwhelming and completely concrete. Not only is the dissemination of GMOs to non-GM plants proven, but the damage caused by regrowth elsewhere, which requires the use of ever more toxic pesticides, has already become a reality.” She should also have added that in Latin America, where GMO crops have been grown since 1996, there has been an increased incidence of birth defects, miscarriages, infertility, cancers, DNA damage, neurological

²⁶¹ 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.

²⁶² <http://genok.com/arkiv/723/>

²⁶³ <http://www.euractiv.com/innovation-enterprise/commission-science-supremo-endor-news-514072>

²⁶⁴ Francois Damerval is Chief of Staff to Corinne Lepage, the French MEP.

²⁶⁵ <http://foodvitalpublicservice.wordpress.com/2014/02/13/the-biotech-industry-retreats-from-europe-but-is-courting-africa/>

²⁶⁶ <http://www.euractiv.com/cap/gmos-anne-glover-wrong-analysis-514185>

developmental problems in children and allergies.²⁶⁷ In 2013 birth defects are still occurring in rural Argentina.²⁶⁸

Corinne Lepage goes on to say: *“Glover has as such taken on a heavy amount of personal responsibility, going so far as to say the precautionary principle is no longer applicable. If in the coming years, evidence on the toxicity of GMOs comes to light, European citizens would be entitled to ask her for an explanation.”*

FDA paid for fast-tracking drugs; drugs that had far more side effects than natural medicines

In 2010, the FDA was paid \$526 million dollars by a number of drug companies to ‘hustle’ drugs through the approval process.²⁶⁹ Jenny Thompson, Director of Health Services Institute talks about Seven Deadly groups of Drugs. Chemotherapy drugs; anti-diabetic agents; non-steroidal anti-inflammatory agents; drugs for Alzheimer’s; the anti-hypertensive agents, beta blockers, Calcium channel blockers and ACE inhibitors; cholesterol lowering drugs; and sleeping tablets. *“There are natural products without side effects which in randomised controlled trials compare as well, and sometimes better than the chemical drugs. However, the Pharmaceutical Giants are suppressing these.”* Avandia was an example of an anti-diabetes agent she quoted. An article in the BMJ (04/01/2014) about a FDA Investigator, Thomas Marciniak MD who told Deborah Cohen, the BMJ Investigations Editor that the *“clinical trial system is broken.”*²⁷⁰ His assessment of the diabetes drug rosiglitazone (Avandia) had it removed from the market in 2010 because a study showed it could increase the risk of a heart attack.²⁷¹ However, on 25/11/2013 the FDA removed the restrictions on its use *“to reflect new information regarding the cardiovascular risk of the medicine. Today’s actions are consistent with the recommendations of expert advisory committees.”* Cohen reports: *“there are shortcomings in the trial model to the extent that he doesn’t know what to trust anymore”*

Why is EFSA looking more closely at natural products than they do GMO foods?

EFSA’s Panel on Dietetic Products, Nutrition and Allergies (NDA) is responsible for verifying the scientific substantiation of the health claims. An open meeting of the panel was being watched by representatives of Big Food and Big Pharma, namely Merck, Nestlé, Danone and Kemin. Is this why EFSA is demanding stringent applications?²⁷² If there are individuals on the GMO Panels with conflicts of interest, then it is possible that interests in EFSA’s Panel on Dietetic Products, Nutrition and Allergies (NDA) by the Corporations might be suspect. Why do health claims made in relation to food products now require authorisation²⁷³ before they can be used in the labelling and marketing of these products in the EU? EFSA’s Panel on NDA is responsible for verifying the scientific substantiation of the health claims.²⁷⁴ *“The EFSA Health claims made in relation to food products require authorisation under regulation EC1924/2006 before they can be used in the labelling and marketing of these products in the EU. Within the context of this authorisation procedure,*

²⁶⁷ http://www.keine-gentechnik.de/fileadmin/files/Infodienst/Dokumente/2012_08_27_Lopez_et_al_Pesticides_South_America_Study.pdf

²⁶⁸ <http://www.nationofchange.org/argentina-s-bad-seeds-1363532747>

²⁶⁹ <http://hsionlineorders.net/HTML5/Whistleblower-NoPop/?efo=HSIOP130215&pco=PHSIP940>

²⁷⁰ <http://www.bmj.com/content/347/bmj.f6980>

²⁷¹ <http://www.bmj.com/content/346/bmj.f695>

²⁷² <http://www.efsa.europa.eu/en/nda/ndaclaims.htm>

²⁷³ [Regulation EC 1924/2006](http://www.efsa.europa.eu/en/nda/ndaclaims.htm)

²⁷⁴ http://europa.eu/legislation_summaries/consumers/product_labelling_and_packaging/l21306_en.htm

EFSA's Panel on Dietetic Products, Nutrition and Allergies (NDA) is responsible for verifying the scientific substantiation of the health claims."

On 10/07/2012 Professor Ambroise Martin PhD has replaced Professor Albert Flynn as Chair of the European Food Safety Authority (EFSA) Health Claims Panel.²⁷⁵

Alliance for Natural Health International (ANH)²⁷⁶ is an internationally active non-governmental organisation promoting natural and sustainable approaches to healthcare worldwide. ANH-Intl campaigns across a wide range of fields, including for freedom of choice and the use of micronutrients and herbal products in healthcare. It also operates campaigns that aim to end mass fluoridation of water supplies and the use of genetically modified foods. ANH analysed an open meeting of EFSA's NDA.²⁷⁷

Here are just three out of a dozen valid points made by ANH about the NDA Panel: *"There is no mechanism for expert members of the EFSA panel to question or debate the validity or implications of what the panel does. Therefore, the panel does not spend any time contemplating how its opinions, even on Dietary Reference Values (DRVs), might contribute to reducing – or increasing – the burden of chronic diseases or mental and behavioural disorders...EFSA uses outmoded risk and benefit assessment models that fail to take into account the systems biology context of human experience, and human interactions with both our internal and external living and non-living environments... We have no reason to believe that Prof Ambroise Martin is nothing other than a diligent scientist. Having spoken with him, we are convinced of his belief that he and his NDA panel are doing the best job they can within their terms of reference. But what really surprises us is that Prof Martin's eyebrows were not raised by the 1,719 health claim applications rejected by the NDA panel. Surely, this should call into question the tools being used, rather than a blind acceptance that no evidence exists of a health benefit for the consumer of such nutrients? Even diligent scientists have been known to down tools. But so far, Prof Martin seems intent on holding them as tight as ever.*

It's particularly remarkable that no one within the inner circle of EFSA has thrown up their hands in horror or refused to continue after 95% of plant-derived nutrients were found to have no benefits for human consumers. Especially when the rejections range from the antioxidant effects of polyphenols in berry fruits or resveratrol in grape skins, to all probiotics and essential amino acids.

And what do we do?

The question that we, the public, external scientists and others, would like to ask is this: Should we meekly follow EFSA's every outpouring and start, for example, thinking of the 8 essential amino acids as of no benefit to human beings – and at least non-essential? Has EFSA the power – or even the expertise – to redefine nutrition in this way?"

Commentary by Sue Davies Chairman of the EFSA Management Board following complaints about Conflicts of Interest²⁷⁸

"I therefore read with interest, the latest report from Corporate Europe Observatory on alleged conflicts of interest at EFSA (with reference to the GMO Panel). The fact that EFSA makes its experts' Declarations of Interest publicly available online allows interested parties to scrutinise for themselves how the Authority selects its scientific experts. The Management Board is confident that the policy EFSA has in place to ensure independence in its scientific work is robust. The Board is also satisfied that EFSA is implementing its own rules effectively as they apply to the selection of experts and the assessment of Declarations of Interest."

²⁷⁵ <http://www.nutraingredients.com/Regulation/EFSA-appoints-new-health-claims-panel-chair>

²⁷⁶ <http://anh-europe.org>

²⁷⁷ <http://anh-europe.org/news/efsa-nutrition-panel-observed-on-wrong-tracks-as-usual>

²⁷⁸ <http://www.efsa.europa.eu/en/press/news/131024a.htm>

Ms. Davies had previously worked for the UK Food Safety Authority. The following account of aspartame will demonstrate conflicts of interest in the US FDA,²⁷⁹ FSA and EFSA.

**Aspartame has been reviewed by the UK FSA, the Committee on Toxicity and EFSA
COT POSITION PAPER ON A DOUBLE BLIND RANDOMIZED CROSSOVER
STUDY OF ASPARTAME²⁸⁰**

“At its meeting on 29 October 2013, the Committee on Toxicity discussed a paper, describing results from a study led by scientists at Hull York Medical School”...No-one is allowed to see this study until it has been accepted for publication in a peer-reviewed journal. “The Committee judged the delay acceptable since the results presented did not indicate any need for action to protect the health of the public.” EFSA also has re-evaluated the safety of aspartame.²⁸¹ As a result, it concluded in December 2013 that *‘aspartame and its breakdown products are safe for human consumption at current levels of exposure’*.

Professor Erik Millstone²⁸² sent a 67-page detailed response to the Head of EFSA ‘Food Ingredients and Packaging’ Unit and the Senior Scientific Officer.²⁸³ This has been ignored, just as Dr Betty Martini and Dr John Olney²⁸⁴ have been ignored in the US.

