

Under our nose and feet: Report on Toxic Herbicide Glyphosate in Colchester

Executive summary

The Glyphosate Working Group was formed during the 2019 summer by Colchester and District Green party to publicize research about glyphosates and campaign for a ban in the Colchester area.

Glyphosates, known by its more popular brand name Roundup, is a weed killer used to control weeds in public spaces – from schools and hospitals to parks, streets and private gardens.

Glyphosates take a long time to degrade. Producers claim it will degrade in anything from two days to half a year. Other reports say the figure is actually three years.

Glyphosates have been shown to be harmful to humans, animals and biodiversity. Research suggests that the weed killer has been linked to cancer, heart disease, autoimmune conditions such as inflammatory bowel disease, birth defects and Parkinson's. Three landmark cases in the US have seen huge settlements given for glyphosate-caused cancer.

Glyphosates harm animals, including bees and earthworms, essential for agriculture.

Across EU member states, several have implemented, or are in the process of implementing, bans of the herbicide. Now is the time for our council to take local action.

We recommend that CBC should, in the short-term:

- Declare the locations that have been treated with Roundup or glyphosate-based herbicides.
- Stop its use in public places, including in children's play areas and parks.
- Stop glyphosate use in areas which are in close proximity to residential properties.
- Stop all use in areas which are close to rivers, reservoirs and places with significant wildlife.
- Put up necessary warnings in areas that have already been treated.
- Warn and urge local schools and hospitals to immediately stop using glyphosate-based herbicides.

In the long-term, CBC should:

- Inform residents about the risk and effects of Roundup and glyphosate-based herbicides.
- Urge local supermarkets to put up warnings on Roundup and glyphosate-based herbicides.
- Hold public meetings and inform farmers - as well as residents living close to agricultural land who face the greatest risk of exposure - on the serious harm, risks and effects of continuous use and exposure to Roundup and glyphosate-based herbicides.
- Work with other regional councils and councillors to introduce a county-wide ban and seek healthier alternatives. This measure would contribute to public health by removing five tonnes of glyphosate-based toxic chemical products from the streets of Essex, and prevent wasting approximately £42k of public money on this product.
- Implement appropriate tests and cleaning operations to areas and soil that have been treated with Roundup and glyphosate-based herbicides by the Council, ensuring workers and contractors carrying out the work are fully informed and safely equipped.

Foreword

Following the exposure of Monsanto's corruption and lobbying of journalists and scientists, there has been a growing public awareness and concern over glyphosate. Documents show that Monsanto and the US Environmental Protection Agency were well aware of glyphosate's potential carcinogenic nature, however agreed to not publish relevant findings and documents, and instead, keep them "confidential" as "trade secrets"¹.

In this report, we will:

- Explore research that uncovers the harmful effects of glyphosate on humans, wildlife and biodiversity.
- Outline the actions taken by Colchester Borough Council (CBC), Essex County Council (EEC) and other UK councils with respect to glyphosates.

¹ The Ecologist, GM-Free Cymru Special Report, "Monsanto and EPA knew of glyphosate cancer link in 1981" (7 July 2015). Research by GM-Free Cymru shows that studies carried out for Monsanto and submitted to the US's Environmental Protection Agency in 1981 provided ample evidence that glyphosate caused cancer and other health problems. But the key documents were classed as 'trade secrets' and never published. Available at <https://theecologist.org/2015/jul/07/monsanto-and-epa-knew-glyphosate-cancer-link-1981>.

- Explore court cases in the US where huge settlements have been awarded for glyphosate harms.
- Look at European country-wide actions against glyphosates.
- Outline cost-effective alternatives to glyphosates.
- Make short-term and long-term recommendations for potential actions by CBC and ECC.

1 Introduction: What is glyphosate?

1.1 Glyphosate is a chemical compound created by the agro-chemical giant Monsanto. The patent for glyphosate expired in the 2000s and it is now used as a base chemical in many herbicide products.

1.2 Glyphosate, which is commonly known by its trade name Roundup, is now owned by the German pharmaceutical giant Bayer.

1.3 According to the European Commission reports, glyphosate is the most frequently used herbicide both worldwide and in the European Union².

1.4 There have been concerns over glyphosate's link with cancer for decades. Following recent legal developments and scientific reports, local authorities as well as countries have started applying a ban on its use.

2. Glyphosate use by Colchester Borough Council

2.1 Publicly available Colchester Borough Council (CBC) panel reports as well as requests made by locals under the Freedom of Information Requests show that, at least since 2016, there have been serious concerns and numerous requests made by the public.

2.2 In a Freedom of Information (FOI) request dated June 2016, Colchester resident Mr Christopher Lee wrote to the council. He noted that the European Union (EU) had voted and refused to back a limited extension of the agricultural company Monsanto's licence for glyphosate's sale because of growing health and environmental concerns. Mr Lee stated that, in the event that the EU refuses to provide any license at all, what steps CBC will take to ensure this product is: (1) removed from all local stores, (2) common

²European Commission, Plants: Pesticide, "Glyphosate: Current status of glyphosate in the EU". Available at https://ec.europa.eu/food/plant/pesticides/glyphosate_e.n.

users of the product like the Landscape Group, Essex Highways and CBC itself will stop using the chemical, and (3) these products are then disposed of properly³.

2.3 In CBC's response, Suzanne Norton, CBC Performance Monitoring Officer, informed Mr Lee that while removing products from local stores and disposing of products fall under the authority and responsibility of Essex County Council, Colchester Borough Council: "...are(sic) currently working with contractors to ensure that any consequences arising from the use of glyphosate and any possible alternatives are fully understood before a final decision can be made regarding the most suitable way of ensuring that all our responsibilities are met by the weed control methods employed"⁴.

2.4 In another FOI request dated May 2018, the Council was requested to declare how often and in which areas within the borough it uses glyphosate. CBC declared that it applies glyphosate as a weed killer on council-owned land such as garage sites for Colchester Borough Homes, as well as in sports grounds, playgrounds, borders and verges.

2.5 Regarding the question on how frequently it was being sprayed by the CBC, it was noted that spraying takes place in mid-March, then again in September.

2.6 The exact amount of glyphosate/Roundup used by CBC was not declared. Despite a previous FOI response which said that the council will work with contractors to "ensure that any consequences arising from the use of glyphosate and any possible alternatives are fully understood before a final decision", this time no update or information was provided.

2.7 It was, however, noted that Essex County Council (ECC)⁵ and Highways England (HE) also use glyphosate in the areas they are responsible for maintaining, which includes streets and gutters, and motorways.

2.8 It was noted that ECC have said that they have no plans to change this due to its "effectiveness". In the same response, a link to HE was also included. The link had

³WhatDoTheyKnow, CBC Glyphosate use, available at https://www.whatdotheyknow.com/request/cbc_glyphosate_use. Response by Colchester Borough Council to Christopher Lee on 14 September 2017. WhatDoTheyKnow is built by *mySociety*, which is a project of UK Citizens Online Democracy, a registered charity in England and Wales. For full details visit mysociety.org.

