Bayer CropScience rules Britain after Brexit - the public and the press are being poisoned by pesticides

Bayer CropScience rules Britain after Brexit: the public and the press are being poisoned by pesticides

03/02/2020 The Prime Minister Boris Johnson suggests UK will be 'governed by science, not mumbo-jumbo' on food imports[1]

Boris Johnson has called for an end to "hysterical" fears about US food coming to the UK as part of a post-Brexit trade deal, as he ramped up threats to walk away from the EU effectively without a deal. In a speech setting out his goals for trade after Brexit, the prime minister talked up the prospect of an agreement with Washington and downplayed the need for one with Brussels, if the EU insists the UK must stick to its regulatory regime.

07/02/2019 Agenda and key speakers at a secret Brexit meeting on UK chemicals sector in which UK regulators, HSE and Defra, agreed to the priorities of the Bayer Crop Science Division.

Priorities for UK chemicals sector - challenges, opportunities and the future for regulation post-Brexit[2]

Priorities for agricultural chemical manufacturers and the potential effects of changing regulations following Brexit

Janet Williams, Head of Regulatory Science, Bayer Crop Science Division

Dave Bench was a key speaker at the meeting on 7th February 2019 when the Head of Regulatory Science for Bayer was making her 'priorities' for agricultural chemical manufacturers known

Implications of EU Exit and next steps for UK chemical regulation policy

Dave Bench, Director, EU Exit - Chemicals, Health and Safety Executive

James Dancy, Head of EU Exit, Chemicals and Pesticides, Department for Environment, Food and Rural Affairs

Dave Bench Head of UK Chemicals Regulation Division at a conference on pesticides run by the Soil Association in November 2017 about the huge increase in pesticides on crops between 1974 and 2014 obtained under FOI from Fera Science, had described the regulatory system for pesticides *as robust and as balancing the risks of pesticides against the benefits to society*. [3]

Bayer Crop Science, formerly I.G. Farben, the private German chemicals company allied with the Nazis in WW2

I.G. Farben manufactured the Zyklon B gas used to commit genocide against millions of European Jews in the Holocaust. 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 I.G. 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, I.G. Farben also sanctioned drug experiments on live, healthy inmates. I.G. 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. [4]

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[1] https://www.theguardian.com/world/2020/feb/03/fears-about-us-food-standards-hysterical-says-boris-johnson

[2] https://www.westminsterforumprojects.co.uk/agenda/UK-chemical-regulation-post-brexit-19-agenda.pdf

[3] https://www.soilassociation.org/news/2017/november/rapid-increase-in-pesticide-use-and-new-evidence-of-health-impacts-of-very-low-doses/

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

At the end of the war, after the Nuremberg Trials, the company itself was dissolved into three separate divisions, Hoescht, Bayer, and BASF. Monsanto was a firm created by the Rockefeller Foundation.[5] Monsanto partners with I.G. Farben, makers of Bayer aspirin and the Third Reich's go-to chemical manufacturer producing deadly Zyklon-B gas during World War II. Monsanto, at the invitation of the British Government led by Clement Richard Attlee, established a factory in Newport, Wales, in 1949.[6] From then on, they manufactured PCBs until 1977 and a number of other dangerous chemicals. 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 their Monsanto plant in Newport.[7] Alabama is more than 50 million square miles: Wales is 8,000 square miles.

Key issues for regulation post-Brexit: REACH, CPL and BPR
'Next steps for the UK chemical sector from an international media perspective'
Mamta Patel, Chief Executive Officer and Co-Founder, Chemical Watch
Challenges for incorporating European chemical regulations into UK law
Simon Tilling, Partner, Burges-Salmon He is a lawyer and expert in European Chemical Law and REACH regulations. He lectures at the Biocides Symposia for Chemical Watch.