It was illuminating to see that the UK first authorised aspartame in 1982. That was the very year that Donald Rumsfeld who was CEO of Searle (at that time the manufacturer of aspartame before Monsanto bought Searle) managed to get it passed with the help of President George Bush (Senior). For the first 16 years aspartame was banned by the FDA because it was highly toxic to the nervous system. FDA Scientist Adrian Gross told Congress that without a shadow of a doubt, aspartame can cause brain tumors and brain cancer and that it violated the Delaney Amendment, which forbids putting anything in food that is known to cause cancer.²⁸⁵ What has changed? Monsanto has total control of the CRD, FSA and EFSA.

Clothianidin usage as a systemic insecticide in the US and UK has grown dramatically since its conditional registration in 2003²⁸⁶ although no peer-reviewed paper has demonstrated that it is safe for bees

By courtesy of Tom Theobald, Boulder County Beekeepers, here are ‘animated’ maps constructed from USGS pesticide usage maps up until 2009, (now 4 years old).

<http://www.bouldercountybeekeepers.org/animation-clothianidin.html>

However, there are identical maps of 456 other agrochemicals used by US farmers.

Michael Flüh in his reply to our Complaint to the European Commission flatly denied that the registration of clothianidin was illegal because its length of action exceeded the EU limits; *“the assessments, carried out by a Rapporteur Member State (RMS) and peer reviewed by experts from all Member States concluded that safe uses for this substance exist. This covered the persistence of the substance in soil as well as its toxicity and leaching potential.”*

How is it that Environment Canada in 2013 found: *“Clothianidin is the most persistent neonicotinoid residue and was present in wetlands in agricultural fields as a result of either*

²⁷⁹ <http://farmwars.info/?p=12217> or <http://tinyurl.com/k4x7o2r> page 23

²⁸⁰ <http://cot.food.gov.uk/pdfs/cotposponaspar.pdf>

²⁸¹ <http://www.food.gov.uk/news-updates/news/2013/dec/efsa-aspartame#.UuAtV3xFDcs>

²⁸² Professor of Science Policy at the University of Sussex.

²⁸³ http://sro.sussex.ac.uk/43821/1/EM_Letter_to_EFSA_on_Aspartame_22Feb2013.pdf

²⁸⁴ <http://www.scribd.com/doc/6669992/Dr-John-Olney-Statement-Aspartame-1987> Dr. John Olney's letter to the Senate in 1987.

²⁸⁵ <http://m.huffpost.com/us/entry/805581>

²⁸⁶ <http://www.epa.gov/opprd001/factsheets/clothianidin.pdf>

*snowmelt run-off or other transport mechanisms and was found primarily where canola (oil seed rape) had been sown the previous year?*²⁸⁷

In the US study by Krupke *et al.* of honey bees living close to maize fields and exposed to clothianidin and thiamethoxam,²⁸⁸ extremely high levels of clothianidin and thiamethoxam were found in planter exhaust material produced during the planting of treated maize seed. They were present in the soil of each field, including unplanted fields; in Dandelions foraged by bees; in dead bees collected near hive entrances; in pollen collected by bees and stored in the hive. Maize pollen with *clothianidin* and other pesticides were fed to the new queens. The fact that they were found in wildflowers proves that they are being washed into aquatic systems and taken up by vegetation which could be a source of contaminated pollen to bees.

Chemicals used in Britain have increased in a similar way

The UK HSE website for pesticides <https://secure.pesticides.gov.uk/pestreg/ProdSearch.asp> and the Defra statistics for usage, <http://pusstats.csl.gov.uk/> show how many new chemicals are being registered each year, endorsed by the Advisory Committee on Pesticides and being applied to UK farmland. Several insecticides, herbicides and fungicides are also authorised for non-farming purposes; for use in urban areas and in our homes and gardens. Does anyone keep a record of the weight of these chemicals that are sold for domestic use?

Glyphosate preparations authorised by CRD

At the present time the CRD lists on its approved pesticides database 187 different glyphosate products that are licenced to be sold as suitable for the amateur gardener.²⁸⁹ Glyphosate preparations for professional use are even more: 211. This is why it is so critical to industry that glyphosate passes its Review in 2014 (last Review 2002; this review was due in 2012).

Other older herbicides authorised by CRD

2,4-D: First used in 1941 (Dow): CRD currently approves 47 different products for amateur use and 45 for professional use. This is despite the fact that men in Kansas exposed for more than 20 days per year had a 6-fold increase in risks of lymphoma and soft-tissue sarcoma relative to non-farmers.²⁹⁰ The earlier findings of links in Swedish studies were confirmed.²⁹¹

Dicamba: First used in 1967: (Velsicol Chemical Corp. in 1964 had been sued for dumping chemicals in a landfill site in Tennessee.²⁹² As usual, the District Court judgment was overturned by the Appeals Court): Forty two different products are authorised by the CRD for amateur use and 81 for professional use.

Glufosinate (Bayer): Four are authorised for amateur use and eight for professional use. In the UK, glufosinate was first considered in 1984. At that time it was not approved for toxicological reasons (teratogenic and neurological effects). What had changed in 1991 when it was given provisional approval? Was it the CRD and ACP's lax attitude to human risk?

The British Government is now in favour of the application to authorise EU cultivation of GM maize Pioneer1507 (approved by the European Commission in November 2013²⁹³ this SmartStax maize is genetically engineered to produce six insecticidal proteins and is resistant

²⁸⁷ www.traceorganic.com/2013/.../JBailey%202013_WCTOW.pdf

²⁸⁸ <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0029268>

²⁸⁹ <https://secure.pesticides.gov.uk/pestreg/prodlist.asp?pageno=1&origin=prodsearch>

²⁹⁰ <http://occupationalcancer.ca/wp-content/uploads/2012/05/Hoar-1986-Agricultural-herbicide-use-and-risk-of-lymphoma-and-STs.pdf>

²⁹¹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1008794/>

²⁹² http://en.wikipedia.org/wiki/Sterling_v._Velsicol_Chemical_Corp

²⁹³ <http://www.testbiotech.de/node/940>

to two herbicides, glyphosate and glufosinate. The combination effects between residues from spraying and the insecticidal toxins have never investigated and feeding studies have never been done). Testbiotech has made the first meta-analysis of some of the data on genetically engineered maize 1507 submitted by industry to authorities in the EU, the US, Australia and New Zealand for their approval procedures: Genetically engineered maize 1507: Industry and EFSA disguise true content of Bt toxin in the plants.²⁹⁴ Looking at the data it is evident that there is no consistent method of data acquisition or evaluation. For example, although the application of the herbicide glufosinate appears to have a substantial impact on the Bt content in the plants, only a very small amount of comparative data was submitted to the authorities. Furthermore, important data on, for example, the Bt content in the roots are largely missing. They conclude: Data insufficient to conclude on the safety of the plants.

Although EFSA had stated in Abstracts with regard to previous GM authorisations that there were no effects on human or animal health or the environment, in the main body of the document, the Panel had admitted to the “problems of reduction in farmland biodiversity, selection of weed communities and selection of herbicide resistant weeds and destruction of food webs and the ecological functions they provide.” Nevertheless, each time EFSA has approved the relevant GM, but covers 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 recommends “case-specific monitoring”.

Epidemiological Studies published in 2013/2014

Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study²⁹⁵

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.

Bearing in mind our previous reports about glyphosate being toxic in extremely low doses, we suggest that humans are being exposed regularly to small amounts of glyphosate residues in staple foods such as bread, cereals, lentils and chickpeas (see Defra Expert Committee on Pesticide Residues in Food.²⁹⁶) The use of glyphosate for desiccation on both barley and wheat was accepted by the brewing and distilling industries in 2007²⁹⁷ therefore it is probable that men are more likely to be overweight because of the consumption of beer or whisky with glyphosate residues. Many foods imported from the US have GM ingredients and will contain glyphosate (or other herbicide residues). These include products which are made from corn or soya, such as energy bars, sugar drinks; and fruit or vegetables. The US still does not require labelling of GM. However, animals in the UK are fed with imported GM soya and maize. Three more supermarkets (Sainsburys, Marks and Spencer and the Coop) have reversed their GM free policy. “The move came following fierce lobbying from groups such as the National

²⁹⁴ http://www.testbiotech.org/sites/default/files/Testbiotech_Bt_Expression_Data_1507_0.pdf

²⁹⁵ [Overweight and obesity in mid-life: Evidence from the 1970 British Cohort Study at age 42](#)

²⁹⁶ <http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRI/>

²⁹⁷ Notes on the use of Roundup® products on malting, milling and seed crops: Monsanto UK Ltd 2007.