⁴Ibid., Available at https://www.whatdotheyknow.com/request/cbc_glyphosate_use#incoming-1037763.

⁵It was noted that the Essex County Council uses Glyphosate on streets and gutters in all of Essex and have said that they have no plans to change this due to its effectiveness.

information about a FOI request made to Highways England about its own use of glyphosate. It was declared that although HE holds information about how much and how often glyphosate is being used, they were unable to provide a full answer on the grounds that “it would involve a considerable diversion of resources and therefore falls under Regulation 12 (4) (b) of the EIRs as manifestly unreasonable”⁶. In the latter FOI, information regarding to applications of glyphosate in Area 2 (Somerset, Avon, Wilts&Gloucs) and Areas 6&8 (Cambridgeshire, Suffolk, Peterborough, Norfolk, Bedfordshire, Hertfordshire & part of Suffolk) and their quantities were provided. The data regarding the county of Essex, however, was undeclared.

2.9 A recent investigation by the Developer has revealed that among the 297 local authorities that responded to their FOIA request, Essex is the sixth major user of glyphosate with 5,015L - which surpasses Norfolk, the biggest spender on glyphosate with 3,875L⁷.

2.10 In a CBC Policy and Publicity Panel dated September 2018, a member of the public raised the issue of glyphosate. In the response section, Mrs Cassandra Clements, Community Zones Group Manager, highlighted that a discussion paper on this matter had been taken to the previous Portfolio Holder, and since then a discussion had taken place with the ground maintenance contractor to see what alternatives are available. It also said that “a report on this matter is being compiled for October 2018” and that panel members will “also look at Wivenhoe who (sic) have stopped using certain products in certain areas”⁸.

2.11 CBC and its view on glyphosates

2.11.1 In the FOI response dating May 2018, glyphosate was described as a “toxic herbicide”, and it was acknowledged that despite being approved by regulatory bodies, concerns about glyphosate’s effects on humans and the environment persist.

2.11.2 It was noted that EU advisors (the European Food Standards Agency and the German Federal Institute for Risk Assessment – BfR) claim that “glyphosate alone is not dangerously toxic to humans or animals” and that “their opinion is based on a limited

⁶ gov.uk, FOI release: Usage and cost of glyphosate – EIR, published on 28 September 2015, available at <https://www.gov.uk/government/publications/usage-and-cost-of-glyphosate-eir>. A response to a request made under the Environmental Information Regulations Act (EIR) for information about the usage and cost of glyphosate.

⁷ The Developer, “Exclusive: 98% of councils use weedkiller linked to cancer in public spaces”, Christine Murray, (Updated on 17 September 2019). Available at <https://thedeveloper.live/places/places/exclusive-98-of-councils-use-weedkiller-linked-to-cancer-in-public-spaces>.

⁸ CBC, Policy and Public Initiatives Panel (19 September 2018), available [here](#).

number of scientific studies, many of which are industry led, and contradicts the claim from the World Health Organisation that glyphosate is probably carcinogenic”.

2.11.3 It was also acknowledged that the UN's Food and Agriculture Organisation (FAO) found that the chemical was “unlikely to pose a carcinogenic risk to humans from exposure through the diet”. However, FAO's focus was glyphosate exposure through crops which have been treated with it. The WHO report was not limited to exposure through diet.

3 Glyphosate and its activity

3.1 In response to the question of how long it takes for glyphosate to degrade in soil, the relevant response has been that it “will eventually” and that producers make the claim that this can be between 2 days to 6 months.

3.2 It should be noted that the source was the producer and that there is a significant gap between 2 days and 182 days/half a year.

3.3 There are conflicting scientific results regarding degradation. It was noted that some crops have shown residues for up to a year after the soil has been treated. Other studies, however, have shown that glyphosate formulations will affect subsequent crops for up to three years after application.

4 The effect of glyphosates on human health

4.1 The World Health Organisation recently branded glyphosates “probably carcinogenic to humans”.

4.2 Those most vulnerable to glyphosate toxicity are children playing in parks where the herbicide is sprayed and the workers spraying it. In London, Hammersmith & Fulham Council was the first to halt the use of these potentially harmful sprays in their parks and open spaces. The borough has been pioneering trials of chemical-free weed killers. The scrapping of controversial glyphosate-based weed killers, which were used by council contractors, is a key part of the Council's ambition to protect residents' health and become the greenest local authority in the country.

4.3 Pesticide Action Network's (PAN) UK Director, Keith Tyrell, said at the time: “We warmly welcome Hammersmith & Fulham's decisive action in taking the decision to stop using these herbicides and hope to work closely with them on this project”. Previously, the Council's contractors - Quadron, Pinnacle and Serco - used various forms of glyphosate herbicides across the borough's parks, roadsides and other public green spaces. The Council instructed them to stop using these herbicides.

4.4 Most of the glyphosate restrictions or bans throughout the world were introduced following the 2015 International Agency for Research on Cancer's (IARC) report on glyphosate. This report concluded that glyphosate is a "probable human carcinogen". According to the report, the cancers most associated with glyphosate exposure were found to be non-Hodgkin lymphoma and other hematopoietic cancers. The report further concluded that glyphosate exposure caused DNA and chromosomal damage in human cells, as well as genotoxic, hormonal and enzymatic effects in mammals.

4.5 Other glyphosate studies have linked the chemical to a number of health issues, including, but not limited to: ADHD, Alzheimer's Disease, Autism, Birth Defects, various forms of cancer, Coeliac Disease, Colitis, Heart Disease, Inflammatory Bowel Syndrome, Kidney Disease, Liver Disease and Parkinson's Disease.

4.6 The number of cities, counties, states and countries throughout the world who have taken steps to ban glyphosate has steadily increased. Several countries have issued outright bans over the human health concerns and because of the ongoing Roundup cancer litigation in various parts of the world. Complete countrywide bans already exist in the six countries in the Gulf Cooperation Council and Belgium. Portugal prohibits the use of glyphosate in all public spaces and so far Austria will ban next year (2020), France in 2021 and Germany in 2023. Already in the UK, 14 boroughs and townships have issued bans or restrictions on pesticides and herbicides, including glyphosate.

4.7 A Chinese study discovered that there is a likely link between Coronary Artery Disease (CAD) and exposure to glyphosate herbicides at work⁹. A Washington USA study discovered that there is a likely link between premature mortality by Parkinson's disease¹⁰. A new South African study has shown that glyphosate and glyphosate-based herbicides are genotoxic and cytotoxic to human cells at the levels the human population is currently exposed to. Moderate levels of glyphosate and its formulations vary in their cytotoxicity and genotoxicity in a whole blood model and in human cell lines with different oestrogen receptor status¹¹.

