Open Letter: Pesticides Usage Statistics for 2018 prove that the British people are being used as LAB RATS

Open Letter: Pesticides Usage Statistics for 2018 prove that the British people are being used as LAB RATS

Dave Bench
Senior Scientist
Director, EU Exit, Chemicals, Health and Safety Executive

Dear Dave Bench,

Why were you and James Dancy of Defra key speakers at the meeting on 7th February 2019 when the Head of Regulatory Science for Bayer was making her 'priorities' for agricultural chemical manufacturers known? Why did you talk about implications of EU Exit and next steps for UK chemical regulation policy challenges, opportunities and the future for regulation post-Brexit? [1]
Did you discuss the use of the fungicide Chlorothalonil (Syngenta) which is being banned by the EU, but the NFU is still wanting to use it?[2]

The UK Farming Minister interviewed on 30/05/2016 about Brexit[3]

The UK could develop a more flexible approach to environmental protection free of "spirit-crushing" Brussels directives if it votes to leave the EU, the farming minister, George Eustice, has said. Speaking to the *Guardian*, the pro-Brexit minister said a leave vote in the 23 June referendum would free up a £2bn green dividend that could be spent on insurance schemes and incentives for farmers. "*The birds and habitats directives would go. But the directives' framework is so rigid that it is spirit-crushing*." On **pesticides**, he said "*the EU's precautionary principle needed to be reformed in favour of a US-style risk-based approach, allowing faster authorisation. A precautionary approach is the right thing to do but it should be based on realistic assessments of risk and not just theoretical hazards,"* he said. *"That is the wrong way to go about it."*

Defra is quoted as saying that after Brexit: "*The most promising crops suitable for introducing to England would be Roundup Ready GA21 glyphosate tolerant crops, which synergises well with herbicides already widely used in the UK. Empowering farmers to use the cutting-edge crop science innovations that are available is certainly one opportunity presented by shifting the responsibility for licencing domestically post-Brexit. Although the blanket spraying of herbicides like Roundup present challenges regarding their impact on the environment and animals, the more obvious solution would be to regulate the technique, not the actual product because it would make that possible."*[4]

Boris Johnson said in his first speech outside No 10 Downing Street on 24th July 2019 [5]
"Let's start now to liberate the UK's extraordinary bioscience sector from anti-genetic modification rules and let's develop the blight-resistant crops that will feed the world."
Johnson reads from a well-rehearsed script. The '*GM will feed the world mantra*' is pure industry spin. There is already enough food being produced to feed the global population yet around **830 million** are classed as hungry. However, pro-Brexiteer Conservative politicians talk of the essential need for Britain and the world to adopt GM is little more than an attempt to justify a post-Brexit

[1] https://www.westminsterforumprojects.co.uk/agenda/UK-chemical-regulation-post-brexit-19-agenda.pdf
[2] https://www.nfuonline.com/sectors/crops/crops-news/updated-chlorothalonil-banned-by-european-union/
[3] https://www.theguardian.com/politics/2016/may/30/brexit-spirit-crushing-green-directives-minister-george-eustice
[4] https://www.politicshome.com/news/uk/foreign-affairs/brexit/opinion/dods-monitoring/95900/future-food-will-defra-embrace-gmos
[5] https://off-guardian.org/2019/08/26/boris-johnson-gmos-and-glyphosate-irresponsible-negligent-and-criminal/

trade deal with Washington that will effectively incorporate the UK into the US's regulatory food regime. The type of 'liberation' Johnson really means is the UK adopting unassessed GM crops and food and a gutting of food safety and environmental standards. It is no secret that various Conservative-led administrations have wanted to break free from the EU regulatory framework on GM for some time.

The alleged 'first' glyphosate-resistant weed in Britain has just been reported by scientists from ADAS, the body that endorsed Monsanto's suggestion of spraying pre-harvest glyphosate in 1980
Poverty brome (Bromus sterilis L.) [sterile or barren brome, syn. Anisantha sterilis (L.) Nevski] is a problematic UK arable weed. There are currently no confirmed cases of glyphosate resistance in any weed species in the United Kingdom or in B. sterilis worldwide… This, coupled with increasing glyphosate use, highlights the need for increased vigilance and monitoring for glyphosate resistance in the United Kingdom. [6]
Has anyone looked at Black Grass, (*Alopecurus agrestis* L.)? Herbicide-resistant black grass, first seen in 1982 (only two years after farmers started spraying glyphosate pre-harvest) and is now found on 16,000 farms in 34 counties. This was the reason Guy Gagen gave for an increase in Roundup sprayed between 2012 and 2014. Ben Webster of the *Times* reported: "*Farmers have sharply increased their use of a weedkiller that has been classified as "probably carcinogenic to humans".* [7] *More than 1,700 tonnes of glyphosate were sprayed on crops last year, up a third on 2012, according to the Department for Environment, Food and Rural Affairs (Defra). The total area sprayed with the weedkiller grew by almost 500,000 hectares to 2.1 million hectares, an area the size of Wales."*
Guy Gagen said: *"No farmer would be wanting to put a chemical on a crop when he doesn't need to." He added that spraying wheat could result in traces of glyphosate ending up in bread sold in supermarkets but the amount was well below the maximum residue level set by the EU.*
A Defra spokesman said*: "There are extensive regulations in place so that people and the environment are protected from pesticides. The approval of glyphosate for use across Europe is being reviewed by the EU Commission."*

Why did Defra and the Chemicals Regulation Division refuse to ban glyphosate-based herbicides in Swansea between 2014-2017 when I told them that it was poisoning our nature reserve? [8]
Analysis of local tap water in August 2014 revealed a 10-fold increase since August 2013: from 30 ppt to 300 ppt. I told them that these were of the order of concentrations found in a laboratory study in 2013 that showed that breast cancer cell proliferation is accelerated by glyphosate in extremely low concentrations. [9] We had several neighbours who had recently developed breast cancer.
Now, in 2019, with many scientific papers reporting apocalyptic insect declines around the world we are facing a global Armageddon, yet the public has no idea, because the press has concealed it from them.

Loss of biodiversity is a bigger threat than climate change

In 2019, a three-year UN-backed study from the Intergovernmental Science-Policy Platform On Biodiversity and Ecosystem Services has grim implications for the future of humanity.[10]
The Chairman of IPBES said loss of biodiversity was a bigger threat than Climate Change. The only mention of pesticides appears to be: "*Pesticides, including neonicotinoid insecticides, threaten*

[6] https://www.cambridge.org/core/journals/weed-science/article/first-cases-of-evolving-glyphosate-resistance-in-uk-poverty-brome-bromus-sterilis-populations/2EC536244FC205586290731EF1BE4593
[7] https://www.thetimes.co.uk/article/farmers-using-more-carcinogenic-weed-killer-76bl8lw95t5
[8] https://dissidentvoice.org/2019/10/agrochemical-apocalypse-interview-with-environmental-campaigner-dr-rosemary-mason/
[9] http://www.ncbi.nlm.nih.gov/pubmed/23756170
[10] https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf

pollinators worldwide, although the long-term effects are still unknown." Christian Maus from Bayer CropScience and Helen Thompson from Syngenta were experts who authored some of the Chapters on Pollination.

Dave Bench, have you seen the Pesticides Usage Statistics for 2018? [11] They confirm what a European NGO said in 2013, that the British citizens are being used as lab rats!

Each year pesticides sprayed on UK crops increases due to herbicide and insecticide resistance
Herbicide-Resistant weeds in the US
International Survey of Herbicide-Resistant Weeds [12] Updated to July 2018. Run the cursor over the map and it will tell you how many herbicide-resistant weeds each US State has. The number of herbicide-resistant weeds in the US vary from one (Massachusetts) to 30 (California). California is the fruit-growing capital of the US.

