

Corporate Espionage: The Séralini Affair and Beyond

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

Prof Gilles-Eric Séralini and colleagues at CRIIGEN in Caen had questioned the adequacy of Monsanto's testing both for glyphosate and GM crops¹

"The 90-day-long tests are insufficient to evaluate chronic toxicity, and the signs highlighted in the kidneys and livers could be the onset of chronic diseases. However, no minimal length for the tests is yet obligatory for any of the GMOs cultivated on a large scale, and this is socially unacceptable in terms of consumer health protection. We are suggesting that the studies should be improved and prolonged, as well as being made compulsory, and that the sexual hormones should be assessed too, and moreover, reproductive and multigenerational studies ought to be conducted too."

Séralini's 2-year feeding study provoked chronic hormone and sex dependent pathologies in rats; males developed tumours at 4 months and females at 7 months²

"The health effects of a Roundup®-tolerant genetically modified maize (from 11% in the diet), cultivated with or without Roundup®, and Roundup® alone (from 0.1 ppb in water), were studied 2 years in rats. In females, all treated groups died 2–3 times more than controls, and more rapidly. This difference was visible in 3 male groups fed GMOs. All results were hormone and sex dependent, and the pathological profiles were comparable. Females developed large mammary tumours almost always more often than and before controls, the pituitary was the second most disabled organ; the sex hormonal balance was modified by GMO and Roundup® treatments. In treated males, liver congestions and necrosis were 2.5–5.5 times higher. This pathology was confirmed by optic and transmission electron microscopy. Marked and severe kidney nephropathies were also generally 1.3–2.3 greater. Males presented 4 times more large palpable tumors (kidney) than controls which occurred up to 600 days earlier. Biochemistry data confirmed very significant kidney chronic deficiencies; for all treatments and both sexes, 76% of the altered parameters were kidney related. These results can be explained by the non- linear endocrine-disrupting effects of Roundup®, but also by the overexpression of the transgene in the GMO and its metabolic consequences."

Authors' highlights:

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

The following 12-minute You Tube video explains the whole 2-year experiment by Séralini's team in the CRIIGEN laboratory³.

¹ Séralini, G-E. *et al.* Genetically modified crops safety assessments: present limits and possible improvements *Environmental Sciences Europe* 2011, 23:10 doi:10.1186/2190-4715-23-10.

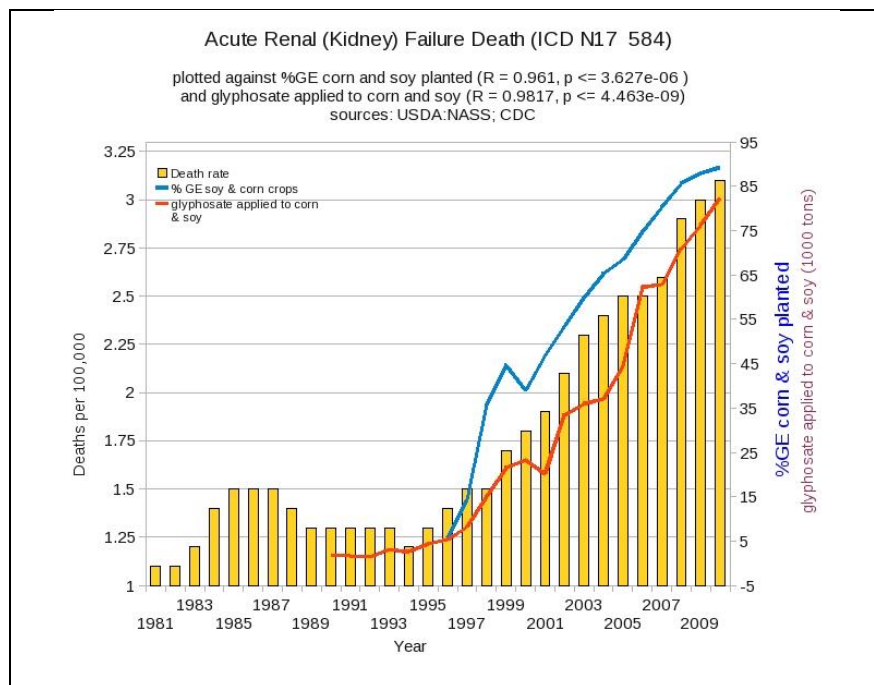
² <http://dx.doi.org/10.1016/j.fct.2012.08.005>

What Séralini's team discovered in rats is happening in humans

Rats in Séralini's study developed severe kidney nephropathies. Acute Kidney Injury (AKI) deaths in the US and the UK have risen since glyphosate was introduced

In the US there is a correlation between Acute Kidney Injury and glyphosate applied to corn and soy and %GE corn and soy planted.

In the UK a new guideline report issued on 28/08/2013 from the National Institute for Health and Care Excellence (NICE) says AKI (a sudden loss of kidney function) costs the NHS between £434m and £620m a year – more than it spends on breast, lung and skin cancer combined.⁴ The former national clinical director for kidney care said 32 people die needlessly every day from AKI. He said AKI represents a “human tragedy”.



Graph 1 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. Data from USDA and US CDC. Reproduced by kind permission of Dr Nancy Swanson.⁵

Rats in Séralini's study suffered liver damage, particularly in males. In the UK and the US incidence of Liver Cancers have increased, in the UK particularly in males

Cancer Research UK (CRUK) ⁶ “In 2010, there were 4,241 new cases of liver cancer in the UK 2,672 (63%) in males and 1,569 (37%) in females, giving a male:female ratio of around 17:10. The crude incidence rate shows that there are 9 new liver cancer cases for every 100,000 males in the UK and 5 for every 100,000 females.”

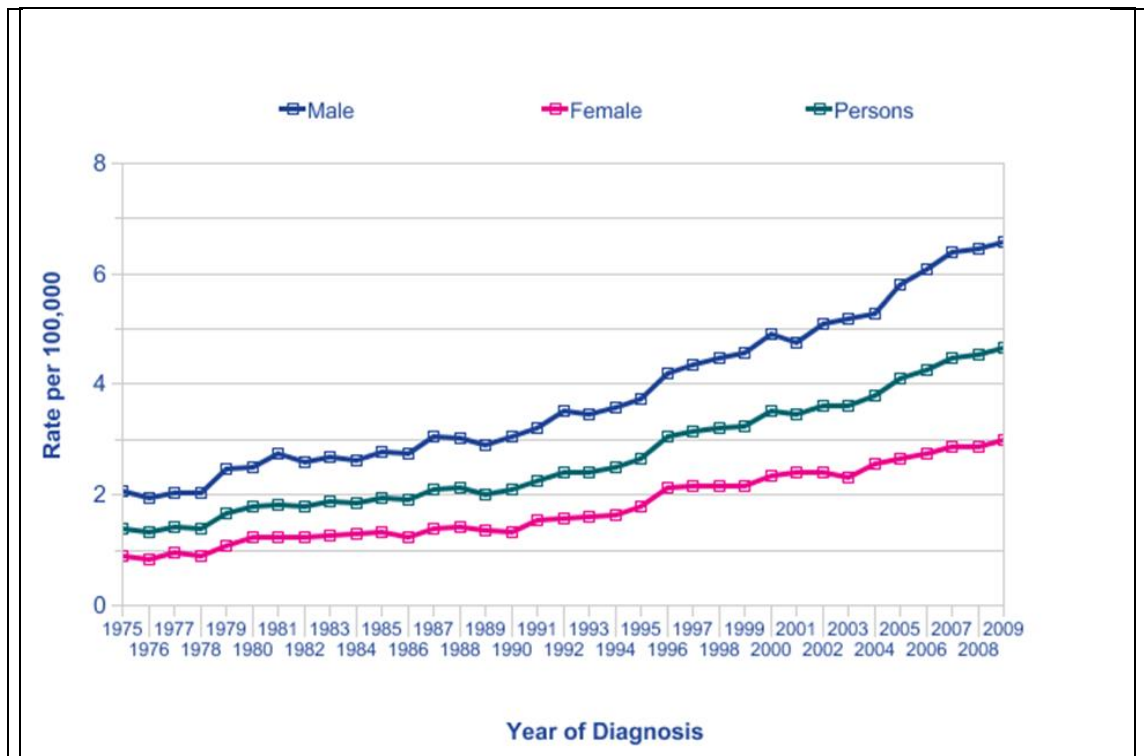
“Liver cancer incidence rates have increased overall for all of the broad age groups in Great Britain since the mid-1970s: European Age-Standardised incidence rates increasing by almost four times between 1975-1977 and 2008-2010.”

³ http://www.youtube.com/watch?v=Njd0RugGjAg&feature=player_embedded

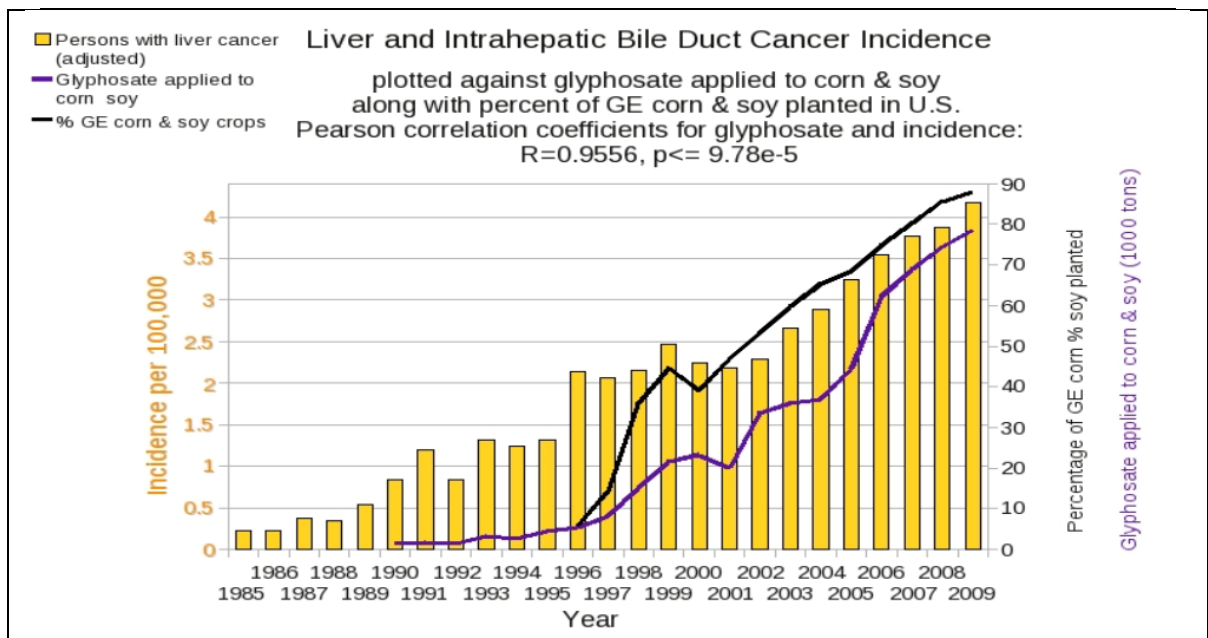
³ <http://www.theguardian.com/society/2013/aug/28/kidney-care-lives-nice>

⁵ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>

⁶ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/liver/incidence/#trends>



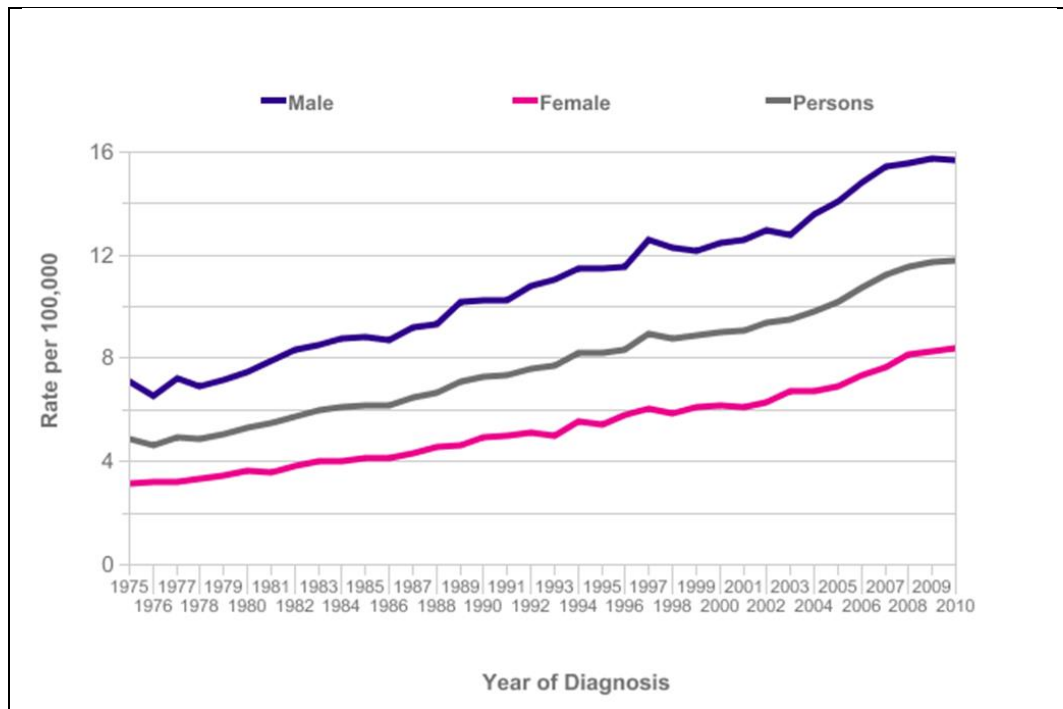
Graph 2 Cancer Research UK (CRUK) Liver Cancer: European Age-Standardised Incidence Rates, male and females, Great Britain, 1975-2009⁷



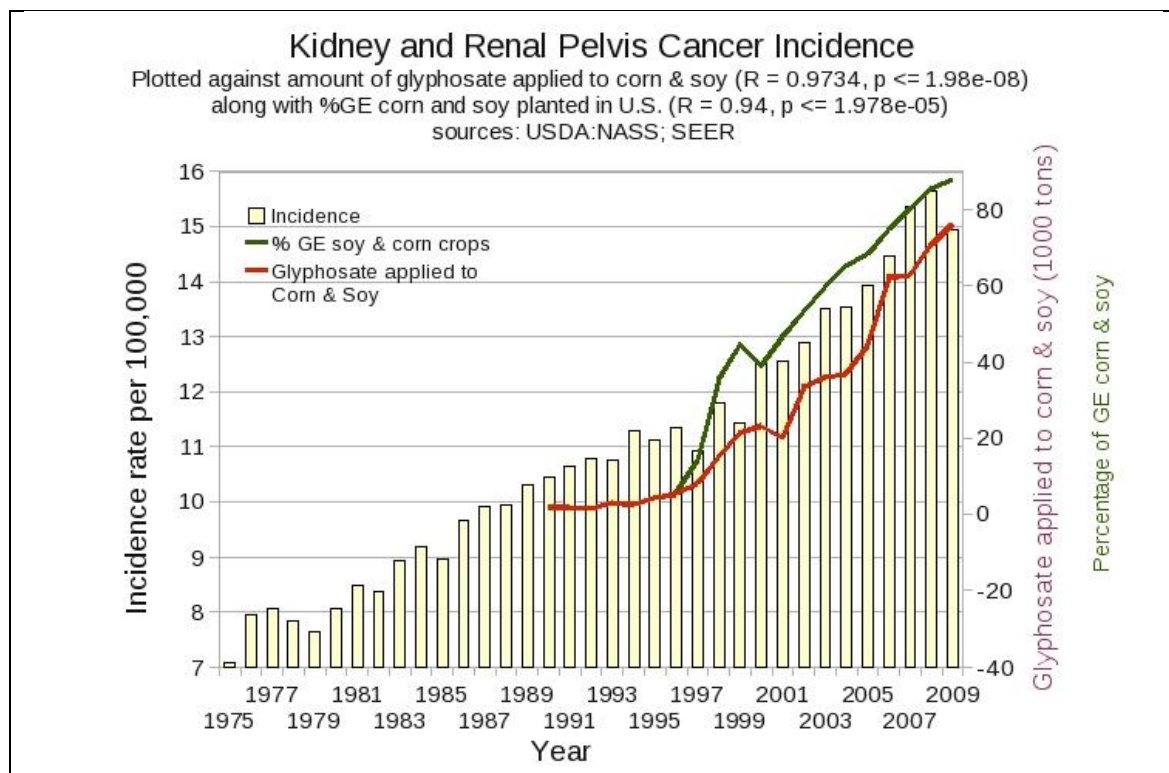
Graph 3 Persons with liver and bile duct cancer plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US By kind permission of Dr Nancy Swanson. Data from USDA and US CDC

⁷ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/liver/incidence/#trends>

Séralini's rats had tumours that were sex and hormone dependent. They started appearing at 4 months, one month after Monsanto's and EFSA's 90 day testing

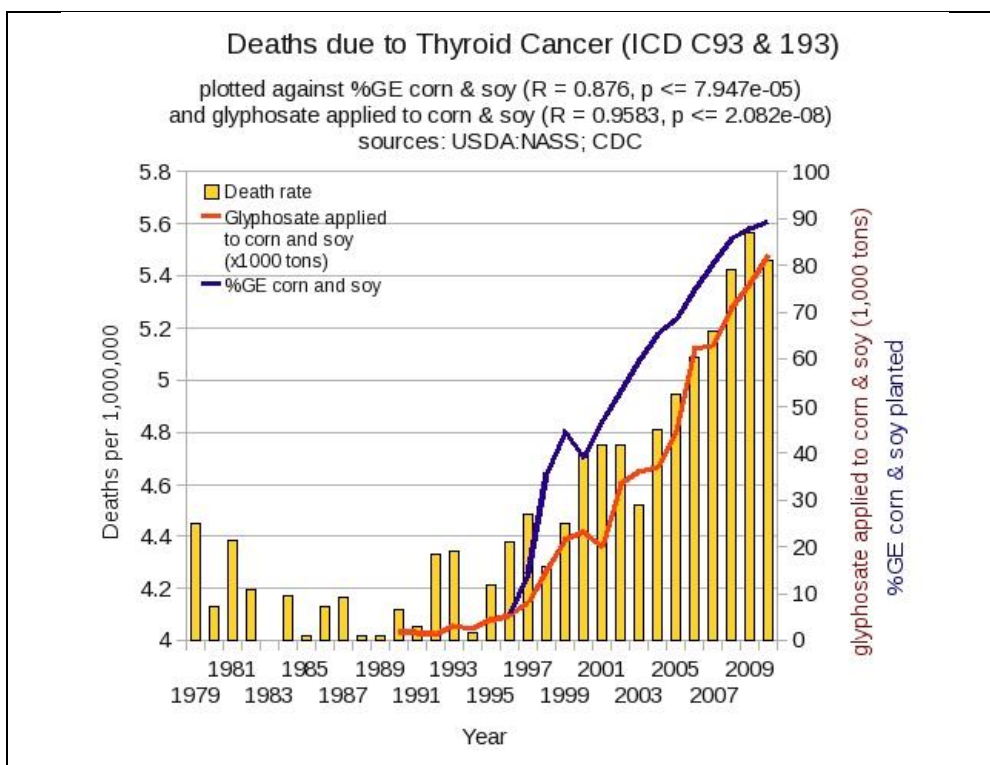


Graph 4 Cancer Research UK (CRUK) Kidney Cancer: European Age-Standardised Incidence Rates per 100,000, by sex, Great Britain, 1975-2010.⁸