[http://www.grainfarmers.co.uk/seeddownloads/Roundup%20on%20seed%20%20milling%20and%20malting.p
df](http://www.grainfarmers.co.uk/seeddownloads/Roundup%20on%20seed%20%20milling%20and%20malting.pdf)

*Farmers Union and the British Poultry Council. The supermarket giants said suppliers had told them that non-GM feed for poultry is now too difficult and too expensive to obtain.*²⁹⁸ The fact that glyphosate is in the food chain is confirmed by two studies in which glyphosate residues were found in the urine of urban populations in Germany²⁹⁹ in 2012 and the EU as a whole in 2013.³⁰⁰

Substantial increase in neurological deaths 1979-2010

Ten major developed Western countries and 10 smaller Western countries were studied.³⁰¹ There was a major reduction in general mortality in all 20 countries, but total neurological deaths rose substantially between 1980 and 2010 in both sexes in 16 out of 20 western countries. The mortality was significantly higher in females. *“Moreover, looking back 30 or more years the concept of early dementia or the need for the creation of a Young Parkinson’s Disease Society in Britain would have seemed a tautology.”*

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.”*³⁰² *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.*³⁰³

WHO World Cancer Report 2014 on the Global Battle against Cancer³⁰⁴

The Report from the WHO International Agency for Research for Cancer cites tobacco, alcohol, obesity, lack of physical activity, alcohol and sugar-sweetened beverages as causes. The authors of the Report advise limiting exposure to occupational and environmental carcinogens which are polluting the air. As usual, there is nothing about agrochemicals or other industrial chemicals contaminating groundwater and surface water. We conclude that Corporate lobbyists are represented at the highest level of the World Health Organisation.

Excess risk of cancers in those exposed to pesticides (farming, commercial, home and garden)³⁰⁵

Abstract: A growing number of well-designed epidemiological and molecular studies provide substantial evidence that the pesticides used in agricultural, commercial, and home and

²⁹⁸ <http://www.theguardian.com/environment/2013/may/11/supermarkets-chickens-gm-soya>

²⁹⁹ <http://www.ithaka-journal.net/herbizide-im-urin?lang=e>

³⁰⁰ <http://www.foeeurope.org/weed-killer-glyphosate-found-human-urine-across-Europe-130613>

³⁰¹ <http://dx.doi.org/10.1016/j.phe.2012.12.018> Pritchard, C. *et al.* Changing patterns in mortality from neurological deaths in the 10 major developed countries 1979-2010 Public Health (2013)

³⁰² <http://www.ncbi.nlm.nih.gov/pubmed/23842577> The state of US health, 1990-2010: burden of diseases, injuries, and risk factors.

³⁰³ <http://www.ncbi.nlm.nih.gov/pubmed/23668584> UK health performance: findings of the Global Burden of Disease Study 2010

³⁰⁴ www.iarc.fr/en/media-centre/pr/2014/pdfs/pr224_E.pdf

³⁰⁵ <http://onlinelibrary.wiley.com/doi/10.3322/caac.21170/full>

garden applications are associated with excess cancer risk. This risk is associated both with those applying the pesticide and, under some conditions, those who are simply bystanders to the application. In this article, the epidemiological, molecular biology, and toxicological evidence emerging from recent literature assessing the link between specific pesticides and several cancers including prostate cancer, non-Hodgkin lymphoma, leukemia, multiple myeloma, and breast cancer are integrated. Rather than wait for human carcinogens to be identified, several European countries, including Sweden, Denmark, the Netherlands, and others, have initiated pesticide use reduction policies that have resulted in substantially diminished pesticide use overall. In the United States, a nationwide use reduction policy has met with resistance politically because of disagreements about the net benefit to health and debate concerning the disproportionate economic impact of these policies on selected groups (e.g. farmers, food processors, and pesticide manufacturers) and on food prices. Nonetheless, the available scientific evidence does strongly suggest that pesticides do cause cancer in both those who use the pesticides directly and those who are exposed because of applications others make ... “...yet the identification of specific pesticides as human carcinogens has not yet been made.”

Link between mid-life obesity and dementia: a twin study³⁰⁶

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.

Defra and CRD in denial: Pesticides Forum Annual Report 2011 Executive Summary³⁰⁷

Pesticides Forum Annual Report in 2011 stated that: “*the use of pesticides is not adversely impacting on the health of UK citizens or the environment. This is testimony to the effectiveness of both statutory and voluntary controls.*”

Why are the organophosphates chlorpyrifos and dimethoate still being registered?

Two organophosphates are still being authorised in the UK. In 2009, the total agricultural area treated with chlorpyrifos was 277,593 ha and in 2010 dimethoate 48,264 ha.³⁰⁸ Defra had always denied a link between organophosphate used as sheep dip in the 1980s and neurological problems in farmers. However, a new independent study by Mackenzie Ross, S.J. *et al.* contradicted the Defra findings.³⁰⁹ These discoveries have implications for working practice for farm-workers and for other occupational groups exposed to organophosphates such as Aviation Workers and Gulf War Veterans.

Prenatal exposure to chlorpyrifos has effects on neurodevelopment aged 3 and aged 7

In the US it has been proved by several prospective studies that pre-natal exposure to chlorpyrifos (CPF) causes neurodevelopmental problems. *It has long been associated with delayed neurocognitive development and most recently with decrements in working memory at age 7.*³¹⁰ Rauh, V *et al.*³¹¹ reported evidence of deficits in Working Memory Index and Full-Scale IQ as a function of prenatal CPF exposure at 7 years of age. These findings are important in light of continued widespread use of CPF in agricultural settings and possible

³⁰⁶ <http://www.ncbi.nlm.nih.gov/pubmed/21536637>

³⁰⁷ <http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/P/Pesticides-Forum-AR-2011-revSep12.pdf>

³⁰⁸ <http://pusstats.csl.gov.uk/>.

³⁰⁹ <http://www.ncbi.nlm.nih.gov/pubmed/23163581>

³¹⁰ http://www.ipminstitute.org/Fed_Agency_Resources/rauh_chlorpyrifos_pediatrics.pdf

³¹¹ <http://ehp.niehs.nih.gov/1003160/>

longer-term educational implications of early cognitive deficits. Lovasi, G.S. *et al.*³¹² showed that chlorpyrifos exposure and urban residential environment characteristics were determinants of early childhood neurodevelopment. Horton, M.K. *et al.* Does the home environment and the sex of the child modify the adverse effects of prenatal exposure to chlorpyrifos on child working memory?³¹³ The answer was, yes it does.

However, in a 158-page Review by a Dow (which makes chlorpyrifos) scientist and funded by the Crop Protection Association: Review of Pesticide Exposure and Neurodevelopmental Outcomes together with other authors who: “are or have previously been employed by Exponent, Inc., a research and scientific consultant firm with clients from industry (including crop protection) and government” disagreed with the above studies: “In conclusion, epidemiologic evidence for causality between exposure to specific pesticides during critical periods of brain development and neurobehavioral outcomes is not compelling.”³¹⁴

ONLY ONE CHANCE

How Environmental Pollution Impairs Brain Development - and How to Protect the Brains of the Next Generation by Professor Philippe Grandjean: Oxford University Press.

“This book is a huge gift to humankind from an eminent scientist. Grandjean tells the truth about how we have been ruining the brain power of each new generation and asks if there are still enough intelligent people in the world today to reverse the problem. I cannot rid myself of the idea that too many brains have been drained and society is beyond the point of no return. We must learn from the follies and scandals that Grandjean reveals and stop the chemical brain drain before it is too late.”

THEO COLBORN, PHD, President, TEDX (the Endocrine Disruptor Exchange)

Chemical brain drain: insidious and pervasive

“Today, one out of every six children suffers from some form of neurodevelopmental abnormality. The causes are mostly unknown. Some environmental chemicals are known to cause brain damage and many are suspected of it, but few have been tested for such effects. The brain’s development is uniquely sensitive to toxic chemicals and even small deficits may negatively impact our academic achievements, economic success, risk of delinquency, and quality of life. Chemicals such as mercury, polychlorinated biphenyls (PCBs) arsenic and certain pesticides pose an insidious threat to the next generation’s brains. When chemicals in the environment affect development of the child’s brain, he or she is at risk for mental retardation, cerebral palsy, autism, ADHD, and a range of learning disabilities and other deficits that will remain for a lifetime.”

The chemical brain drain can be halted to protect the next generation’s brain power. First, we need to control all of the 200 industrial chemicals that have already been proven to affect brain functions in adults, as their effects on the developing brain are likely even worse. We must also demand routine testing for brain toxicity, stricter regulation of emissions of brain-toxic chemicals, and required disclosure on the part of industries who unleash these hazardous chemicals into products and the environment. Decisions can still be made to protect the brains of future generations – and some decisions appear to be seriously overdue. This site aims at furthering information on chemical risks to brain development and ways to protect the next generation against chemical brain drain.³¹⁵

³¹² <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2009.168419?journalCode=ajph>

³¹³ <http://dx.doi.org/10.1016/j.ntt.2012.07.004>

³¹⁴ <http://dx.doi.org/10.1080/10937404.2013.783383>

³¹⁵ <http://braindrain.dk/> www.chemicalbraindrain.info

Prof Grandjean's book reads like a Scandinavian crime novel.

He starts with the myth that the placental barrier protects the foetus; it does not. There are chapters which focus on specific brain drainers: Lead, Methyl Mercury, Arsenic, Persistent Organic Chemicals and Pesticides. Many of these chemicals are used in industrial processes and industries will go to any lengths to protect their interests and those of their shareholders.