Dave Bench, you presented a paper at the Soil Association meeting on 20 November 2017
The Soil Association, using data extracted for the very first time from their records by FERA Science Ltd (who hold UK Government data on pesticide use in farming), showed that pesticide active ingredients applied to three British crops had increased between 6 and 18 times between 1974 and 2016, rather than halved as farmers and industry had claimed!! As well as hearing this new evidence of increased pesticide use in the UK, the conference heard new scientific evidence from around the world showing that very low doses of pesticides, well below official 'safety' levels, pose a significant risk to public health from pesticides in our food supply.

Were you shocked? Presumably you weren't because you described the regulatory system for pesticides ***as robust and as balancing the risks of pesticides against the benefits to society***.
That statement is rubbish, it is for the benefit of the agrochemical industry. The industry (for it is the industry that does the testing, on behalf of regulators) only **tests one pesticide at a time**, whereas farmers spray **a cocktail of pesticides**, including over children and babies, without warning. Ian Boyd, the former Chief Scientific Adviser to Defra said pesticides, once they have been authorised are never reviewed, as drugs are. Georgina Downs, UK Pesticides Campaign has told Defra about spraying pesticides on rural residents **TIME AND TIME AGAIN.**

Jon Snow, C4 News, presented a programme on the 2019 UK State of Nature, (which is dire). [13]
He told Phil Jarvis of the NFU and Prof Rosie Hails, former Chair of ACRE, the Advisory Committee for Releases (of GMOs) into the Environment: "*We all thought it was climate change; now we are told we're actually poisoning the land with our agriculture. Where does farming start – or end – and the government begin*? *The government has a very big hand in how you behave on your land. There is some very strong language in this report. Do you think the farmers understand that they are poisoning the soil?"* Phil Jarvis said "*I don't recognise the language."* – He said, "*I set aside 11% of the land each year fallow for nature*." Jon Snow said "*How long does it take for the land to recover from these poisons*?" Mr Jarvis failed to answer that question. He gave the impression that pesticides were '*a last resort.*' Yet the FERA Pesticide Usage Survey Report 2018 show that multiple applications of many pesticides (a choice of more than 320) by most farmers is routine.
I hope Phil Jarvis NFU has received and read the new Pesticide Usage Survey Report 2018 from FERA. Even if on his farm he only uses pesticides '*as a last resort',* for most of his farming colleagues the prophylactic application of pesticides, as advised by agrochemical companies, increases year by year.

[11] https://secure.fera.defra.gov.uk/pusstats/surveys/2018surveys.cfm
[12] http://weedscience.org/vmap/statemap.aspx
[13] https://www.channel4.com/news/nature-is-in-trouble-experts-discuss-uks-wildlife-extinction-crisis

Pesticide Usage Survey Report in 2018 (Brief extracts from 96 pages about pesticides)
Arable crops in the UK 2018[14]
This report contains information on arable crops including wheat, barley, oats, rye, triticale, oilseed rape, linseed, ware & seed potatoes, dry harvest peas, field beans and sugar beet. Data on pesticide usage on these crops were collected from 22,916 fields of arable crops grown on 1,237 holdings throughout the United Kingdom (nine of which were organic)

Some definitions: *'Treated area' is the gross area treated with a pesticide, including all repeat applications, some of which may have been applied to the land in preparation for planting, or applied to the margins of the crop and thus may appear as an inappropriate use on that crop.*
'Pesticide' is used throughout this report to include commercial formulations containing active substances used as acaricides, biological control agents, defoliants, desiccants, fungicides, growth regulators, herbicides, insecticides, molluscicides, nematicides or urea.

Overall weight of pesticides applied to all crops increased between 2010-2018
2010 14 thousand tonnes to 2018 17 thousand tonnes
.
By weight Major pesticide active substances 2018
Herbicides and desiccants 49% = 8.5 thousand tonnes
Fungicides 33% = 5.7 thousand tonnes
Growth Regulators 15% = 2.5 thousand tonnes
Seed treatments, molluscicides, insecticides 1%

Average number of applications during the year = 17
Wheat on average: 3 fungicides, 3 herbicides, 2 growth regulators, 1 insecticide spray, and 27% had 2 molluscicides.

Increases in pesticides (by weight applied and area treated) since 2017
The report shows increases in the use of chlorothalonil (8% by area treated, 12% by weight applied) and in glyphosate (10% by area treated and 11% by weight applied). The insecticide lambda-cyhalothrin increased by 11% in terms of area treated with a 16% increase in weight applied.

Arable crops grown in the UK; area percentages grown and pesticide area treated
Wheat comprised 42% of the area of all arable crops grown in 2018, oilseed rape 14%, spring barley 18%, winter barley 9%, oats 4%, beans 4%, ware potatoes 3%, sugar beet 3%, peas, rye and linseed 1% each and seed potatoes and triticale less than 1%.
In terms of pesticide area treated, wheat accounted for 51% of the total, oilseed rape (spring & winter) 14%, spring barley 11%, winter barley 8%, ware potatoes 5%, sugar beet 3%, oats and beans (spring & winter) 2%, seed potatoes, peas and rye 1% and linseed & triticale less than 1%.
By weight, pesticide applications to wheat constituted 52% of the total weight of active substances applied, oilseed rape 11%, ware potatoes 10%, winter barley and spring barley 8% each, field beans 3%, sugar beet and oats 2%, peas, seed potatoes and rye 1% and linseed & triticale less than 1% each.

Pesticides used on cereals
Wheat summary

[14] 2018 Arable Pesticide Usage Survey Report
https://secure.fera.defra.gov.uk/pusstats/surveys/2018surveys.cfm

- 1,747,673 hectares of wheat grown in the United Kingdom
- 25,474,912 treated hectares
- 8,857.1 tonnes applied
- 0.1% of wheat remained untreated
- Wheat received on average 3 fungicide, 3 herbicide, 2 growth regulator and 1 insecticide spray rounds. An average of 2 molluscicides were used on 27% of the area of wheat grown

Wheat – Fungicides

- Formulation area treated: 10,765,872 hectares
- Weight of formulations applied: 2,983.5 tonnes
- The five most common formulations were (five fungicides named)

Wheat – Herbicides

- Formulation area treated: 7,303,332 hectares
- Weight of formulations applied: 3,822.7 tonnes
- The five most common formulations were: names specified

Reasons for use of herbicides – were given: general weed control, blackgrass, broad-leaved weeds, grass weeds, cleavers, wild oats, other weeds.

Wheat – Growth regulators

- Formulation area treated: 3,820,729 hectares
- Weight of formulations applied: 1,851.5 tonnes
- The five most common formulations were: five names specified

Wheat – Insecticides

- Formulation area treated: 949,837 hectares
- Weight of formulations applied: 7.3 tonnes
- The five most common formulations were: names specified

Oil seed rape: 583,326 *ha* grown and 6,926,049 ha treated;
4 herbicides, 3 fungicides, 3 insecticides, 1 growth regulator

Oil Reed Rape
583,326 *ha* grown in the UK
6,926,049 *ha* treated with pesticides
On average: 4 herbicides; 3 fungicides; 3 insecticides; 1 growth regulator

Ware potatoes (as opposed to seed potatoes)
Ware potatoes 127,859 *ha* grown in the UK
2,728, 403 *ha* treated with pesticides
On average: 10 fungicides; 3 herbicides; 2 insecticides; 1 growth regulator

Sugar beet
Sugar beet 114, 203 *ha* grown in the UK
1,544,518 *ha* treated with pesticides
On average: 5 herbicides, 2 fungicides; 1 insecticide