⁹Pan,Liping& Xu, Ming &Yang,Dandan&Wang, Boshen&Zhao,Qiuni&Ding,En-Min &Zhu, Baoli, *The association between coronary artery disease and glyphosate exposure found in pesticide factory workers*, International Journal of Environmental Research and Public Health, (January 2017). Full study is available at <http://jphe.amegroups.com/article/view/3665/4415>.

¹⁰ Caballero, Mariah, SolmazAmiri, Justin T. Denney, Pablo Monsivais, Hystad, Perry,Amram,Ofer,Estimated Residential Exposure to Agricultural Chemicals and Premature Mortality by Parkinson's Disease in Washington State, International Journal of Environmental Research and Public Health, 2018, 15(12), 2885. Full study is available at <https://www.mdpi.com/1660-4601/15/12/2885/htm>.

¹¹ De Almeida,L. K. S. ,Pletschke,B. I. Frost,C. L. ,Moderate levels of glyphosate and its formulations vary in their cytotoxicity and genotoxicity in a whole blood model and in human cell lines with different estrogen receptor status, (04.10.2018). Available at <https://link.springer.com/article/10.1007/s13205-018-1464-z>.

4.8 Multiple new studies performed by independent scientific institutions in several countries have found that exposure to glyphosate-based herbicides (GBHs), including Roundup, caused reproductive and developmental effects in both male and female rats, at a dose level currently considered safe for humans in the US (1.75 mg/kg bw/day)¹².

5. Glyphosate: effects on wildlife and the environment

5.1 Research has indicted that glyphosate is harmful to fish, frogs and tadpoles, mice, rats, earthworms, amphibians, birds and bees. Farm animals and pets are also adversely affected.

5.2 It was found that glyphosates also lead to the elimination of specific plant growth essential for butterflies and insects.

5.3 Studies on rivers found that glyphosate leads to an increase in algal bloom¹³. It damages the fertility of soil and the demise of earthworms further affects soil quality.

5.4 Glyphosate has been also found in wind-blown material which adds to the negative impact on the ecosystem. It has led to the formation of glyphosate-resistant super weeds.

5.5 Studies from 2004 and 2009 found that glyphosate causes endocrine disruption, birth defects, tumours, liver damage and kidney damage in mice and rats when used below the acceptable daily levels^{14 15}.

¹² Fabiana Manservisit, Corina Lesseurt, Simona Panzacchi, Daniele Mandrioli, Laura Falcioni, Luciano Bua, De, Marcella Spinac, Giovanna Galeati, Marco Manservigi, Marcella Spinaci, Giovanna Galeati, Alberto Mantovani, Stefano Lorenzetti, Rossella Miglio, Anderson Martino Andrade, David Møbjerg Kristensen, Melissa J. Perry, Shanna H. Swan, Jia Chen and Fiorella Belpoggi, *The Ramazzini Institute 13-week pilot study glyphosate-based herbicides administered at human-equivalent dose to Sprague Dawley rats: effects on development and endocrine system*, Environmental Health volume 18, Article number: 15 (2019).

Full study available at <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-019-0453-y>.

¹³ Marie-Pier, Hébert Vincent Fugère Andrew Gonzalez, (2018), *The overlooked impact of rising glyphosate use on phosphorus loading in agricultural watersheds*, the Ecological Society of America.

¹⁴ Benedetti AL, Vituri Cde L, Trentin AG, Domingues MA, Alvarez-Silva M, (2004), *The effects of sub-chronic exposure of Wistar rats to the herbicide Glyphosate-Biocarb*, Toxicol Lett.: 2;153(2):227-32.

¹⁵ Prasad S1, Srivastava S, Singh M, Shukla Y., (2009) *Clastogenic effects of glyphosate in bone marrow cells of swiss albino mice*, Toxicol. 2009;:308985 doi: 10.1155/2009/308985. Epub 15.12.2008.

5.6 It was found that glyphosate causes deformities in tadpoles¹⁶ and is toxic to frogs, fish and water fleas^{17 18}. Studies have shown it is harmful to a wide range of animals, including fish, reptiles, amphibians, birds and earthworms¹⁹.

5.7 Motta et al (2017) found that microbiota in honey bees can be altered by exposure to glyphosate which affects their health and life expectancy²⁰.

5.8 Aparico, Aimar et al (2016) found glyphosate in wind-blown material which has a negative effect on the ecosystem as well as human health²¹.

5.9 Toxins from glyphosates have been found in Danish dairy cows²² and the National Pesticide Information (NPI) in the USA found dogs eating grass sprayed with glyphosate experienced vomiting, diarrhoea, weight loss and drooling, and 15% of dogs developed serious symptoms²³. Plant pathologist, Dr Don Huber, found the fertility of the soil to be badly affected²⁴.

¹⁶ Relyea, Rick A, (2012), *New effects of Roundup on amphibians: Predators reduce herbicide mortality; herbicides induce antipredator morphology*, *esa* Volume22, Issue: March 2012, Pages 634-647.

¹⁷ Sandrini JZ1, Rola RC, Lopes FM, Buffon HF, Freitas MM, Martins Cde M, da Rosa CE, (2013), *Effects of glyphosate on cholinesterase activity of the mussel *Perna perna* and the fish *Danio rerio* and *Jenynsia multidentata*: in vitro studies*, *AquatToxicol* ;130-131:171-3. doi: 10.1016/j.aquatox.2013.01.006. Epub 18.01.2013.

¹⁸ Connolly, A., Jones, K., Galea, K. S., Basinas, I., Kenny, L., McGowan, P., et al. (2017), *Exposure assessment using human biomonitoring for glyphosate and fluroxypyr users in amenity horticulture*, *Int. J. Hyg. Environ. Health* 220, 1064–1073. doi: 10.1016/j.ijheh.2017.06.008

¹⁹ Gill, Jatinder & Sethi, Nidhi & Mohan, Dr & Datta, Shivika & Girdhar, Madhuri. (2017), *Glyphosate toxicity for animals*, *Environmental Chemistry Letters*. 10.1007/s10311-017-0689-0.

²⁰ Motta, Erick & Raymann, Kasie & Moran, Nancy, (2018), *Glyphosate perturbs the gut microbiota of honey bees*. *Proceedings of the National Academy of Sciences*. 115. 201803880. 10.1073/pnas.1803880115.

²¹ Aparicio, Virginia & Aimar, Silvia & De Gerónimo, Eduardo & Mendez, Mariano & Costa, José. (2018). *Glyphosate and AMPA concentrations in wind-blown material under field conditions*, *Land Degradation & Development*. 10.1002/ldr.2920.

²² Krueger, Monika & Schrödl, Wieland & Neuhaus, Jürgen & Shehata, Awad, (2013), *Field Investigations of Glyphosate in Urine of Danish Dairy Cows*, *J Environ Anal Toxicol*. Volume 3. 1-7. 10.4172/2161-0525.1000186;

²³ Pesticide Action Network Asia and the Pacific, Dr. Meriel Watts, *Glyphosate*, (Nov., 2009).