Chemical Watch is a global industry that has emerged to advise on Biocides Regulation: Biocides Regulations in the European Union makes a lot of money for European Regulators and for Britain
REACH (Registration, **E**valuation, **A**uthorisation and Restriction of **Ch**emical substances): The Biocidal Product Regulation (BPR, Regulation (EU) 528/2012) concerns the placing on the market and use of biocidal products, which are used to protect humans, animals, materials or articles against harmful organisms, like pests or bacteria, by the action of the active substances contained in the biocidal product. "*REACH is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while* ***enhancing the competitiveness of the EU chemicals industry****. It also promotes alternative methods for the hazard assessment of substances in order to reduce the number of tests on animals."*
The British Government is making a lot of money out of it because BiocidesHub and the Yordas Groups are both based in the UK.
Biocides Symposia are held regularly around the world to "*get up-to-speed on all that's new in biocidal products regulation"* to "*stay one step ahead*." Courses are from £300-400 per day to $1585 for a Symposium. A multitude of firms have clients from '*industry, crop protection and government*'.
Chemical Watch **Biocides**Hub (Shrewsbury) offered 13 Events on Biocides Regulation in 2016, ranging from beginners' courses to advanced courses. There are far more courses in 2019.
There appears to be so much demand for places on REACH training courses that a new centre has been set up in Lancaster Environment Centre. "*Originally founded as 'The REACH Centre' in 2007, the Company was set up to meet the needs of industry to comply with the EU REACH Regulation. From its inception, substantial re-investment allowed the business to rapidly expand and develop capacity in a wealth of new scientific and regulatory disciplines. Chemtrac, our globally renowned on-line product stewardship management system was introduced in 2011. In order to reflect the increasingly diverse nature of our business and research activities, the Company was re-branded as 'Yordas Group' from*

[5] https://www.globalresearch.ca/the-complete-history-of-monsanto-the-worlds-most-evil-corporation/5387964
[6] http://www.eastman.com/Company/Worldwide/our_sites/Pages/Newport_SouthWales.aspx
[7] http://www.theecologist.org/The_Brofiscin_Monsanto_Files/777777/burying_the_truth_the_orginal_ecologist_investigation_into_monsanto_and_brofiscin_quarry.html

1st November 2017 based in Lancaster Environment Centre." [8] **BIOCIDES HAVE NO PLACE IN AGRICULTURE.**

Four Pesticides Could Show U.K.'s Post-Brexit Regulation Plans[9]

- U.K. will establish own pesticide approval regimen
- Chlorpyrifos, glyphosate, neonicotinoids, asulam could have different rules

Post-Brexit regulation of controversial pesticides including glyphosate and neonicotinoids could be test cases for how far the U.K. is prepared to go in diverging from the European Union.
While the U.K. will no longer officially be part of the European Union come Saturday morning (01/02/2020) the U.K. will continue to follow EU rules on pesticide authorizations during a transition period lasting at least through Dec. 31 2020. But when the transition period ends, the U.K. could choose to go its own way, with big implications for several significant pesticides, namely glyphosate, neonicotinoids, chlorpyrifos, and asulam.

Glyphosate
The world's most widely used herbicide, and an active ingredient in Roundup and numerous other products, glyphosate is authorized in the EU until 2022. Reauthorization will therefore be considered after the end of the Brexit transition period. The substance is controversial in the EU, with public campaigns against its authorization and some EU countries against permitting it. Luxembourg will phase out its use beginning Saturday 02/02/2020, becoming the first EU country to permanently ban glyphosate.
EU countries only narrowly approved reauthorization of glyphosate in 2017. The exit of the U.K. from the soon-to-be-27-country bloc could tip the voting scales against the substance in 2022.
Glyphosate will be "*an early test of whether the U.K. will diverge*" from EU rules, said Alan Speed, spokesman for U.K. industry group the Crop Protection Association. "*The U.K. government should take a risk-based approach and would be expected to reauthorize the substance in 2022*." he said *"In a risk-based system (like in the U.S.), hazardous pesticides can be authorized as long as the risks of exposure to them are minimized. In a hazard-based system (like the EU's), pesticides are outlawed if their hazards are judged to exceed a safe threshold."*
Glyphosate safeguards soils by reducing the need for ploughing, and in the U.K. "*we would expect uses of glyphosate to continue to be authorized as they are now*," said Chris Hartfield, senior regulatory affairs adviser with the National Farmers' Union.
The Glyphosate Renewal Group, a coalition of companies including Bayer Agriculture Ltd. and Syngenta Crop Protection AG which is preparing the bid for EU reauthorization of the substance in 2022, "*doesn't wish to speculate*" on EU-U.K. divergence, the group said in an emailed statement.
Prospects of EU reauthorization: Could go either way.
U.K. authorization: Highly likely.