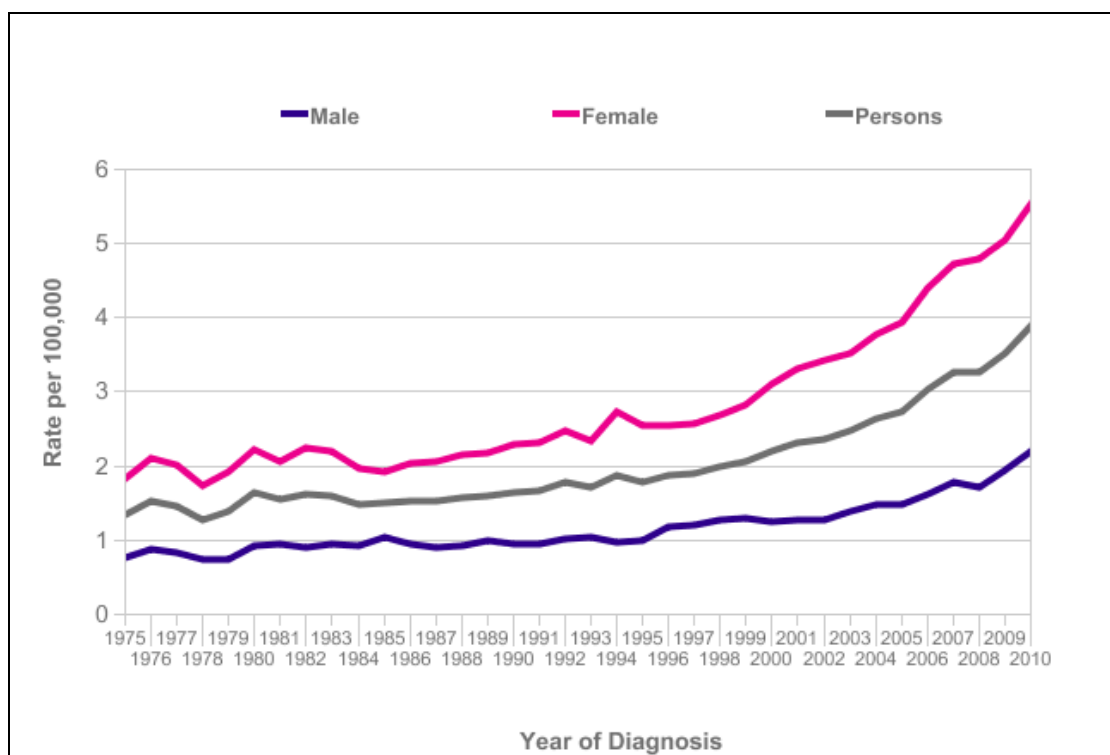


Graph 5 Incidence of Kidney and Renal Pelvis Cancer plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US By kind permission of Dr Nancy Swanson. Data from USDA and US CDC.

⁸ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/kidney/incidence/#trends>



Graph 6 Deaths due to Thyroid Cancer plotted against glyphosate applied to corn and soy and % GE corn & soy planted in the US By kind permission of Dr Nancy Swanson. Data from USDA and US CDC.



Graph 7 Thyroid Cancer: Cancer Research UK (CRUK): European Age-Standardised Incidence Rates per 100,000, by sex, Great Britain, 1975-2010.⁹

⁹ <http://www.cancerresearchuk.org/cancer-info/cancerstats/types/thyroid/incidence/#Trends>

What the global scientific community said about the retraction of Séralini's paper
Claire Robinson on behalf of GMWatch said: *Journal retraction of Séralini study is illicit, unscientific, and unethical.*¹⁰ *It violates the guidelines for retractions in scientific publishing set out by the Committee on Publication Ethics (COPE), of which FCT is a member. COPE guidelines state that the only grounds for a journal to retract a paper are:*

- *Clear evidence that the findings are unreliable due to misconduct (e.g. data fabrication) or honest error*
- *Plagiarism or redundant publication*
- *Unethical research.*

*Prof Séralini's paper does not meet any of these criteria and Hayes admits as much. In his letter informing Prof Séralini of his decision.*¹¹ *Hayes concedes that an examination of Prof Séralini's raw data showed "no evidence of fraud or intentional misrepresentation of the data" and nothing "incorrect" about the data.*

Hayes states that the retraction is solely based on the "inconclusive" nature of the findings on tumours and mortality, given the relatively low number of rats used and the choice of rat strain, which Hayes says naturally has a "high incidence of tumours".

"Crucially, however, inconclusiveness of findings is not a valid ground for retraction.

Numerous published scientific papers contain inconclusive findings, which are often mixed in with findings that can be presented with more certainty. It is for future researchers to build on the findings and refine scientific understanding of any uncertainties".

European Network of Scientists for Social and Environmental Responsibility ENSSER¹²

"In short, the decision to retract Séralini's paper is a flagrant abuse of science and a blow to its credibility and independence. It is damaging for the reputation of both the journal Food and Chemical Toxicology and its publisher Elsevier. It will decrease public trust in science. And it will not succeed in eliminating critical independent science from public view and scrutiny. Such days and times are definitively over. Prof. Séralini's findings stand today more than before, as even this secret review found that there is nothing wrong with either technicalities, conduct or transparency of the data – the foundations on which independent science rests. The conclusiveness of their data will be decided by future independent science, not by a secret circle of people."

Euronews¹³ A new editor at the journal, Richard Goodman, is a biologist who formerly worked for Monsanto – the leading producer of GM foods.

"If this magazine, which just hired a former Monsanto employee as an editor, withdraws this study, it'll mean it never existed. What we have tried to do, to try and carry out studies of the long-term effects of genetically-modified foods and pesticides on human health, will be permanently shut off." said French MEP Corinne Lepage.

At the European level, GM crops are generally tested for no more than three months by the manufacturers who produce them. These studies are used to authorise the products.

¹⁰ <http://www.gmwatch.org/index.php/news/archive/2013/15184>

¹¹ <http://www.prnewswire.co.uk/news-releases/elsevier-announces-article-retraction-from-journal-food-and-chemical-toxicology-233754961.html>

¹² <http://www.ensser.org/democratising-science-decision-making/ensser-comments-on-the-retraction-of-the-seralini-et-al-2012-study/>

¹³ <http://www.euronews.com/2013/11/28/french-researcher-claims-gm-food-lobbyists-pulled-study-from-journal/>

Meanwhile, the European Commission has proposed authorising a new GM corn crop. The decision could be made early next year.

Séralini's responded to his critics twice and finally to the retraction

Twice in 2013, Séralini answered his critics^{14,15}.

Read Séralini's full response to the *Food and Chem. Tox* retraction.¹⁶ Here is an abstract on double standards: *"A factual comparative analysis of the rat feeding trial by the Séralini's group and the Monsanto trials clearly reveals that if the Séralini experiments are considered to be insufficient to demonstrate harm, logically, it must be the same for those carried out by Monsanto to prove safety. Basically, all previous studies finding adverse effects of GE crops have been treated by regulators with the attitude: only those studies showing adverse effects receive a rigorous evaluation of their experimental and statistical methods, while those that claim proof of safety are taken at face value. All studies that reported no adverse effects were accepted as proof of safety regardless of these manifest (but deemed irrelevant) deficiencies of their methods."*

Séralini argues that: *"FCT should retract the Hammond et al. paper on Roundup® tolerant maize for all these reasons, published for Monsanto's authorization, or consider that each of these papers is part of the scientific debate."* [If Séralini's paper has to go, Hammond's, which formed part of Monsanto's submission for authorisation, should be retracted as well!]

In fact, the appointment of Richard Goodman as Associate Editor of JCT had already been noted by Claire Robinson and Jonathan Latham PhD on May 2013. They wrote a scathing account of the strategies used by industry to prevent publication of complications of GM: The Goodman Affair: Monsanto targets the heart of Science¹⁷

Another inconvenient paper was retracted by Journal of Food and Chemical Toxicology

The Brazilian paper, like Prof Séralini's, had been peer-reviewed and published by FCT prior to Goodman's arrival. *After Goodman was installed, FCT withdrew a separate study by Brazilian researchers that also raised questions about GM crop safety. The study showed that Bt insecticidal toxins similar to those engineered into GM Bt crops were not broken down in digestion, as is claimed by the industry and regulators, but had toxic effects on the blood of mice. The Brazilian paper, like Prof Séralini's, had been peer-reviewed and published by FCT prior to Goodman's arrival. After Goodman's arrival, the paper was withdrawn without explanation from FCT¹⁸ – only to be immediately published in another journal.*¹⁹ See GMO Myths and Truths: A Report by Open Earth Source.²⁰

¹⁴ <http://www.ncbi.nlm.nih.gov/pubmed/23146697>

¹⁵ <http://www.sciencedirect.com/science/article/pii/S0278691512008149>

Séralini, G.E., Mesnage, R., Defarge, N., Gress, S., Hennequin, D., Clair, E., Malatesta, M., Spiroux de Vendômois, J. (2013) Answers to critics: why there is a long term toxicity due to NK603 Roundup-tolerant genetically modified maize and to a Roundup herbicide. *Food and Chem. Tox.* 53:461-468

¹⁶ <http://gmwatch.org/index.php/news/archive/2013/15188-prof-seralini-responds-to-fct>

¹⁷ <http://www.independentsciencenews.org/science-media/the-goodman-affair-monsanto-targets-the-heart-of-science/>

¹⁸ Mezzomo BP et al (2012). WITHDRAWN: Effects of oral administration of *Bacillus thuringiensis* as spore-crystal strains Cry1Aa, Cry1Ab, Cry1Ac or Cry2Aa on hematologic and genotoxic endpoints of Swiss albino mice. *Food Chem Toxicol.* <http://www.ncbi.nlm.nih.gov/pubmed/23146696>

.Dr Richard E Goodman's account of how he got hired by JCT²¹

"As far as I know, Monsanto did not pressure Elsevier to hire me. I was employed at Monsanto in Regulatory Sciences from 1997 until July 2004 and worked on the safety assessment of genetically engineered crops during that time and as researcher, and continue with similar work since then. My work includes evaluating GMOs and novel food ingredients developed by non-profit and for-profit entities.

When the Séralini paper was published I was one of the primary critics of the editors of Elsevier for allowing this clearly deficient and sensationalistic paper to be published without apparent adequate peer review. I saw a number of deficiencies in the paper and wrote a critical letter to the editor (as did many scientists both within and outside of the biotech industry). The editorial staff of the journal, Food and Chemical Toxicology, knew that they did not have enough individual Managing and Associate Editors to cover the wide array of topics and the large number of manuscripts that they receive every year (more than 3,000 papers). The editor contacted me to inquire whether I was willing to become an Associate Editor to handle the review process for manuscripts related to biotechnology."

His *star* paper exonerated GM from causing harm: Richard E. Goodman and Afua O. Tetteh Suggested Improvements for the Allergenicity Assessment of Genetically Modified Plants Used in Foods *Curr. Allergy Asthma Rep.* 2011 August; 11(4): 317–324.²²

Conclusions *In our opinion, most current allergenicity assessment procedures for GM food crops are based on the best available science. There is no published evidence of allergic reactions to any GM protein or any adverse human health reactions associated with consumption of foods from GM crops during the past 14 years. Based on current evidence, consumers should feel confident that approved GM crops are as safe as traditional crops, and scientists should consider limiting studies to those that are predictive of food safety.*

Disclosure: Dr Goodman has received grant support from and had travel/accommodations expenses covered or reimbursed by the US Environmental Protection Agency, the US Department of Agriculture Foreign Agricultural Service, BASF Plant Science, Bayer CropScience, Dow AgroSciences, Monsanto Co., Pioneer Hi-Bred International, and Syngenta Plant Protection and has received consulting fees/honoraria from Bayer CropScience, the Institute of Food Technologists, CropLife International, the Institute of Life Sciences, Cargill, and Pepsi Co. Dr. Tetteh has received grant support from the US Environmental Protection Agency.

The 'expert' reaction to the withdrawal is posted at the Science Media Centre²³

Prof Alan Boobis, Prof of Biochemical Pharmacology at Imperial College London.

"However, there are instances where the conclusions of a paper significantly over-interpret the findings, as was the case here." Comment: Prof Boobis is on the Editorial Board of Food and Chemical Toxicity. He has occupied many positions on the International Life Sciences

¹⁹ Mezzomo BP et al. (2013). Hematotoxicity of Bacillus thuringiensis as spore-crystal strains Cry1Aa, Cry1Ab, Cry1Ac or Cry2Aa in Swiss albino mice. *J Hematol Thromb Dis* 1(1).

²⁰ http://earthopensource.org/files/pdfs/GMO_Myths_and_Truths/GMO_Myths_and_Truths_1.3b.pdf

²¹ <http://www.bioportfolio.com/news/article/1740028/Why-did-Monsanto-pressure-Elsevier-to-hire-Monsanto-employee-Richard-Goodman.html>

²² [10.1007/s11882-011-0195-6](http://dx.doi.org/10.1007/s11882-011-0195-6)

²³ <http://www.sciencemediacentre.org/expert-reaction-to-reports-of-a-request-for-gilles-eric-seralini-to-withdraw-his-paper-on-the-effects-of-gm-maize-on-rats/>

Institute: “which develops industry-friendly risk assessments for GM foods and chemical food contaminants and inserts them into government regulations.”²⁴

Prof Jonathan Jones, Project Leader at the Sainsbury Laboratory

“Whatever one’s opinion of the motivations of the authors, all must accept that the suggestion that glyphosate or GM maize can elevate cancer risk is not supported by the experimental data in this paper.” Comment: Prof Jonathan Jones and I have exchanged emails.²⁵ We have agreed to differ on the toxicity of glyphosate to humans.

Prof Dale Sanders, Director of the John Innes Centre said:

“Retracting a study that fails to meet accepted standards of reliability is particularly important given the controversy generated in Europe by GM crops.”

Prof Cathie Martin, Group Leader at the John Innes Centre, said:

“The major flaws in this paper make its retraction the right thing to do. The strain of rats used is highly susceptible to tumours after 18 months with or without GMOs in their diets. Keeping animals alive beyond their recommended lifespan means the results are inconclusive and also raises serious animal welfare concerns.”

Prof David Spiegelhalter, Winton Professor of the Public Understanding of Risk at the University of Cambridge, said:

“It was clear from even a superficial reading that this paper was not fit for publication, and in this instance the peer review process did not work properly. But at least this has now been remedied and the journal has recognised that no conclusions can be drawn from this study, so I suppose it is better late than never. Sadly the withdrawal of this paper will not generate the publicity garnered by its initial publication.” Comment: Prof Spiegelhalter is a statistician, not an expert on GMs. His personal home page is voluminous.²⁶ It includes: “I have acted as a paid statistical consultant to a variety of organisations, including the Healthcare Commission, World Anti-Doping Agency, Novartis, and GlaxoSmithKline.” On 2nd July 2012, GSK pleaded guilty to criminal charges and agreed to a \$3 billion settlement of the largest health-care fraud case in the U.S. and the largest payment by a drug company. The settlement is related to the company's illegal promotion of prescription drugs, its failure to report safety data, bribing doctors, and promoting medicines for uses for which they were not licensed.²⁷

“Withdrawal of this paper will not generate the publicity garnered by its initial publication”

What publicity? In the UK there was virtually none. Prof Spiegelhalter’s comment at the end clearly indicates that he knows little about the subject even though he is Winton Professor of the Public Understanding of Risk. This was how Laurence Woodward reported it.

UK media – a conspiracy of silence over GM health risks²⁸

“Last week saw the publication of the most important piece of research about the health risks of genetically engineered foods in recent years. It was widely covered in France and other EU countries; it was big news in the US where all the major media carried the story – over 10,000 articles appeared there during the week; and in the UK – monumental indifference. And as for the BBC, our national beacon of light, truth and integrity; a single fleeting

²⁴ F. William Engdahl, author of Seeds of Destruction: The Hidden Agenda of Genetic Manipulation.

<http://rt.com/op-edge/monsanto-gmo-studies-reports-588/>

²⁵ <http://farmwars.info/?p=11789>

²⁶ <http://www.statslab.cam.ac.uk/Dept/People/Spiegelhalter/davids.html>

²⁷ <http://www.bloomberg.com/news/2012-07-02/glaxosmithkline-agrees-to-pay-3-billion-in-u-s-drug-settlement.html>

²⁸ <http://www.nyrnaturalnews.com/campaigning/uk-media-a-conspiracy-of-silence-over-gm-health-risks/>

mention on its website with only enough energy to feature the smokescreen put out by pro-GM lobbyists.

France to act; UK stays silent The research on rats, carried out at the University of Caen in France, found that GM maize, GM maize sprayed with Roundup and Roundup itself causes tumours, multiple organ damage and premature death. According to Dr Michael Antoniou, molecular biologist at Kings College, London, 'This is the most thorough research ever published into the health effects of GM food crops and the herbicide Roundup on rats. It shows an extraordinary number of tumours developing earlier and more aggressively – particularly in female animals'. French government ministers are so concerned by the findings that they have asked its National Agency for Health Safety to investigate and say that if necessary will suspend imports of the GM maize.

So why have parts of the UK media ignored the story and others just shrugged it off? Is there a pro-GM media conspiracy; is this down to corruption, incompetence, culture or simple stupidity and laziness; or a mixture?"

Even the Russian authorities have announced a ban on imports of GM maize from the US and recently China²⁹ rejected 60,000 tons of US corn because the crops had been genetically modified in violation of regulations, Beijing's quality watchdog said.

From the mainstream press, only John Vidal, Environment Editor of the Guardian, put his head above the parapet on 24/09/2012.³⁰ He wrote: Study linking GM maize to cancer must be taken seriously by regulators "Trial suggesting a GM maize strain causes cancer has attracted a torrent of abuse, but it cannot be swept under the carpet.

"...But barely had the paper surfaced than it was attracting heavyweight academic criticism. Commentators variously claimed the study to be "biased", "poorly performed", "bogus", "fraudulent", "sub-standard", "sloppy agenda-based science", "inadequate" and "unsatisfactory". Séralini was said to have "sought harm" for the rats, the experiment was dismissed as "inhumane" and the research group was called "partisan". France was 'outed' as 'the most anti-science country in anti-science Europe' and vociferous GM supporters such as Mark Lynas urged people to sign a petition demanding full disclosure of the data (only a 100 signed). But it was a triumph for the scientific and corporate establishment which has used similar tactics to crush other scientists like Arpad Pusztai of the Rowett Institute in Scotland, who was sacked (1999) after his research suggested GM potatoes damaged the stomach lining and immune system of rats, and David Quist and Ignacio Chapela, who studied the flow of genes from illegally planted GM maize to Mexican wild maize."