PESTICIDE USAGE ON PULSES

Dry harvest peas

- 37,993 hectares of dry harvest peas grown in the United Kingdom
- 328,084 treated hectares
- 141.8 tonnes pesticides applied
- 0.5% of dry harvest peas remained untreated
- Dry harvest peas received on average 3 herbicide, 2 insecticide and 1 fungicide spray rounds
- The main varieties encountered included Prophet, Daytona and Sakura

Dry harvest peas – Fungicides

- Formulation area treated: 45,476 hectares
- Weight of formulations applied: 17.4 tonnes
- The five most common formulations were as specified

Dry harvest peas – Herbicides

- Formulation area treated: 162,015 hectares
- Weight of formulations applied: 109.5 tonnes
- The five most common formulations were as specified

Dry harvest peas – Insecticides

- Formulation area treated: 88,623 hectares
- Weight of formulations applied: 3.5 tonnes
- The five most common formulations were as specified

Dry harvest peas –Seed treatments

- Formulation area treated: 29,266 hectares
- Weight of formulations applied: 3.4 tonnes
- 23.7% of the seed remained untreated
- Where specified (excludes unspecified seed treatments) the two formulations encountered were:

Denial by the NFU, Defra and the Agrochemical Industry about the massive amounts of pesticides used on farmland and herbicides used in towns and cities on weeds: silence from the UK corporate media

The State of Nature Report 2016

Mark Eaton of the RSPB, the Report's first author said: *"The report includes a new "biodiversity intactness index", which analyses the loss of species over centuries. The UK has lost significantly more nature over the long term than the global average with the UK the 29th lowest out of 218 countries. "It is quite shocking where we stand compared to the rest of the world, even compared to other western European countries: France and Germany are quite a way above us in the rankings,"* said Eaton*. "The index gives an idea of where we have got to over the centuries, and we are pretty knackered." "*75% of our land is farmed". It was therefore astounding to see the complete denial of the NFU and Defra about the 2016 UK State of Nature Report. NFU vice-president Guy Smith said *"intensification of farming had ended in the early 1990s."* that farmers "*were using less fertiliser and pesticides than ever"* and a spokeswoman from Defra said: *"Protecting our precious environment and supporting our world-leading farmers, a cornerstone of our economy, will form an important part of our EU exit negotiations."* The statistics for pesticide usage produced by Fera show exactly the opposite.

From: "no-reply@defra.ecase.co.uk on behalf of Ministerial Contact Unit" <correspondence.section@defra.gov.uk>
Subject: Glyphosate - Ref: TO2019/22109
Date: 5 November 2019 at 11:23:04 GMT
To: rosemary.mason01@btinternet.com
Reply-To: "Ministerial Contact Unit" <correspondence.section@defra.gov.uk>

Dear Dr Mason,
Thank you for your email of 20 October to Lord Gardiner, in which you provided a link to an article about herbicides, in particular glyphosate. I have been asked to reply.

The Government's first priority with regard to herbicides and other pesticides is to ensure that they will not harm people or pose unacceptable risks to the environment. To this end, we operate a strict system for regulating pesticides. Decisions on the use of pesticides are based on a careful scientific assessment of the risks, and a pesticide may only be placed on the market in the UK if the product has been authorised by our expert regulator, the Health and Safety Executive (HSE). Following a thorough risk assessment, HSE imposes conditions on the way pesticides are used to ensure there is no harm to human health and no unacceptable effects on the environment. Pesticides that pose unacceptable risks are not authorised.
Glyphosate is no exception to this and, as for all pesticides, is subject to restrictions to ensure that its use will not harm people or have unacceptable effects on the environment. UK experts participated in the European Food Safety Authority's assessment of glyphosate and support its conclusions that all the safety standards are met. The Government therefore agrees with the EU decision to approve glyphosate for continuing use. We will continue to keep an active watch on the scientific evidence on glyphosate.
Yours sincerely,
Paul Botterill
Ministerial Contact Unit

Global Chemicals Outlook II shows continued growth of chemicals in the crop protection industry (abbreviated Introduction by Joyce Msuya Acting Executive Director UNEP)
Chemicals are part of our everyday lives. From pharmaceuticals to plant protection, innovations in chemistry can improve our health, food security and much more. However, if poorly used and managed, hazardous chemicals and waste threaten human health and the environment.
Large quantities of hazardous chemicals and pollutants continue to leak into the environment, contaminating food chains and accumulating in our bodies, where they do serious damage.
Estimates by the European Environment Agency suggest that 62 per cent of the volume of chemicals consumed in Europe in 2016 were hazardous to health. The World Health Organization estimates the burden of disease from selected chemicals at 1.6 million lives in 2016. The lives of many more are negatively impacted.

According to Global Chemicals Outlook II, Glyphosate is top of the Top 10 products used on major crops in the United States by volume, 1968 and 2016.[15] It is the top of the silent killers because no-one dares to mention it. Monsanto would have sued anyone who did. Bayer, which now owns Monsanto, probably would too. As you can see from glyphosate's reassessment in 2004 by a corrupt group of people, ^{14}C labelled glyphosate is distributed to every organ of the body.[16]
Glyphosate is the prime candidate because it has multiple actions. It is an herbicide, an antibiotic, a fungicide, an antiprotozoal, an organic phosphonate, a growth regulator, a toxicant, a virulence enhancer and is persistent in the soil. It chelates (captures) and washes out the following minerals: boron, calcium, cobalt, copper, iron, potassium, magnesium, manganese, nickel and zinc.

Continued growth of synthetic chemicals in the pesticide/crop protection industry
"Pesticides include herbicides, insecticides, termiticides, nematicides, rodenticides and fungicides. These products are largely used for crop protection in agriculture. Today the industry is valued at over US dollars 50 billion and there are around 600 active ingredients. Herbicides account for approximately 80 per cent of all pesticide use" (Phillips McDougal 2018).

15
https://wedocs.unep.org/bitstream/handle/20.500.11822/28113/GCOII.pdf?sequence=1&isAllowed=y
16
https://apps.who.int/iris/bitstream/handle/10665/43624/9241665203_eng.pdf;jsessionid=B0AAD3975D65BB30FFFE902DD40DF27C?sequence=1

Top 10 products used on major crops in the United States by volume, 1968 and 2016 (Phillips McDougal 2018, p. 4)

Glyphosate	an herbicide, an antibiotic, a fungicide, an antiprotozoal, an organic phosphonate, a growth regulator, a toxicant, a virulence enhancer and is persistent in the soil. It chelates (captures) and washes out the following minerals: boron, calcium, cobalt, copper, iron, potassium, magnesium, manganese, nickel and zinc. (Monsanto/Bayer)
Metolachlor	an organochlorine, selective herbicide
Pyraclostrobin	a fungicide (Aldrich-Sigma)
Mesotrione	an herbicide (Syngenta)
Thiamethoxam	a neonicotinoid insecticide (Syngenta)
Acetochlor	an herbicide (Monsanto and Zeneca)
Azoxystrobin	a systemic fungicide (Syngenta)
Atrazine	an endocrine-disrupting herbicide (Syngenta)
Abamectin	an insecticide, acaricide, nematicide
Clothianidin	a long acting (545 (13-1386) days) systemic neonicotinoid insecticide (Bayer)

Early history of the British Government's close relationship with the agrochemical industry since 1949

After WW2, in 1949, following the Nuremberg trials, the Westminster Government invited Monsanto to set up a chemical factory in Newport, Wales, as far away from London as possible. They also worked with Bayer, the former IG Farben, the private chemical company that collaborated with the Nazis.[17] "*It built a factory next to Auschwitz, Poland, so it could exploit Jewish slave labour in its oil and rubber production plant. In total, some 300,000 detainees from Auschwitz were employed in IG Farben's workforce, supplying the company with free labour. The company housed the workers in its own concentration camp, with the horrendous conditions there and in the factory leading to an estimated 30,000 deaths. On top of this, an unknown number of workers deemed unfit to continue working at the factory were sent to the death camp at Auschwitz. Alongside the brutal conditions of the labour camp, IG Farben also sanctioned drug experiments on live, healthy inmates. IG Farben was probably the most well-known corporate participant in the Holocaust, and the company's history sheds a chilling light on how genocide became tied in with economics and business.*"