Neonicotinoids
Neonicotinoids are seed-coating insecticides that have been linked to harm to bees. In 2013, the EU restricted and later largely banned the neonicotinoids clothianidin, imidacloprid, and thiamethoxam. In April 2020 a fourth, **thiacloprid**, will no longer be authorized in the EU.
The U.K. government for a long time, resisted restrictions on the substances, but in 2018, in the most recent vote on clothianidin, imidacloprid and thiamethoxam, it changed position and backed a ban. On those three substances, there is now "*no reason to believe they would change their minds post-Brexit,*" said Julian Little, spokesman for Bayer Crop Science in the U.K. Bayer produces produces clothianidin, imidacloprid and **thiacloprid**. But the fourth substance, thiacloprid, has "*a very good history of safe use*," and the U.K. government voted to allow its continued authorization in the EU, Little said. It was difficult to say if the U.K. would stick to its most recent position in favor of a

[8] https://www.yordasgroup.com/about-us
[9] https://news.bloombergenvironment.com/environment-and-energy/brexit-in-four-pesticides

ban on clothianidin, imidacloprid and thiamethoxam, said Josie Cohen, head of policy for Pesticide Action Network UK, a group that advocates for reducing the impacts of pesticides on human health and the environment.
Prospects of EU reauthorization: Next to none.

Asulam is an herbicide prohibited from authorization in the EU since 2012 because of its suspected toxicity and high risk to birds. However, the U.K. has authorized limited use of asulam on an emergency basis each year since then.
The substance is used to control a fern, bracken, on moorland and was little used in EU countries other than Britain. Asulam is needed because bracken harbors sheep ticks that spread to other species, said Simon Thorp, coordinator of the Bracken Control Group.
Post-Brexit, "my hope and expectation is ultimately we will see that asulam for bracken control is a valid application," Thorp said. Having to apply each year for an emergency authorization to use the substance is cumbersome and uncertain, he said.
Trade considerations would be unlikely to affect a U.K. authorization for asulam on bracken because its residues wouldn't appear in exported food.
United Phosphorus Ltd., which applied for an EU authorization for asulam, didn't respond to a request for comment.
Prospects of EU reauthorization: Very slim.

Why did the European Commission re-authorise glyphosate when it knew that many European agricultural topsoils sampled in 2015 were contaminated with glyphosate and AMPA?[10]
Why did Jean-Claude Juncker re-authorise glyphosate when ECHA classified it as causing serious eye damage and being toxic to aquatic life with long lasting effects?[11] Presumably that was why he didn't mention these other classifications in the final version?[12]

Glyphosate-based herbicides poisoned invertebrates on a nature reserve in Wales,[13] but the German Rapporteur Member State Federal Institute of Risk Assessment (BfR) evaluation of peer-reviewed literature said it was hardly ecotoxic

Brief summary of BfR evaluation of peer-reviewed literature regarding ecotoxicity (RAR Vol 3 Annex B9): Most ecotoxicity papers appear to have been discounted or dismissed
Aquatic organisms: Summary page 64. "*It was not possible to distinguish between the effects of the technical glyphosate and the surface-active substance added to the commercial formulation*."
Aquatic vertebrates: Summary page 68. "*No report of statistical power of test glyphosate: most on commercial formulations*."
Effects on amphibians: Summary page 95. "*Does not resemble the lead formulation for EU assessment of renewal approval of glyphosate as an active substance*."
Terrestrial arthropods including bees: Summary page 113 "*Summary of relevant literature in 31 publications: none of the publications acceptable for risk assessment*."
Effects on earthworms: Page 123. Twenty-one publications submitted. Summary of relevant literature in earthworms: "*Herbicide application did not directly affect movement or reproduction. The outcome of risk assessment did not change*."