²⁴ There are a number of ways in which glyphosate increases disease severity in plants: by increasing populations of pathogens in the soil, by immobilising specific plant nutrients involved in disease resistance, by reducing vigour and growth of plants as a result of the accumulation of glyphosate in the plant, by altering physiological efficiency,

5.10 Another study by Dr Robert Kremer found glyphosate-resistant superweeds²⁵, and Pesticide Action Network Asia and the Pacific found fourteen weeds in 14 countries that have developed resistance to glyphosate²⁶.

6 Recent legal developments

6.1 In July 2018, a historic trial began in San Francisco, where DeWayne Johnson, a former groundskeeper for a school in Benicia and staff responsible for applying Roundup, brought a case against Monsanto. Johnson provided evidence that he had lesions and rashes on his skin after being regularly exposed to the chemical. In 2014, at the age of 42, he was eventually diagnosed with non-Hodgkin lymphoma (NHL).

6.2 The court allowed Johnson to provide scientific argument on the effects of glyphosate. Johnson's lawyers highlighted that the World Health Organization's International Agency for Research on Cancer (IARC) classified the chemical as "probably carcinogenic" and also provided evidence on the Monsanto activities aimed at undermining the IARC findings²⁷, harassing scientists and preventing reports being published²⁸, emails to workers to claim publicly that the product in question is "not carcinogenic"²⁹ and deliberate plans to "ghost-write" favourable research.

and by modification of the soil microflora in ways that affect the availability of nutrients important to plants' disease resistance. G.S. Johal, D.M. Huber, (2009), *Glyphosate effects on diseases of plants*, Europ. J. Agronomy 31 144–152; Johal, G.S. & Huber, D.M. (2009), *Glyphosate effects on diseases of plant*, European Journal of Agronomy. 31. 144-152. 10.1016/j.eja.2009.04.004.

²⁵ Kremer, Robert J & Means, Nathan E, (2009), *Glyphosate and glyphosate-resistant crop interactions with rhizosphere microorganisms*, Europ. J. Agronomy 31 (2009) 144–152.

²⁶ Pesticide Action Network Asia and the Pacific, Dr. Meriel Watts, Glyphosate, (Nov., 2009).

²⁷ US Right to Know, Carey Gillam, "How Monsanto Manufactured 'Outrage' at IARC over Cancer Classification", (19.09.2017). Available at <https://usrtk.org/pesticides/how-monsanto-manufactured-outrage-at-iarc-over-cancer-classification/>.

²⁸ Plaintiff's lawyer cited Monsanto emails from decades prior, in which the company was working with a genotoxicity expert who reviewed a series of 1990s studies. He raised concerns about Roundup impacts on humans and suggested further areas of research. After the expert's analyses, Monsanto representatives began considering finding a different expert and also started working on a press statement saying the product carried no risk. Full judgment is available at <https://usrtk.org/wp-content/uploads/2016/09/Judges-order-in-Johnson-Case-ahead-of-trial.pdf>.

²⁹ Original copy of the correspondence available at <http://baumhedlundlaw.com/pdf/monsanto-documents/27-Internal-Monsanto-Email-You-Cannot-Say-That-Roundup-is-not-a-Carcinogen.pdf>.

6.3 After a month-long trial, the jury ruled that Monsanto was liable for Johnson's cancer, and found that it had acted with "malice or oppression" and should have known that its product was "dangerous". The court ordered the firm to provide a financial award of \$289m for the past and future economic losses and punitive damages³⁰.

6.4 In March 2019, Edwin Hardeman's claim became first of its kind in US federal court jurisdiction and caused a major blow to Monsanto and its parent company, Bayer.

6.5 Mr Hardeman, a 70-year-old Santa Rosa man, became the first person to challenge Monsanto's herbicide in a federal trial, alleging that his exposure to the glyphosate weedkiller caused him to develop non-Hodgkin's lymphoma (NHL), a cancer that affects the immune system³¹. After hearing all the evidence and arguments presented by the plaintiff, Mr Hardeman, and the defendant, Monsanto, the jury reached the unanimous verdict that Mr Hardeman proved by a preponderance of evidence that his exposure to Roundup was a substantial factor in causing his non-Hodgkin's lymphoma³². The jury ordered Monsanto to pay roughly \$80 million in damages for failing to warn Edwin Hardeman of the cancer risks of Roundup herbicide³³.

6.6 Hardeman's case is considered a "bellwether" trial in the federal court system, which means the verdict could potentially have an impact on the way future litigation and potential settlements are resolved³⁴. NPR's Vanessa Romo reported on the verdict, explaining: "*The verdict is the second in the U.S. to find a connection between the herbicide's key ingredient, glyphosate, and the disease. In August, another San Francisco jury determined Roundup had caused cancer in a former groundskeeper. It also decided Monsanto, the company that developed the popular weedkiller, deliberately failed to warn consumers or regulators about the product's risks*"³⁵.

³⁰ Guardian, Sam Levin, Patrick Greenfield, "Monsanto ordered to pay \$289m as jury rules weedkiller caused man's cancer", (11.08.2018). Available at <https://www.theguardian.com/business/2018/aug/10/monsanto-trial-cancer-dewayne-johnson-ruling>.

³¹ Guardian, Sam Levin, Monsanto found liable for California man's cancer and ordered to pay \$80m in damages, (27.03.2019). Available at <https://www.theguardian.com/business/2019/mar/27/monsanto-trial-verdict-cancer-jury>.

³² Available at <https://usrtk.org/wp-content/uploads/bsk-pdf-manager/2019/03/Hardeman-Jury-Verdict-Phase-1.pdf>

³³ Ibid.

³⁴ Ibid. 18.

³⁵ NPR, Richard Gonzales, "Jury Awards \$80 Million In Damages In Roundup Weed Killer Cancer Trial", (27.03.2019). Available at

6.7 A second Roundup cancer trial in San Francisco's Federal Court concluded that Monsanto's Roundup herbicide was a substantial factor causing cancer in a Californian man³⁶. During the trial, it was revealed that Monsanto, purchased by Bayer last summer, had intentionally deceived the public, scientific community and the authorities by discrediting international cancer scientists and promoting counter messages of glyphosate safety instead.

6.8 In the US alone, there are now more than 18,400 people who have filed suits against Monsanto alleging that exposure to the Roundup herbicide caused them or their loved ones to develop non-Hodgkin lymphoma, and that Monsanto covered up the risks³⁷.

6.9 With the emerging scientific reports and legal precedents, many countries in Europe introduced partial and total bans against usage of glyphosate.

6.10 In September 2017, the EU assessment of glyphosate, and in particular the content of the assessment report submitted to EFSA by the German Federal Institute for Risk Assessment (BfR) received heavy criticism from many European press outlets³⁸.

6.11 In October 2017 the European Parliament approved a non-binding resolution to ban the chemical's use by 2022³⁹. However, in December 2017, the law-making executive branch of the EU, the Commission, voted to extend the glyphosate's license for another five years.