Both companies used factories that had made chemical weapons in the war to make chemicals for agriculture from the same ingredients. From then on, Monsanto's factory in Wales manufactured PCBs until 1977 and a number of other dangerous chemicals. Monsanto was found to be dumping toxic waste in the River Severn, public waterways and sewerage. After that they paid a contractor to illegally *dump "thousands of tons of cancer-causing chemicals - among them PCBs, dioxins and Agent Orange derivatives"* at two quarries in Wales: Brofiscin (80,000 tonnes) and Maendy (42,000 tonnes) between 1965 and 1972. In 1968 US documents showed that Monsanto tried to decide whether or not to come clean about the dangers of the chemicals. They stopped making PCBs in Anniston US in 1971 because of scandals about PCBs on the health of the population and wildlife. However, the British government led by Ted Heath agreed to ramp up production at the Monsanto plant in Newport. Alabama is more than 50 million square miles: Wales is 8,000 square miles.

In 2003 when toxic effluent from the quarry starting leaking into people's streams in Grosfaen just outside Cardiff, the Environment Agency - a government agency concerned with flooding and pollution – was hired to clean up the site in 2005. [18]

[17] https://www.newhistorian.com/ig-farben-opens-factory-at-auschwitz/3822/

[18] https://theecologist.org/2007/oct/11/burying-truth-orginal-ecologist-investigation-monsanto-and-brofiscin-quarry

"Firstly, the Agency repeatedly failed to hold Monsanto accountable for its role in the pollution (a role that Monsanto denied from the outset). Secondly, the Agency consistently downplayed the dangers of the chemicals themselves, even claiming that they offered no "identifiable harm or immediate danger to human health" in their official report."
According to engineering company WS Atkins, in a report prepared for the agency and the local authority in 2005 **but never made public**, the site contains at least 67 toxic chemicals. Seven PCBs have been identified, along with vinyl chlorides and naphthalene. The unlined quarry is still leaking, the report says. "*Pollution of water has been occurring since the 1970s, the waste and groundwater has been shown to contain significant quantities of poisonous, noxious and polluting material, pollution of ... waters will continue to occur*.

Even in the 1970s the Agricultural Industry was given massive power by the British Government
Robert van den Bosch, writing in 1978 in The Pesticide Conspiracy:[19] "If one considers how dangerous these chemicals are, one would suppose that it would be Government policy to minimize their use by every possible means. However, the Royal Commission on Environmental Pollution notes, '*there is... no such policy in the UK, nor does the possible need for it appear to have been considered, notwithstanding the great increases in the use of these chemicals*.'
The Agrochemical Industry, on the contrary, seems to be under the impression it is Government policy to encourage the maximum use of pesticides. Thus, according to the Agrochemical industry, of 367,000 acres of potatoes grown in this country in 1976, 310,000 acres are treated with herbicides, 114,000 acres with granular insecticides and nematocides, 218,000 acres with foliar insecticides and 265,000 acres with fungicides.[20] In this way one acre of potatoes, the industry boasts, can be treated from 2-11 times with different pesticides." Van den Bosch also condemns the UK for aerial spraying. "*What is particularly shameful in this country is the prevalence of aerial spraying. One million acres of agricultural land are sprayed each year, which involves 34,000 flights. Controls on this practice are practically non-existent...nor as the Royal Commission points out, does there appear to be any controls on the type of spraying equipment*." In 2015, aerial spraying was still carried out.

ADAS recommended pre-harvest crop spraying with Roundup® in 1980[21] and spraying on grassland in 1985. Researches showed two Monsanto scientists wrote the first papers (without declaring it)
In 1980 UK ADAS[22] (at that time the science and advisory branch of Ministry of Agriculture, Fisheries and Food (MAFF) but now privatised) was recommending that arable farmers use pre-harvest application of glyphosate on cereal crops. M.G. O'Keeffe, a Monsanto scientist[23] wrote three articles about it, the first at a Crop Protection conference.[24] They do not appear to have been peer-reviewed. By 1985 ADAS was advocating the use of glyphosate on grassland. They declared it to be

[19] Van den Bosch, R. The Pesticide Conspiracy: USA Doubleday & Company (1978): Dorchester, UK: Prism Press (1980).
[20] Industry's Statistics: British Agrochemical Association London 1976
[21] http://www.hgca.com/media/185527/is02-pre-harvest-glyphosate-application-to-wheat-and-barley.pdf
[22] ADAS is now the UK's largest independent provider of agricultural and environmental consultancy, rural development services and policy advice; formerly a branch of Ministry of Agriculture, Fisheries & Food. (MAFF)
[23] https://books.google.co.uk/books?id=objYBAAAQBAJ&pg=PA555&lpg=PA555&dq=Monsanto+O%27Keeffe+MG&source=bl&ots=3k7GWMRWZ3&sig=wg0ZhiNFMTY86cNp_cP3jV4Dz3A&hl=en&sa=X&ei=Twz-VPmWA8mBU93GgqgP&ved=0CEkQ6AEwBg#v=onepage&q=Monsanto%20O'Keeffe%20MG&f=false Chemical Manipulation of Crop Growth and Development Proceedings of Previous Easter Schools in Agricultural Science by J. S. McLaren
[24] O'Keeffe MG. The control of Agropyron repens and broad-leaved weeds pre-harvest of wheat and barley with the isopropylamine salt of glyphosate; 1980. pp. 53–60. Proceedings of British Crop Protection Conference-Weeds.

good practice to graze the grass or preserve it as hay or silage after treatment.[25] However, the main author of the paper was another Monsanto scientist, Colin D Stride.[26] He later joined Exponent®, a firm which provides services for industry, governments and for EU regulatory bodies.

What are Endocrine Disrupting Chemicals (EDCs)? Theo Colborn's crucial research in the early 1990s into the chemicals that were changing humans and the environment was ignored

The late Theo Colborn[27] (1927-1914) was the first to research and write about EDCs, man-made chemicals that became widespread in the environment after WW II. In a book published in 1996, Our Stolen Future: How Man-made Chemicals are Threatening our Fertility, Intelligence and Survival Colborn, Peters and Dumanoski revealed the full horror of what was happening to the world as a result of contamination with EDCs.[28] There was emerging scientific research about how a wide range of man-made chemicals can disrupt delicate hormone systems in humans. These systems play a critical role in processes ranging from human sexual development to behaviour, intelligence, and the functioning of the immune system. In 1996, polychlorinated biphenyls (PCBs), pesticides DDT, chlordane, lindane, aldrin, dieldrin, endrin, toxaphene, heptachlor, dioxin, atrazine and dacthal had been shown to be EDCs. Colborn illustrates the problem by constructing a diagram (page 105) of the journey of a PCB molecule from a factory in Alabama into a polar bear in the Arctic. Colborn says: "*The concentration of persistent chemicals can be magnified millions of times as they travel to the ends of the earth…Many chemicals that threaten the next generation have found their way into our bodies. There is no safe, uncontaminated place.*" Glyphosate, the most widespread herbicide in the world, is an endocrine disrupting and a nervous system disrupting chemical.[29] She predicted that this would involve sexual development which is why some people are confused about their sexuality.