[10] https://www.sciencedirect.com/science/article/pii/S0048969717327973
[11] https://echa.europa.eu/-/glyphosate-not-classified-as-a-carcinogen-by-echa
[12] https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_glyphosate_commission_proposal_final_version.pdf
[13] https://dissidentvoice.org/2019/10/agrochemical-apocalypse-interview-with-environmental-campaigner-dr-rosemary-mason/

Effects on soil non-target micro-organisms; Page 143. "*No negative effects at the moment, but should be included in future risk assessments*."

The Rapid Decline of The Natural World Is A Crisis Even Bigger Than Climate Change. Why weren't pesticides blamed? Because Bayer and Syngenta scientists were appointed as pollination experts

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.[14]

Industrial farming is to blame for much of the destruction and extinction of nature. We need agriculture systems that regenerate ecosystems not degenerate them.[15]

"The loss of species, ecosystems and genetic diversity is already a global and generational threat to human well-being. Protecting the invaluable contributions of nature to people will be the defining challenge of decades to come. Policies, efforts and actions – at every level - will only succeed, however, when based on the best knowledge and evidence. This is what the IPBES Global Assessment provides."

– Sir Robert Watson, IPBES Chair.

The only mention of pesticides appears to be: "*Pesticides, including neonicotinoid insecticides, threaten pollinators worldwide, although the long-term effects are still unknown."* It's a pity Sir Robert didn't take notice of Dr Henk Tennekes' toxicological studies on systemic neonicotinoid insecticides in 2010. Instead Sir Robert believed Syngenta and Bayer who claimed that they were harmless to bees.

Did he invite Christian Maus from Bayer CropScience and Helen Thompson from Syngenta as experts to author some of the Chapters on Pollination because they had opposed Dr Tennekes?[16]

Unwarranted product defense by Bayer and Syngenta has had catastrophic consequences for the environment

Dr Tennekes has written an Editorial in 2019, describing Bayer's strategy. At the end, he says, *"Maus and Nauen did not retract earlier publications of Bayer experts (Abbink and Mehlhorn) that had asserted irreversibility of receptor binding, and did not declare a conflict of interest, that they were employed by Bayer.*" Tennekes concludes: "*Unwarranted product defense by Bayer and Syngenta may have had catastrophic consequences for the environment*." [17]

Risks and opportunities of a post-EU environmental regulatory regime for agriculture in England [18]

Hedgehogs, dragonflies and bees are among wildlife at risk due to big gaps in environmental protections following the UK's departure from the EU, according to a new report. Commissioned by The Wildlife Trusts, The Royal Society for the Protection of Birds (RSPB) and WWF, the study claims the UK faces losing regulations preventing hedgerows being cut during the nesting season and vital buffer strips from being ploughed or sprayed with pesticides.

Other regulations currently based in EU law, which safeguard ponds and protect carbon-locking bare soils from draining or blowing away, could also be lost, according to the report by the Institute for European Environmental Policy (IEEP).

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[14] https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf

[15] https://www.awaken.com/2019/03/the-rapid-decline-of-the-natural-world-is-a-crisis-even-bigger-than-climate-change/

[16] https://www.ipbes.net/pollination-assessment-experts

[17] https://juniperpublishers.com/oajt/pdf/OAJT.MS.ID.555623.pdf

[18] https://www.theguardian.com/environment/2020/feb/03/uk-wildlife-at-risk-due-to-regulatory-gaps-created-by-brexit-says-report