Excerpt from 2012 US Report on Children's Health: A Generation in Jeopardy³¹⁶

Breast Milk Studies from around the world have documented pesticides in human breast milk, though experts agree it remains the best source of nutrition for infants. Baby foods and fruit juices consumed by infants and toddlers tend to be highly processed, which can sometimes concentrate pesticide residues existing on the fresh produce. U.S. researchers measuring pesticides in baby foods found low-level residues of many pesticides, including eight known to be toxic to the nervous system, five that disrupt hormones and eight that are potential carcinogens

The chemicals found in a mother's milk represent a combination of long-lasting pesticides and industrial pollutants that have accumulated over a lifetime (many of which the body tends to store in fatty tissues), and shorter-lived chemicals that a woman is exposed to during pregnancy and breast feeding. This chemical burden is transferred to nursing infants just as their bodies are most vulnerable to chemical harms. The good news is that analysis of decades of banked breast milk in Sweden shows that bans on specific chemicals can result in rapid and dramatic decreases in the levels of some of those compounds in human milk.

Violent Behavior: A Solution in Plain Sight

This paper by Sylvia Onusic,³¹⁷ PhD, CNS, LDN, seeks reasons for the increase in violent behaviour in America, especially among teenagers. She identifies malnutrition, vitamin and micronutrient deficiency as potent causes of aberrant behaviour, crime and the spectrum of autistic diseases. Some children have been corrected by a proper diet free of junk food.

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

Prof T Colin Campbell also identifies our "neglect of the remarkable ability of nutrition to promote health and decrease illness."³¹⁸ He quotes Hippocrates: "Let food be thy Medicine." "Can diet cure disease, and not just prevent it? Scientific evidence is accumulating that diets which emphasize consumption of plants and which avoid meat and dairy products can rapidly reverse common and life-threatening chronic diseases such as diabetes and heart disease. For these and other common diseases research is showing that a diet-based cure is much more effective than current medical treatments which are largely ineffectual, expensive, and plagued by side effects. These important facts about the power of nutrition are not widely known, however. That is because they simultaneously challenge the food industry, the pharmaceutical industry, and the medical profession."

Many of our staple foods are no longer "whole": They are full of chemical residues

What Onusic and Campbell do not recognise is that today many of our supposedly "whole" foods have been contaminated by pesticides, particularly in the US, but increasingly so in the UK. Our staple (non-organic) foods; bread, cereals, lentils, chick peas, as well as beer and whisky, all have pesticide residues (particularly glyphosate) in them and many of our

³¹⁶ <http://www.panna.org/publication/generation-in-jeopardy>

³¹⁷ <http://www.westonaprice.org/environmental-toxins/violent-behavior-a-solution-in-plain-sight/pdf>

³¹⁸ <http://www.independentsciencenews.org/health/the-healthcare-doctors-forgot-ordinary-food-will-be-the-new-medicine>

vegetables contain insecticide and fungicide residues.³¹⁹ Sugar cane is being ripened with glyphosate³²⁰ and trinexapac-ethyl for economic reasons, to increase its sugar content. However, recent papers by independent scientists have shown that neither chemical improved sugar yield per hectare.³²¹ Instead a generation of sugar cane workers have been exposed to aerial glyphosate and the risks of subsequent kidney damage.³²²

Where has scientific integrity in Universities gone?

Prof Jeremy Ramsden, Editor-in-Chief of *The Journal of Biological Physics and Chemistry* laments the loss of distinction between University Research and Commissioned Research (either from industry or from Government Departments).³²³ *“This renunciation of unimpeachable scientific integrity could not have come at a worse time for humanity. Our technical capabilities for manipulating nature have reached unprecedented heights.”*

The rôle of scientific journals in promoting industry

Where has scientific integrity gone in some scientific journals? Several of them have been hijacked by industry and can no longer be considered as vehicles for disinterested science. See pages 16-22 in: Corporate Espionage: The Séralini Affair and Beyond.³²⁴

Why has the public not been informed?

All of this has been done by the Corporations without the knowledge or permission of the public. Media Moghuls (including the BBC³²⁵) have been protecting the interests of Agrochemical Industries, not the people. Meanwhile, none of us is safe. Society as a whole must pay the price for the widespread poisoning of the land, water, air and our food supply.

From Thatcher onwards, the British Government has sold its people to Corporations

From Margaret Thatcher and Tony Blair, through to David Cameron, successive Prime Ministers have allowed Big Corporations to run Britain; Bankers, Agrochemical Industry and their parent Pharmaceutical Companies, Mega Supermarkets, Sugar Industry, Media Moghuls, the Betting Industry, Alcohol Industry, Private National Health Service, Private Finance Initiatives, Oil Industry, the Arms' Industry and now the Fracking Industry. As well as chemicals, adults and children are being exposed to a diet of sex, violence, gambling, celebrities and drugs...mostly for the benefit of Global Corporations.

Income inequality since Margaret Thatcher

*“Income inequality has now reached a new maximum and, for the first time in a century, even those just below the richest 1% are beginning to suffer, to see their disposable income drop. When you exclude the top 1%, income inequality within the rest of the population, within the 99%, is now lower than at any time since Margaret Thatcher was prime minister.”*³²⁶

³¹⁹ <http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRiF/about-PRiF>

³²⁰ <http://www.regional.org.au/au/asa/2001/2/d/morgan.htm>

³²¹ http://etd.lsu.edu/docs/available/etd-11072012-134904/unrestricted/Orgeron_diss.pdf

³²² <http://www.nature.com/ki/journal/v68/n97s/full/4496413a.html>

³²³ <http://www.colbas.org/ntp/opnAxs/N06RA12E.pdf>

³²⁴ <http://farmwars.info/?p=12140>

³²⁵ <http://farmwars.info/?p=11789>

³²⁶ <http://www.theguardian.com/education/2014/feb/04/education-system-polarises-people-economic-inequality> Prof Danny Dorling: School of Geography and the Environment in Oxford in September 2013 to take up the Halford Mackinder Professorship in Geography Inaugural Lecture 04/02/2014.

PJ Harvey's Guest Editorship of the Today Programme on 02/01/2014 was described by some MPs as "leftie tosh" and by one BBC Political Editor as "Opinions not facts"

The Facts: What the British Government did for London Bankers after the 2008 crash
John Rees:³²⁷ *"Support for the banking sector in France was just 20% of national wealth; in Germany, 25%. Even in the US where the crisis began, it was only 35%. But in the UK, the government pumped money into the banks that was worth nearly 90% of our national wealth." ... The links between the City and Parliament are as strong as ever. Some 68 MPs and Lords have controlling interests or directorships in corporations linked to tax havens. At a time when privatisation of the NHS is being debated, over 75 MPs have business interests directly linked to private pharmaceutical firms... The City is crash-prone debt generator. It is an engine of inequality. It blights the city."*

Danny Dorling:³²⁸ *"You can see the spreading out to Canary Wharf and so on and the buildings rising up there and the areas very nearby where the people who work in Canary Wharf will not live. But there is also another hidden city, which is towards Mayfair, where all you get to see are brass plaques on the wall, because they don't need to advertise themselves – these are the hedge funds that only operate for the extremely wealthy. The other thing that is very important to say about London – what is so different in London to the rest of Europe – is that London has a couple of thousand bankers who are earning over £1 million a year, whereas the next highest is less than 200 in the whole of Germany."*

Channel 4 Exclusive 11/02/2014: A whistleblower from Royal Banks of Scotland's shadowy GRG unit claims that staff destroyed businesses³²⁹

A whistleblower from RBS's shadowy Global Restructuring Group (GRG) claims that staff destroyed businesses "that didn't need destroying" in an attempt to help save the bank during the credit crisis. He also claims that GRG deliberately charged high fees to push businesses to the brink, intercepted payments and put the money into RBS' own accounts and stripped firms of their assets to make a profit for the bank. *"All this happened after the bank's £45 bn bailout, when we - the taxpayer - owned it and it was supposed to be acting in our interests."*
Siobhan Kennedy: C4 Business Correspondent.

More Facts: Why is Britain Arming Repression?

Mark Curtis in conversation with Professor Neil Cooper on the Today Programme 02/01/2014 Edited by PJ Harvey:³³⁰ Cooper:³³¹ *"This summer (2013) the government released information showing that it had 3,000 extant (still existing) arms export licences to countries that the Foreign Office listed as countries of concern in terms of human rights abuses... In 2012, over 7 billion pounds worth of British military-related equipment was exported around the world. All three main political parties strongly support arms exports and none has a policy of banning them to human rights abusers. David Cameron has visited over a dozen countries with arms exports on the agenda."*

*"Few prime ministers have been as tireless in promoting Britain's arms industry as David Cameron."*³³² He calls it a key part of the UK's economy, but do the figures really add up?

³²⁷ <http://thepeoplesassembly.org.uk/john-rees-on-the-today-programme-edited-by-pj-harvey/>

³²⁸ The Today Programme edited by PJ Harvey. Professor Danny Dorling in conversation with John Rees.

³²⁹ <http://www.channel4.com/news/rbs-whistleblower-grg-business-destroy-video>

³³⁰ <http://markcurtis.wordpress.com/2014/01/02/arming-repression-today-programme-2-january-2014/>

³³¹ Prof Neil Cooper: Expert on the Arms Trade; Peace Studies; Bradford University. Today Programme edited by PJ Harvey. 2 January 2014

³³² <http://www.theguardian.com/world/2013/feb/18/britains-arms-trade-making-killing?INTCMP=SRCH>

In this business, in defiance of the past three decades' free-market orthodoxies, the state is pivotal. Accompanying Cameron in India are representatives of a dozen British or partly British-based companies – the industry is clever at blurring such definitions – with defence interests: Rolls-Royce, Serco, BAE, EADS, Thales, Atkins, Cobham, JCB, Strongfield Technologies, MBDA, Ultra Electronics. The British state is also the industry's biggest customer, with our armed forces accounting for four-fifths of its annual sales.' "Boosting exports is vital for economic growth, and that's why I'm doing all I can to promote British business ... so [it] can thrive in the global race." said Cameron on the eve of his Oman trip. "Every country in the world has a right to self-defence, and I'm determined to put Britain's first-class defence industry at the forefront of this market, supporting 300,000 jobs across the country."