What is the London Science Media Centre?

Colin Macilwain, a science policy writer from Edinburgh who has worked as a reporter and an editor from both sides of the Atlantic³¹ wrote about plans to replicate Britain's Science Media Centre (SMC) in the United States, which he said was "fraught with danger."

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

Despite the fears of the SMC founders, the British press — led by the BBC, which treats the Confederation of British Industry with the deference the Vatican gets in Rome — is

²⁹ http://www.upi.com/Business_News/2013/11/29/China-rejects-60000-tons-of-genetically-modified-US-corn/UPI-62341385749613/

³⁰ <http://www.theguardian.com/environment/2012/sep/28/study-gm-maize-cancer>

³¹ go.nature.com/klnuna World View Nature 15th March 2012

overwhelmingly conservative and pro-business in its outlook. It is quite unperturbed by the fact that SMC sponsors include AstraZeneca, BP, Coca-Cola, L'Oreal, Monsanto, Syngenta (as well as Nature Publishing Group) but not a single environmental non-governmental organization (NGO) or trade union. Fiona Fox, the SMC's director, says that the centre operates independently of its sponsors and points out that none (except its host, the Wellcome Trust) accounts individually for more than 5% of its income. She adds that no NGOs are involved because it was their public-relations skills that the founders of the SMC sought to match."

Macilwain goes on to say: *"But the perception that the environmental group Friends of the Earth constitutes a bigger threat to scientific truth-telling than some of the corporate names on the SMC's sponsorship list is not one the US media would accept.*

Some of those considering a US centre share these concerns. They think that their funding model will have to rely on charitable trusts, not companies or government agencies."

Séralini study validated by new EFSA guidelines on long-term GMO experiments

Comment by Claire Robinson of GMWatch and Earth Open Source, 31 July 2013

"European Food Safety Authority's guidelines on long-term GM feeding studies validate Prof Seralini's study, which found serious health effects from NK603 maize."

The European Food Safety Authority (EFSA) has issued guidelines for two-year whole food feeding studies to assess the risk of long-term toxicity from GM foods.³²

"Upon request from the European Commission, the European Food Safety Authority prepared a scientific report that would aid the future establishment of protocols for chronic toxicity and/or carcinogenicity studies in rodents with whole food/feed. This scientific report provides a commentary on OECD TG 453 with considerations on its applicability to support the safety assessment of long term consumption of a given food with respect to its chronic toxicity or carcinogenicity potential. The decision to conduct chronic toxicity and/or carcinogenicity studies with whole food/feed should be taken on a case-by case basis. It should be based on the evaluation of all the available information on the whole food/feed resulting from compositional analyses and any other available nutritional and toxicological studies. The conduct of the study and its reporting should be in line with good laboratory practice standards. Preparation of appropriate test diets is a key element of the experiment with respect to characterisation of the starting material and of the diet, level of inclusion of whole food/feed, nutritional balance, processing and storage. Statistical considerations are discussed to assist in estimating the number of animals necessary to obtain a suitable sample size capable of detecting biologically relevant effects with a pre-specified power and significance level. A comprehensive set of endpoints as set out in the OECD TG 453 should be measured during and at the end of the study, as appropriate. The collection of data and reporting should ensure a thorough biological and statistical evaluation. Recommendations on the relevant issues to be considered when designing chronic toxicity and/or carcinogenicity studies in rodents with whole food/feed are provided throughout the report and summarised in the conclusions."

Wikileaks exposed information about US targeting the EU over GM crops³³

When France made moves to ban Monsanto in 2007, US embassy cable recommends drawing up list of countries for retaliation over opposition to genetic modification.³⁴ Ambassador

³² <http://www.efsa.europa.eu/en/efsajournal/pub/3347.htm>

³³ <http://wikileaks.org/cable/2007/12/07PARIS4723.htm>

³⁴ <http://www.theguardian.com/world/2011/jan/03/wikileaks-us-eu-gm-crops/print>

Craig Stapleton wrote on 14/12/2007: *"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-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 them.

Guardian Editor-in-Chief was questioned in the Commons Select Committee about Snowden's leaked documents

It was billed as: *"A counter-terrorism evidence session"*³⁵

Keith Vaz, Chairman of the Home Affairs Committee, asked Rusbridger if he loved his country – an apparent reference to critics of the Guardian who have accused it of weakening its security. Vaz asked: *"You and I were both born outside this country, but I love this country. Do you love this country?"*

Rusbridger: *"I'm slightly surprised to be asked the question but, yes, we are patriots and one of the things we are patriotic about is the nature of democracy, the nature of a free press and the fact that one can, in this country, discuss and report these things."*³⁶

Are we living in a democracy when the British Government ignores the wishes of the majority of the public about GM and teams up with Monsanto to sue civil society?

*"Another survey has shown that only 21% of the UK public support genetically engineered food. Despite a massive pro-GM push by government, researchers and the media this latest poll carried out in June - confirms that UK citizens continue to reject the technology."*³⁷

23/09/2013 The British Government³⁸ 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®. In fact in Brazil court actions are piling up against Monsanto³⁹ for collecting royalties on RR1 soybeans regarded as illegal and for conditioning the sale of new GM seed Intacta RR2 to the signing of a contract seen as abusive.

Confirmation of the action: answer to a Written Question in the House of Lords

Monday 18 November 2013

Agriculture: Genetically Modified Crops

Question Asked by: The Countess of Mar:

³⁵ <http://www.theguardian.com/world/2013/dec/03/guardian-editor-alan-rusbridger-home-affairs-committee-nsa-live-coverage>

³⁶ <http://www.theguardian.com/world/2013/dec/03/rusbridger-home-affairs-nsa-key-exchanges>

³⁷ <http://www.gmeducation.org/government-and-corporations/p213501-uk-citizens-continue-to-reject-gmo-food-and-even-farmers-don-t-want-to-eat-it.html>

³⁸ <http://www.testbiotech.de/en/node/898>

³⁹ http://sustainablepulse.com/2013/12/09/monsanto-faces-usd-1-billion-brazilian-farmer-lawsuit/#.UqlqP_RdU64

*To ask Her Majesty's Government which member of the Government is responsible for the United Kingdom's approach in the case before the Court of Justice of the European Union regarding the decision of the European Food Safety Authority to allow genetically-modified soya beans to be marketed by Monsanto in the European Union; and whether any organisations are contributing to Her Majesty's Government's legal costs in that case.*⁴⁰

The Parliamentary Under-Secretary of State, Department of Health (Earl Howe) (Con):

The United Kingdom has a strong interest in the science-based system underpinning genetically modified product applications and so has applied to intervene in this case, which concerns the authorisation of genetically modified food and feed. Any intervention will represent the view of the Government as a whole and the only likely external legal costs will be those from instructing counsel and costs of attending any hearing should that prove necessary.

Has the Scottish Parliament or the Welsh Assembly been informed? Both have declared GM-Free policies.⁴¹ How would they feel about their taxpayers contributing to a legal case in which Monsanto is involved?

Monsanto employed Total Intelligence Solutions to protect the Corporation's name⁴²

Spooky Business: Corporate Espionage Against Nonprofit Organizations Published on 20/11/2013. Page 33 gives information about the biotech giant, Monsanto:

The following information came from Jeremy Scahill reported in the *Nation* magazine that the security firm "Blackwater, through Total Intelligence, sought to become the 'intel arm' of Monsanto, offering to provide operatives to infiltrate activist groups organizing against the multinational biotech firm."⁴³ In recent years, Blackwater has twice been re-named: first as XE Services and again as Academi.⁴⁴ According to documents he obtained, Scahill reported in the *Nation* that: Through Total Intelligence and the Terrorism Research Center, Blackwater also did business with a range of multinational corporations. According to internal Total Intelligence communications, biotech giant Monsanto—the world's largest supplier of genetically modified seeds—hired the firm in 2008–09. The relationship between the two companies appears to have been solidified in January 2008 when Total Intelligence chair Cofer Black traveled to Zurich to meet with Kevin Wilson, Monsanto's security manager for global issues. After the meeting in Zurich, Black sent an e-mail to other Blackwater executives, including to [Blackwater owner and founder Erik] Prince and [coordinator of Blackwater's CIA business Enrique 'Ric'] Prado at their Blackwater e-mail addresses. Black wrote that Wilson "understands that we can span collection from internet, to reach out, to boots on the ground on legit basis protecting the Monsanto [brand] name.... Ahead of the curve info and insight/heads up is what he is looking for." Black added that Total Intelligence "would develop into acting as intel arm of Monsanto." Black also noted that Monsanto was concerned about animal rights activists and that they discussed how Blackwater "could have

⁴⁰ http://www.publications.parliament.uk/pa/ld201314/ldhansrd/text/131118w0001.htm#wst_0

⁴¹ <http://sustainablepulse.com/2013/11/21/uk-government-support-monsanto-civil-groups-eu-court/#.UqlowvRdU64>

<http://sustainablepulse.com/2013/11/21/uk-government-support-monsanto-civil-groups-eu-court/#.UqlowvRdU64>

⁴² <http://www.corporatepolicy.org/spookybusiness.pdf>

⁴³ Jeremy Scahill, "Blackwater's Black Ops." *The Nation*, September 15, 2010.

⁴⁴ Academi has received \$2.1 billion in federal contracts, including \$1.5 billion with the State Department and \$607 million with the Defense Department, according to USASpending.gov (accessed October 28, 2013).

our person(s) actually join [activist] group(s) legally." Black wrote that initial payments to Total Intelligence would be paid out of Monsanto's "generous protection budget" but would eventually become a line item in the company's annual budget. He estimated the potential payments to Total Intelligence at between \$100,000 and \$500,000. 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.

"Computer hacking. There are many different techniques available to corporate spies who wish to hack a computer or a computer network. Some of the more obvious ones include vulnerability scanning (checking computers and networks for known security flaws), persistent software scanning implants and creation of custom malware, password cracking, phishing (obtaining passwords by posing as a trustworthy entity), Trojan horses (establishing a back door into a computer or network that can be exploited later and key loggers (recording of all keystrokes on a computer for later retrieval)."

Further discussion about the Report by the Center for Corporate Policy Spooky Business by Dr Nafeez Ahmed (Executive Director of the Institute for Policy Research and Development) The War on Democracy: How corporations and spy agencies use 'security' to defend profiteering and crush activism.⁴⁵

Was this the sort of event that Total Intelligence Solutions was required to organise?

On 7th August 2010 Professor Andrés Carrasco, lead embryologist at the University, Buenos Aires Medical School and the Argentinean National Research Council, came to give a talk about his research to community activists and residents gathered in La Leonesa. His research showed that glyphosate, an agrochemical used on genetically modified soy and rice in Argentina, causes birth defects in animal embryos at levels far below those frequently used in agricultural spraying. A delegation of public officials and residents from the nearby community of Resistencia also came to La Leonesa to hear the talk.⁴⁶ *"But it never took place. As the delegation walked towards the school where the talk was to be held, it was attacked by a violent mob of approximately 100 people. Three people were seriously injured. Carrasco and a colleague shut themselves in a car and were surrounded by people beating the vehicle for two hours. Witnesses believe that a local rice producer and officials had organised the attack to protect agribusiness interests. As the police seemed reluctant to intervene, Amnesty International⁴⁷ subsequently called for an investigation."*

The Amnesty International investigation established that: *"One person has since suffered from lower body paralysis after being hit on his spine, and another is undergoing neurological examinations after receiving blows to the head. The former provincial Sub-Secretary of Human Rights, Marcelo Salgado, was struck in the face and left unconscious. Dr Carrasco and his colleague shut themselves in a car, and were surrounded by people making violent threats and beating the car for two hours. Members of the community were injured and a journalist's camera equipment was damaged."*

⁴⁵ <http://www.theguardian.com/environment/earth-insight/2013/nov/28/war-on-democracy-corporations-spy-profit-activism>

⁴⁶

http://www.theecologist.org/blogs_and_comments/commentators/other_comments/686959/revealed_the_glyphosate_research_the_gm_soy_lobby_doesnt_want_you_to_read.html

⁴⁷ <http://www.amnesty.org/en/library/asset/AMR13/005/2010/en/303e9ee6-9138-405f-97fc-ed58965b76d0/amr130052010en.html>

Members of the community who witnessed the incident have implicated local officials in the attack, as well as a local rice-producer and his workers and security guards. They strongly believe that the violence was promoted by them, and motivated by the powerful economic interests behind local agro-industry. Despite calls to local authorities asking for help, the police were slow to respond and failed to send sufficient reinforcements to stop the violence.”

On September 29th 2013, there were clashes in Cordoba between police and protesters opposing the setting-up of a plant by agricultural company Monsanto. The protesters were blocking a road in Malvinas Argentinas to try to prevent construction work. Associated Press has written a detailed history of glyphosate’s toxic effects on the rural populations since 1996.⁴⁸ *“Following unrest in Argentina due to the exposure of a clear link between the use of the chemical glyphosate in Monsanto's Round-Up pesticide, with health problems in the country, including cancer, thyroid disorders and chronic respiratory illness, there have been protests at the construction of a processing plant by the biotech giant. Monsanto disclaimed responsibility and alleged that liability lay with those using the pesticide.”*

October 2013 *“Construction of the corn-processing plant in Cordoba province was disrupted in October, when the activists started to block roads to the site. The activists were concerned that once finished, the plant would process Monsanto-made genetically modified corn, with the products ending up in the local market.”*

On November 29th 2013: Twenty protestors were injured outside the construction site on Thursday by construction workers from the Argentine Construction Union, employed to build Monsanto’s plant, who say that the blockade is damaging their jobs.⁴⁹ Police are said to have intervened using tear gas. Earlier police tried to clear roads and a video taken at the time was posted in the Belfast Telegraph.⁴⁹: *“They were moderate, but will restraint continue as such clashes escalate?”* Sofia Gatica, winner of the Goldman Prize,⁵⁰ is said to have received a death threat from a suspected Monsanto mercenary.⁵¹

Founder of Mothers of Ituzaingó demands accountability from Monsanto, DuPont and other global agrochemical companies operating in Argentina

With only a high school education and no organizing experience, Gatica co-founded the Mothers of Ituzaingó—a group of 16 mothers working together to put a stop to the indiscriminate agrochemical use that was poisoning their community. Sofia Gatica, a mother in the area where Monsanto first planted GM Maize and Roundup® Ready Soy in 1996, had two children with birth defects (one of whom died at birth without kidneys) and she made the first health survey in the neighbourhood of Ituzaingó, near Cordoba. Gatica and the group of mothers began going door to door to conduct the first epidemiological study of the area and discovered the serious effects that pesticide spraying was having on the families in Ituzaingó. Residents reported cancer rates that were 41 times the national average (doctors suspect that many other cases go unreported), as well as high rates of neurological and respiratory diseases, birth defects, and infant mortality.

⁴⁸ <http://bigstory.ap.org/article/argentines-link-health-problems-agrochemicals>

⁴⁹ <http://www.belfasttelegraph.co.uk/video-news/video-antimonsanto-protesters-clash-with-police-in-cordoba-argentina-29625361.html>

⁵⁰ <http://www.goldmanprize.org/recipient/sofia-gatica>

⁵¹ <http://www.gmwatch.org/index.php/news/archive/2013/15174-protester-receives-death-threat-over-anti-monsanto-protest-in-argentina>

Gatica and the Mothers of Ituzaingó faced an uphill battle, having very few resources or any direct access to demand accountability from Monsanto, DuPont and other global agrochemical companies operating in Argentina. They also endured insults and threats from individuals, police officers, and local business owners in Ituzaingó. In 2007, an individual entered Gatica's house and demanded that she give up the campaign while pointing a revolver at her. On 21/08/2012, judgement was announced in a court case in Argentina against GM soy producers and glyphosate. With Argentina's ban on endosulfan going into effect July 2013, Gatica and her colleagues are pushing for a nationwide ban on glyphosate as well.⁵⁰

Publishers/Journals act as a corporate mouthpiece for industry, if asked

When Dr Richard Goodman, a former Monsanto employee, was appointed as Associate Editor of the Journal of Food and Chemical Toxicology one assumed it would only be a matter of time before retraction of Séralini's paper would be demanded. By Dr Goodman's own admission he had exerted pressure by writing letters of protest even before his appointment.

Elsevier's record as a Publisher

The publisher Elsevier has a track history of 'obliging' industries.

On 02/12/2013 William Engdahl⁵² wrote: *"Elsevier, the publisher of the journal Food and Chemical Toxicology, is one of the giants in worldwide scientific publications. And they are apparently not so rigorous when it comes to making money over scientific principle. In 2009, Elsevier invented an entire medical journal, complete with editorial board, in order to publish papers promoting the products of the pharmaceutical manufacturer Merck. Merck provided the papers, Elsevier published them, and doctors read them, unaware that the 'Australasian Journal of Bone and Joint Medicine' was simply a PR vehicle for the drug giant Merck".* According to The Scientist on 07/05/2009, Elsevier has published an additional five fake journals.⁵³ At first they denied it. Things have deteriorated since.⁵⁴ It turns out that Elsevier put out six such journals, sponsored by industry. The Elsevier Chief Executive, Michael Hansen, has now admitted that they were made to look like journals, and lacked proper disclosure. *"This was an unacceptable practice and we regret that it took place."* he said.

14,105 Researchers Taking a Stand⁵⁵

Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:

1. *They charge exorbitantly high prices for subscriptions to individual journals.*
2. *In the light of these high prices, the only realistic option for many libraries is to agree to buy very large "bundles", which will include many journals that those libraries do not actually want. Elsevier thus makes huge profits by exploiting the fact that some of their journals are essential.*
3. *They support measures such as SOPA, PIPA and the ~~Research Works Act~~, that aim to restrict the free exchange of information.*

"The key to all these issues is the right of authors to achieve easily-accessible distribution of their work. If you would like to declare publicly that you will not support any Elsevier journal

⁵² <http://rt.com/op-edge/monsanto-gmo-studies-reports-588/>

⁵³ <http://www.the-scientist.com/?articles.view/articleNo/27383/title/Elsevier-published-6-fake-journals/>

⁵⁴ <http://www.techdirt.com/articles/20090510/2157144822.shtml>

⁵⁵ <http://www.thecostofknowledge.com/>

unless they radically change how they operate, then you can do so by filling in your details on this page."

*'Elsevier continues its efforts to stifle the sharing of knowledge to pump up its own profits.'*⁵⁶ Recently, the corporation has started "*demanding that copies of work posted on Academia.edu get taken down.*" Academia.edu has been involved in a very bitter battle with Elsevier. Academia.edu wants to help researchers share their scientific papers freely.⁵⁷

Nobel Prize winner's lab at Berkeley will boycott *Nature*, *Cell* and *Science*

Randy Schekman is Professor in the Department of Molecular and Cell Biology at the University of California at Berkeley. He has just been awarded the Nobel Prize in physiology or medicine. He has used the opportunity to declare that his lab will no longer send papers to *Nature*, *Cell* and *Science* as they distort the scientific process and represent a "tyranny" that must be broken.⁵⁸ On 10/12/2013, in a Guardian Report, he criticised the three journals for artificially restricting the number of papers they accept, a policy he says stokes demand: "*like fashion designers who create limited-edition handbags.*" He also attacks a widespread metric called an "impact factor", used by many top-tier journals in their marketing. *Nature* and *Cell* are imprints of Elsevier, and *Science* is the journal of the American Association for the Advancement of Science (AAAS) and is published by them.