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

This scandal involved Tony Blair and the Royal Society.[30] On 10 August 1998 in a Granada '*World in Action*' broadcast[31] Dr Árpád Pusztai (a GM expert leading the team at the Rowett Institute) explained his research that showed that rats fed with genetically modified potatoes had suffered immune damage. He raised questions about the safety of GM food in the human diet on the basis of the study. The news flashed around the world. Professor Robert Orskov OBE who had worked at the Rowett Institute for 33 years was told that phone calls went from Monsanto, the American firm which produces 90% of the world's GM food, to Clinton and then to Blair. "*Clinton rang Blair and Blair rang James*" (Professor James, Director of the Rowett Institute). "*There is no doubt he was pushed by Blair to do something. It was damaging the relationship between the USA and the UK, because it was going to be a huge blow for Monsanto.*" Dr Pusztai lost his job and his Laboratory in the Rowett Institute was closed down.

Revolving doors in the UK Pesticides Safety Directorate (PSD, now Chemicals Regulation Division)

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

---

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

[26] http://www.exponent.com/files/Attorney/2f28f368-0f2c-48d0-91c2-60589cce38f1/Presentation/ceExpertCVUpload/stride,c_full.pdf

[27] http://endocrinedisruption.org/about-tedx/theo-colborn

[28] Colborn, T., Myers, J.P., & Dumanoski, D. Our Stolen Future. How Man-made Chemicals are Threatening our Fertility, Intelligence and Survival. Little, Brown and Company: London; 1996.

[29] http://www.seralini.fr/wp-content/uploads/2018/01/Seralini-career-JBPC_2015.pdf

[30] http://www.psrast.org/pusztblair.htm

[31] http://news.bbc.co.uk/1/hi/health/149882.stm

2001 Dr Caroline Harris went from the UK PSD (Manager of Human Health Group/Head of Pesticides Chemistry) to be a Corporate Vice President of *Exponent Inc*.[32]
2009 Dr Harris was appointed to the UK Advisory Committee on Pesticides (despite conflicts of interest). In 2019, she is on the UK Expert Committee on Pesticides.
2013 Bayer CropScience commissioned *Exponent Inc*. to do a critical review of the EFSA risk assessment that had resulted in EFSA banning certain neonicotinoid insecticides that were toxic to bees. Dr Harris is an expert on Maximum Residues Limits in Food and Risk Assessment of Pesticides Residues to human health. She is a member of the International Life Sciences Institute (ILSI) whose current membership in Europe consists of 61 Global Corporations[33] (including the six Agrochemical Giants) with massive resources that are seeking to control the world's food supply. Dr Harris is on both the Projects Team and the IUPAC Subcommittee on Crop Protection Chemistry.[34]
2012 Dr Helen Thompson Chief Bee Scientist at Fera/Defra was commissioned by Syngenta to write a report on Neonicotinoids and Bees.[35]
2013 She joined Syngenta in September 2013 after EFSA had criticised her FERA paper on bumblebees and neonicotinoid insecticides[36] saying that the science was flawed.

UK's Science Media Centre (SMC), set up in 2002, lambasted for pushing corporate science
The SMC sponsors include AstraZeneca, BP, Coca-Cola, L'Oreal, Monsanto, Syngenta and *Nature* Publishing Group. The Centre provides a rapid 'expert' opinion for journalists. But the Director admits that it was set up in the wake of Dr Árpád Pusztai publishing his paper which showed that rats fed on GM potatoes had stunted growth and a repressed immune system. The 'experts' are proponents of GMOs often having major conflicts of interest. The UK SMC allows corporations to influence what journalists write and hence control the information given to the British public.
The meeting of global science writers in Bath in 2014 concluded: "*Journalists who uncritically report on SMC briefings and quotes sent by the centre are being taken for a ride by a lobby organisation instead of a neutral science information provider.*" [37]

David Cameron appointed Founder of Syngenta to the CRUK Board, Dame Sally Davies as CMO of England without a training in public health and ignored the Letter from America saying GM crops and glyphosate were dangerous and kept it secret from the public

David Cameron appointed Michael Pragnell founder of Syngenta to Cancer Research UK's Board and awarded him a CBE in 2017 for services to cancer research
The British Government's Strategy for UK Life Sciences[38] is dependent on funding from the Pharmaceutical Corporations and the Pesticides Industry. In 2011 CRUK started donating money (£450 million/year) to the Government's Strategy for UK Life Sciences and AstraZeneca (Syngenta's parent company) was providing 22 compounds to academic research to develop medicines in the

[32] Dr Caroline Harris: Corporate Vice-President of Exponent. "*Exponent, Inc., a research and scientific consultant firm with clients from industry (including crop protection) and government*"
[33] http://www.ilsi.org/Europe/Pages/currentmembers.aspx
[34] http://www.iupac.org/home/about/members-and-committees/db/division-committee.html?tx_wfqbe_pi1%5bpublicid%5d=604
[35] http://www.defra.gov.uk/publications/files/pb13937-neonicotinoid-bees-20130326.pdf
[36] http://www.fera.defra.gov.uk/scienceResearch/scienceCapabilities/chemicalsEnvironment/documents/reportPS2371Mar13.pdf
[37] https://www.scidev.net/global/journalism/feature/uk-s-science-media-centre-lambasted-for-pushing-corporate-science.html
[38] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32457/11-1429-strategy-for-uk-life-sciences.pdf

UK. One Corporation promotes cancer and other diseases; the other Corporation tries to cure them with synthetic chemicals.
Syngenta's parent company is AstraZeneca. In 2010, Syngenta and AstraZeneca were represented on the UK Advisory Committee on Pesticides and the Committee on Toxicity of Chemicals in Foods, Consumer Products and the Environment. Michael Pragnell former Chairman of Cancer Research UK (2010-2017), founder of Syngenta and former Chairman of CropLife International, was awarded a CBE in 2017 for services to cancer research. CropLife International was founded in 2001. As of 2015, CropLife International´s member list included the following eight companies: BASF, Bayer CropScience, Dow AgroSciences, DuPont, FMC Corp, Monsanto, Sumitomo and Syngenta. Many of these corporations make their own formulated glyphosate. The CRUK website's comments about pesticides as a cause of cancer: "*For now, the evidence is not strong enough to give us any clear answers. But for individual pesticides, the evidence was either too weak to come to a conclusion, or only strong enough to suggest a "possible" effect. The scientific evidence on pesticides and cancer is still uncertain and more research is needed in this area.*[39]

Dame Sally Davies was appointed as interim CMO by David Cameron in June 2010; she became the permanent holder in 2011; was that once she had assured him of her loyalty by not mentioning pesticides?
She did not train as a specialist in Public Health, but as a consultant haematologist, specialising in haemoglobinopathies. She joined the Civil Service in 2004 and became Chief Scientific Adviser to the Health Secretary. Did David Cameron instruct Tracey Brown OBE from Sense about Science, a lobby organisation for GMO crops, to be her minder? When the Royal College of Obstetricians and Gynaecologists (RCOG) published a paper saying that exposure to chemicals during pregnancy could damage the foetus, the CMO and Tracey Brown publicly made fun of it.
I informed her about the Faroes Statement: in 2007, twenty-five experts in environmental health from eleven countries (including from the UK) met on the Faroes and contributed to this statement. "*The periods of embryonic, foetal and infant development are remarkably susceptible to environmental hazards. Toxic exposures to chemical pollutants during these windows of increased susceptibility can cause disease and disability in infants, children and across the entire span of human life."* [40] She asked Dr John Harrison, Public Health England, to write to me to reassure me that there was no evidence that it was true.
In 2011, she made an announcement that antibiotic resistance was an apocalyptic threat to humans and the issue should be added to the government's national risk register of civil emergencies**.** It should be debated in the Houses of Parliament. When I informed her that one of glyphosate's many actions was as an antibiotic, she ignored me. Dr Don Huber, a Plant Pathologist from Purdue University, Indiana says that glyphosate is an antibiotic, an organic phosphonate, a growth regulator, a toxicant, a virulence enhancer and is persistent in the soil. It chelates (captures) and washes out the following minerals: boron, calcium, cobalt, copper, iron, potassium, magnesium, manganese, nickel and zinc.[41]