Corporate lobbyists find it easier to access the Prime Minister than his own MPs

An Editorial in the *British Medical Journal* on 11/01/2014 was entitled: A shameful episode.³³³

The UK government did a sudden U-turn from its agreement that a minimum price on a unit of alcohol would be introduced across the United Kingdom. *"The evidence for substantial health savings and cost savings was clear."* *"Scotland had introduced a minimum price (though now under legal challenge by the drinks industry) and the UK Prime Minister had given his personal commitment that England and Wales would follow suit."* Jeremy Browne the Home Office Minister said that the government didn't have *"enough concrete evidence."* However, Jonathan Gornall, in a BMJ investigation, discovered: *"the extent and effects of contact between ministers and interest groups lobbying against the minimum unit price."* Gornall concluded that the consultation itself was a sham. *"While MPs struggled to gain access to ministers, representatives of alcohol companies and major supermarkets had easy access – made easier by the well-oiled revolving doors between industry and special advisory posts."* *"Academics quoted by Gornall express concern about the misuse of the scientific process by the alcohol industry and its mouthpiece."* They were using tactics reminiscent of the tobacco industry.

*Documents released under a freedom of information request showed that between the coalition taking power in May 2010 and the end of 2013 the Department of Health alone had 130 meetings with representatives of the industry.*³³⁴

The extensive investigation shows *"beyond doubt that commercial interests are currently in control of key decisions about the public's health."* This is precisely what we have found about the Agrochemical Corporations. The difference is that they are not lobbyists gaining Ministerial access. They are working within the Government Regulatory Committees.

The legal limit of alcohol for driving is highest in the UK and Malta at 0.8 g/l

*The relationship between relative crash rate and BAC-level is exponential. From Figure 7 we may conclude that for instance the crash rate per kilometre driven for a driver with 0.8 g/l alcohol in his blood (still the legal limit in the United Kingdom and Malta) is approximately 2.7 times higher than the rate for a sober driver.*³³⁵ This confirms that British commercial interests are considered to be more important than the health of the public.

Why is the Natural Environment Research Council selling off its assets too?

³³³ <http://www.bmj.com/content/348/bmj.g110>

³³⁴ jgornall@mac.com BMJ 2014;348:f7646

³³⁵

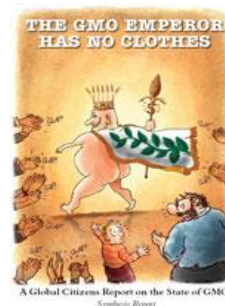
http://ec.europa.eu/transport/road_safety/specialist/knowledge/alcohol/prevalence_amp_rate_of_alcohol_consumption/the_legal_limit.htm

Is the British Geological Survey (BGS) being sold off so that someone else is in control when the UK starts fracking?³³⁶ The thoroughness with which the present BGS staff carried out the Report on Emerging Contaminants in Groundwater³³⁷ suggests that the Chairman of Environment Agency was none too pleased about the disclosure of some of the EA data. Although the Report is on the internet, it is unusual for the fact that it hasn't been published. From reading the data, it is obvious that Syngenta was allowed to continue selling off its stocks of herbicides atrazine and simazine to the UK long after they were banned in the EU.³³⁸ *Appendix 2: Non-licenced pesticides showed that levels of atrazine above the legal limit was found at 1039 monitoring sites in the UK (maximum concentration: 13.04 µg/l; EU legal limit <0.1 µg/l).* It must have given Defra a fright when in a single street in Kent, a major defect that had been shown in the US to be caused by atrazine, occurred in nine babies over 12 years. Syngenta said: “*There is no proven link between atrazine and these defects. Atrazine does not cause developmental abnormalities.*” The Public Health Investigation conclusion was extraordinary: “*It did not find evidence of higher rates of gastroschisis than could be considered normal in the Waterdales Road area*” Was there a Defra, Syngenta and Department of Health conspiracy to bury this scandal? How was the journalist who first reported it silenced?⁸⁴

The GMO Emperor Has No Clothes-A Global Citizens Report on the State of GMOs³³⁹

We have been repeatedly told that genetically engineered (GE) crops will save the world by increasing yields and producing more food. They will save the world by controlling pests and weeds. They will save the world by reducing chemical use in agriculture. They will save the world with GE drought tolerant seeds and other seed traits that will provide resilience in times of climate change.

All of these claims have been established as false over years of experience all across the world. The Global Citizens Report “The Emperor Has No Clothes” brings together evidence from the ground of Monsanto’s and the industry’s false promises and failed technology.



A new study from Brazil reveals molecular differences between transgenic and conventional maize

Sarah Zanon Agapito-Tenfen *et al.* Comparative proteomic analysis of genetically modified maize grown under different agroecosystems conditions in Brazil.³⁴⁰

Conclusions: *To the best of our knowledge this study represents the first evidence of protein identities with differentially expressed isoforms in Brazilian MON810 genetic background hybrid grown under field conditions. As global databases on outputs from “omics” analysis become available, these could provide a highly desirable benchmark for safety assessments.*

³³⁶ <http://www.nerc.ac.uk/about/consult/centre-governance.asp>

³³⁷ <http://nora.nerc.ac.uk/14557/1/OR11013.pdf>

³³⁸ <http://www.moraybeedinosaurs.co.uk/neonicotinoid/Contamination%20of%20water%20with%20pesticides.pdf> pages 25-28.

³³⁹ <http://www.navdanya.org/component/content/article/19-frontpage-content/118-the-gmo-emperor-has-no-clothes-a-global-citizens-report-on-the-state-of-gmos>

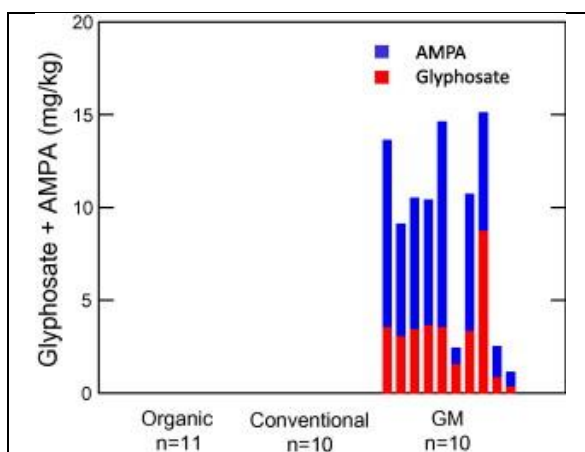
³⁴⁰ <http://www.proteomesci.com/content/pdf/1477-5956-11-46.pdf>

A new study finds that GM soya is not ‘substantially equivalent’ to non-GM

US FDA is responsible for regulating the safety of GM crops that are eaten by humans or animals. According to a policy established in 1992, FDA considers most GM crops as “substantially equivalent” to non-GM crops.³⁴¹ In such cases, GM crops are designated as “Generally Recognized as Safe” under the Federal Food, Drug, and Cosmetic Act (FFDCA) and do not require pre-market approval. This study from Norway rejects that GM soy is “substantially equivalent” to non-GM soybeans. It describes the nutrient and elemental composition, including residues of herbicides and pesticides, of 31 soybean batches from Iowa, USA. T. Bøhn *et al.*³⁴² found:

- 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”



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

The Brussels Charter

Dr Joël Spiroux de Vendômois, President of CRIIGEN,³⁴³ invites you to copy his example by seconding this initiative from Corinne Lepage MEP, the Brussels Charter, so as to take legal sanctions against those perpetrating crimes against humanity by disregarding the environment at the expense of human health. Corinne Lepage is a lawyer and former French Minister for the Environment.

³⁴¹ <http://www.fas.org/biosecurity/education/dualuse-agriculture/2.-agricultural-biotechnology/us-regulation-of-genetically-engineered-crops.html>

³⁴² <http://www.sciencedirect.com/science/article/pii/S0308814613019201> Compositional differences in soybeans on the market: glyphosate accumulates in Roundup Ready GM soybeans

³⁴³ Comité de Recherche et d'Information Indépendantes sur le Génie Génétique. Tél : 02 31 56 56 84
Fax : 02 31 56 53 20 criigen@unicaen.fr www.criigen.org

The commentary for this short video is in French, but the images speak for themselves. As well as CRIIGEN, Germany's Testbiotech carries out research independent of industry. Italy is the base for the Permanent People's Tribunal against the Big 6 Agrochemical Companies.³⁴⁴

http://www.dailymotion.com/video/x1ap0r5_charte-de-bruxelles-pour-une-cour-penal-international-de-l-environnementla-degradation-croissante-de_news

British and US Governments stand with Monsanto against the people

Britain and the US together, by aligning themselves with the Corporations, stand isolated. The Government blames us, the people; for this massive epidemic of cancers. Doctors blame alcohol, tobacco, obesity, lifestyle, lack of exercise, air pollution. But no-one dares to mention pesticides and chemical pollution of ground water, surface water and our drinking water.