The retraction of the Séralini paper is a different matter entirely

This is nothing to do with fake journals or making money; it has a much more sinister purpose than that. Before glyphosate is reassessed in the US and Europe in 2014, papers like those of Séralini and Samsel & Seneff have to be eliminated from being considered by the regulatory authorities.

There have been many research papers about the toxic effects of glyphosate and evidence that glyphosate residues are being found in animals and man from GM in food. However, in these papers, technical scientific words are used such as *genotoxic* (alteration of genetic material) *teratogenic* (causing developmental abnormalities in the foetus) *carcinogenic* (the evolution of an invasive cancer cell from a normal cell) and *endocrine-disruptive*. These are easily dismissed by the biotech industry as '*laboratory-based studies*' not using "*realistic doses*" and appear not to be of interest to British journalists.⁵⁹

But the research by Séralini's team and Samsel & Seneff has made a lot of impact (with the exception of the UK) and cannot be ignored so easily. That is why elimination of these two papers is of crucial importance for the Agrochemical Industry. It is the herbicide which is fundamental to commercial GM technology. If glyphosate is banned, it is likely that whole of the GM herbicide-tolerant crops will have to be banned to. And that poses an enormous problem to them. In addition, the money made from its use as an industrial herbicide in the commercial sector, the gallons used in spraying our towns and cities, just to kill weeds, and its use on crops throughout crop cycle and as a desiccant before harvest and as a killer of noxious aquatic weeds (all recommended by Monsanto in its publication⁶⁰ The agronomic benefits of glyphosate in Europe 2010), will be lost.

⁵⁶ <http://www.techdirt.com/articles/20131206/11175425487/elsevier-continues-its-efforts-to-stifle-academic-research-to-pump-up-its-own-profits.shtml>

⁵⁷ <http://medcitynews.com/2013/12/another-open-science-showdown-elsevier-goes-academia-edu/>

⁵⁸ <http://www.theguardian.com/science/2013/dec/09/nobel-winner-boycott-science-journals>

⁵⁹ <http://www.nyrnaturalnews.com/campaigning/uk-media-a-conspiracy-of-silence-over-gm-health-risks/>

⁶⁰ <http://www.monsanto.com/products/Documents/glyphosate-background-materials/Agronomic%20benefits%20of%20glyphosate%20in%20Europe.pdf>

Prof Dr Kevin H Knuth, Editor-in-Chief of Entropy, deserve the thanks of independent scientists from all over the world for maintaining the principles of scientific truth

Prof Knuth has stood firm against the publishers of MDPI to prevent them retracting the Samsel & Seneff Review of Glyphosate. In the case of another in this series of Special Issues, a paper by Dr Mae-Wan Ho would have been lost without his timely intervention. On 31/10/2013 a Managing Editor at Entropy wrote and told Dr Mae-wan Ho that: *“since we published the paper “Glyphosate’s Suppression of Cytochrome P450 Enzymes and Amino Acid Biosynthesis by the Gut Microbiome: Pathways to Modern Diseases” it had bought some negative comments for Entropy. After careful consideration and discussion by our internal control system recently, we decided to close down this special issue. We suggest you submit your paper to a more relevant journal like the public health journal. Please accept my sincere apologies for any inconveniences that cause”*.

The paper in question was a Review of GM (which had already been thoroughly examined by six reviewers) and was on the verge of publication. Fortunately the Editor-in-Chief found out just in time, and it was published on line immediately.

Following on from these events, a new statement about Controversial Articles⁶¹ has been posted on the Entropy website on 06/12/2013. Among the most significant statements are: *“Motivations (for casting doubt on the accuracy of the publication) vary widely and can include political or corporate agendas, and competing economic or intellectual interests. The policy for our journals is to widely ignore the blogosphere, where competing interests, corruption, and anonymity prevail. Scientists contesting an article in one of MDPI’s journals are asked to prepare a scientifically rigorous Comment and submit it to the Editors of the journal for editorial review. The authors of such Comments are asked to declare all competing interests and their identity in the Comment, which will be published in the regular issue of the journal if it passes editorial review.”*

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).⁶² *“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.”*

Concerns if other journals are pressurized into retracting inconvenient articles

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 Medal⁶³ for her work in the physics of organisms and sustainable systems pioneered more than 20 years. The paper referred to above was her review of Genetic Modification. She describes artificial genetic modification as *“crude, imprecise and interferes with the natural process”*.

⁶¹ <http://www.mdpi.com/about/controversial-articles>

⁶² Ramsden, J.J. The independence of university research. *Nanotechnology Perceptions* 8 (2012) 87-90.

⁶³ http://www.i-sis.org.uk/ISIS_Director_Wins_Science_Award.php

The New Genetics and Natural versus Artificial Genetic Modification.⁶⁴

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.*

Nature journals as vehicles for industry studies; failure to declare conflicts of interest

On 07/01/2013 I wrote to the Editor-in-Chief of *Nature*, Dr Philip Campbell asking how a Syngenta-funded bee scientist could comment adversely on a bumblebee study without declaration of conflict of interest. How could the author have been given access to this research in advance, such that she could make a critical review? Royal Holloway College London was awarded funding in 2010 for one of the £10 million Pollinator Initiative Projects. Nine projects were set up following steep declines in honeybees, bumblebees and hoverflies and were part funded by the Wellcome Trust. The results of this study were published in *Nature* 01/11/2012.⁶⁵ However, in the same issue, Dr Juliet Osborne (a bee expert) wrote a commentary in the Ecology section: Bumblebees and Pesticides which made reference to the Gill article which was classified as a letter.⁶⁶ In it she criticised and misrepresented the study.

On 16/01/2013, the actual day that EFSA announced a ban on the three neonicotinoid insecticides clothianidin, imidacloprid and thiamethoxam because they were toxic to bees, in *Nature* on-line, Daniel Cressey wrote: Breaking News. Reports spark a row over bee-bothering insecticides. Pesticide manufacturer brands risk assessment ‘hurried and inadequate’⁶⁷ He reported the words of John Atkin, Chief Operating officer at Syngenta in Basel: “*This report is unworthy of EFSA and its scientists.*” *Nature*, according to Cressey, had asked EFSA to respond to this statement. He also quoted statements by Bayer which manufactures imidacloprid and clothianidin. It (Bayer) does not believe that EFSA’s reports “alter the quality and validity” of previous risk assessments by EU and member states that have permitted the use of its products. The chemical company pins most of the blame for bee declines on parasitic *Varroa* mites.

On 23/01/2013 I wrote again to Philip Campbell to ask him: “Has *Nature* really taken up the cudgels on behalf of Syngenta and Bayer? Is the whole of *Nature*’s staff at Syngenta’s command? Was this euphemism; ‘bee-bothering’ suggested by the industry?” I had no reply, but it must have been true, because today there is a new statement: “*EFSA did not respond to Nature’s enquiries concerning these allegations.*”

⁶⁴ <http://www.mdpi.com/1099-4300/15/11/4748/pdf>

Entropy 2013, 15, 4749–4781.

⁶⁵ <http://www.ncbi.nlm.nih.gov/pubmed/23086150> Gill, RJ, Ramos-Rodriguez O, Raine, NE. Combined pesticide exposure severely affects individual – and colony- level traits in bees.

⁶⁶ <http://www.ncbi.nlm.nih.gov/pubmed/23086148>

⁶⁷ <http://www.nature.com/news/reports-spark-row-over-bee-bothering-insecticides-1.12234>

Chemistry World reported the truth. Incomplete regulatory data from industry⁶⁸

The reporter revealed that EFSA, in addition to evaluating the latest scientific research on clothianidin, imidacloprid and thiamethoxam, had requested regulatory data from Bayer and Syngenta. It was shortcomings in this data that prompted the EFSA's advice.

On 01/02/2013 I wrote again to Philip Campbell to enquire if EFSA had responded to his accusations that they were “*under political pressure to produce a hurried and inadequate risk assessment?*” If not, he would have the opportunity to meet Herman Fontier, Head of Pesticides at EFSA, who was giving evidence to the Parliamentary Select Committee's Seventh public hearing on 06/01/2013 on Insects and Insecticides, and question him.

In the absence of replies from his Editor-in-Chief, I tackled Daniel Cressey himself about an article in May 2013 that he wrote in a copy of *Nature*⁶⁹ devoted to the “New breed of GMs”. “Daniel, your description of the current GMOs that have “*allowed farmers to increase yields and spray less pesticides*” is industry propaganda. Tell that to a US farmer and he will laugh; they have been trapped in a pesticide treadmill by promises that were never fulfilled. You cannot have read a single independent journal. In fact, you only have four references. The rest are quotations from Monsanto and GMO scientists; tempting the public with promises of benefits to come. “*Scientists are working on GM plants that will need less pesticides*” “*Field trials are currently under way*” says Maurice Moloney, (a Monsanto collaborator imported from Canada in April 2010 and appointed as Director and Chief Executive of Rothamsted Research.) “*In the greenhouse it has been very successful*” What plant is he talking about?

Prof Maurice Moloney has left for Australia

Professor Maurice Moloney is now leading the Food, Health and Life Science Industries Group in CSIRO. According to CSIRO's Meet our Staff website “*He has extensive research, policy and leadership experience in research organisations, private sector and industry, with a strong track record in plant biotechnology.*”⁷⁰

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a research organisation, which, in common with the UK and US, is in the hands of the pesticides industry. It is promoted as Australia's pre-eminent public scientific research body. “*Although ostensibly ‘publicly funded’ CSIRO has, in reality, been encouraged to get 30% of its funding from business, with the CSIRO top management encouraging its staff to go to 40%*” According to John Stocker, CSIRO's former Chief Executive: “*Working with the transnationals makes a lot of sense, in the context of market access. There are very few Australian companies that have developed market access in the United States, in Europe and in Japan, the world's major marketplaces. Yes, we do find that it is often the best strategy to get into bed with these companies.*” – *Australian Broadcasting Commission, 1992.*

Industry-sponsored Supplements

A young journalist wrote an article in *Nature* in a supplement sponsored by Monsanto and the USDA: Crop Pests: under attack.⁷¹ Towards the end she wrote: “*This year, the agriculture company Monsanto, based in St Louis, Missouri, sold the first genetically modified drought-*

⁶⁸ <http://www.rsc.org/chemistryworld/2013/01/efsa-europe-honey-bee-decline-neonicotinoid-pesticides>

⁶⁹ http://www.nature.com/polopoly_fs/1.12887!/menu/main/topColumns/topLeftColumn/pdf/497027a.pdf

⁷⁰ <http://www.csiro.au/Portals/About-CSIRO/Who-we-are/Staff/Meet-our-Staff.aspx>

⁷¹ http://www.nature.com/nature/journal/v501/n7468_supp/full/501S15a.html

tolerant plant, a variety of maize, to farmers across the western United States. The idea is that these more robust plants will be able to withstand pest attack even under drought conditions.”

I emailed her pointing out who the supplement was sponsored by and wrote:

“According to farmers in the Midwest, the Monsanto drought-tolerant maize was a disaster last year! You should have enquired from them not taken Monsanto's word for it.

Dr Don Huber says there are two reasons that GMOs (current anyway) INCREASE drought stress; smaller root systems and less uptake and efficiency for Mn required in the physiology for drought tolerance. Normal breeding for increased nutrient efficiency provides drought tolerance, not disruption of the genetic integrity by GEng. Roundup® Ready Soybeans treated with glyphosate require twice as much water to produce a kg of dry matter than normal isolines. That isn't the way to increase drought tolerance! All you have to do is look at fields in the Midwest this summer where GMO are across the fence from non-GMOs!”

She wrote an apparently appreciative reply which included: “My editors don't tell me when they receive sponsorship because they want us to report it in as unbiased a way as possible. Thanks for reading. These are complex issues and I do my best to report honestly”.

Nature had been taken to task in 2002/3 about failure to disclose conflicts of interest

The Executive Director of the Center for Science in the Public Interest had written to the Editors of *Nature*, *Nature Neuroscience*, *Nature Biotechnology* and the Executive Editor of *Nature Journals*⁷² about an exchange of letters concerning Genetically Modified Foods in the October 2002 issue and taking them to task for failing to disclose conflicts of interest.

“Particularly in the light of the New York Times’ article, the undersigned urge you to revisit our recommendation and establish a more robust policy that requires mandatory disclosure of conflicts of interest for all authors, referees and editor; mandatory disclosure of all information regarding the specific contributions of authors, publication of those disclosures; and rejection of submissions where authors’ conflicts are incompatible with integrity in Science. Such a policy is a necessary safeguard against potential bias and would ensure that your readers have sufficient information to evaluate the studies, commentary, reviews, letters, and other statements made in the pages of Nature journals”. It was signed by 33 scientists.

Some studies show that aspartame is safe: but only when there are conflicts of interest

Once again the controversial Monsanto chemical sweetener used in many ‘diet’ drinks is said to be safe.⁷³ The Food Standards Agency announced that as a result of unpublished British research (Hull University), the Committee on Toxicity (CoT) had decided there is no need to ban or control the sale or consumption of the sweetener to protect the health of the public.

“The government watchdog has not released the full details of the research because they remain confidential until they have been published in a peer reviewed journal”.

However, Ralph D Walton MD, Professor at the Center for Behavioural Medicine, North Eastern Ohio University College of Medicine has published a review of studies.⁷⁴ He did research for 60 minutes on scientific peer reviewed studies and funding; 92 per cent of the studies showed problems with aspartame, but Walton said if you remove 6 studies because the FDA had something to do with it and their controversy, and 1 pro-industry summary, one

⁷² Michael F Jacobsen Executive Director Center for Science in the Public Interest August 21 2003

⁷³ <http://www.dailymail.co.uk/news/article-2518251/Aspartame-sweetener-SAFE-effects-trials-discover.html>

⁷⁴ <http://www.dorway.com/peerrev.html>

hundred per cent of independent scientific peer reviewed studies showed the toxicity of aspartame causes.

This one can be removed without doubt, not only because the results remain confidential, but because CoT has industry members. When I sent the Chairman of CoT Prof David Coggon my paper The Truth About Neonicotinoid Insecticides on 26/11/2011, I said that CoT had three members with undeclared conflicts of interest: one from Syngenta and two from AstraZeneca, Syngenta's parent company. At least someone took notice of my comments. In November 2013 there are now only two; one from AstraZeneca and a former Vice-President of SmithKline.⁷⁵

Evidence that GM feed is destroying the health of animals and leaving glyphosate residues

A Special Report on Deformities, sickness and livestock deaths: The real cost of GM and animal feed appeared on 28/11/2013.⁷⁶ A peer-reviewed combined study between the US and Australia shows significant pathological differences between pigs fed GM and Non-GM feed at 5 months, the time of slaughter.⁷⁷ *"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."*

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 diseases⁷⁸ in cattle which have occurred in Germany over the last 10-15 years.⁷⁹ Similar effects have been shown gut bacteria in poultry⁸⁰ and on microorganisms in milk⁸¹

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*

⁷⁵ <http://cot.food.gov.uk/membership/members/>

⁷⁶ http://www.theecologist.org/News/news_analysis/2176082/deformities_sickness_and_livestock_deaths_the_real_cost_of_gm_animal_feed.html

⁷⁷ <http://www.organic-systems.org/journal/81/8106.pdf>

⁷⁸ <http://www.sciencedirect.com/science/article/pii/S1075996411002344>

⁷⁹ <https://www.ncbi.nlm.nih.gov/m/pubmed/23396248/?i=4&from=/15071029/related> Krüger, M. *et al.* Glyphosate suppresses the antagonistic effect of *Enterococcus* spp. on *Clostridium botulinum*. *Anaerobe* 2013, Feb 6

⁸⁰ <http://link.springer.com/article/10.1007/s00284-012-0277-2> Shehata, A.A. *et al.* The Effect of Glyphosate on Potential Pathogens and Beneficial Members of Poultry Microbiota *In Vitro*. *Current Microbiology* 2013, 66 (4): 350- 58

⁸¹ <http://link.springer.com/article/10.1007/s00284-012-0098-3> Clair, E. *et al.* Effects of Roundup® and Glyphosate on Three Food Microorganisms: *Geotrichum candidum*, *Lactococcus lactis* subsp. *cremoris* and *Lactobacillus delbrueckii* subsp. *bulgaricus*. *Curr Microbiol.* Epub 2012 Feb 24.

cattle, glyphosate has repeatedly been detected in the urine, faeces, milk and feed of the animals.⁸²



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

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.

How the industry navigates around small problems of legislation and authorisation

These are just a few that have been discovered. There must be hundreds of cases of accidental/deliberate pollution because pollen can be transported on the wind for many miles. Christoph Then of Testbiotech (which is being sued by Monsanto and the UK, together with 6 other organisations⁸³) has published a document Transgene Escape: Genetically engineered oilseed rape out of control - a global perspective.⁸⁴ More recently a Report: Transgene Escape Global atlas of uncontrolled spread of genetically engineered plants has been published.⁸⁵

Syngenta violates regulations in China China sent back 60,000 Tons of GM corn.⁸⁶ China rejected the U.S. corn because the crops had been genetically modified in violation of regulations, Beijing's quality watchdog said Friday. The insect-resistant MIR 162 transgenic corn was developed by Syngenta AG to provide growers with maize hybrids that are resistant to feeding damage caused by moths, butterflies and other lepidopteran insects. MIR 162 is not authorized by China's agricultural department, spokesman Chen Xitong said.

⁸² <http://www.ithaka-journal.net/druckversionen/e052012-herbicides-urine.pdf>

⁸³ <http://www.testbiotech.org/en/node/898>

⁸⁴ www.testbiotech

⁸⁵ http://www.testbiotech.org/sites/default/files/Testbiotech_Transgene_Escape.pdf

⁸⁶ http://www.upi.com/Business_News/2013/11/29/China-rejects-60000-tons-of-genetically-modified-US-corn/UPI-62341385749613/

Syngenta was found guilty in a court case involving deaths of cows in Germany and the US. The German Head of Syngenta was charged for withholding knowledge from the judge, of a US feeding study which had resulted in four cows dying in 2 days.⁸⁷ Gloecker, the German farmer took part in authorised field tests between 1997 and 2002. By 2000 his cows were fed exclusively on Bt 176 corn and began to be sick. Syngenta refused to admit that its GM corn was the cause and the civil lawsuit was dismissed. Gloecker has finally obtained justice. Syngenta was held liable for the destruction of the farmer's 65 cows. The fact that no long-term monitoring of GMOs is done before they are authorised by the EC makes it easy for the industry to deny responsibility. The farmer has to prove his case in court against the lawyers of a powerful industry.