Open letter from America to David Cameron warning the UK against GM crops and glyphosate
Living with GMOs: Citizen to Citizen. [42] From more than 60 million citizens in the US to citizens, politicians, and regulators in the UK and the rest of the EU about the hazards of genetically modified crops

[39] http://www.cancerresearchuk.org/cancer-info/healthyliving/cancercontroversies/pesticides/
[40] https://onlinelibrary.wiley.com/doi/full/10.1111/j.1742-7843.2007.00114.x
[41] https://sustainablepulse.com/2014/07/02/uk-parliamentary-meeting-brings-dangers-roundup-public-focus/#.XWZHrS3Mxp8
[42] http://www.theletterfromamerica.org/

We, the undersigned, are sharing our experience and what we have learned with you so that you don't make our mistakes. Signatories include NGOs, groups, academics, scientists, farmers, food manufactures, and high-profile individuals representing more than 60 million Americans.
Extracts: *"A recent review found that between 1996 and 2011, farmers who planted Roundup Ready crops used 24% more herbicide than non-GMO farmers planting the same crops. This pesticide treadmill means that in the last decade in the US at least 14 new glyphosate-resistant weed species have emerged, and over half of US farms are plagued with herbicide-resistant weeds."* **The letter outlined eight independent papers describing Environmental Harm and six about the Threat to Human Health**. *"Americans are reaping the detrimental impacts of this risky and unproven agricultural technology.* ***EU countries should take note: there are no benefits from GM crops great enough to offset these impacts. Officials who continue to ignore this fact are guilty of a gross dereliction of duty.***
We strongly urge you to resist the approval of genetically modified crops, to refuse to plant those crops that have been approved, to reject the import and/or sale of GM-containing animal feeds and foods intended for human consumption, and to speak out against the corporate influence over politics, regulation and science." If the UK and the rest of Europe becomes the new market for genetically modified crops and food our own efforts to label and regulate GMOs will be all the more difficult, if not impossible. If our efforts fail, your attempts to keep GMOs out of Europe will also fail. If we work together, however, we can revitalize our global food system, ensuring healthy soil, healthy fields, healthy food and healthy people."
Most countries in the EU took that advice and opted out of GM (including Scotland, Wales and Ireland).

David Cameron ignored that advice on behalf of England. He and Defra concealed the letter from the British public; the European Regulators ignored the letter too
The European Commission and the European Food Safety Authority also ignored it and continued to approve GM Crops for growing and for food and feed in the EU. This was despite these grave warnings from American citizens of their experiences (Living with GMOs) and from independent organisations in Europe, such as Testbiotech (Germany), CRIIGEN (France), Corporate Europe Observatory, Earth Open Source, Greenpeace and Pesticides Action Network.

Healthy Harvest---safeguarding the Crop Protection tool box: June 2014
The National Farmers' Union (NFU), the Crop Protection Association (CPA) and Agricultural Industries Confederation (AIC) launched *Healthy Harvest – safeguarding the crop protection toolbox* in June 2014. The NFU and pesticide companies continually defend the use of pesticides for economic reasons and complain at any attempt to restrict the 320-odd at their disposal. One farmer defended aerial spraying of bracken with a herbicide.[43] CPA, AIC and the NFU commissioned Andersons to write a Report: The effect of the loss of plant protection products (i.e. pesticides) on UK Agriculture and Horticulture that predicted dire economic effects on UK farming if pesticides were restricted. [44]

Defra Expert Committee on Pesticide Residues in Food [45]
This is why we all have glyphosate residues in our bodies: it is in our staple foods
The results from monitoring of Pesticide Residues in food have been published quarterly since 2000. Bread and breakfast cereals are staple foods but there are no maximum residue levels (MRLs) for bread or cereals. Residues in bread are tested twice a year.

[43] https://www.nfuonline.com/healthyharvest_final_digital/ The impact of losing plant protection products on UK Food Production
[44] http://www.cropprotection.org.uk/media/89364/andersons_final_report.pdf
[45] http://www.pesticides.gov.uk/guidance/industries/pesticides/advisory-groups/PRiF/about-PRiF

2002 3rd Quarter: Comments: "*Residues of chlormequat,[46] glyphosate and pirimiphos-methyl[47] were found* (in bread). *These pesticides are commonly used on cereal crops, and residues have been found in other cereal products, therefore these findings are not unexpected. None of the residues found were of concern for consumer health*.
2006 3rd Quarter: Comments: "*Eating more starchy foods, like bread, is an important part of the Food Standards Agency's (FSA) advice on healthy eating. The incidence of pesticide residues in bread is relatively high, but our assessment of the risk indicates that the levels we have found in this survey would not be expected to have an effect on health.*"
2007 3rd Quarter: Comments: "*Eating more starchy foods, like bread, is an important part of the FSA's advice on healthy eating. We often find pesticide residues in bread but our assessment of the risk indicates that the levels we have found in this survey would not be expected to have an effect on health. We have asked the Secretariat to write to the Home-Grown Cereals Authority about the incidence of residues*". I couldn't find a reply.
2011 3rd/4th Quarters for Lentils: Comments: *Sixteen samples of lentils contained glyphosate above the MRL. A new higher level of glyphosate is expected to come into force in summer 2012. None of the residues detected in this survey would be above the new proposed MRL*."
The use of glyphosate for desiccation on both barley and wheat was accepted by the brewing and distilling industries in 2007[48] therefore it is probable that men are more likely to be overweight because of the consumption of beer or whisky with glyphosate residues. Many foods imported from the US have GM ingredients and will contain glyphosate (or other herbicide residues). These include products which are made from corn or soya, such as energy bars, sugar drinks; and fruit or vegetables. The US still does not require labelling of GM.

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

This is the assertion of Georgina Downs who founded UK Pesticides Campaign in 2001. [49] Her evidence to the Parliamentary Environmental Audit Committee on Insects and Insecticides in Session 2012/13 can be read here. [50]
Georgina Downs has courageously fought legal battles against Defra on behalf of rural communities, who at that time (and still are) being regularly sprayed with pesticides. She had a landmark victory in the High Court in November 2008 that ruled that the UK Government's policy on pesticides was not in compliance with European legislation.[51] 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.[52] 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*

[46] Chlormequat, a plant growth regulator was present consistently throughout.
[47] pirimiphos-methyl, is an organophosphate insecticide for use in storage. The approval was revoked on 24/03/2011, but it was only finally banned 31/03/2013, presumably to allow stocks to be used up.
[48] Notes on the use of Roundup®products on malting, milling and seed crops: Monsanto UK Ltd 2007. http://www.grainfarmers.co.uk/seeddownloads/Roundup%20on%20seed%20%20milling%20and%20malting.pdf
[49] http://www.pesticidescampaign.co.uk/
[50] http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/writev/668/m28.htm
[51] http://www.theguardian.com/environment/2008/nov/15/activists-pollution-pesticides-toxins-defra
[52] http://www.theguardian.com/environment/2009/jul/07/georgina-downs-pesticides

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*."