The agriculture bill, set to be debated in the House of Commons on Monday, will see payment for the amount of land farmed replaced by a "public money for public goods" system whereby land managers are paid to protect wildlife, the environment and carbon storage.
While broadly welcomed by campaigners, they fear the new bill does not go far enough. As farmers lose direct payments under the common agricultural policy, critics say some EU regulations could also fall away. These include specific protections for hedgerows, not cutting them during the breeding seasons and maintaining a buffer strip at their base to protect plants and safeguard species including yellowhammers, small mammals, pollinator insects and pond-dwelling amphibians.
Debbie Tripley, the director of environmental policy and advocacy at WWF, said: "*Unless the government starts plugging the gaps left by leaving EU regulation, our soils, hedgerows and the wildlife that depends on them are at risk. We need firm but fair enforcement and advice that ensure food is produced to high environmental standards across the country.*"[19]
Cutting hedgerows during nesting season could be "calamitous" for wild pollinators and birds, says Lynn Dicks, a lecturer in animal ecology from the University of Cambridge, who was not involved in the research. *"Hedgerows are really important for wild pollinators, especially because they provide flower resources in the early spring, often when not much else is in flower. If hedgerows are more frequently cut in the spring and early summer, a practice that currently breeches EU regulations, substantial proportions of this spring flower resource in the English countryside could be lost. A third of our wild bee and hoverfly species are already declining. Loss of flowers in the hedgerows can only make this worse."*

Weedkiller found in non-organic food in both the US and the UK

Weedkiller found in 43 out of 45 popular breakfast cereals marketed for US children
Significant levels of the weedkilling chemical glyphosate have been found in an array of popular breakfast cereals, oats and snack bars marketed to US children, a new study has found.[20] Tests revealed glyphosate, the active ingredient in the popular weedkiller brand Roundup, present in all but two of the 45 oat-derived products that were sampled by the Environmental Working Group, a public health organization. Nearly three in four of the products exceeded what the EWG classes safe for children to consume. Products with some of the highest levels of glyphosate include granola, oats and snack bars made by leading industry names Quaker, Kellogg's and General Mills, which makes Cheerios. In April, internal emails obtained from the Food and Drug Administration (FDA) showed that scientists have found glyphosate on a wide range of commonly consumed food, to the point that they were finding it difficult to identify a food without the chemical on it. The FDA has yet to release any official results from this process. **The UK *Guardian* reported:** "*There was no indication that the claims related to products sold outside the US*.**"**

Shockingly high levels of weedkiller (two out of four contained aminomethylphosphonic acid, its most toxic metabolite) found in popular breakfast cereals marketed for British children
In view of this statement by the *Guardian*, we sent samples of four oat-based breakfast cereals marketed for children in the UK to the Health Research Institute, Fairfield, Iowa, an accredited laboratory for glyphosate testing. Kellogg No added sugar granola with apricot and pumpkin seeds Barley Flakes 27% Oats 23% Rye 13% Wheat flour Oat flour; Quaker Oat so Simple: Quaker Whole Grain Rolled Oats; Weetabix Oatibix 100% wholegrain oats; Nestle Multigrain Cheerios: Whole Grain Oat Flour 29.6% Whole Grain Wheat 29.6% Whole Grain Barley Flour 17.9% Whole Grain Corn Flour 2.1% Whole Grain Rice Flour 2.1%.

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[19] https://www.theguardian.com/environment/2020/feb/03/loss-of-eu-protections-could-imperil-uk-hedgehogs-report-says-aoe
[20] https://www.theguardian.com/environment/2018/aug/16/weedkiller-cereal-monsanto-roundup-childrens-food

Dr Fagan the Director said: "*These results are consistently concerning. The levels consumed in a single daily helping of any one of these cereals, even the one with the lowest level of contamination, is sufficient to put the person's glyphosate levels above the levels that cause fatty liver disease in rats (and likely in people).* He wrote that they were "*shockingly high levels*". And he said, "*to think they are being given to children.*"

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

The *Daily Mail* published the figures but the *Guardian* didn't, although they published US figures. [21]

In the US, weed killer found in granola and crackers, internal FDA emails show [22]
"I have brought wheat crackers, granola cereal and corn meal from home and there's a fair amount in all of them," FDA chemist Richard Thompson wrote to colleagues in an email last year regarding glyphosate. Thompson, who is based in an FDA regional laboratory in Arkansas, wrote that broccoli was the only food he had "on hand" that he found to be glyphosate-free.
That internal FDA email, dated January 2017, is part of a string of FDA communications that detail agency efforts to ascertain how much of the popular weedkiller is showing up in American food. The tests mark the agency's first-ever such examination. The FDA is charged with annually testing food samples for pesticide residues to monitor for illegally high residue levels. The fact that the agency only recently started testing for glyphosate, a chemical that has been used for over 40 years in food production, has led to criticism from consumer groups and the Government Accountability Office (GAO)"