The British Government³⁴⁵ has joined forces with Monsanto, EFSA and the EU Commission to fight civil society in the EU Court to defend the right to import Monsanto's transgenic soybean Intacta® which produces an insecticide and is resistant to glyphosate herbicides such as Roundup®.

Are Britain and the USA being hypocritical?

US Secretary of State John Kerry, in justification of the bombing of Syria by the US on 30/08/2013, said: "*History will judge us harshly if we turn a blind eye to use of weapons of mass destruction*".

Has John Kerry forgotten the Vietnam War, after which he gave evidence to Congress about US War Crimes?

*In the course of 10 years, American forces sprayed nearly 20 million gallons of the chemical (a dioxin, Agent Orange) in Vietnam, Laos and parts of Cambodia in an effort to deprive guerrilla fighters of cover by destroying plants and trees where they could find refuge.*³⁴⁶ *Among the illnesses contracted by people exposed to the dioxin are non-Hodgkin's lymphoma, several varieties of cancer, type 2 diabetes, soft tissue sarcoma, birth defects in children, spina bifida and reproductive abnormalities, to name a few.*

The U.S. government, however, has dismissed these figures as unreliable and inflated.

In July 2013 the Association for Victims of Agent Orange in Ho Chi Minh City has filed its fourth lawsuit against Monsanto & Dow, the American chemical companies that produced Agent Orange.

- *South Korea's highest court on Friday upheld a ruling, ordering two U.S. Agent Orange makers to compensate 39 Vietnam War veterans in one of the country's most prominent lawsuits*³⁴⁷.
- *The Supreme Court (SC) recognised the epidemiological correlation between the toxic defoliant and skin diseases for the first time, saying the 39 victims should receive a total of 466 million won (\$415,000) from Dow*

³⁴⁴ <http://www.slideshare.net/earthislandphils/ppt-verdict-against-the-big-six-agrochemical-companies-syngenta-bayer-monsanto-dow-dupont-and-basf>

³⁴⁵ <http://www.testbiotech.de/en/node/898>

³⁴⁶ <http://www.dailymail.co.uk/news/article-2401378/Agent-Orange-Vietnamese-children-suffering-effects-herbicide-sprayed-US-Army-40-years-ago.html>

³⁴⁷ <http://www.thehindu.com/todays-paper/tp-international/dow-monsanto-ordered-to-pay-agent-orange-victims/article4913976.ece>

Chemical and Monsanto. U.S. forces widely sprayed Agent Orange, which contained the lethal chemical dioxin, in Vietnam during the conflict to deprive enemy guerrillas of forest cover and destroy food crops. Veterans in South Korea estimate the number of Korean victims of the chemicals at about 150,000. Many insisted they were suffering from various ailments associated with exposure to the powerful herbicide. Vietnam says millions of its people have died or suffered from direct or second-generation disabilities as a result of the use of Agent Orange.

- *Washington has never accepted responsibility for the Vietnamese government's claim.*

Four Corners investigation in Australia finds dangerous dioxins in widely used herbicide 2,4-D³⁴⁸

At the end of WW2, the laboratories in Germany that had been making nerve gases would continue to be used to manufacture organochlorine and organophosphate pesticides. The discovery of the herbicide 2,4-D in 1941 was made at the same time by the USDA and by Rothamsted Research in the UK. In Australia in July 2013: *"An urgent review is underway after a Four Corners investigation found elevated levels of dangerous dioxins in a generic version of 2,4-D, one of Australia's most widely used herbicides. Dioxins are one of the most deadly chemical compounds in the world, but Australian authorities do not routinely test for them."*

The Difference between Chemical Weapons and Pesticides

- Chemical weapons kill fast and the effects are obvious for anyone to see.
- The effects of pesticides on human health and the environment are extremely subtle. Pesticides are silent destroyers: by the time the patterns are obvious, it is too late.

The Difference between a Farmer and a Global Chemical Corporation³⁴⁹

We, the public, are guinea pigs for a flawed technology

We, the public, are the guinea pigs for a technology that in many countries has been shown to be flawed.³⁵⁰ The evidence of genotoxicity, teratogenicity and endocrine disruption caused by pesticides is there for anyone to see. We have not given informed consent. The public has been deliberately kept in the dark. Tax payers' money is being appropriated for the experiments. The pesticides industry is responsible for the destruction of human health and biodiversity. On 25-26 February 2014 the UK environment secretary Owen Paterson "confirmed" that he will leave flood-ridden Britain to attend an event persuading Africans – in the name of science – to accept GMOs.³⁵¹

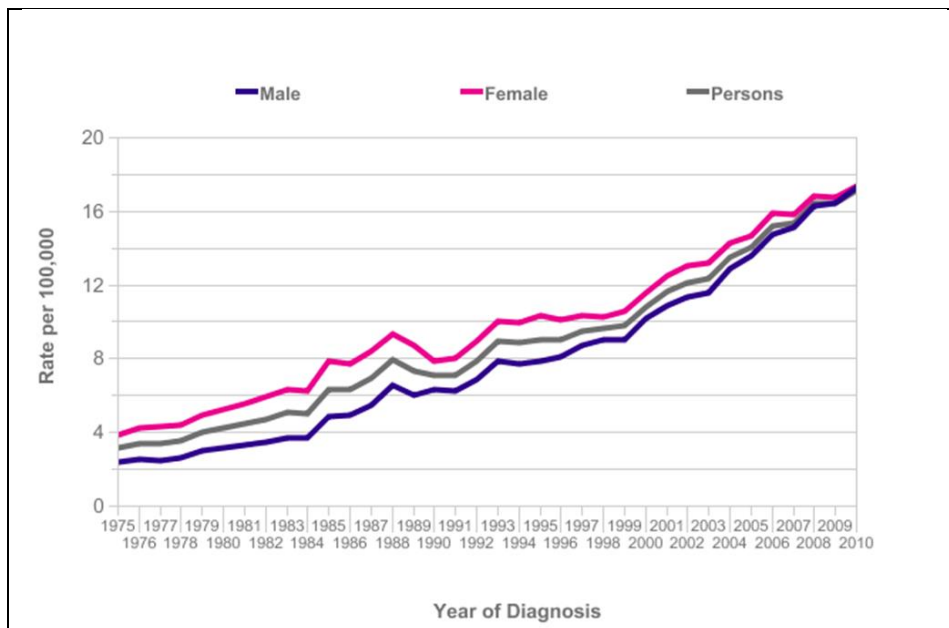
³⁴⁸ <http://mobile.abc.net.au/news/2013-07-22/four-corners-dangerous-dioxins/4833848>

³⁴⁹ <http://www.huffingtonpost.com/andrea-brower/the-difference-between-a-3-b-4764902.html>

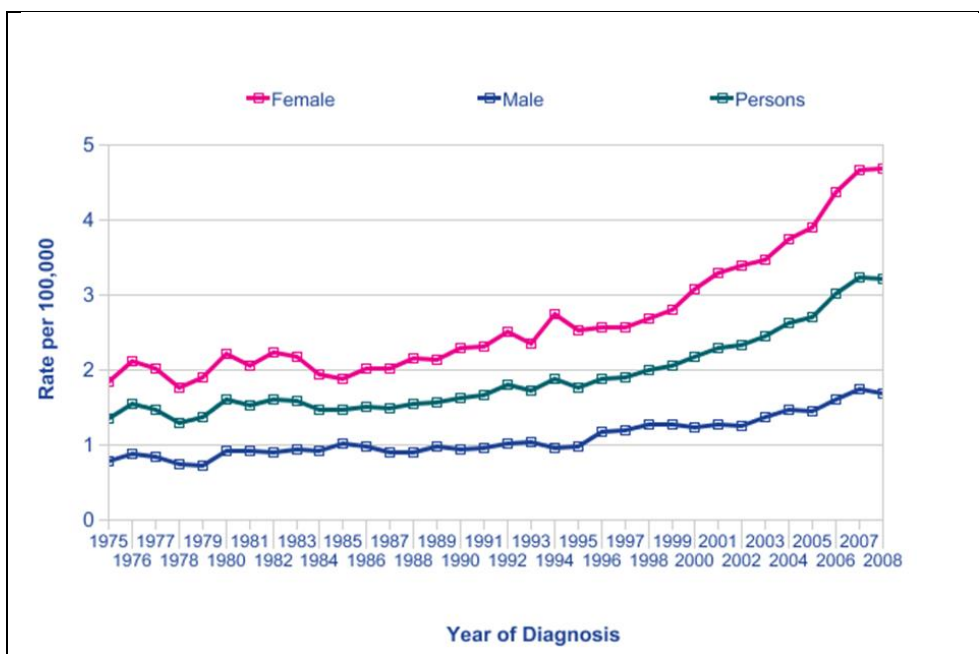
³⁵⁰ Dr Don M. Huber, Emeritus Professor of Plant Pathology, Purdue University, US, speaking about GMO crops and glyphosate, said: *"Future historians may well look back upon our time and write, not about how many pounds of pesticide we did or didn't apply, but by how willing we are to sacrifice our children and future generations for this massive genetic engineering experiment that is based on flawed science and failed promises just to benefit the bottom line of a commercial enterprise."*

³⁵¹ <http://foodvitalpublicservice.wordpress.com/2014/02/13/the-biotech-industry-retreats-from-europe-but-is-courting-africa/>