6.12 France, along with Austria, Belgium, Croatia, Cyprus, Greece, Italy, Luxembourg and Malta voted against the extension. Germany, on the other hand, supported the extension. However, roughly one year later the country introduced stricter national regulations for pesticides. The Czech Republic has also announced it will limit its use⁴⁰.

6.13 Following the publication of the assessment in September, four EU lawmakers — Finland's Heidi Hautala, Hungary's Benedek Javor, France's Michele Rivasi and Belgium's Bart Staes — filed a case against the European Food Safety Authority

<https://www.npr.org/2019/03/27/707439575/jury-awards-80-million-in-damages-in-roundup-weed-killer-cancer-trial?t=1570367697865>.

³⁶PAN Europe, New developments on Glyphosate,(06/18/2019). Available at <https://www.pan-europe.info/blog/new-developments-glyphosate>.

³⁷US Right to Know, "Roundup (Glyphosate) Cancer Cases: Key Documents & Analysis", (23.09.2019). Available at <https://usrtk.org/monsanto-papers/>.

³⁸European Food Safety Authority, Glyphosate, available at <http://www.efsa.europa.eu/en/topics/topic/glyphosate>.

³⁹DW, Germany set to ban glyphosate from end of 2023, (04.09.2019). Available at <https://www.dw.com/en/germany-set-to-ban-glyphosate-from-end-of-2023/a-50282891>

⁴⁰Ibid.

(EFSA) in May 2017. Lawmakers highlighted that while the European Commission used the findings to classify the chemical as “safe”, as lawmakers they were denied access to the same studies, based on the argument that it could harm “*the commercial interests of companies that presented the studies*”⁴¹.

6.14 In March 2019, the General Court of the European Union decided that EFSA’s decisions to refuse access to the toxicity and carcinogenicity studies on the active substance glyphosate were annulled. The court said that: “*The public interest in having access to the information relating to emissions into the environment is specifically to know not only what is, or foreseeably will be, released into the environment, but also to understand the way in which the environment could be affected by the emissions in question*”⁴².

6.15 In January 2019, the Guardian revealed that a cross-party group of members of the European Parliament commissioned an investigation into claims that Germany’s Federal Institute for Risk Assessment (BfR) copy-and-pasted tracts from Monsanto studies⁴³. The study found that EU regulators based a decision to relicense the controversial weed killer on an assessment plagiarised from industry reports⁴⁴.

6.16 Since the Johnson trial in the US, there has been growing political and legal action in Europe. The German multinational pharmaceutical company Bayer purchased Monsanto in June 2018. Since then, its investors have protested the deal⁴⁵ and

⁴¹DW, “Glyphosate: EU agency must release censored study, court says”, (07.03.2019), Available at <https://www.dw.com/en/glyphosate-eu-agency-must-release-censored-study-court-says/a-47804040>.

⁴² T-716/14 *Anthony C. Tweedale v European Food Safety Agency (EFSA)* and T-329/17 *Hautala and Others v EFSA*, General Court of the European Union PRESS RELEASE No 25/19 Luxembourg, (07.03. 2019). Available at <https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-03/cp190025en.pdf>.

⁴³ The Guardian, Arthur Neslen, “EU glyphosate approval was based on plagiarised Monsanto text, report finds”, (15.01.2019). Available at <https://www.theguardian.com/environment/2019/jan/15/eu-glyphosate-approval-was-based-on-plagiarised-monsanto-text-report-finds>.

⁴⁴ Stefan Weber, Helmut Burtscher-Schaden, *Detailed Expert Report on Plagiarism and superordinated Copy Paste in the Renewal Assessment Report (RAR) on Glyphosate*, (2019). Full report available at <https://www.greens-efa.eu/files/doc/docs/298ff6ed5d6a686ec799e641082cdb63.pdf>

⁴⁵DW, Andreas Becker, “Bayer investors angry over plummeting share price”, (26.04.2019). Available at <https://www.dw.com/en/bayer-investors-angry-over-plummeting-share-price/a-48495269>

company's shares have fallen about 40% from \$63 billion (to €56 billion)⁴⁶. In May 2019, a secret list created by Bayer was exposed. The list, which contained the personal information of 200 French lawyers and journalists who have been researching and are critical of Monsanto and its products was brought to light. The French newspaper *Le Monde* and one of its journalists complained that they were on the list drawn up since 2016 and allegedly leaked by US public relations firm Fleishman Hillard. The French police started an investigation on the possible "collection of personal information by fraudulent, unfair or illicit means"⁴⁷.

6.17 On 12 December 2017, the Commission renewed its approval of glyphosate for five years⁴⁸. The Commission's implementation act entered into force with Annexes (revision 4), as voted for by the Appeal Committee. Although the licence was renewed for a further 5 years, attached Annexes expressed that member states shall pay particular attention to: "the protection of the groundwater in vulnerable areas, in particular with respect to non-crop uses; the protection of operators and amateur users; the risk to terrestrial vertebrates and non-target terrestrial plants; the risk to diversity and abundance of non-target terrestrial arthropods and vertebrates via trophic interactions; compliance of pre-harvest uses with good agricultural practices. Conditions of use shall include risk mitigation measures, where appropriate"⁴⁹.

6.18 In addition to the countries analysed below, Italy⁵⁰, Belgium,⁵¹ the Czech Republic⁵² and the Netherlands⁵³ have also introduced certain bans and restrictions on

⁴⁶DW, "Bayer apologizes over secret list of Monsanto critics", (12.05.2019). Available at <https://www.dw.com/en/bayer-apologizes-over-secret-list-of-monsanto-critics/a-48702015>.

⁴⁷ Ibid.

⁴⁸European Commission, Plants: Pesticide, "Glyphosate: Current status of glyphosate in the EU". Available at https://ec.europa.eu/food/plant/pesticides/glyphosate_e.n.

⁴⁹European Commission ANNEXES to the COMMISSION IMPLEMENTING REGULATION (EU) on renewing the approval of the active substance glyphosate in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Implementing Regulation (EU) No 540/2011. Available at https://ec.europa.eu/food/sites/food/files/plant/docs/pesticides_glyphosate_commission_proposal_annex_final_version.pdf.

⁵⁰ Politico, Arthur Neslen, Maxime Schelle, Judith Mischke, "Austria reignites Europe's weedkiller war", (15.06.2019). Available at <https://www.politico.eu/article/austria-europe-glyphosate-war/>.

⁵¹ Ibid.

⁵² Japan Times, "Herbicide glyphosate under fire worldwide, gets banned by Austria", (03.06.2019). Available at https://www.japantimes.co.jp/news/2019/07/03/business/herbicide-glyphosate-fire-worldwide-gets-banned-austria/#.XZk1_kZKjIV.

the use of glyphosate. In January 2019, French authorities banned the sale of Roundup Pro 360 and restrictions on its use are also in force in the Czech Republic, Italy and the Netherlands⁵⁴. In July 2019, the Maltese government announced that it will implement a ban on products containing glyphosate from public spaces and its use will not be allowed at roundabouts, central strips, near schools or hospitals and a list of other public areas⁵⁵.