Why are Europe and the UK protecting the pesticides industry? The CMO England, Public Health England, 'top doctors', 'top scientists', the media and the Government attempt to explain away all the diseases now affecting the UK on the people, for their lifestyle choices

Increasing obesity, autism, Alzheimer's, Diabetes, liver failure, kidney failure, heart disease, mental disorders, depression, suicide, hypercholesterolaemia and cancers have been acknowledged. They have been blamed on public lifestyle, failures of GPs, isolation or global warming. The rest has been ignored. Congenital anomalies, Parkinson's, Motor Neurone Disease, Brain Tumours, Lymphomas, infertility, cataracts, inflammatory bowel disease are amongst those increasing. Britain must be the only country where the CMO hasn't told the public that glyphosate has been declared a probable carcinogen to humans according to WHO International Agency for Research into Cancer (IARC)**.**

CRUK invented causes of cancer and put the blame on the people for lifestyle choices

Cancer Research UK colluded with the Chief Medical Officers, Public Health England, the Committee on Carcinogenicity and the media. Collectively, they blamed the people for their lifestyle choices: alcohol, obesity and smoking. But the corporations are responsible.

By 2018 CRUK was claiming that obesity caused 13 different cancers

Dr Margaret McCartney wrote in the BMJ on 17 March 2018:[53] Cancer patients should not be shamed: "*The charity Cancer Research UK has gone large on its publicity campaign about obesity. Bus stops and advertising hoardings are replete with black text on a white background. The adverts invite us to fill in the blanks and spell out OBESITY, asking us to "Guess what is the biggest preventable cause of cancer after smoking." The charity has also said, as part of the campaign, that "being overweight or obese causes 13 different types of cancer."2 But the vast majority of studies on this have found an association, not causation.3"*

In the *Observer* and the *Guardian* 20 and 21 July 2019 it took out half-page advertisements. **Obesity** (in huge letters) is a cause of cancer too. In a smaller box, it states Like smoking, obesity puts millions of adults at greater risk of cancer. And at the bottom, barely visible: cruk.org/EndJunkFoodAdsToKids.

Between May 2010 and the end of 2013, the Department of Health alone had 130 meetings with representatives of industry

Documents released under a freedom of information request showed that between the coalition taking power in May 2010 and the end of 2013 the Department of Health alone had 130 meetings with representatives of industry.[54] The extensive investigation shows "*beyond doubt that commercial interests are currently in control of key decisions about the public's health*."

Contamination by residues from 123 different pesticides on the fruit and vegetables supplied to schools by the Department of Health is the real reason for childhood obesity, not the parents

The Department of Health said 'pesticides are not the concern of the DOH'

Pesticide Action Network UK's analysis of the last 12 years of residue data published by the Expert Committee on Pesticide Residues in Food (PRiF) shows that there are unacceptable levels of pesticides present in the food provided through the Department of Health's School Fruit and

[53] https://www.bmj.com/content/360/bmj.k1139
[54] jgornall@mac.com BMJ 2014; 348: f7646

Vegetable Scheme (SFVS).[55] **Residues of 123 different pesticides were found**, some of which are linked to serious health problems such as cancer and disruption of the hormone system.
In many cases, multiple residues were found on the produce. This is another area of serious concern as the scientific community has little understanding about the complex interaction of different chemicals in what is termed the 'cocktail' effect. We have also found that the levels of residues contained on SFVS produce are higher than those in produce tested under the national residue testing scheme (mainstream produce found on supermarket shelves). When PAN-UK sent its 2017 findings to the Department of Health, it was told that **pesticides are not the concern of the DoH**.

The gut microbiome; the collective genome of organisms inhabiting our body. Obesity is associated with low bacterial richness in the gut.

We can only absorb nutrients via trillions of bacteria in our gut, the gut microbiome
This is the term for the collective genome of organisms inhabiting our bodies. Glyphosate disrupts the shikimate pathway within these gut bacteria, without which we cannot survive. Glyphosate is a strong chelator of essential minerals, such as cobalt, zinc, manganese, calcium, molybdenum and sulphate. In addition, it kills off beneficial gut bacteria and allows toxic bacteria such as *Clostridium difficile* to flourish. Two key problems caused by glyphosate residues in our diet are nutritional deficiencies, especially minerals and essential amino-acids, and systemic toxicity.[56]

Richness of human gut microbiome correlates with metabolic markers: we are facing a global metabolic health crisis provoked by an obesity epidemic
Chatelier, E.L. *et al.* Richness of human gut microbiome correlates with metabolic markers *Nature* 29 August 2013; 500: 541-550.[57]
"*We are facing a global metabolic health crisis provoked by an obesity epidemic*." In a multi-author study of obese and non-obese individuals, those with "*low bacterial richness in the gut (23% of the population) are characterized by more marked overall adiposity, insulin resistance and dyslipidaemia and a more pronounced inflammatory phenotype when compared with those with high bacterial richness. Low richness of gut microbiota has been reported in patients with inflammatory bowel disorder*. *Also, notable diversity differences were observed between the urban US population and rural populations from two developing countries*."

Editorial in *Nature*: Links between gut microbes and depression strengthened. [58]
"The once-wild idea that intestinal bacteria influence mental health has transformed into a major research pursuit. The researchers found that two groups of bacteria, Coprococcus and Dialister, were reduced in people with depression. And they saw a positive correlation between quality of life and the potential ability of the gut microbiome to synthesize a breakdown product of the neurotransmitter dopamine, called 3,4-dihydroxyphenylacetic acid. The results are some of the strongest yet to show that a person's microbiota can influence their mental health. These are still correlations, not causes. Researchers know that the gut microbiota can produce or stimulate the production of neurotransmitters and neuroactive compounds, such as serotonin, GABA and dopamine, and that these compounds can modulate bacterial growth. The challenge now is to find out whether, and how, these microbe-derived molecules can interact with the human central nervous system, and whether that alters a person's behaviour or risk of disease. At least now, answering these questions is a wise pursuit, not a wild one."

[55] http://www.pan-uk.org/food-for-thought/
[56] https://www.mdpi.com/1099-4300/15/4/1416
[57] http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html
[58] https://www.nature.com/articles/d41586-019-00483-5?WT.ec_id=NATURE-20190207&utm_source=nature_etoc&utm_medium=email&utm_campaign=20190207&sap-outbound-id=80BA1FAEDA36B85E69546FE36DC5BF93686681BA

The neuroactive potential of the human gut microbiota in quality of life and depression[59]
The first population-level study on the link between gut bacteria and mental health identifies specific gut bacteria linked to depression and provides evidence that a wide range of gut bacteria can produce neuroactive compounds. Our results provide population-scale evidence for microbiome links to mental health, while emphasizing confounder importance.

The microbiome of uncontacted Amerindians has the highest diversity of bacteria[60]
"We characterize the fecal, oral, and skin bacterial microbiome and resistome of members of an isolated Yanomami Amerindian village with no documented previous contact with Western people. These Yanomami harbor a microbiome with the highest diversity of bacteria and genetic functions ever reported in a human group."

Each year there are steady increases in the numbers of new cancers in the UK and increases in deaths from the same cancers, with no treatments making any difference to the numbers

In the UK there were 13,605 new cases of Non-Hodgkin Lymphoma in 2015 (and 4,920 deaths in 2016)[61]: there were 41,804 new cases of bowel cancer in 2015 (and 16,384 deaths in 2016); 12,547 new cases of kidney cancer in 2015 (and 4,619 deaths in 2016); 5,736 new cases of liver cancer in 2015 (5,417 deaths in 2016); 15,906 new cases of melanoma in 2015 (2,285 deaths in 2016); 3,528 new cases of thyroid cancer in 2015 (382 deaths in 2016); 10,171 new cases of bladder cancer in 2015 (5,383 deaths in 2016); 8,984 new cases of uterine cancer in 2015 (2,360 deaths in 2016); 7,270 cases of ovarian cancer in 2015 (4,227 deaths in 2016); 9,900 new cases of leukaemia in 2015 (4,712 deaths in 2016); 55,122 new cases of invasive breast cancer in 2015 (11,563 deaths in 2016); 47,151 new cases of prostate cancer in 2015 (11,631 deaths in 2016); 9,211 new cases of oesophageal cancer in 2015 (8,004 deaths in 2016); and 5,540 new cases of myeloma in 2015 (3,079 deaths in 2016); 2,288 new cases of testicular cancer in 2015 (57 deaths in 2016); 9,921 new cases of pancreatic cancer in 2015 (9,263 deaths in 2016); 11,432 new cases of brain cancer in 2015 (5,250 deaths in 2016); 46,388 new cases of lung cancer in 2015 (and 35,620 deaths in 2016). In the US in 2014 there were 24,050 new cases of myeloma.