In India at least 1 820 sheep were reported dead after grazing on post-harvest Bt cotton crops The symptoms and post-mortem findings strongly suggest they died from severe toxicity. This was uncovered in a preliminary investigation conducted by civil society organisations in just four villages in the Warangal district of Andhra Pradesh in India.⁸⁸ The actual problem is likely to be much greater.

Dozens ill and five deaths in the Philippines in July 2003.⁸⁹ These people all lived within 100 m of a field planted with GM maize, and their illnesses coincided with the GM maize flowering time... The field in Sitio Kalyong belonged to a local official who bought five bags of Monsanto's Bt maize seed (Dekalb818YG with Cry1Ab from the soil bacterium *Bacillus thuringiensis*), enough to plant 5 hectares. He paid 4 500 pesos per bag, which was more than twice as much as the non-GM variety at 2 200 pesos per bag. The premium price included the promise of a small vehicle if the harvest turned out to be good, as it was supposed to. In the event, the promise was broken on both counts: the harvest of 93 sacks compared poorly with the usual 150 sacks per ha, and the small vehicle was never delivered. The local official stopped planting the Bt maize after 2003. In October 2003, blood samples were taken from the affected villagers who still had symptoms, which were then frozen and analysed. Antibodies to the Bt toxin Cry1Ab expressed in the GM maize were found in all the blood samples taken from the 38 individuals.

A Russian study on rats in 2005 confirmed Séralini's work

A research team led by Dr Irina Ermakova of the Russian Academy of Sciences reported in October 2005 that 36 percent of rats born to pregnant rats fed Roundup® Ready GM-soya starting from before the rats conceived were severely stunted, compared with 6 percent of rats born to those fed non GM-soya. Within three weeks, 55.6 percent of the progeny of GM-soya fed rats died; a death rate six to eight times that of progeny from rats fed non-GM soya, or a diet without added soya.⁹⁰

Illegal GM maize found in Ireland⁹¹ 5,131 tonnes of animal feed contaminated by illegal and toxic varieties of GM maize from the USA entered the Irish food chain in April 2007, causing potential liver and kidney damage to livestock and consumers. The Department of Agriculture trusted the US certification scheme, failed to implement its own testing policy,

⁸⁷ http://www.i-sis.org.uk/Syngenta_Charged_for_Covering_Up_Livestock_Deaths_from_GM_Corn.php

⁸⁸ <http://www.i-sis.org.uk/MDSGBTC.php>

⁸⁹ <http://www.i-sis.org.uk/GMBanLongOverdue.php>

⁹⁰ <http://www.regnum.ru/english/526651.html>

⁹¹ <http://www.gmfreeireland.org/pakrac/>

ignored warnings from GM-free Ireland and Greenpeace International, and waited for six weeks before taking action. The result: meat and dairy produce from livestock fed on illegal and toxic GM ingredients is being sold to consumers without any label or traceability scheme. This scandal has further damaged the reputation of Irish food exports, as Irish meat and dairy produce from animals fed a GM diet is now excluded by leading retailers in the UK, France, Italy and Switzerland.

Accidental growing of illegal GM Maize on Irish field trial sites⁹²

The Irish Government has been accidentally growing GM maize, despite its policy to ban field trials and commercial cultivation of GM crops in the Republic. The blunder is doubly embarrassing because this GM maize is an illegal variety that is not allowed for cultivation anywhere in the European Union.

Legal challenge to Irish EPA over GM potato trial⁹³

In July 2012, the EPA had given permission for a GM blight-resistant potato crop to be tested in County Carlow. A group opposed to this sought approval from the High Court to take a case on the basis of the Aarhus Convention. Article 9 of the Convention requires that people have the ability to challenge critical environmental decisions, without facing the threat of large legal costs. Although the convention was said to have been ratified earlier this year by the Irish government, Mr Justice Gerard Hogan said he had no jurisdiction to make such an order because the Aarhus Convention had yet to be put into Irish law. Allegedly, he has refused to take the case.

Has Environment Minister Owen Paterson or Defra considered looking for glyphosate in the urine, faeces and milk of cows with TB? Badgers might not be responsible

Both glyphosate and the systemic neonicotinoids are immune suppressants. Botulism has increased since the late 90s and farms affected by this disease are nowadays found in most of all regions of Germany⁹⁴

Some of these cows in this German video⁹⁵ had infection with *Clostridium botulinum* (botulism) but glyphosate in their urine and faeces has been confirmed.

A relentless dismemberment of the statutory environmental bodies in Britain

This chemical crisis is the culmination of a 30-year strategy that placed the pesticides industry in charge of human health and the environment. In 1989 under Margaret Thatcher the Nature Conservancy Council was dismantled. The NCC had been a thorn in the flesh of politicians in both England and Scotland and Dr Derek Ratcliffe was their most outspoken and troublesome Civil Servant.⁹⁶ In 2001, under Tony Blair, Defra was created, with obvious

⁹² <http://foodfreedom.wordpress.com/2010/08/17/banned-throughout-europe-monsantos-gm-corn-found-growing-in-ireland/>

⁹³ http://www.gmwatch.org/index.php?option=com_content&view=article&id=14156

⁹⁴ http://www.addcon.com/fileadmin/addcon/pdf/feed/Botulismus_Weissbach_2011_GB_screen.pdf

⁹⁵ http://www.youtube.com/watch?v=iVjLtG3tn_E

⁹⁶ Derek Ratcliffe was a field scientist. Monks Wood (with its own Pesticides Unit) exposed DDT and dieldrin as being responsible for the post-war crash of raptor populations. He also exposed the scandal of the destruction of 80,000 acres of one of the largest areas of blanket peat-land, by drainage and planting of Sitka Spruce on behalf of rich investors, who then benefited from tax relief. In 1984, in the middle of this battle Ratcliffe wrote another report, 'Nature Conservation in Britain', describing how, in the previous 50 years, agricultural intensification had destroyed 95% lowland grasslands; one third of hedgerows had been uprooted and half of the lowland fens had been damaged by drainage operations, reclaimed for agriculture or chemically enriched.

conflicting interests. Defra now makes no pretence; it has abandoned the ‘e’ and only represents farming and the pesticides industry. In 2006, still under Tony Blair, the Wildlife Research Stations were closed by Lord David Sainsbury⁹⁷ (Department of Trade and Industry) and the Natural Environment Research Council (NERC), ‘*in order to balance NERC’s budget*’. Nearly 200 field scientists were to be thrown on the scrap heap.⁹⁸ There was a massive outcry from the scientific, environmental and biological communities. The so-called ‘Public Consultation’ by NERC elicited 1,327 ‘stakeholder’ responses to the proposal, of which 99% questioned the wisdom and expense of the closure. English Nature, the Government’s own statutory advisory body warned against it. In a leaked letter to Tony Blair, the junior Rural Affairs Minister Jim Knight said that closure of four eco-laboratories involved in climate change research: “*does not make sense either scientifically or economically*”.⁹⁹

The NERC statement, which doesn’t seem to make financial sense, but ensures transfer of funds elsewhere: “*It is anticipated that the restructuring will cost about £43 million, will take four years and lower CEH’s operating costs by over £7 million per year. Allowing for the impact of a lower target for external income, this leaves about £5 million per year to invest in high quality science across NERC’s priority areas. Current priorities include environment and human health; the role of aerosols in climate change; and the possible shutdown of the North Atlantic current, which gives Europe its mild climate.*” The posts of up to 200 field scientists disappeared. Their expertise in the field vanished, as well as some of the monitoring programmes they were undertaking. They were replaced by population biologists who used mathematical modelling and statistics from computers to interpret environmental change.

David Cameron, when he came into Government, said that it would be the “*greenest Government ever*”. In 2011 George Osborne let slip the Government’s **real** view; green policies were a burden on British businesses.¹⁰⁰ In 2012 NERC set up the GloboLakes Project; “*the first satellite-based global lake surveillance system, to monitor how lakes and reservoirs are being affected by environmental change.*”¹⁰¹ It would have paid many times over for the lost Wildlife Stations; but loss of biodiversity and the use of pesticides cannot be detected from space. Boris Johnson’s speech last week (homage to Thatcher) suggested that we must all have misheard what Cameron said. It must have been: “*the greediest Government ever.*”¹⁰²

The Government’s Environment Minister had signed up to a global agreement to halt biodiversity losses by 2010, yet in a mere three months, Britain’s ecological research bases

In 1977, A Nature Conservation Review had been published jointly by the former Nature Conservancy Council and NERC. This 2-volume work was an extraordinary ‘tour de force’

⁹⁷ Lord Sainsbury founded the Sainsbury Laboratory via the Gatsby Charitable Foundation specifically for GE technology. After closing the Wildlife Research Stations in 2006, he left the government, but still influences UK science policy and schools. STEMNET (Science, Technology, Engineering and Mathematics Network) is a network, one part of which is to support the teaching of physical science in schools (11-19), which includes the science of GMOs. It concentrates on teaching technology (but definitely not history). Canada also has branches of STEMNET and government approved textbooks promote the benefits of GM fruit and vegetables. “*No scientific study has shown them to be harmful*”. Yet a recent study from the eastern townships of Quebec has found genetically modified endotoxin in maternal and foetal blood.

⁹⁸ <http://www.nerc.ac.uk/press/releases/2006/cehdecision.asp?cookieConsent=A>

⁹⁹ He soon lost his job

¹⁰⁰ <http://www.theguardian.com/uk/2011/nov/29/autumn-statement-george-osborne-green-policies>

¹⁰¹ <http://www.globolakes.ac.uk/>

¹⁰² <http://www.theguardian.com/politics/video/2013/nov/28/boris-johnson-wealth-envy-inequality-margaret-thatcher-video>

and Biological Records Systems had been swept away and 200 experienced field scientists had been made redundant.

A new appointment for the Chair of Natural England is about to be made and the preferred candidate has been announced¹⁰³ “*Mr Sells qualified as a chartered accountant prior to developing investment banking and venture capital interests. He was Managing Director of a venture capital business, which he co-founded*”. The job description for the post included: “*You will have a real passion for England’s diverse habitats, landscapes and wildlife. This will underpin a desire to ensure that the natural environment is improved for future generations.*” George Monbiot wrote: “*Transylvanian Count to Chair Bloodbank: A new government appointment provides a chilling insight into its priorities.*”¹⁰⁴ He went on to say: “*It couldn’t have anything to do with the £111,000 he gave to the Conservative party in 2010 and 2011, could it? The environment department, Defra, assures us that “all appointments are made on merit and political activity plays no part in the selection process”.* Phew, that clears it up.” Damian Carrington wrote: “*Major Tory party donor chosen as chair of government nature watchdog*”¹⁰⁵ Venture capitalist Andrew Sells has been selected by ministers as the new chair of Natural England. Andrew Sells, a chartered accountant, donated £111,250 to the Tories in 2010-11. Sells is the preferred candidate of the Environment Minister, Owen Paterson, and will be questioned by MPs on the environment, food and rural affairs select committee before being confirmed, although their advice is not binding.”

This indeed is the End of Nature

For environmentalists, this is the final blow, the final insult from the “*greediest Government ever*”; a government most of whose Ministers are millionaires; a Government that considers money and economic growth and ambition to be the top priorities in life. Moreover we have been ruled by a series of governments that have betrayed their people into the hands of the agrochemical corporations. Tony Blair and George Bush were looking for weapons of mass destruction in the wrong place. They weren’t in Iraq, but in the United States and in the United Kingdom. They were poisoning their own people.

In October 2006 English Nature became Natural England. Thus, over a period of 20+ years, Conservative, Labour and Coalition Governments have, between them, finally managed to erase from the statutory environmental bodies any mention of unpalatable terms such as ‘*ecology*’, ‘*wildlife*’, ‘*conservancy*’ and ‘*nature*’.

Obituary: Sir Martin Doughty, the father of modern conservation and founding Chair of Natural England, died of cancer on 4th March 2009, aged 59.

Martin’s passion and clarity of purpose were apparent in his conviction that everyone should have the right to enjoy the beauty of the natural world. In this respect, he followed in his father’s footsteps. Harold Doughty was one of the legendary Manchester Ramblers who left New Mills on April Sunday in 1932, for a mass trespass on Kinder Scout, a forbidden moor near Edale in the Peak District. What would Sir Martin have thought if he knew that the preferred candidate for his post was a former investment banker?

¹⁰³ <https://www.gov.uk/government/news/natural-england-preferred-candidate-for-chair-announced>

¹⁰⁴ <http://www.monbiot.com/2013/12/06/transylvanian-count-to-chair-bloodbank/>

¹⁰⁵ <http://www.theguardian.com/environment/2013/nov/28/tory-donor-chair-natural-england-andrew-sells>

The use of pesticides around the world has produced biological deserts

Here is a description of a 600 acre farm in Ohio with GMO corn on which Craig Childs¹⁰⁶ spent a long weekend and found virtually nothing. *"I listened and heard nothing, no bird, no click of insect. There were no bees. The air, the ground, seemed vacant...It felt like another planet entirely," he said, "a world denuded"*.

Robert Krulwich's blog commented on Craig Child's description.¹⁰⁷

"Yet, 100 years ago, these same fields, these prairies, were home to 300 species of plants, 60 mammals, 300 birds, hundreds and hundreds of insects. This soil was the richest, the loamiest in the state. And now, in these patches, there is almost literally nothing but one kind of living thing. We've erased everything else. There's something strange about a farm that intentionally creates a biological desert to produce food for one species: us. It's efficient, yes. But it's so efficient that the ants are missing, the bees are missing, and even the birds stay away. Something's not right here. Our cornfields are too quiet." In the UK in 2012, on a warm August evening, in a garden surrounded by arable crops, no moths came to the candles.¹⁰⁸ There was not a single insect. Few people have noticed, or care much about their loss. But flying insects are the visible manifestation of a massive iceberg of trillions of invertebrates working away unseen in soil and water. The neonicotinoid insecticides attack the nervous system receptors of all invertebrates. These are the small things that run the world. Destroy these and you ultimately destroy life itself, at least as a planet fit for humans.

Aldo Leopold on scientists and wilderness

Aldo Leopold¹⁰⁹ was an American scientist and environmentalist, who had briefly worked as an ecologist for the UN before he died in 1948 fighting a bush fire on his neighbour's farm. Even at that time he was worried that scientists were appropriating wilderness and in the process, destroying it. In 1935, he and his family initiated an ecological restoration experiment on a worn-out farm along the Wisconsin River outside of Baraboo, Wisconsin. Planting thousands of pine trees, restoring prairies, and documenting the ensuing changes in the flora and fauna further informed and inspired Leopold.¹¹⁰ He wrote an extraordinarily prophetic essay: *'The Song of the Gavilan'* which was published posthumously, in his iconic book Sand County Almanac. He describes the life of a small river in northern Mexico and muses on the nutrient and metabolic cycles of nature, in an area where *'science has not yet arrived.'*

"There once were men capable of inhabiting a river without disrupting the harmony of its life". Then, out of the blue, he launches into a discourse against professors and research, whilst likening the whole ecosystem to a wonderful orchestra. *"There are men charged with the duty of examining the construction of the plants, animals, and soils which are the instruments of the great orchestra. These men are called professors. Each selects one instrument and spends his life taking it apart and describing its strings and sounding boards. This process of dismemberment is called research. The place for dismemberment is called a university. A professor may pluck the strings of his own instrument, but never that of another, and if he listens for music he must never admit it to his fellows or to his students. For all are*

¹⁰⁶ Craig Childs Apocalyptic Planet. <https://www.sciencenews.org/article/book-review-apocalyptic-planet-field-guide-everending-earth-craig-childs> <http://www.youtube.com/watch?v=eXZ49lgXoMI>

¹⁰⁷ <http://www.npr.org/blogs/krulwich/2012/11/29/166156242/cornstalks-everywhere-but-nothing-else-not-even-a-bee>

¹⁰⁸ Personal observations

¹⁰⁹ Aldo Leopold 1887-1948. A Sand County Almanac p153-4: Published posthumously in 1949.

¹¹⁰ <http://www.aldoleopold.org/Programs/shack.shtml>

restrained by an ironbound taboo which decrees that the construction of instruments is the domain of science, while the detection of harmony is the domain of poets. Professors serve science and science serves progress. It serves progress so well that many of the more intricate instruments are stepped upon and broken in the rush to spread progress to all backward lands. One by one the parts are thus stricken from the song of songs. If the professor is able to classify each instrument before it is broken, he is well content.”

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 2001.¹¹¹ Her evidence to the Parliamentary Environmental Audit Committee on Insects and Insecticides in Session 2012/13 can be read here.¹¹² Our evidence against the Government Regulatory Agencies can be found here.¹¹³

Ms 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.¹¹⁴ 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 2009.¹¹⁵ 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 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 2009.¹¹⁶ “*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 is inscribed CRD’s motto:

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

¹¹¹ <http://www.pesticidescampaign.co.uk/>

¹¹² <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m28.htm>

¹¹³ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m5.htm>

¹¹⁴ <http://www.theguardian.com/environment/2008/nov/15/activists-pollution-pesticides-toxins-defra>

¹¹⁵ <http://www.theguardian.com/environment/2009/jul/07/georgina-downs-pesticides>

¹¹⁶ <http://cot.food.gov.uk/pdfs/tox200928addendum.pdf>

Pesticides Forum Annual Report 2011 Executive Summary¹¹⁷

Pesticides Forum in 2011 states 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.”*

I have written to many government officials and bodies about the effects of pesticides on human health and the environment over the last three years. (Lord de Mauley obligingly enumerated them for me on 31/08/2013). *“Dr Mason has raised the points in her email on a number of occasions over the last few years and has received responses from, amongst others, Defra Ministers, the Chairman and officials of the Environment Agency, the previous Government Chief Scientific Adviser, the previous Defra Chief Scientific Adviser, the independent Advisory Committee of Pesticides (which is not actually independent¹¹⁸), other Defra officials and the Health and Safety Executive’s Chemical Regulation Directorate, the UK pesticides regulator.* Perhaps I can add to that list: The Chief Medical Officer at the Department of Health, Professor Dame Sally Davies, the Director General of the BBC, the Editor-in-Chief of Nature, Philip Campbell, Prof David Coggon Chairman of CoT, Prof Andy Povey, Deputy Chairman of the ACP, the Rt Hon Michael Gove, Rt Hon Owen Paterson, the Chairman of NERC *etc.* (Since my emails have been stolen, individuals that have been left out will perhaps forgive me for not mentioning them by name).