FDA Glyphosate Testing Conspicuously Skips Oats, Wheat Products[23]
Monsanto's Roundup Weed Killer Detected on Two-Thirds of Corn and Soybean Samples
WASHINGTON – The Food and Drug Administration failed to include oats and wheat products in its glyphosate testing program, leaving Americans largely in the dark about their exposure through food to the active ingredient in Monsanto's Roundup weed killer. After sitting on the data from its glyphosate tests for more than a year, the FDA finally made the results public. Tests found glyphosate on 63 percent of corn samples and 67 percent of soybean samples. But FDA did not test any oats and wheat, the two main crops where glyphosate is used as a pre-harvest drying agent, resulting in glyphosate contamination of foods such as Cheerios and some brands of granola.
"*FDA's failure to test for glyphosate in the foods where it's most likely to be found is inexcusable*," said Olga Naidenko, Ph.D, Senior Science Advisor for Children's Environmental Health at EWG. Instead, she said, the FDA tested milk and eggs for glyphosate, even though studies by independent researchers and Monsanto's own analysis show that glyphosate does not transfer into these

[21] https://www.dailymail.co.uk/health/article-6315209/Revealed-UK-cereals-contain-potentially-harmful-amounts-WEEDKILLER.html
[22] https://www.theguardian.com/us-news/2018/apr/30/fda-weedkiller-glyphosate-in-food-internal-emails
[23] https://www.ewg.org/release/fda-glyphosate-testing-conspicuously-skips-oats-wheat-products

products. In August, tests commissioned by EWG found glyphosate residues on popular oat cereals, oatmeal, granola and snack bars. Almost three-fourths of the 45 samples tested had glyphosate levels higher than what EWG scientists consider protective of children's health with an adequate margin of safety.

Glyphosate causes epigenetic changes in humans and animals: diseases skip a generation[24]
Washington State University researchers have found a variety of diseases and other health problems in the second- and third-generation offspring of rats exposed to glyphosate, the world's most popular weed killer. In the first study of its kind, the researchers saw descendants of exposed rats developing **prostate, kidney and ovarian diseases, obesity and birth abnormalities**.

Michael Skinner, a WSU professor of biological sciences, and his colleagues exposed pregnant rats to the herbicide between their eighth and 14th days of gestation. The dose -- half the amount expected to show no adverse effect -- produced no apparent ill effects on either the parents or the first generation of offspring.
But writing in the journal *Scientific Reports*, the researchers say they saw "*dramatic increases*" in several pathologies affecting the second and third generations. The second generation had "*significant increases*" in **testis**, **ovary** and **mammary gland diseases**, as well as **obesity**. In third-generation males, the researchers saw a 30 percent incidence of **prostate disease** -- three times the rate of a control population. The third generation of females had a 40 percent incidence of **kidney disease**, or four times the rate of the controls.
More than one-third of the second-generation mothers **had unsuccessful pregnancies**, with most of those affected dying. Two out of five males and females in the third generation were **obese**.
Skinner and his colleagues call this phenomenon "generational toxicology" and they've seen it over the years in fungicides, pesticides, jet fuel, the plastics compound bisphenol A, the insect repellant DEET and the herbicide atrazine. At work are epigenetic changes that turn genes on and off, often because of environmental influences.
Skinner said he decided to study glyphosate "*due to it being one of the most commonly used compounds worldwide.*"
The chemical has been the subject of numerous studies about its health effects. The Skinner study is the third in the past few months out of Washington alone. A University of Washington study published in February found the chemical increased the risk of **non-Hodgkin lymphoma** by as much as 41 percent. A Washington State University study published in December found state residents living close to areas subject to treatments with the herbicide are one-third more likely to die an early death from **Parkinson's disease**.
The chemical's generational toxicology represents a new downside that Skinner and his colleagues said should be incorporated into estimates of its risk. "*The ability of glyphosate and other environmental toxicants to impact our future generations needs to be considered*," they write, "*and is potentially as important as the direct exposure toxicology done today for risk assessment*."