Appendix of graphs showing the increases in diseases since 1975



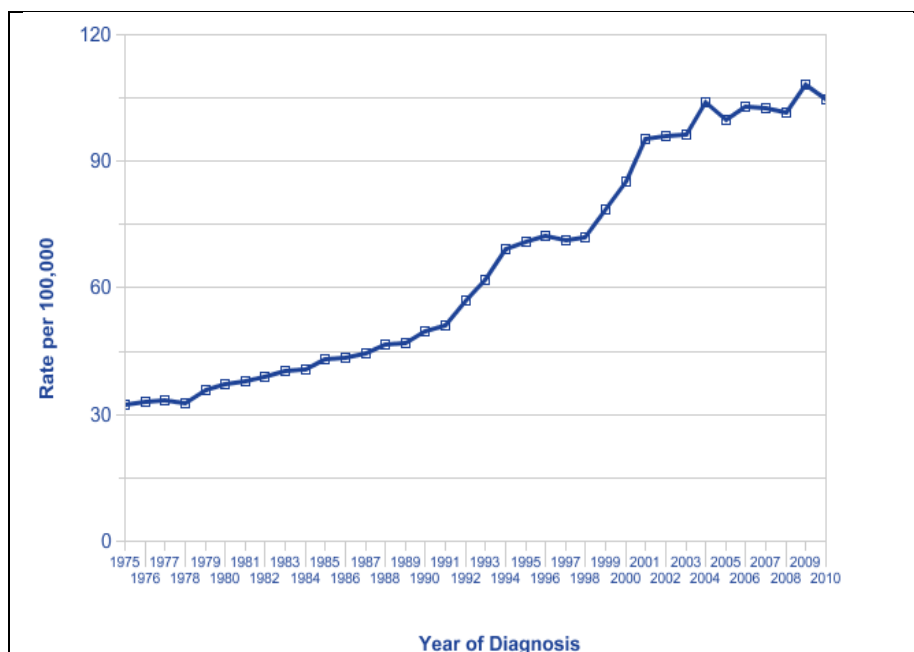
Malignant Melanoma: Age standardised incidence rates per 100,000 Population by sex, Great Britain. Prepared by Cancer Research UK³⁵²



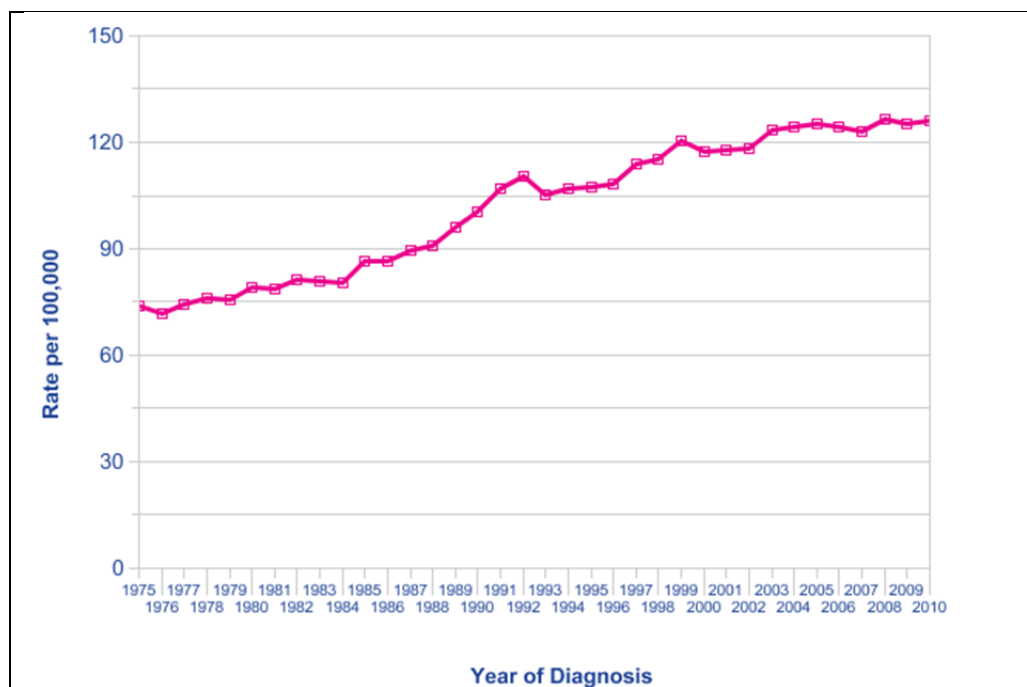
CRUK statistics: Thyroid cancer (C73), European Age-Standardised Incidence Rates, Great Britain, 1975-2008³⁵³

³⁵² <http://info.cancerresearchuk.org/cancerstats/fags/#>

³⁵³ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/thyroid/incidence/>



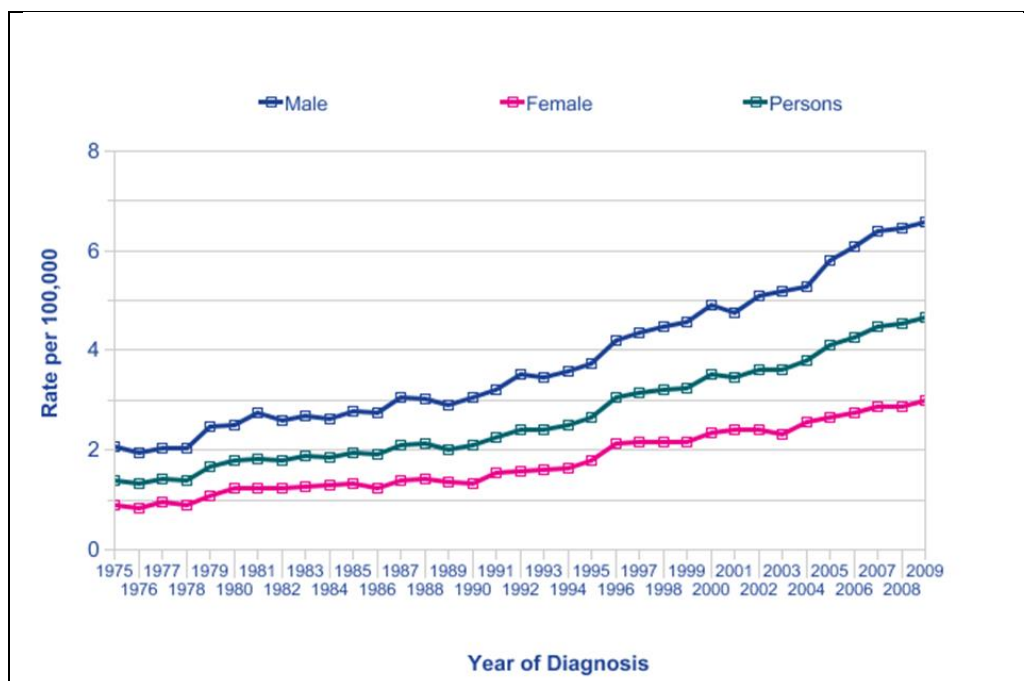
CRUK incidence figures for Prostate Cancer 1975-2010. European Age standardised incidence rates per 100,000 Population, males, Great Britain³⁵⁴



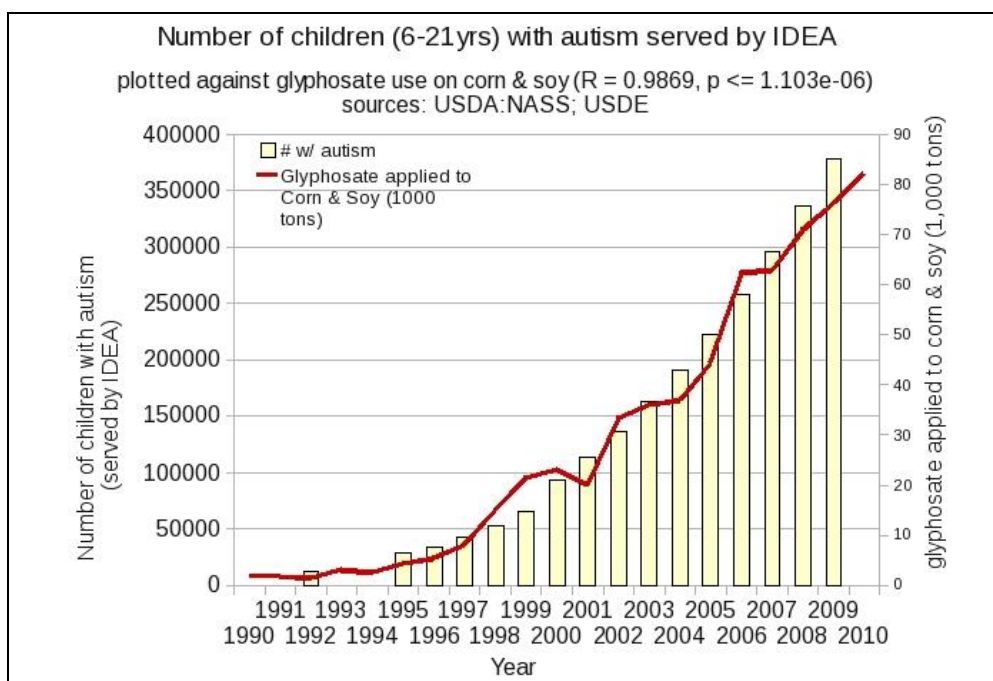
Cancer Research UK Breast Cancer (C50), European Age-Standardised Incidence Rates, Females, Great Britain, 1975-2010³⁵⁵