UK refused to acknowledge that exposure to pesticides during pregnancy is harmful

Defra Minister, the Defra Chief Scientist and Dave Bench Chief Scientist CRD gave evidence at the Environmental Audit Committee Inquiry Insects and Insecticides. When questioned by Dr Matthew Offord MP (Q359) about removing amateur applications of pesticides, they all agreed that it wasn’t necessary to ban domestic use.¹¹⁹ Could it be because Bayer had just re-launched their garden products campaign?¹²⁰ When the Royal College of Obstetricians and Gynaecologists published their advice to avoid chemical exposure during pregnancy,¹²¹ there was a barrage of press coverage quoting those who dismissed the advice as ridiculous. This included the CMO at the Department of Health¹²² and Tracey Brown from Sense About Science.¹²³

¹¹⁷ <http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/P/Pesticides-Forum-AR-2011-revSep12.pdf>

¹¹⁸ Dr Caroline Harris is a Corporate Vice-President of Exponent. *“Exponent, Inc., a research and scientific consultant firm with clients from industry (including crop protection) and government”*

¹¹⁹ **Lord de Mauley:** The products for use in gardens have very clear instructions for use. No product is approved for garden use if the correct use would require either training or protective clothing. The levels of toxicity for products that are approved for garden use are generally considerably lower than for professional use. So we think that the level of control is appropriate.
<http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/668/668.pdf>

¹²⁰ <http://www.gardenforum.co.uk/tradeforum/peoplenews/?artid=2382>

¹²¹ <http://www.rcog.org.uk/womens-health/clinical-guidance/chemical-exposures-during-pregnancy-scientific-impact-paper-37>

¹²² <http://www.theguardian.com/lifeandstyle/2013/jun/07/pregnancy-advice-royal-college-health-chief>

¹²³ In 2009 this registered Charity, Sense About Science, published a document to educate the general public called “Making sense of GM”. Eight of the 28 main authors were members of the John Innes Centre. Three were FRS and another two Fellows’ contributions were acknowledged. The author of the introduction was Prof Jonathan Jones FRS (The Sainsbury Laboratory, John Innes Centre). Once again Prof Jones failed to declare his links with Monsanto: [In a statement to the Observer (18/07/2010), Prof Jones insisted: *“It is not true to suggest I have attempted to hide my role as co-founder and science advisory board member of Mendel*

Prof Philippe Grandjean, Professor of Environmental Health, Harvard University and University of Southern Denmark runs a website devoted to chemicals that damage foetal brains.¹²⁴ He published a book in May 2013. Only One Chance: How Environmental Pollution Impairs Brain Development – and How to Protect the Brains of the Next Generation In it he described the many battles people have had against Corporations with vested interests and the experts they employ to write articles that prove the opposite (just like the agrochemical industry). In 2012, The American Academy of Pediatrics published a Policy Statement on Pesticide Exposure in Children.¹²⁵

The Royal Society and GMO Technology

On 26th January 2011 Dr Brian John of GM-Free Cymru wrote an open letter to Sir Paul Nurse: The GM science community is its own worst enemy¹²⁶ Unaware of Dr John's letter to Sir Paul, I also wrote on 1st March 2012 after his delivery of The BBC Richard Dimbleby Lecture. I was astonished to hear that he was supporting GE technology, although at that time my main concern was the effects of systemic neonicotinoid insecticides on honey bees and bumblebees. Following a second letter from Dr John,¹²⁷ Blatant GM Hypocrisy, on 10th March 2011 he neatly avoided conflict: "*The main point I said about GM crops in the programme was that scientists should talk more to the public about these types of issues, which I doubt you would disagree with. Your comments seemed mostly directed to Jonathan Jones who also appeared on the programme.*" According to the Sense About Science website, of the 114 signatories to the Open letter about GM to The Right Honourable Tony Blair HM Government, on 30th October 2003, 28 were FRS.¹²⁸

Multiple lawsuits: Who is suing whom? Where is the money coming from?

Perhaps as EFSA's Chief Attorney you could explain the lawsuits that are going on at present and how much of it will be going into the pockets of lawyers?

23/09/2013 The British Government¹²⁹ **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

Biotechnology, which has contracts with Monsanto, Bayer and BP. The information that I am co-founder... of Mendel has been in the public domain on the Mendel website for at least 10 years."]

Other conflicts of interest of authors were also undeclared. Prof Vivian Moses was Chairman of CropGen. In addition, Private Eye (1232: 20/03-2/04/2009) had obtained a previous draft document in which a listed author was Andrew Cockburn, Monsanto's former Director of Scientific Affairs. According to Making Sense of GM, the concept of super-weeds had been grossly exaggerated by the newspapers: "*they already occur in conventional agriculture.*"

¹²⁴ www.chemicalbraindrain.info 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.

¹²⁵ Pediatrics 2012; e1757-e1763. <http://pediatrics.aappublications.org/content/130/6/e1757>

¹²⁶ http://www.gmfrecymru.org/open_letters/Open_letter26Jan2011.html

¹²⁷ http://www.gmfrecymru.org/open_letters/Open_letter29May2012.html

¹²⁸ <http://www.gmwatch.org/index.php/news/archive/2003/5134-these-are-the-scientists-who-wrote-to-blair>

¹²⁹ <http://www.testbiotech.de/en/node/898>

transgenic soybean Intacta® which produces an insecticide and is resistant to glyphosate herbicides such as Roundup®. Are you all aware that in Brazil, farmer-led court actions¹³⁰ are piling up against Monsanto for collecting royalties on RR1 soybeans regarded as illegal and for conditioning the sale of new GM seed Intacta RR2, **the very seed that EFSA, the EU Commission, and the UK Government together are defending Monsanto's rights to import into Europe?** We appear to have a David *versus* Goliath battle.

The Government's outrageous action, not reported in the press, was confirmed in the answer to a Written Question in the House of Lords¹³¹

The Parliamentary Under-Secretary of State, Department of Health (Earl Howe) (Con):
The United Kingdom has a strong interest in the science-based system underpinning genetically modified product applications and so has applied to intervene in this case, which concerns the authorisation of genetically modified food and feed. Any intervention will represent the view of the Government as a whole and the only likely external legal costs will be those from instructing counsel and costs of attending any hearing should that prove necessary.

The rights of civil society are being defended by:

Christoph Then: info@testbiotech.org www.testbiotech.org Testbiotech is the organisation coordinating the lawsuit and is asking for the public to support them..

ENSSER; European Network of Scientists for Social and Environmental Responsibility:
www.ensser.org

Foundation on Future Farming: www.zs-l.de

Manfred-Hermesen-Stiftung: www.m-h-s.org

Sambucus: www.sambucus.org

Society for Ecological Research: www.oekologische-forschung.de

German Family Farmers Association: www.abl-ev.de

Syngenta has submitted a legal challenge to the European Commission's decision to suspend the use of thiamethoxam on bee attractive crops.¹³² *"The Commission took the decision on the basis of a flawed process, an inaccurate and incomplete assessment by the European Food Safety Authority and without the full support of EU Member States....In suspending the product it breached EU pesticide legislation and incorrectly applied the precautionary principle".* Basel Switzerland 27 August 2013. The National Farmers' Union has announced that they are going to join Syngenta in the lawsuit.

Bayer CropScience sues the European Commission¹³³ A subsidiary of Bayer AG (FWB: BAYN) is challenging Europe's recent ban on a class of pesticides believed to be killing off millions of bees. The two-year ban on neonicotinoids, a controversial class of insecticides, was enacted in May by the European Commission following recent scientific evidence linking the chemical to the global crash of bee populations. Bayer CropScience is calling the ban "*unjustified*," saying it goes beyond the commission's existing regulatory framework. The German chemical giant also said the commission failed to take into account other factors

¹³⁰ http://sustainablepulse.com/2013/12/09/monsanto-faces-usd-1-billion-brazilian-farmer-lawsuit/#.UqlqP_RdU64

¹³¹ http://www.publications.parliament.uk/pa/ld201314/ldhansrd/text/131118w0001.htm#wa_st_0

¹³² <http://www.syngenta.com/global/corporate/en/news-center/news-releases/pages/130827.aspx>

¹³³ <http://www.ibtimes.com/bayer-cropscience-fights-europes-pesticide-ban-petition-blasts-bee-killing-chemical-giant-1403820>

that are contributing to bee die-offs, including, it says, loss of habitats, extreme environmental and climatic factors and lack of genetic diversity.

Monsanto threatened to sue EFSA over the publication of the data¹³⁴ on the company's GM Maize NK603, on which Prof Séralini performed a 2-year study on rats. Tumours started to appear at 4 months (see below). Monsanto only tests GMOs for 90 days.

Syngenta threatened to sue EFSA On 15th January 2013, the day before EFSA announcement that there would be a two year moratorium from Dec 2014 on three neonicotinoids (imidacloprid, clothianidin and thiamethoxam) on crops with flowers that were attractive to bees, Syngenta asked EFSA to change its press release.¹³⁵ *"We ask you to formally confirm that you will rectify the press release by 11 o'clock. Otherwise you will appreciate that we will consider our legal options."*

It is now our turn to do the suing; the people are finally fighting back

An Australian organic farmer is suing his neighbour¹³⁶

Steve Marsh, an organic farmer from Kojonup, south of Perth, lost organic certification for most of his farm when GM canola contaminated his crop. He is suing his neighbour in the Supreme Court of WA, in a landmark world's first trial beginning on February 10 2014. On 11/12/2013 independent South Australia Senator Nick Xenophon launched the farmers' petition,¹³⁷ and videos and a website for the Safe Food Foundation, which is coordinating fundraising for Steve's case which is already attracting global interest as the first of its kind.

In Brazil farmers are leading court actions against Monsanto

Is the UK Government aware¹³⁸ that in Brazil, farmer-led court actions¹³⁹ are piling up against Monsanto for collecting royalties on RR1 soybeans regarded as illegal and for conditioning the sale of new GM seed Intacta RR2, the very seed that the UK Government is defending Monsanto's rights to import into Europe.

Is the National Union of Farmworkers (NFU) a democratic organisation?

Peter Kendall, President of the National Union of Farmworkers (NFU), has announced that they will be joining the Syngenta Court action against EFSA for against the neonicotinoid ban. Is that what the farmers want? Have they been consulted? Wouldn't it be better to the money into sustainable farming methods? What money will the NFU use? Has Peter Kendall told farmers that he was present at the secret meeting on 26/06/12 with Monsanto, Syngenta,

¹³⁴ <http://www.efsa.europa.eu/en/press/news/130114.htm>

¹³⁵

http://corporateeurope.org/sites/default/files/letter_and_fax_interexchange_between_syngenta_ashurst_lawyers_and_efsa.pdf

¹³⁶ <http://sustainablepulse.com/2013/12/08/australian-farmers-gain-mass-consumer-support-gmo-pollution/#.UqlkFPRdU64>

¹³⁷ www.change.org/contamination

¹³⁸ <http://sustainablepulse.com/2013/11/21/uk-government-support-monsanto-civil-groups-eu-court/#.UqlowvRdU64>

¹³⁹ http://sustainablepulse.com/2013/12/09/monsanto-faces-usd-1-billion-brazilian-farmer-lawsuit/#.UqlqP_RdU64

Bayer and BASF and their industry body, the Agricultural Biotechnology Council (ABC) to discuss how to get GM crops into the UK and export them overseas?

Transparency.org and revolving doors in the UK Government¹⁴⁰

The organisation Transparency grades countries in terms of perception of corruption. Denmark scores as the most transparent; the UK is no 14 and the US no 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.”¹⁴¹*

In 1997 Dr Peter Campbell went straight from being the Head of Ecotoxicology Branch at the Pesticides Safety Directorate in York into the post of Head of Ecological Sciences at Syngenta.¹⁴² In 2009 Syngenta and BBSRC gave £1 million to fund Warwick University and Rothamsted Research *“to help to improve honeybee health.”*¹⁴³ (Rothamsted had lost funding for its Bee Unit in 2006). Syngenta funded scientific assistants at Exeter University in 2012. Syngenta pioneered Operation Bumblebee in the UK and in 2010 announced expansion of programmes across Europe; up to €1 million over 5 years.¹⁴⁴ Programmes included: *“What Operation Bumblebee can do for your golf course?”* (? Reduce pesticide use). Syngenta had representatives on the Advisory Committee on Pesticides (ACP), the Committee on Toxicity of Chemicals in Foods, Consumer Products and the Environment (CoT),¹⁴⁵ on the Panel to choose the Pollinator Initiative Projects and on the Government’s Foresight Future of Farming Report.¹⁴⁶ Syngenta’s parent company AstraZeneca had two representatives on CoT¹⁴⁷.

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

Dr Helen Thompson Chief Bee Scientist of Fera had a commission from Syngenta in which she rejected the part neonicotinoids had to play in bee declines.

She acted as a Syngenta ‘watchdog’ on the Editorial Board of Ecotoxicology (that is until recently). She hadn’t declared her conflict of interests to the Editor-in-Chief.¹⁴⁸

An assessment of key evidence about Neonicotinoids and bees March 2013¹⁴⁹

The UK voted in the EU, against the EU ban on neonicotinoids because it was waiting for ‘new research on bumblebees to be completed by Fera’.

¹⁴⁰ <http://www.transparency.org/country#GBR>

¹⁴¹ This is typical of the UK Government. On 31st October 2010, a newspaper headline: UK sets up the world’s largest Marine Reserve. Where? Not in the UK but in the Chagos Islands in the Indian Ocean.

¹⁴² <http://uk.linkedin.com/pub/peter-campbell/4/283/6ba>

¹⁴³ <http://www.bbsrc.ac.uk/news/archive/2009/091001-pr-1million-award-honeybee-decline.aspx>

¹⁴⁴ <http://www.bbsrc.ac.uk/news/archive/2009/091001-pr-1million-award-honeybee-decline.aspx>

¹⁴⁵ That was in November 2011; now COT has a member from AstraZeneca and a former Vice-President of SmithKline.

¹⁴⁶ <http://www.bis.gov.uk/assets/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf>

¹⁴⁷ Only one in November 2013

¹⁴⁸ Personal experience

¹⁴⁹ <http://www.defra.gov.uk/publications/files/pb13937-neonicotinoid-bees-20130326.pdf>

A secret letter from Defra Minister Owen Paterson to Syngenta (April 2013) was released to the *Observer* under freedom of information rules. He told the chemicals company Syngenta that he was '*extremely disappointed*' by the European Commission's proposed ban. He said that '*the UK has been very active*' in opposing it and '*our efforts will continue and intensify in the coming days*'.¹⁵⁰

Effects of neonicotinoid seed treatments on bumble bee colonies under field conditions was published by Dr Helen Thompson *et al.* Fera, York.¹⁵¹

On June 4 2013, EFSA rejected the study by Thompson *et al.* 2013 as weak. It said it "*does not change the conclusions of the risk assessment*" of January 2013.¹⁵²

Dr Helen Thompson, presumably stung by EFSA's several criticisms of the bumblebee study, joined Syngenta in September 2013 (is it full time rather than part-time?)¹⁵³

The Royal Commission on Environmental Pollution was abolished on 1 April 2011, as part of the Coalition Government's spending cuts. It had been created under Royal Warrant in 1970 to advise the Queen, Government, Parliament and the public on environmental issues.

The Advisory Committee on Pesticides to be abolished: A statement dated 8th March 2012 appeared on the ACP website about a Consultation on its fate.¹⁵⁴ *The option currently proposed is to abolish the Committee as a statutory Non-Departmental Public Body (NDPB) and to reconstitute it as a new expert scientific committee.*

Why is the Government determined to get GM crops into Britain?

Syngenta applied to EFSA GMO Panel for GM Roundup®-tolerant maize¹⁵⁵: "*The UK Competent Authority and Syngenta applied for placing on the market of a GM, herbicide tolerant (glyphosate) maize GA21 for food and feed uses, import, processing and cultivation.*" It was adopted by the Panel on GMO on 16 December 2011. The GMO Panel claimed that there were no effects on human or animal health or the environment. However, in the main document, the Panel admitted to the problems of reduction in farmland biodiversity, selection of weed communities and selection of glyphosate-resistant weeds and destruction of food webs and the ecological functions they provide. Nevertheless, it was approved by the Panel, which covered itself by saying "*The magnitude of these potential adverse environmental effects will depend on a series of factors including the specific herbicide and cultivation management applied at farm level, the crop rotation...etc.*" and recommended "*case-specific monitoring*". However, the Chairman of the Panel, Harry Kuiper, who had been involved in every case of risk assessment of GE crops since the start of EFSA¹⁵⁶, did not declare his conflict of interest.

¹⁵⁰ <http://www.guardian.co.uk/environment/interactive/2013/apr/29/environment-secretary-letter-syngenta-insecticide-ban>.

¹⁵¹

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

¹⁵² <http://www.efsa.europa.eu/en/efsajournal/pub/3242.htm>

¹⁵³ <http://www.theguardian.com/environment/2013/jul/26/government-bee-scientist-pesticide-firm>

¹⁵⁴ <https://www.gov.uk/government/consultations/the-future-of-the-advisory-committee-on-pesticides>

¹⁵⁵ <http://www.efsa.europa.eu/en/efsajournal/pub/2480.htm>

¹⁵⁶ <http://jech.bmj.com/content/67/9/717>

The Industry secret meeting to get GM into the UK 26/06/2012

Monsanto, Syngenta, Bayer and BASF and their industry body, the Agricultural Biotechnology Council (ABC) are setting the agenda for UK agricultural research with a view to bringing GM crops into the UK and exporting them overseas. Two Ministers and two MPs met with scientists from Defra, the John Innes Centre, Rothamsted Research and the NFU. They had a round table discussion including how to overcome the barriers that currently prevent the UK achieving these outcomes and a strategy to attain them. The Summary was written by Dr Julian Little of Bayer CropScience. This is the same Dr Little that lied to MPs at the Select Committee on 28/11/2012 in Parliament on at least three occasions.

[1] Going for Growth roundtable discussion, Tuesday, 26 June 2012, BIS Conference Centre:

- Attendees on: <http://tinyurl.com/9jbce4g> (pdf 16kb)
- Agenda on: <http://tinyurl.com/8ahylza> (pdf 64kb)
- Summary on: <http://tinyurl.com/92rrajn> (pdf 88kb)

Pollinators are absent from the farming areas of Scotland

One of our fellow campaigners once told me that no-one would bother to read my documents because they were too long. So, here is a shorter one that I sent to the Scottish Government in July after a visit to two gardens in the east of Scotland. One had many honey bees and bumblebees feeding on pollen and nectar, but the other had only a few bumblebees. In the latter garden the broad bean flowers were just starting to form, so they would be unlikely to be pollinated. One of the gardeners, when we questioned him about bees, said they used to keep them but somehow they had disappeared. The garden with the bees was on a slope that descended steeply to the river. It received its water supply from the hills. On the other side of the river was intensive agriculture. In the main river there were few insects and the sand martin holes in the riverbank were empty. The carcass of a dead swan lay on the bank. Dr Pierre Mineau, the Canadian toxicologist who was commissioned to write the American Bird Conservancy Report on Neonicotinoids and Birds,¹⁵⁷ said that the effects of insecticides on invertebrates and birds: "*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.*" (p. 8). So, in the UK, pollinators and birds are being affected by a water shed postcode lottery! So on 16/07/2013 I sent the Scottish Government a haiku.¹⁵⁸ My colleagues would agree: this is the shortest document I have penned in my three years of campaigning.

A haiku for Scotland

The bees buzz no more.
Fruits fail. The poisoned river,
grave to a dead swan.

[After Federico Garcia Lorca 1982¹⁵⁹]

¹⁵⁷ http://www.abcbirds.org/abcprograms/policy/toxins/Neonic_FINAL.pdf

¹⁵⁸ A haiku is a Japanese lyric verse form having three lines of five, seven and five syllables traditionally invoking an aspect of nature or the seasons.