Severe obesity in children in the UK at the end of primary school

More than a thousand children in Wales starting school are classed as "severely obese," according to public health officials. [25]
For the first time, the **child measurement programme** has a category for super-obese four and five-year-olds. Latest figures show 3.3% of children are severely obese, described as "very worrying" by Public Health Wales (PHW). It was highest for boys and those living in the most deprived areas.

[24] https://www.sciencedaily.com/releases/2019/04/190423133807.htm
[25] https://www.bbc.co.uk/news/uk-wales-47483203

The UK Department of Health's School Fruit and Vegetable Scheme (SFVS) has residues of 123 different pesticides analysed by PAN-UK

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 Vegetable Scheme (SFVS).[26] **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 humans 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.[27]

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.[28]

"*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*."

The microbiome of uncontacted Amerindians has the highest diversity of bacteria[29]

"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."

[26] http://www.pan-uk.org/food-for-thought/
[27] https://www.mdpi.com/1099-4300/15/4/1416
[28] http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html
[29] http://advances.sciencemag.org/content/1/3/e1500183.short

Many young children become obese when they leave primary school because they are being poisoned by the Department of Health's School Fruit and Vegetable Scheme (SFVS)
Thousands of UK children, mainly in deprived city areas, are already classed as severely obese when they leave primary school. [30] The UK is the most obese country in western Europe, according to the Organisation for Economic Co-operation and Development.[31] Its annual Health at a Glance report, published on Friday, shows that 26.9% of the UK population had a body mass index of 30 and above, the official definition of obesity, in 2015. Only five of the OECD's 35 member-states had higher levels of obesity, with four outside Europe and one in eastern Europe. The OECD's report, which says obesity in the UK has increased by 92% since the 1990s, illustrates the scale of the public health challenge, with fears it could bankrupt the NHS

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)[32]: 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.

Boris Johnson fraudulently claimed that US citizens are fit and healthy
Boris Johnson said on 3rd February 2020: *"I look at the Americans, they look pretty well nourished to me. And I don't hear any of these critics of American food coming back from the United States and complaining … So, let's take some of the paranoia out of this argument."*[33]
My reply: **America has the most obese citizens in the world and Britain has the second.**

Trump reduced the nutrition in the Schools Fruit and Vegetable Scheme (SFVS) just as the UK Department of Health ignored 123 pesticides in the SFVS[34]
Donald Trump's administration has announced plans to roll back US school food nutrition standards introduced under the Obama administration, cutting the required levels of fruit and vegetables while allowing more hamburgers, pizza, and fries. The changes affect school programmes that feed breakfast and lunch to about 30 million children in 99 000 schools, of whom 22 million are from low income families. Current US school food standards were set by the Healthy, Hunger-Free Kids Act of 2010, an initiative driven forward by Michelle Obama. The Trump administration began chipping away at this law within weeks of taking office.

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[30] https://www.childinthecity.org/2018/06/07/uk-child-obesity-worst-in-poorest-cities/?gdpr=accept
[31] https://www.theguardian.com/society/2017/nov/10/uk-most-obese-country-in-western-europe-oecd-report-finds
[32] https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/non-hodgkin-lymphoma
[33] https://www.theguardian.com/world/2020/feb/03/fears-about-us-food-standards-hysterical-says-boris-johnson
[34] https://www.bmj.com/content/368/bmj.m251

On 28/08/2018 Robert F Kennedy Jr. one of the US Attorney's fighting Bayer, said: Bayer Needs More Than an Aspirin to Cure Its Monsanto-Sized Headache: [35]

I am one of several attorneys representing, collectively, now some 8,000 clients with similar cases. I attended the two-month trial and worked with the trial team led by two young and exceptionally gifted lawyers, Brent Wisner of Baum Hedlund Aristei & Goldman and Dave Dickens of The Miller Firm. For Bayer the worst is yet to come.

Despite Monsanto's efforts, the science linking glyphosate—Roundup's active ingredient—to non-Hodgkin's lymphoma has passed the critical inflection point. European nations are moving to ban or restrict the chemical, and California regulators and courts have ordered Monsanto to warn consumers of Roundup's carcinogenicity at all points of sale. Both federal and state courts across the country have agreed that the question can be sent to juries. Hundreds of new inquiries have flooded our offices since the Johnson verdict.