Country Profile: Austria

On 2nd July 2019, Austria became the first European country to ban all uses of glyphosate. Voting took place in Austria's lower house of parliament.

The bill was introduced by the Social Democratic Party (SPÖ), which sought a total ban on glyphosate. They received some criticism from the Austrian People's Party (ÖVP), who said that it was in favour of a ban on the use of plant protection products containing glyphosate in public parks, cemeteries, sports and leisure facilities, swimming pools, on school grounds and children's playgrounds, in the immediate vicinity of health facilities and in private home and gardens. However, they raised concerns over such a ban's effect on farmers.

Parliament voted in favour of banning glyphosate. Pamela Rendi-Wagner, chairwoman of the SPÖ, who is a member of the Committee on Health and former Minister of Health and Women, said that "the scientific evidence of the plant poison's carcinogenic effect is increasing. It is our responsibility to ban this poison from our environment". In response to the ÖVP, she said: "the health of the people, the protection of our children, must always have priority"⁵⁶.

On 11th July 2019, the SPÖ and other proponents of the general ban gained a majority in Federal Council and confirmed the general ban on glyphosate⁵⁷. The ban will take

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Times of Malta, "Weed killer glyphosate to be banned in public areas", (08.07.2019). Available at https://timesofmalta.com/articles/view/weed-killer-glyphosate-to-be-banned-in-public-areas.720157.amp?fbclid=IwAR2re67xo5DaDWBGp0CxK_2QEO94GH-k1D3QLsFdo8ZF8yjo8n8l1YFI1Wc.

⁵⁶ APA OTS, "Rendi-Wagner/Leichtfried: SPÖ setzt Totalverbot von Glyphosat durch", (02.07.2019). Available at https://www.ots.at/presseaussendung/OTS_20190702_OTS0093/rendi-wagnerleichtfried-spo-e-setzt-totalverbot-von-glyphosat-durch.

⁵⁷ Republic of Austria Parliament, Parliament Correspondence No 808, "Federal Council confirms general ban on glyphosate", (11.07.2019). Available at https://www.parlament.gv.at/PAKT/PR/JAHR_2019/PK0808/#XXVI_A_00018

effect on 1st January 2020⁵⁸.

Country Profile: Germany

In 2015, following the World Health Organization's (WHO) cancer research, Germany's state ministers published a common resolution which called for "the supply to and use (of glyphosate) by private persons to be banned for precautionary reasons"⁵⁹.

Following a petition and protest⁶⁰, Christian Meyer, Lower Saxony's Minister of Food, Agriculture, Consumer Protection and State Development Minister and chairman of the Consumer Protection Minister Conference, said that glyphosate "should not be found in gardens, parks or on children's playgrounds" and expressed his concerns that it should not be used in private gardens either⁶¹.

Last year, the German Environment Ministry announced a series of new regulations on use of herbicides and pesticides. Among these regulations, the toughest policy was on glyphosate and similar products for which a "staged exit from the use" was defined as the objective⁶².

The Agriculture Ministry, which previously recommended a ban on using glyphosate in private gardens and parks, announced its plans to further limit where glyphosate could be used, including ecologically sensitive areas and water protection zones with a general rule that the product cannot be used within 20 metres of water⁶³.

Svenja Schulze, the Environment Minister, stated that the ministry will also change the approval process for pesticides and herbicides that impact the environment. From 2020, those farmers who want to use glyphosate and similar herbicides will be required to set aside 10% of their farmland to protect biological diversity⁶⁴.

⁵⁸ Baum Hedlund AristeGoldman, "Where is Glyphosate Banned?", (September 2019). Available at <https://www.baumhedlundlaw.com/toxic-tort-law/monsanto-roundup-lawsuit/where-is-glyphosate-banned/>.

⁵⁹ Euroactive, German states call for ban on household pesticide, Dario Sarmadim (12.05.2015). Available at <https://www.euractiv.com/section/science-policymaking/news/german-states-call-for-ban-on-household-pesticide/>.

⁶⁰ Following a protest organized by around 80 environmentalist group, protestors provided a petition with 200,000 signatures calling for an immediate ban on commercial and private use to the ministry.

⁶¹ Ibid.

⁶² DW, "Germany sets new restrictions on glyphosate", (06.11.2018). Available at <https://www.dw.com/en/germany-sets-new-restrictions-on-glyphosate/a-46172338>.

⁶³ Ibid.

⁶⁴ Ibid.

In September 2019, following the Austrian ban, the German government agreed to ban the use of glyphosate⁶⁵. On 4th September, the German cabinet agreed to ban the use of glyphosate after a phased effort to reduce its usage by farmers. As a part of an “insect conservation programme”, Schulze announced that a systematic reduction strategy will be implemented and it will initially prohibit the application of glyphosate in domestic gardens, allotments and on the edge of agricultural land.

Considering the fact that among the major chemical groups producing Roundup and glyphosate-based herbicides, two of the major ones are located in Germany⁶⁶, it is likely that current legal and political development in the Germany as a main glyphosate-based herbicide and Roundup producing county will have an effect in other consuming states⁶⁷.

Country Profile: France

France voted against extending the European licence in 2017, and following the extension of the licence, President Emmanuel Macron announced that the French government will ban glyphosate within three years⁶⁸. In May 2018, the French government promised that glyphosate will be banned “for its main uses” by 2021, and “for all of its uses” within five years⁶⁹.

In January 2019, a court hearing took place in Lyon, southeast France, where an administrative tribunal ruled that the French food and environmental safety agency (ANSES) should have given “more weight to potential safety risks when authorising the use of Roundup Pro 360 in March 2017”⁷⁰.

Corinne Lepage, a lawyer for the CRIIGEN genetics research institute, defined the ruling a “major hit” which has the potential to be extended to all versions of Roundup on

⁶⁵DW, “Germany set to ban glyphosate from end of 2023”, (04.09.2019). Available at <https://www.dw.com/en/germany-set-to-ban-glyphosate-from-end-of-2023/a-50282891>

⁶⁶ The BASF and chemical giant Bayer, which acquired Monsanto last year in a mammoth \$62.5-billion (€54-billion) deal.

⁶⁷ Ibid.

⁶⁸ Reuters UK, “France suggests glyphosate exit could be even slower than planned”, (15.02.2019). Available at <https://uk.reuters.com/article/us-france-agriculture-glyphosate/france-suggests-glyphosate-exit-could-be-even-slower-than-planned-idUKKCN1Q41S0/>

⁶⁹ https://www.japantimes.co.jp/news/2019/07/03/business/herbicide-glyphosate-fire-worldwide-gets-banned-austria/#.XZk1_kZKjIV

⁷⁰ France 24, “Weedkiller Roundup banned in France after court ruling”, (16.01.2019). Available at <https://www.france24.com/en/20190116-weedkiller-roundup-banned-france-after-court-ruling>.

the grounds that the court described all products containing glyphosate as “probably carcinogens”⁷¹.