¹⁵⁹ "For Gongora, an apple is no less intense than the sea, a bee no less astonishing than a forest. He takes his stand before Nature with a penetrating gaze and admires an identical beauty which equates all forms."

The recommendation of the Environmental Audit Committee on GMOs 30/04/2012¹⁶⁰

The Environmental Audit Committee recommendation: *Unless and until there is both clear public and political acceptance of GM, it is proven to be both beneficial to the environment and to producers, and evidence that demand for these products is based on understanding by consumers and transparent product labeling, the Government should not license its commercial use in the UK nor promote its use overseas. The Government must ensure that the public and Parliament is well informed on this issue. It should establish an independent body to research, evaluate and report on the potential impacts on the environment of GM crops, and their impacts on farming and on the global food system. An initial focus of such research should be on the scope for, and risks of, the co-existence of GM crops with conventional and organic farming regime(n)s.*

The Government Response¹⁶¹

The Government recognizes that GM technology could deliver benefits providing it is used responsibly, in particular as one of a range of tools to address the longer term challenges of global food security, climate change and the need for more sustainable agricultural production. The Government therefore supports farmers having access to developments in new technology, including GM, and being able to choose whether or not to adopt them. The Government takes a science-led approach to GM, and the protection of human health and the environment are our overriding priorities... We will only agree to the planting of GM crops, the release of other types of GM organism or the marketing of GM food or feed products if a robust risk assessment that has taken full account of the scientific evidence indicates that it is safe...The Government does not agree that a new independent body should be established to research, evaluate and report on the potential impacts on the environment of GM crops, and their impacts on farming and on the global food system. In 2010, the European Commission published a report entitled "A decade of EU-funded GMO research" which summarised the results of 50 research projects addressing primarily the safety of GMOs for the environment and for animal and human health... The Commission also concluded that there was no scientific evidence associating GMOs with higher risks for the environment or for food and feed safety than conventional plants and organisms.

Conflicts of interest at the European Food Safety Authority erode public confidence¹⁶²

In a disturbing paper published by the BMJ Publishing Group Ltd the murky web of the EU regulatory boards is exposed. *"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 Economic Cooperation and Development (OECD.)"* Chair of EFSA's Management Board Diána Bánáti had a longstanding relationship with the industry-funded International Life Sciences Institute (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 was 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

¹⁶⁰ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/567/56704.htm>

¹⁶¹ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/567/56704.htm>

¹⁶² <http://jech.bmj.com/content/67/9/717>

headed by a Monsanto employee. They are based on the concept of comparative assessment, a rewording of the controversial concept of ‘substantial equivalence’. Substantial equivalence assumes that GM crops are equivalent to non-GM crops and do not require rigorous safety assessment.¹⁶³

EFSA’s Reasoned Opinion Panel increases MRLs at the request of industry

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/kg¹⁶⁴ (i.e. 100 times: January 2012). EFSA had granted similarly elevated MRLs for glyphosate on wheat and GM soya.

Are the changes of staff at EFSA significant? Have more hardliners been imported?¹⁶⁵

Catherine Geslain-Lanéelle your CEO resigned on 24 July 2013. In July EFSA had issued new guidelines for two-year whole food feeding studies...but they were for future establishment of protocols and it sounded optional; “the decision on a case by case basis”. Herman Fontier Head of EFSA’s Pesticides Unit has gone. When he came to give testimony to the Environmental Audit Committee¹⁶⁶ he challenged an allegation by Bayer (and on BBC Radio 4.) and has been replaced by Luc Mohimont¹⁶⁷ Was that the reason he had to go?

Why is Owen Paterson so naïve? Doesn’t he know that many countries are now banning GMs? So biotech industry needs ‘virgin’ markets on which to dump their poisons

Just as the UK is trying to get GM crops in, many countries are enacting laws to ban GMs. In India, 250 Indian scientists have written to the Indian PM Manmohan Singh¹⁶⁸ and urged him to accept the Final Report submitted by the Supreme Court-appointed Technical Expert Committee (TEC) on modern-biotechnology regulation. The latest to pass laws to ban GMOs are two of the Hawaiian Islands, Kauai¹⁶⁹ and the Big Island.¹⁷⁰ Industry is trying to find new markets.

¹⁶³ http://www.testbiotech.org/sites/default/files/EFSA_Playing_Field_of_ILSI.pdf

European Food Safety Authority: A playing field for the biotech industry. Standards for risk assessment massively influenced by industry Christoph Then and Andreas Bauer-Panskus

¹⁶⁴ <http://www.efsa.europa.eu/en/efsajournal/pub/2550.htm>

¹⁶⁵ 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

¹⁶⁶ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/668/668.pdf>

¹⁶⁷ **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.

¹⁶⁸ <http://sustainablepulse.com/2013/11/20/indian-scientists-warn-pm-manmohan-singh-gm-crop-dangers/#.UqlpUPRdU64>

¹⁶⁹ <http://www.civilbeat.com/articles/2013/11/16/20426-kauais-gmo-and-pesticide-bill-is-set-to-become-law-after-veto-override/> Kauai on 16/11/2013

¹⁷⁰ http://www.huffingtonpost.com/2013/12/05/big-island-biotech-ban_n_4395521.html?ncid=edlinkusaolp00000003

In India, pests are becoming resistant to GM cotton. India now has a pink boll worm resistant to Bolgard I.¹⁷¹ In January and February 2010, samples taken from the fields were tested in Monsanto's laboratories. They confirmed that Bolgard I was, indeed, susceptible to the pink bollworm attack, and the pest is now resistant to the pest-killing protein in Bolgard I. Monsanto had been arguing that *"there has been no confirmed cases of poor field performance of Bt cotton attributable to insect resistance"*. Monsanto introduced Bolgard II in 2006 and is now readying with an insecticide—Round Up Ready Flex (RRF), selectively used for Bt cotton and Bollgard III. The MNC 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.

This means that industry is desperate to find new markets in Europe. That was what the Guardian reported¹⁷² from the Wikileaks exposure in 2007.¹⁷³ Ambassador Craig Stapleton wrote on 14/12/2007: *"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-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.

Why did the US and UK claim that Wikileaks was a danger to National Security and that the leakers were traitors?

It was not surprising that the US and the UK were anxious about Wikileaks. Could it also have been because of exposure of their shady negotiations with other Governments or Corporations, such as this one from an Ambassador friend of Bush?

We, the global public, are guinea pigs

We, the public, are the guinea pigs for a technology that in many countries has been shown to be flawed¹⁷⁴. The evidence of genotoxicity, teratogenicity and endocrine disruption 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.

¹⁷¹ <http://newindianexpress.com/opinion/Failure-of-Monsanto-Bt-Cotton/2013/12/06/article1930013.ece>

¹⁷² <http://www.theguardian.com/world/2011/jan/03/wikileaks-us-eu-gm-crops/print>

¹⁷³ <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

¹⁷⁴ 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."*

Dr Nancy Swanson has constructed graphs from the US which correlate glyphosate application and the percentage of GE soy and corn crops to the incidence and prevalence of various diseases in those on a Western diet. The Pearson's correlations are very strong and highly significant for a wide range of diseases.

Data are from United States Department of Agriculture (USDA) and US Centers for Disease Control (CDC).

Graph 8 For Autism, the graph shows school-age children with autism who are receiving services under IDEA (Individuals with Disabilities Education Act). The number of children with autism is plotted against glyphosate use on corn and soy. (Autism data were obtained from the US Department of Education).

Graph 9 Deaths from Alzheimer's are plotted against glyphosate use and % of GM corn and soy planted.

Graph 10 Deaths from Dementia are plotted against glyphosate use on GE corn and soy.

Graph 11 Deaths due to Obesity are plotted against glyphosate applied to GE corn and soy and % GE corn and soy planted.

Graph 12 Deaths due to Hypertension are plotted against glyphosate applied to corn and soy and % of GE corn and soy planted.

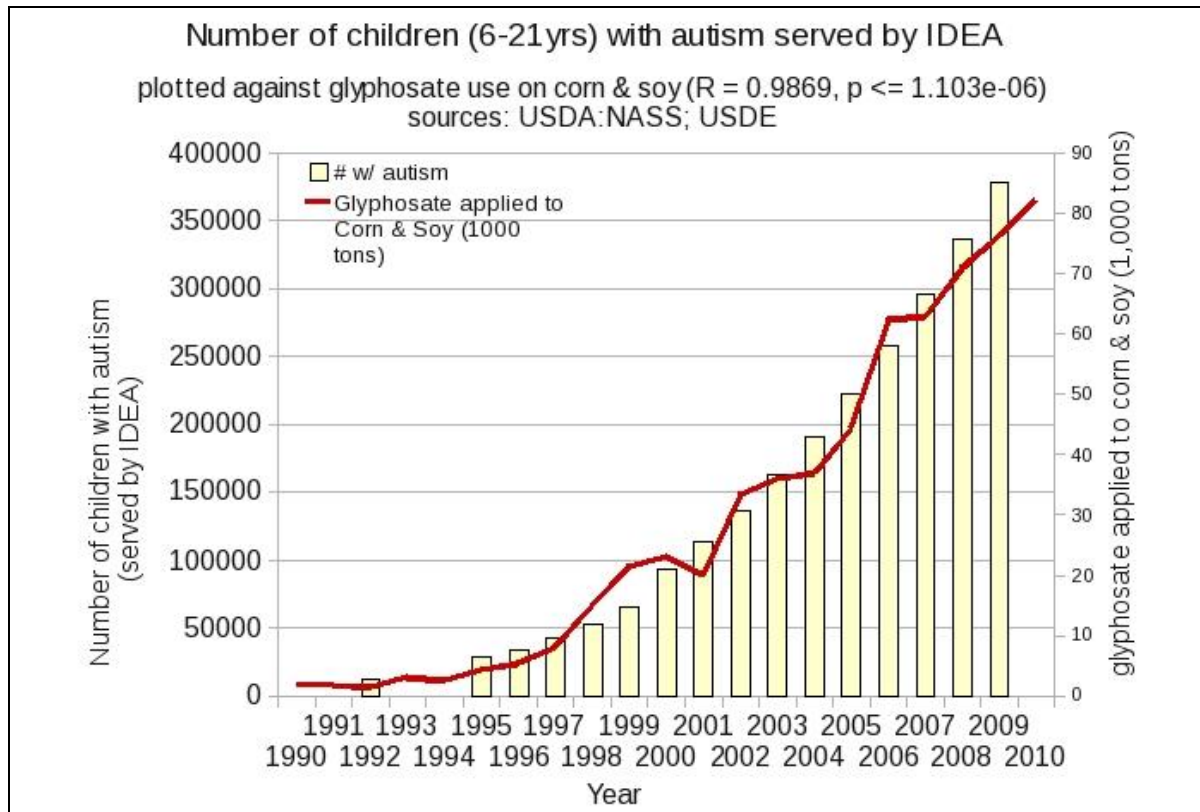
Graph 13 Deaths due to disorders of Lipoprotein Metabolism are plotted against % GE corn and soy and glyphosate applied to corn & soy.

Graph 14 Deaths due to Stroke plotted against % GE corn and soy and glyphosate applied to corn % soy.

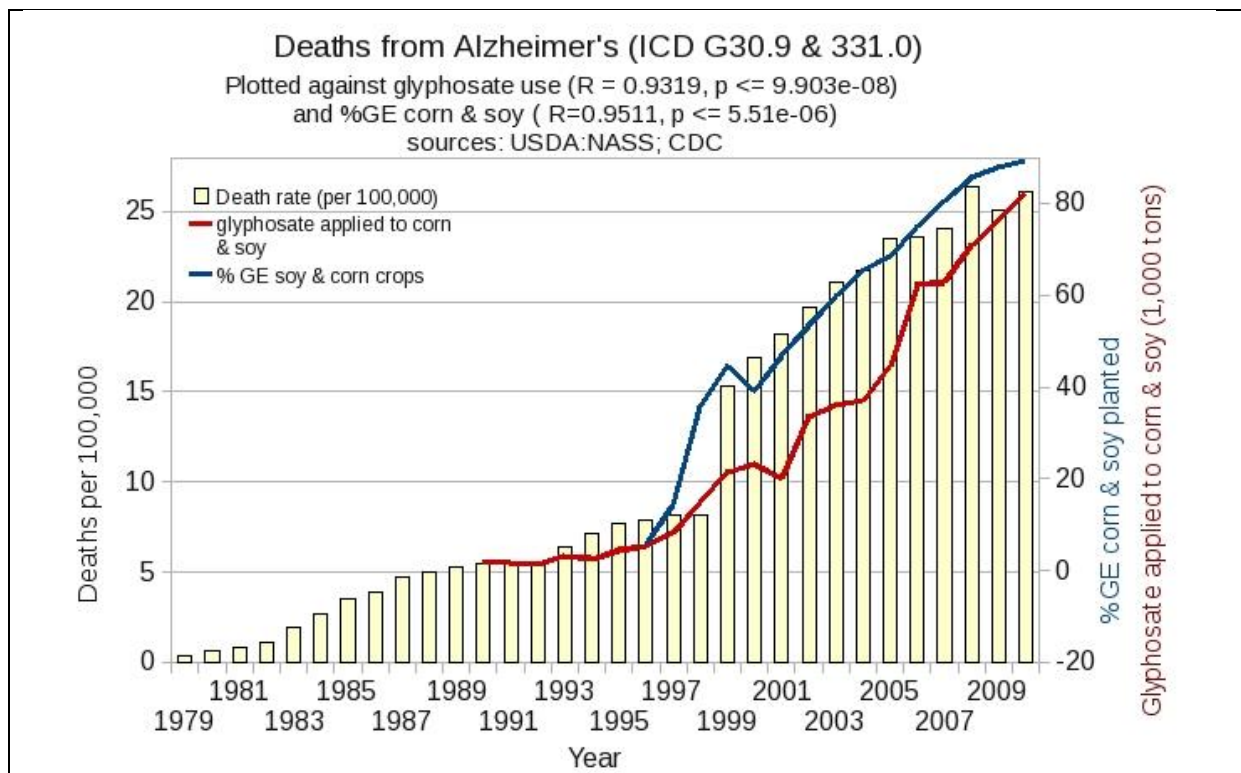
Graph 15 Deaths due to acute myeloid leukaemia are plotted against plotted against % GE corn & soy and glyphosate applied to corn & soy

These graphs are reproduced by kind permission of Dr Nancy Swanson. For statistical analyses, explanations and graphs for other condition/diseases please visit.¹⁷⁵

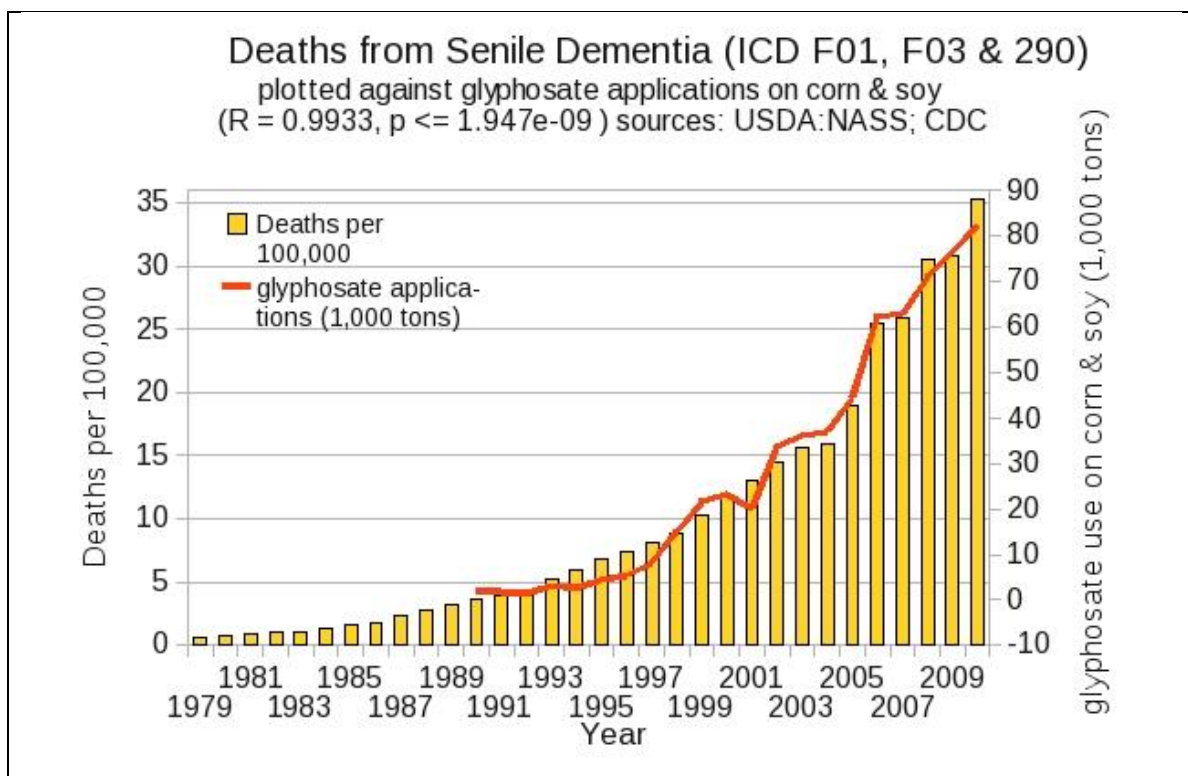
¹⁷⁵ <http://sustainablepulse.com/wp-content/uploads/GMO-health.pdf>