³⁵⁴ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/prostate/incidence/uk-prostate-cancer-incidence-statistics#trends>

³⁵⁵ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/incidence/#trends>

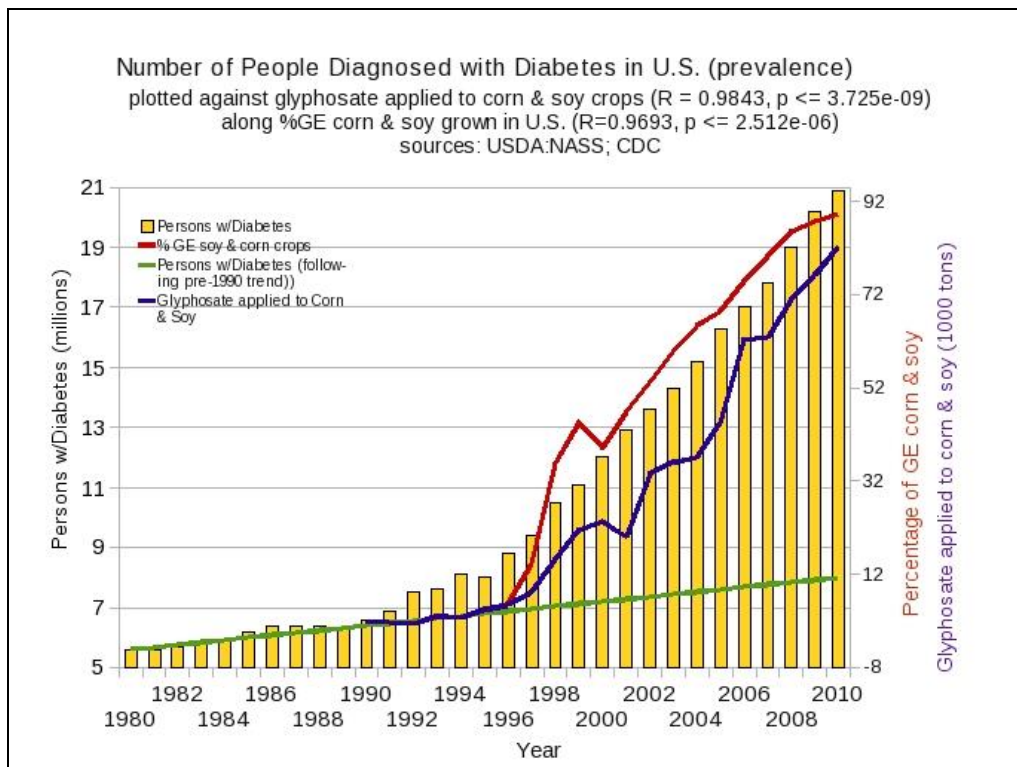


Cancer Research UK (CRUK) Liver Cancer: European Age-Standardised Incidence Rates, male and females, Great Britain, 1975-2009³⁵⁶

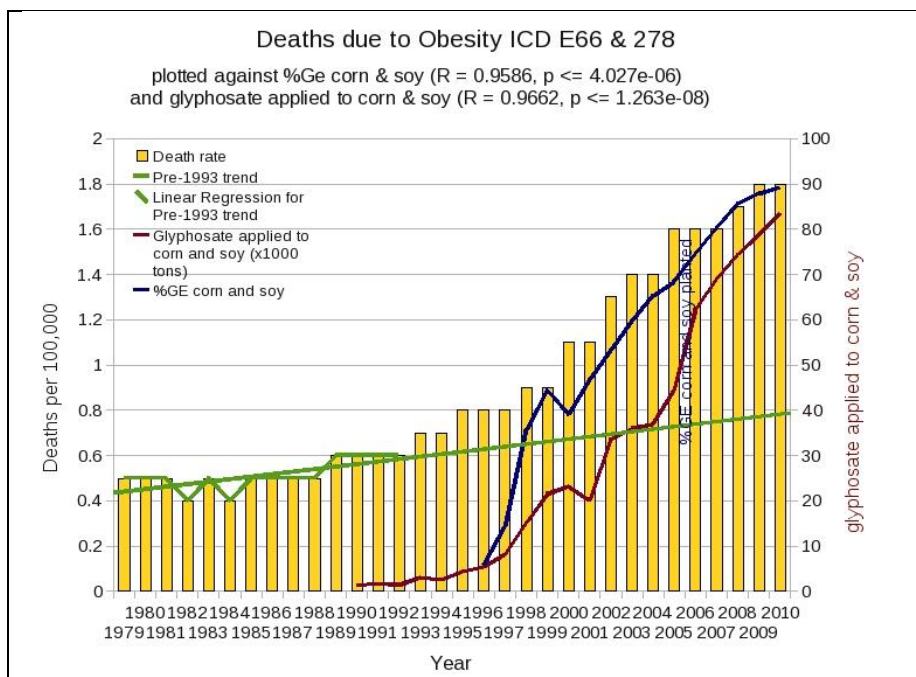


Number of children with autism plotted against glyphosate use on GE corn and soy. Autism data were obtained from the U.S. Department of Education, which keeps track of school age children receiving services under the Individuals with Disabilities Education Act (IDEA). This plot is shown using data from USDE for the number of autistic children receiving services. By kind permission of Dr Nancy Swanson.

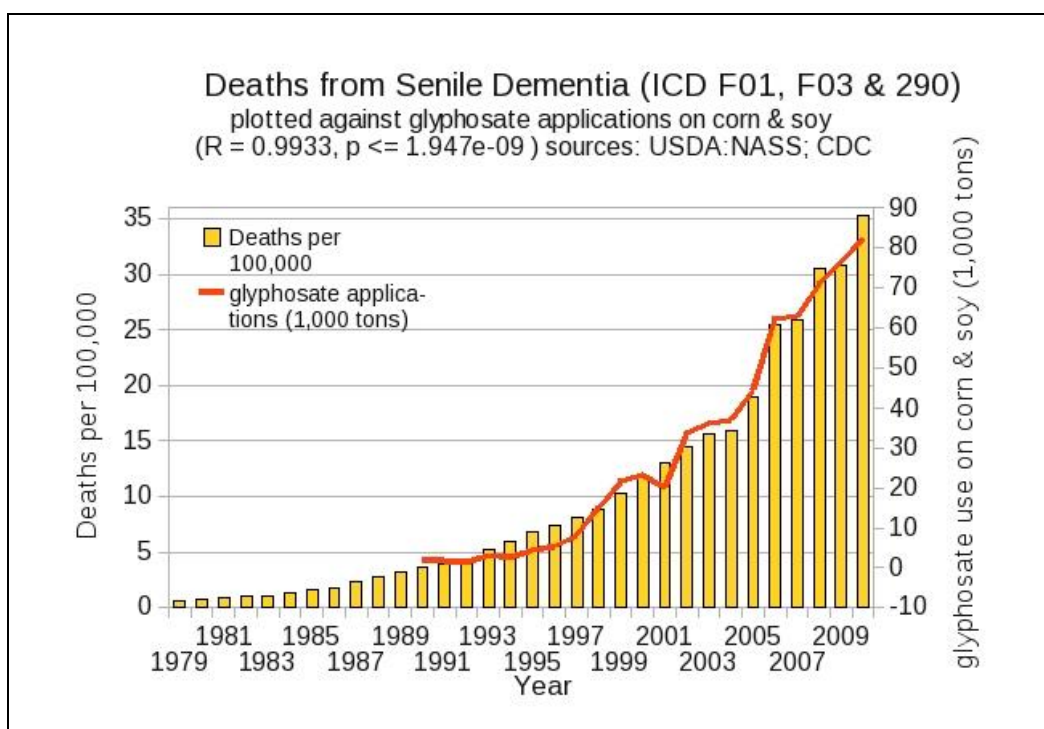
³⁵⁶ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/liver/incidence/#trends>



US data for % GE corn and soy crops planted and glyphosate applied plotted against the number of people diagnosed with Diabetes in US (prevalence). Crop and glyphosate data from the United States Department of Agriculture; diabetes data from U.S. Centers for Disease Control (CDC).



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



Deaths per 100,000 from Senile Dementia plotted against glyphosate applications on corn and soy. Data from USDA and CDC. By kind permission of Dr Nancy Swanson

	Parts per million (ppm)	
Ingredient	GM corn	Non-GM corn
Glyphosate	13	0
Formaldehyde	200	0
Nitrogen	7	46
Phosphorus	3	44
Potassium	7	113
Calcium	14	6 130
Magnesium	2	113
Sulphur	3	42
Manganese	2	14
Iron	2	14
Zinc	2.3	14.3
Copper	2.6	16
Molybdenum	0.2	1.5
Boron	0.2	1.5
Selenium	0.6	0.3
Cobalt	0.2	1.5

The results of a comparison of GM and non-GM corn from adjacent Midwest fields in the US that first appeared on the Moms Across America March website are reproduced in the Table.³⁵⁷

³⁵⁷ http://www.i-sis.org.uk/Stunning_differences_of_GM_from_non_GM_corn.php