Following the ruling that regulators failed to take safety concerns into account when clearing the widely used herbicide, the ANSES officially forbade the sale of Roundup⁷². A law banning the use of synthetic pesticides in public parks and spaces was enacted and brought into force⁷³. In January 2019, home gardeners countrywide have also been banned from using synthetic pesticides⁷⁴.

Regarding a total ban, the French government came under increased pressure from members of the agricultural sector, which is the European Union’s largest grain producer. In an attempt to placate farmers, the French Agriculture Minister Didier Guillaume expressed that, by January 2021, there will be more and more sectors that have come out of glyphosate, signalling that French law will be more flexible on agricultural usage of glyphosate.

Last May, Daniel Cueff, mayor of Langouët in Brittany, declared that he imposed a ban on pesticide use within 150 metres of the district’s homes and workplaces. Mr Cueff stated that under the 2009 European Union directive on pesticides⁷⁵, as a member state, France needs to take steps to protect residents from pesticides and there had been incompetence by the state⁷⁶. Following Mr Cueff, some 20 French mayors enforced a full glyphosate ban from their municipalities last month — in defiance of their national government^{77 78}.

⁷¹ Ibid.

⁷² Ibid.

⁷³ France 24, “Paris, four other French cities ban use of pesticides”, (12/09/2019). Available at <https://www.france24.com/en/20190912-paris-four-other-french-cities-ban-use-of-pesticides>

⁷⁴ Ibid.

⁷⁵ Directive 2009/128/EC of the European Parliament and of the Council, “Establishing a framework for Community action to achieve the sustainable use of pesticides”, (21 October 2009). Available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0128&from=EN>.

⁷⁶ France24, “French rebel mayors defy government by imposing illicit pesticide bans”, Louise Nordstrom, (06/09/2019). Available at <https://www.france24.com/en/20190906-france-glyphosate-french-rebel-mayors-roundup-monsanto-government-illicit-pesticide-bans>.

⁷⁷ DW, “Germany set to ban glyphosate from end of 2023”, (04.09.2019). Available at <https://www.dw.com/en/germany-set-to-ban-glyphosate-from-end-of-2023/a-50282891>.

⁷⁸ At the end of August, an administrative court in Rennes ruled that Cueff had overstepped his authority by imposing the ban, deeming it unlawful. He immediately vowed to appeal the ruling, saying that as a mayor, he “could not ignore the health of local residents”.

Following the WHO report which boosted the anti-chemical movement in the countryside, Paris and four other French cities, including Lille in the north, Nantes in the west, Grenoble in the south-east and the central city of Clermont-Ferrand took action and implemented the ban, citing the need to safeguard biodiversity and public health⁷⁹. Although Mr Cueff's appeal is ongoing, by the beginning of September, some 40 local decision-makers had imposed similar pesticide buffer-zones in towns and villages across France noting "we only have one single objective: to protect the interest of our inhabitants"⁸⁰.

7 Alternatives to glyphosates

7.1 Weedingtech Foamstream

7.1.1 Foamstream uses hot, biodegradable foam which is herbicide-free. It controls weeds by using the heat in hot water, insulated by a biodegradable foam blanket. The foam stops the heat escaping to the atmosphere, keeping the heat on the plant for longer and therefore killing the weeds.

7.1.2 Foamstream usually requires the same treatment cycles per season as glyphosates but less than many other herbicide-free alternatives. When treating moss and algae, Foamstream requires only one treatment per year. Due to the system's high heat retention, Foamstream is also suitable for outdoor cleaning tasks, including chewing gum removal, power washing and general sanitisation jobs.

7.1.3 Glastonbury Town Council, Somerset, home to over 10,000 residents, became the first council in the UK to ban herbicide use in its Borough. It trialled Foamstream in 2015 and adopted it in 2016. Glastonbury found it 900 times cheaper than manual weeding and also found that Foamstream can be used in all weathers.

7.2 Park Management Techniques

7.2.1 Glyphosate use in parks can be reduced and eliminated by effective park management techniques. The Level Park, in the centre of Brighton, is completely herbicide free. Flower beds are planted to full capacity, leaving less space for weeds to grow. Good soil management results in healthier plants that are more resilient to pests and diseases. No peat-based materials are used (organic material only) such as autumn leaves, grass trimmings, spent coffee grounds, wood ash and tea leaves.

7.2.2 Over 95% of their green waste is recycled on site. Designated areas of the park are simply left to grow, increasing biodiversity. Also, by having their own seed bank and

⁷⁹France 24, "Paris, four other French cities ban use of pesticides", (12/09/2019). Available at <https://www.france24.com/en/20190912-paris-four-other-french-cities-ban-use-of-pesticides>.

⁸⁰Ibid.

propagating 50-60% of their plants, they ensure that the plants are hardier.

7.3 White Vinegar and Salt

7.3.1 Although not as effective as Foamstream, this mixture can be used on small areas as a cheap alternative. A combination of one cup of salt to one gallon of vinegar have been found an alternative solution to prevent anything growing on that spot for some time. Otherwise use of vinegar, found to kill weeds in two to three days.

7.4 Letting the Weeds Grow

7.4.1 Across the UK, some councils are letting wild flowers grow on roadside verges in order to promote biodiversity. For example, Rotherham Council have planted eight miles of wildflower verges, which has saved the Council approximately £23,000 in mowing costs. This followed a campaign by the group Plantlife. Nottinghamshire Council have piloted a similar scheme.

8 Responsibilities of Colchester Borough Council

8.1 While the laws detailing Council responsibilities are spread out over multiple acts of parliament, necessitating the 2011 Government Review of Statutory Duties on Local Government, it is enshrined in law that all councils at all levels have a duty of care and responsibility to protect their residents⁸¹. This is a long-established and proud tradition of the UK and is noted by CBC in its frameworks.

8.2 CBC notes in its Strategic Plan 2018-2021 that they will “promote and improve Colchester and its environment”, and the residents’ pride in “the borough’s open spaces”. Therefore, the use of glyphosates should be a concern for the Council⁸². In the same manner that CBC is seeking to improve and reduce air pollution, so too should it make residents aware of the risks and dangers, and investigate alternatives.

8.3 Although the EU has not yet banned the use of glyphosates, the World Health Organisation 2015 finding that they are “probably carcinogenic to humans” is of concern

⁸¹Ministry of Housing, Communities and Local Government, “Duties placed on authorities by legislation for which DCLG is responsible “(21.03.2011). Available at <https://data.gov.uk/dataset/01171494-e40b-463f-9967-56d158412321/statutory-duties-placed-on-local-government>.

⁸²Colchester Gov, CBC - The Strategic Plan 2018-21, available at <https://www.colchester.gov.uk/info/cbc-article/?catid=policy-framework-local-choice&id=KA-01475>.

and grounds for the cessation of use. A University of Washington 2019 study found that glyphosate increased the likelihood of non-Hodgkin lymphoma by 41%⁸³.