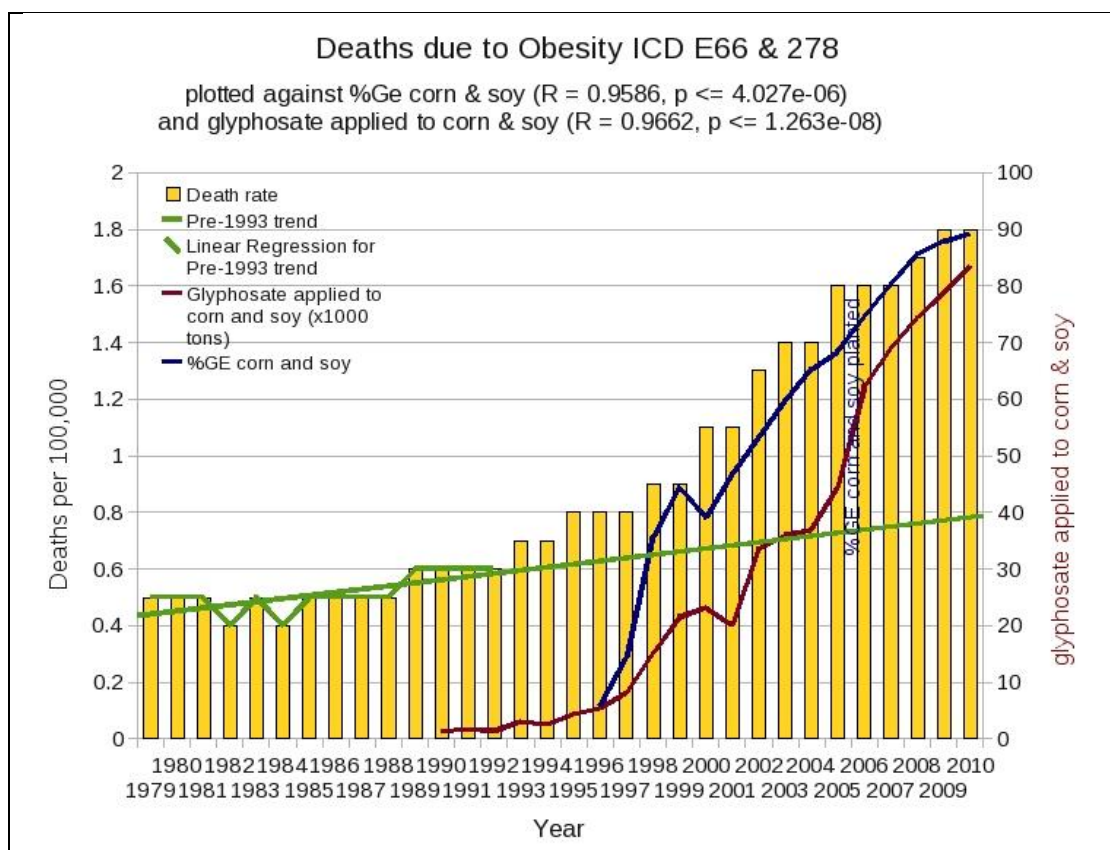
Graph 8 Autism against glyphosate applied to corn and soy



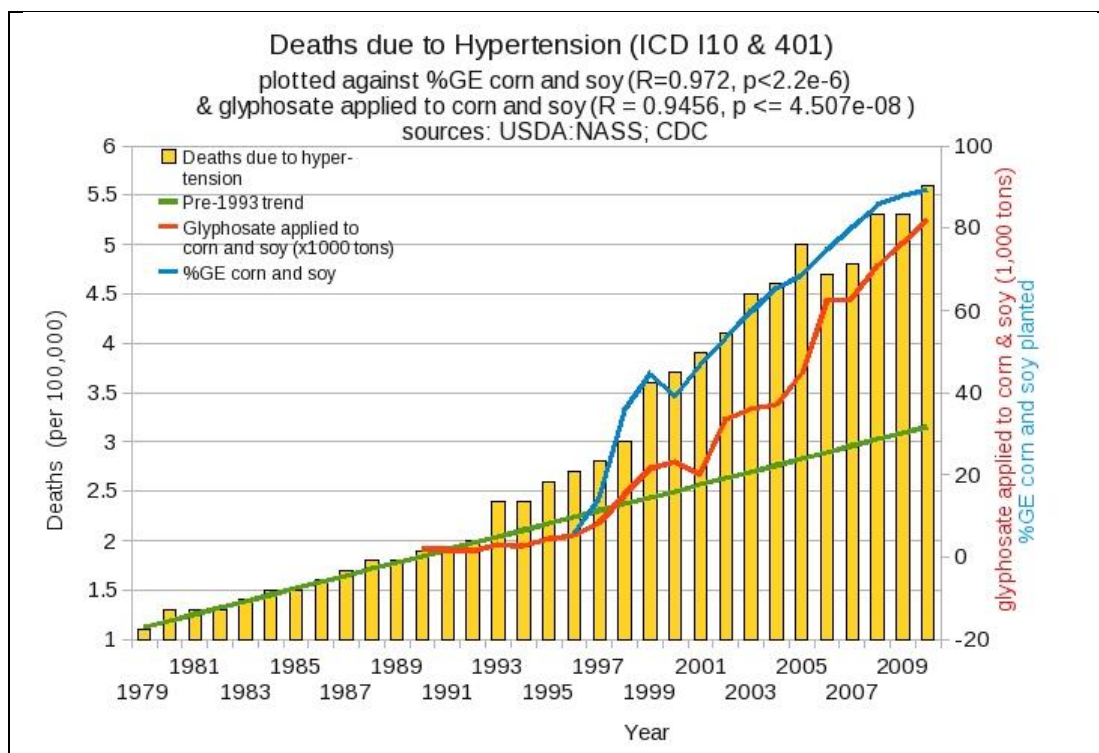
Graph 9 Deaths from Alzheimer's plotted against glyphosate applied to corn and soy and % GE corn & soy planted



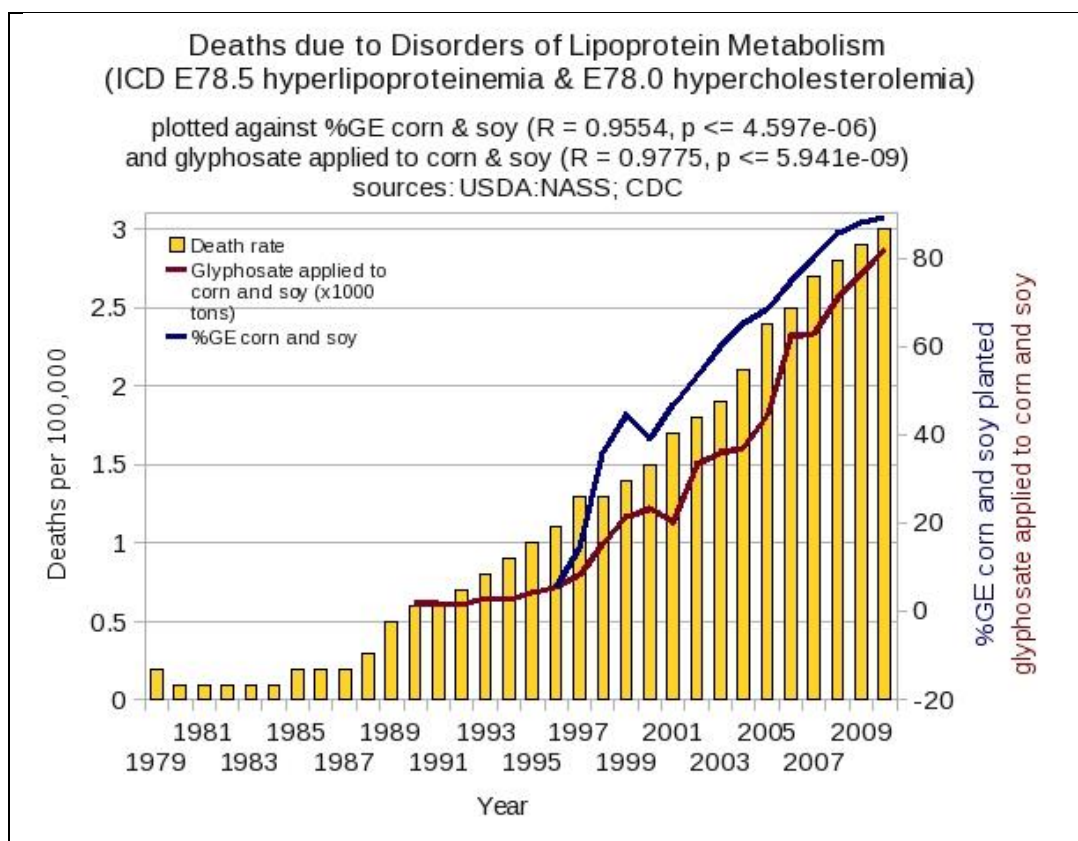
Graph 10 Deaths from Senile Dementia plotted against glyphosate applications to corn & soy



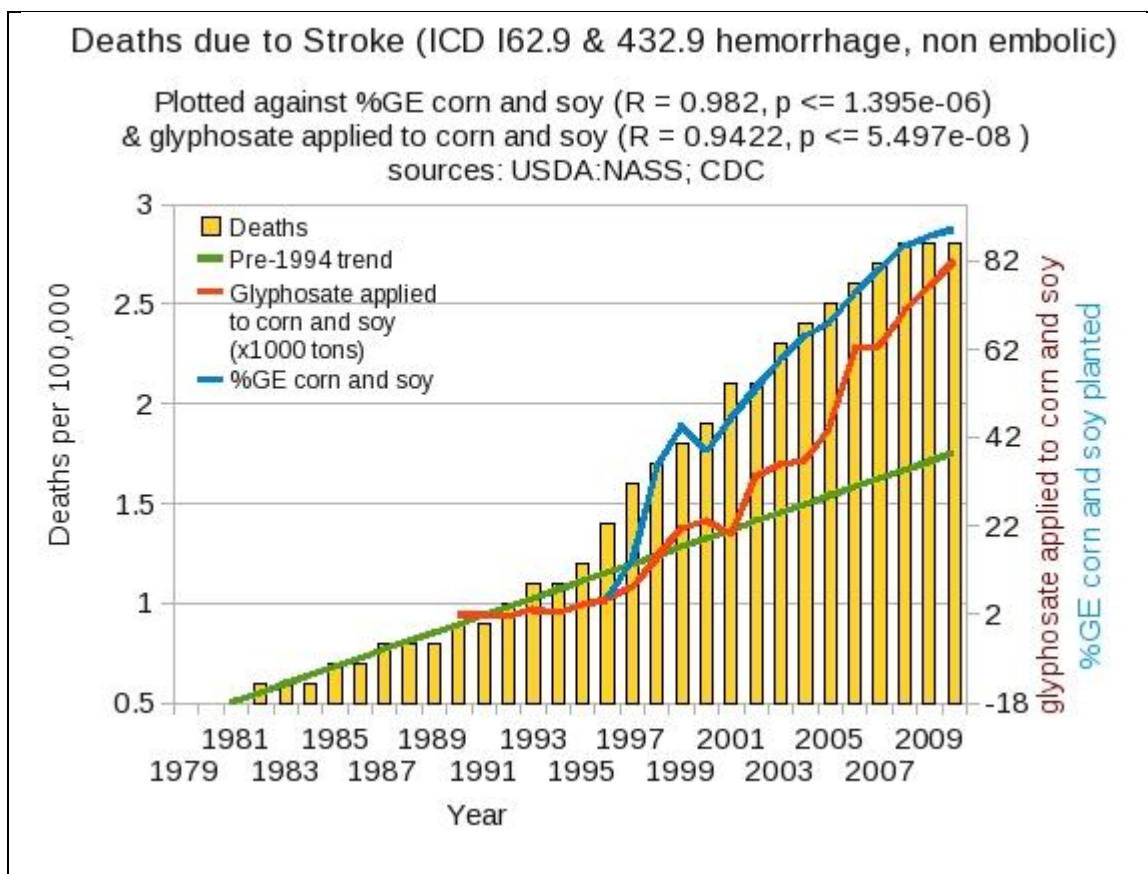
Graph 11 Deaths due to Obesity plotted against % GE corn & soy planted and glyphosate applied to corn and soy



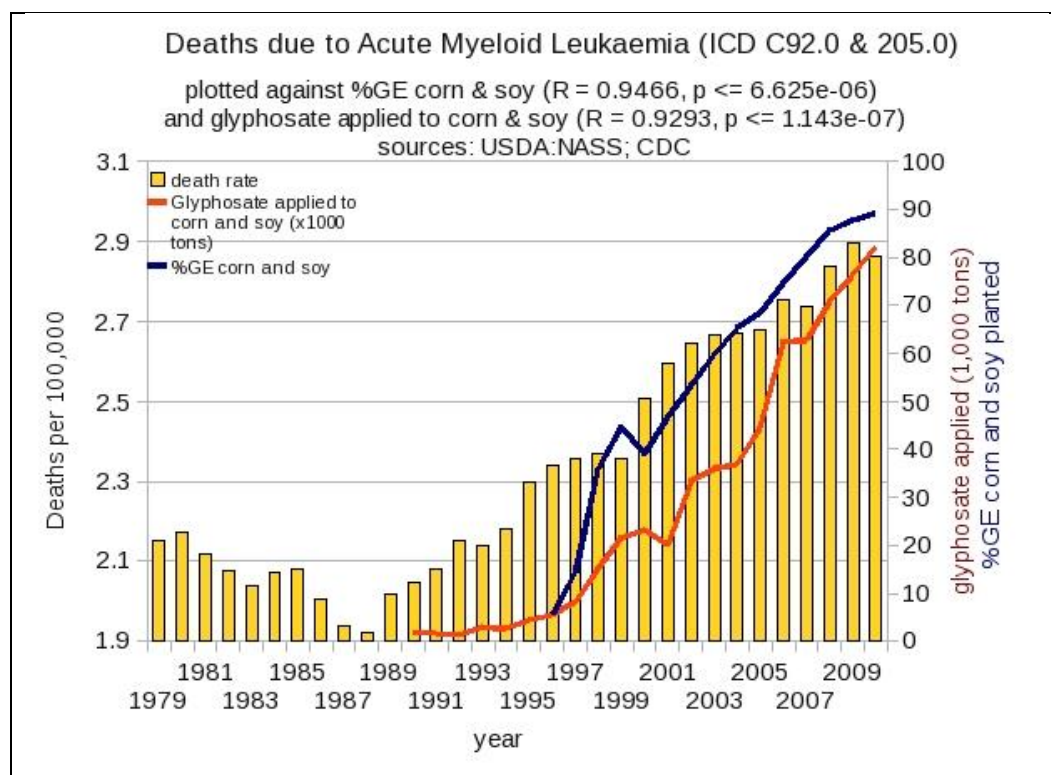
Graph 12 Deaths due to Hypertension plotted against %GE corn & soy planted and glyphosate applied to corn & soy



Graph 13 Deaths due to Disorders of Lipoprotein Metabolism plotted against %GE corn and soy planted and glyphosate applied to corn % soy



Graph 14 Deaths due to Stroke plotted against %GE corn & soy and glyphosate applied to corn & soy



Graph 15 Deaths due to Acute Myeloid Leukaemia plotted against %GE corn & soy planted and glyphosate applied to corn & soy

Permanent Peoples' Tribunal (PPT) Bangalore 3rd - 6th December 2011

The six multinational agrochemical companies stood accused of grossly violating human rights by promoting reliance on the sale and use of pesticides known to undermine internationally recognised rights to health, livelihood and life.¹⁷⁶ This is a link to the evidence considered in the judgments against six Trans-National Corporations (TNCs) at the Permanent Peoples' Tribunal (PPT) held in Bangalore and the final verdict of the nine judges (which was broadcast live on the internet).

Pages 35-37 contain a synoptic list of the cases which were submitted to the PPT and pages 38-40 the Programme of Sessions. After hearing evidence from witnesses over three days, the nine judges in the Tribunal concluded that the TNCs are responsible for gross, widespread and systematic violations of the right to health and life, loss of biodiversity, degradation of ecosystems, economic, social and cultural rights, as well as of civil and political rights, and women and children's rights.

The Verdict

"The last two days we have heard from 19 witnesses; 4 technical witnesses and 15 survivors who have vividly, through the experience and scientific research, compellingly substantiated the allegations made in the indictment."

Summary of the Verdict by Members of the Jury

Jury: Loss of biodiversity and degradation of ecosystems due to toxic pesticides have effect on life of indigenous peoples.

Jury: Loss of biodiversity and threats to indigenous peoples: undermines their way of life.

Jury: Threats and killings of public scientists and activists.

Dr Gianni Tognoni: Systemic toxicity and not isolated cases an expression of companies disregard to effects on populations.

Tognoni: There is a dramatic scarcity of independent research.

Jury: Pesticides and GMOs undermine communities.

Jury: Per toxicity of pesticides: there is structural bias in scientific literature pro-pesticides industry.

Juror Tognoni: No doubt there is proof of systemic toxicity and violation of human rights by agrochemical companies.

Elmar Altvater: Pesticide poisoning has been deregulated under neoliberal globalisation.

Altvater: Practices of agrochemical companies has led to economic/financial crises.

Altvater: Other consequences of agricultural TNCs are growing inequalities of hunger. Natural resources are being exhausted.

Paulo Ramazzotti: Pesticides and GMOs have social costs. Changes in traditions must be chosen by communities, not imposed by companies.

Jury: The key issue at stake is continuous generation of social costs; and lack of intervention by authorities.

Juror Ramazzotti: Agrochemical Companies treat people as expendable and dispensable forms of life, as mere commodities.

Jury: Pesticide corporations squelch information, prevent understanding and divide communities.

Juror Baxi says people should not be disregarded as factors of production or disposable. Dignity is key.

Chairman: Corporations have replaced responsibility with CSR – accountability to shareholders only.

¹⁷⁶ <http://www.agricorporateaccountability.net/en/page/ppt/167>

Jury: Global Compact has produced little change and corporations can pick/choose human rights violations.

Jury: Agrochemical corporations are responsible for gross widespread violation of human rights.

Juries' recommendations: Governments to prosecute TNCs for criminal liability.

Jury recommends governments to take action to restructure criminal law to make them accountable, to legislate on the precautionary principle.

Jury recommends that patents should be secondary to human rights and protection of biodiversity.

From my study at home in Wales, we watched the verdict. It was broadcast live from Bangalore on the Internet. It took about an hour to deliver. There were sometimes breaks in transmission, but there was a running summary on the screen of the points made by jurors. It was a deeply moving experience, particularly the point at which the victims and survivors applauded the jury. Some might consider it to be a hollow victory, because, although invited to do so, none of the defendants were in attendance. However, they must have been in the vicinity. The Indian Police raided the College the next day and demanded a list of attendees, particularly of those from PANAsia who had organised the Tribunal.

But the people felt better. They had been able to voice their complaints and, most importantly, to have them documented for posterity.

But no criminal prosecutions will take place until governments wake up and discover that it is too late. The destruction of the environment and biodiversity will be complete.

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

Acknowledgements

My special thanks go to Professor Gilles-Eric Séralini and his dedicated team in Caen, for carrying out the research which the industry and regulators systematically and repeatedly attempted to discredit and destroy; to Anthony Samsel and Dr Stephanie Seneff, whose paper linking glyphosate to modern diseases the industry tried to eliminate but failed; to Dr Nancy Swanson for compiling the graphs and regularly writing powerful pieces in the Seattle Examiner for GMO; to Christoph Then and all at Testbiotech for their work in Germany and all those trying to protect us from GM; GM Watch, GM Freeze, GeneWatch and GM-Free Cymru; to all those who have been persecuted over the years, who I only know as names; to Professor Kevin K Knuth, Editor-in-Chief of Entropy for maintaining the principles of scientific truth; to my great team of beekeepers and to all those in the global network who have kept the information flowing; to Matt Shardlow of Buglife, the only conservation organization to stand up and be counted and to Prof Dave Goulson for his services to bumblebees; to the small number of environmental journalists for keeping the public informed. My most heartfelt thanks go to Dr Henk Tennekes, who worked out the toxicology and irreversibility of the systemic neonicotinoid insecticides, first alerted us to what was happening in the environment and warned us of the disaster that has now come to pass. He has probably suffered more than most for exposing the agrochemical industry. With Dr Francisco Sanchez-Bayo he published more papers on how chemicals should be tested; and to my husband Palle Uhd Jepsen for loyally supporting me throughout 3 difficult years. However, the final responsibility for this paper lies with the author.