The Francis Crick Institute with its 'world class resources' is failing to improve people's lives with its treatments, but is definitely strengthening the economy of the pesticides industry and the pharmaceutical industry
Report: "*The Francis Crick Institute is a biomedical discovery institute dedicated to understanding the fundamental biology underlying health and disease. Its work is helping to understand why disease develops and to translate discoveries into new ways to prevent, diagnose and treat illnesses such as cancer, heart disease, stroke, infections, and neurodegenerative diseases.* [62]
An independent organisation, its founding partners are the Medical Research Council (MRC), ***Cancer Research UK****, Wellcome, UCL (University College London), Imperial College London and King's College London. The Crick was formed in 2015, and in 2016 it moved into a brand-new state-of-the-art building in central London which brings together 1500 scientists and support staff working collaboratively across disciplines, making it the biggest biomedical research facility under a single roof in Europe. The Francis Crick Institute will be world-class with a strong national role. Its distinctive vision for excellence includes commitments to collaboration; to developing emerging talent and*

[59] https://www.nature.com/articles/s41564-018-0337-x
[60] http://advances.sciencemag.org/content/1/3/e1500183.short
[61] https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/non-hodgkin-lymphoma
[62] https://www.crick.ac.uk/about-us/

exporting it to the rest of the UK; to public engagement; and to helping turn discoveries into treatments as quickly as possible to improve lives and strengthen the economy."

A letter written by the late Marion Copley US EPA toxicologist to her colleague Jess Rowland [63]
It's been four years since Marion Copley, a toxicologist who had worked for 30 years for the EPA, wrote this letter to her then-colleague, Jess Rowland, accusing him of conniving with Monsanto to bury the agency's own hard scientific evidence that it is "*essentially certain*" that glyphosate, the key ingredient in Monsanto's Roundup weed killer, causes cancer. The date of the letter comes after Copley left the EPA in 2012 and shortly before she died from breast cancer at the age of 66 in January 2014. She accuses Rowland of having "*intimidated staff*" to change reports to favor industry, and writes that research on glyphosate, the key ingredient in Monsanto's Roundup, shows the pesticide should be categorized as a "*probable human carcinogen*."
"Jess,
Since I left the agency with cancer [breast] *I have studied the tumor process extensively and I have some mechanism comments which may be very valuable to CARC based on my decades of pathology experience. Glyphosate was originally designed as a chelating agent and I strongly believe that is the identical process involved in tumor formation."*
In a 1-page letter Dr Copley makes 14 observations about chelators and/or glyphosate, including that they are endocrine disruptors, suppress the immune system, damage the kidneys or pancreas which can lead to clinical chemistry changes that favor tumor growth; glyphosate kills bacteria in the gut, the gastrointestinal system is 80% of the immune system making the body susceptible to tumors.

She goes on to say: "***It is essentially certain that glyphosate causes cancer."***
Dr Copley ends with the statement: "*I have cancer, and I don't want these serious issues in HED [EPA's Health Effects Division] to go unaddressed before I go to my grave. I have done my duty*."

Marion Copley
March 4, 2013"

The Chief Medical Officer for England's 2019 annual report focuses on UK engagement with global health [64] but not the deteriorating state of health of the British people
"*The UK is a world leader in health, with an impressive track record of global collaboration, but there is no room for complacency… Across the UK, there are significant and widening inequalities in a range of health outcomes, including healthy life expectancy, infant mortality, and obesity. These health inequalities are not and should never be acceptable."*
For your final report you failed to mention many diseases afflicting people in the UK in addition to obesity. Alzheimer's disease, Dementia, Autism, ADHD Bipolar, Diabetes (Type 2) Multiple sclerosis, Motor-neurone Disease, Obesity, Stroke, Hypertension, Cataracts & eye diseases, Inflammatory bowel disease, Birth defects, Colitis, Crohn's disease Hypercholesterolaemia, Allergies, asthma, Atopic dermatitis, Miscarriage/infertility, Renal disease/failure, Liver abnormalities, Coeliac disease, Gluten intolerance, Pancreatic abnormalities, Autoimmune diseases, Arthritis and **cancers**.

Warnings by Chief Medical Officer, Dame Sally Davies at the Department of Health
Women are being warned to cut back on sweet treats or risk cancer. The UK's chief medical officer (CMO) said females are consuming "*two biscuits too much each day*" and should lose weight. Professor Dame Sally Davies revealed obesity will surpass smoking as the leading cause of cancer in women by 2043. Last year, official figures revealed 30 per cent of women in the UK are overweight

[63] https://www.organicconsumers.org/sites/default/files/marioncopleyletter.pdf
[64] https://www.thelancet.com/action/showPdf?pii=S0140-6736%2819%2931666-6

and 27 per cent are obese. Obesity levels across all genders have risen from 15 per cent to 26 per cent since 1993.[65]

Cases of Type 2 diabetes among young people rise 41% in three years[66]
Leap brings calls for ministers to act to prevent so many children getting grossly obese
Type 2 diabetes is closely associated with being very overweight. Almost four in five (79%) of the 715 children suffering from it were also obese, the NHS data revealed. "*Type 2 diabetes is a disaster for the child and their family and for the NHS,*" said Graham MacGregor, a professor of cardiovascular health at Queen Mary University of London who is also the chair of the campaign group Action on Sugar. "*If a child gets type 2 diabetes, it's condemning them to a lot of complications of that condition, such as blindness, amputations and kidney disease*," he said. "*These figures are a sign that we are in a crisis and that the government doesn't seem to be taking action, or not enough and not quickly enough*. The UK obesity levels now exceed those of the US. Children in Wales have been as obese as those in the US since 2014.[67]

Britain and America are in the midst of a barely reported public health crisis.[68]
They are experiencing not merely a slowdown in life expectancy, which in many other rich countries is continuing to lengthen, but the start of an alarming increase in death rates across all our populations, men and women alike. We are needlessly allowing our people to die early. In Britain, life expectancy, which increased steadily for a century, slowed dramatically between 2010 and 2016. And the trends are deteriorating. Public Health England has published a hair-raising map of the English health experience from 2014 to 2016. The East and West Midlands, Yorkshire and Humberside, the north-west and north-east experienced declines in life expectancy. Nobody should have been surprised they voted against the status quo in the Brexit referendum."

Professor Dame Sally, did you instruct the Department of Health to say 'pesticides are not their concern'? Why did your 2019 Annual Report focus on UK engagement with global health, but not about the deteriorating state of health of the British people?
You claim that you work independently but why did you collude with Cancer Research UK to blame the people for obesity?
When you retire in September and become Master of Trinity College Cambridge in October, you say you are going write about childhood obesity. But how can you write about obesity without mentioning pesticides?

Rosemary Mason 12 November 2019

[65] https://www.msn.com/en-gb/health/familyhealth/women-told-by-uks-top-doctor-to-eat-two-fewer-biscuits-a-day-or-risk-cancer/ar-AAEYMY8
[66] https://www.theguardian.com/society/2018/aug/18/cases-of-type-2-diabetes-among-young-people-rise-41-in-three-years
[67] http://www.wales.nhs.uk/sitesplus/888/news/33512
[68] https://www.theguardian.com/commentisfree/2018/aug/19/bad-news-is-were-dying-earlier-in-britain-down-to-shit-life-syndrome