8.4 The European Sustainable Use Directive⁸⁴ is applicable in this instance, urging that “member states must pay particular attention to risks in places such as public parks and gardens, sports and recreation grounds, and in the close vicinity of healthcare facilities”, where “risks from exposure to pesticides are high in these areas and pesticide use should be minimised or prohibited”. For that reason, it is fundamentally necessary that residents, as well as sprayers and users of these spaces, have the right to be informed and be aware of the risks of being close proximity to sprayed glyphosates. Signage should be deployed to inform the public.

8.5 Essex County Council (ECC) has stated that they will not cease using glyphosates unless “the product should fail to achieve a licence [in 2022 or before]... acting in line with the law and appropriate/relevant guidance”⁸⁵. In a recent investigation, it was found that ECC deployed over 5,000 litres of the herbicide in 2018-2019.

8.6 Therefore CBC has a responsibility to lead the charge in protecting one of the fastest-growing towns in the UK by demonstrating a real commitment to leadership on this matter. As the statutory party responsible for overseeing the environmental health as well as human health, it is crucial that CBC protect its residents and young people.

8.7 The Health and Safety Executive advocates councils to focus on “the significant risks - those with potential to cause real harm and suffering - and avoid wasting resources on insignificant risks”⁸⁶. Given the growing body of evidence, as well as

⁸³Zhang, Luoping & Rana, Imaan & M Shaaffer, Rachel & Taioli, Emanuela & Sheppard, Lianne, (2019), *Exposure to glyphosate-based herbicides and risk for non-Hodgkin lymphoma: A meta-analysis and supporting evidence*, Mutation Research/Reviews in Mutation Research, Volume 781, July–September 2019, Pages 186-206.

⁸⁴ Directive 2009/128/EC, “Establishing a framework for Community action to achieve the sustainable use of pesticides”, (21.10.2009), Official Journal of the European Union, L 309/71. Available at https://ec.europa.eu/food/plant/pesticides/sustainable_use_pesticides_en?fbclid=IwAR30WJS8QZK35euRYS6c09skO6hWPhgzHkKqsB8LlvWKqNvZRQVCZC5ZwRU and <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:309:0071:0086:en:PDF>

⁸⁵ EssexLive, Piers Meyler, “Council won't stop using weedkiller linked to cancer - unless EU says so”, (30.07.2019). Available at <https://www.essexlive.news/news/essex-news/council-we-wont-stop-using-3261237>.

⁸⁶ Health and Safety Executive, “Sensible risk in local government”, available at <http://www.hse.gov.uk/services/localgovernment/sensible->

increasing litigation against using glyphosates, it is recommended that CBC should pursue the precautionary principle and seek to use other methods which have no negative impact on humans. By joining the impressive list of countries⁸⁷ and councils banning glyphosates, such as Austria, Malawi, Vietnam, Sri Lanka, Oman, Saudi Arabia, Bermuda, Belgium, Denmark, France, and local authorities⁸⁸ such as Glastonbury, and Hammersmith, Colchester can add its name to a progressive, sustainable and forward-thinking leadership.

8.8 By ceasing use of glyphosates, CBC can actively work towards achieving its corporate priority “to be the cleanest and greenest borough in the country” expressed at its “Scheme of Delegation to Cabinet Members⁸⁹”.

9 Glyphosate Working Group Recommendations

9.1 Following the recent scientific and legal developments, it is clear that glyphosate and Roundup can have a direct and lasting negative impact on the environment, workers and contractors who are responsible for spraying the toxic herbicide, as well as residents and bystanders.

[risk/index.htm?fbclid=IwAR1ymkKYfu28qi_6dXAndEHm4dljB6GF108K-7fhjfnO745TxvPskzNb8nA](https://www.localgov.co.uk/risk/index.htm?fbclid=IwAR1ymkKYfu28qi_6dXAndEHm4dljB6GF108K-7fhjfnO745TxvPskzNb8nA).

⁸⁷ Sustainable Pulse, Glyphosate Herbicides Now Banned or Restricted in 18 Countries Worldwide – Sustainable Pulse Research, (28.05.2019). Available at <https://sustainablepulse.com/2019/05/28/glyphosate-herbicides-now-banned-or-restricted-in-17-countries-worldwide-sustainable-pulse-research/?fbclid=IwAR0c16zqWhwmLpWAFGsNms2THpTUwwPHEvTtPknzPWxqClChh0WWVGYMvz8#.XZyh0kZKjIV>.

⁸⁸ LocalGov, William Eichler, “The cost of glyphosate-based weedkillers”, (26.06.2017). Available at <https://www.localgov.co.uk/The-cost-of-glyphosate-based-weed-killers/43505?fbclid=IwAR2zHaaxwcOxoNznkU9ZnXQB9-6CZ4ygY9d2Ue7HEX-zvaRqFrxtfAhtQI>.

⁸⁹ Colchester Borough Council, Scheme of Delegation by the Leader of the Council to Cabinet Members, (June 2019), Health & Safety, page 8. Available at <https://cbccrmdata.blob.core.windows.net/noteattachment/CBC-Scheme-of-delegation-to-cabinet-v2-how-the-council-works-3del19a-cab.pdf?fbclid=IwAR34piyFdLcNKD2hDexJB98tB1S-vF6Fb56-gzEz-ggPRklxuYudqMeQrTw#page=8>.

9.2 Therefore, as the local executive that is responsible and accountable to its residents, CBC should prepare and implement a glyphosate ban to prohibit the usage of Roundup and glyphosate-based herbicides, and lead the national movement towards a greener and healthier society and environment.

9.3 Short-term actions that can be taken immediately by Colchester Borough Council:

- Declare the locations that have been treated with Roundup or glyphosate-based herbicides.
- Stop its use in public places, including in children's play areas and parks.
- Stop glyphosate use in areas which are in close proximity to residential properties.
- Stop all use in areas which are close to rivers, reservoirs and places with significant wildlife.
- Put up necessary warnings in areas that have already been treated.
- Warn and urge local schools and hospitals to immediately stop using glyphosate-based herbicides.

9.4 Long-term actions that can be taken by Colchester Borough Council can be identified as:

- Inform residents about the risk and effects of Roundup and glyphosate-based herbicides.
- Urge local supermarkets to put up warnings on Roundup and glyphosate-based herbicides.
- Hold public meetings and inform farmers - as well as residents living close to agricultural land who face the greatest risk of exposure - on the serious harm, risks and effects of continuous use and exposure to Roundup and glyphosate-based herbicides.
- Work with other regional councils and councillors to introduce a county-wide ban and seek healthier alternatives. This measure would contribute to public health by removing five tonnes of glyphosate-based toxic chemical products from the streets of Essex, and prevent wasting approximately £42k of public money on this product.
- Implement appropriate tests and cleaning operations to areas and soil that has been treated with Roundup and glyphosate-based herbicides by the Council, ensuring workers and contractors carrying out fully informed and safely equipped.

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