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

Researchers peg glyphosate as a potent endocrine disruptor, which interferes with sexual development in children. The chemical compound is certainly a chelator that removes important minerals from the body, including iron, magnesium, zinc, selenium and molybdenum.

Roundup disrupts the microbiome destroying beneficial bacteria in the human gut and triggering brain inflammation and other ill effects.

The public's growing concerns with Roundup are, in part, due to Monsanto's overreaching.

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

Then, around 2006, Monsanto started marketing Roundup as a desiccant to dry up oats and wheat immediately before harvest. For the first time, farmers were spraying the chemical directly on food. Roundup sales rose dramatically to 300 million pounds annually in the U.S., with farmers spraying enough to cover every tillable acre in America with a gallon of Roundup.

Glyphosate now accounts for about 50% of all herbicide use in the U.S. About 75% of glyphosate use has occurred since 2006, with the global glyphosate market projected to reach $11.74 billion by 2023. Never in history has a chemical been used so pervasively. Glyphosate is in our air, water, plants, animals, grains, vegetables and meats. It's in beer and wine, children's breakfast cereal and snack bars and mother's breast milk. It's even in our vaccines.

Vietnam points to US court verdict on glyphosate: demands Agent Orange compensation from Monsanto
March 28, 2019

The Vietnam ministry's spokeswoman, Le Thi Thu Hang, stressed in a statement on Thursday that the March 19 verdict by a San Francisco jury is yet more evidence that weedicides could cause direct damage to the human body. In the judgment, the court concluded that exposure to the agrochemical giant Monsanto's weed killer Roundup was a "substantial factor" in giving Edwin Hardeman, 70, of California non-Hodgkin's lymphoma and ordered the firm to pay him nearly $81 million in damages, compensation and medical expenses.

[35] https://www.organicconsumers.org/blog/kennedy-monsanto-roundup-verdict-bayer-stock

"*As a nation that had suffered the heavy consequences of war, including Agent Orange, Vietnam demands that the companies that had provided the U.S. military with defoliants during the war must have the responsibility to help and assist in overcoming the damage caused by Agent Orange to Vietnam's people and environment*," Hang said.
She also welcomed the U.S. Congress and government for assisting in resolving the consequences of war in Vietnam, saying this is widely supported by the people of both countries.
Monsanto was one of the producers of Agent Orange, the defoliant used by U.S. troops to strip Vietnamese forces of ground cover and food. Between 1961 and 1971 the U.S. Army sprayed some 80 million liters of Agent Orange over 30,000 square miles of southern Vietnam. Dioxin, a highly toxic chemical in the defoliant, has been linked to many major health problems such as cancer, mental disabilities and birth defects. Millions of Vietnamese over several generations have suffered from health problems due to exposure to Agent Orange, according to government data.

Dr. Michael Skinner, with Washington State University's Center for Reproductive biology, has studied the transgenerational health effects of dioxin exposure using animals and says women who served in Vietnam and was exposed to Agent Orange could have passed the dioxin to children for at least 15 to 20 years after they returned home.[36]
"*The problem with dioxin or Agent Orange is that it stays in the system for a very long period of time*."
He also says through his research he's seen dioxin passed through sperm to the offspring in animals. His concern is not with the veterans who returned home or their children, but with their grandchildren.
"*We have examples where there is no disease in the first generation but there's huge numbers of disease and the third generation*," he said.
On Thursday, the National Academies of Sciences, Engineering, and Medicine will release their report as a part of the congressionally mandated biennial reviews of the evidence of health problems that may be linked to exposure to Agent Orange and other herbicides used during the Vietnam War.[37]

Rosemary Mason 06/02/2020

[36] https://abcnews.go.com/Politics/vietnam-war-veterans-kids-agent-orange-impact-nightmare/story?id=59059570
[37] http://www.nationalacademies.org/hmd/Reports/2018/veterans-and-agent-orange-update-2018.aspx