CleanEarth4Kids.org

May 7, 2025

RE: Pesticide Risk Prioritization Comment

CleanEarth4Kids.org strongly believes in protecting human health and the environment through natural and sustainable pest management that does not use synthetic pesticides.

Regenerative and organic agricultural practices have clearly demonstrated that poisons like neonicotinoid and organophosphate pesticides are not necessary.

We ask DPR to prioritize stopping the use of pesticides already banned in the EU as they have already been risk assessed and shown to be a danger to human health and the environment.

Generations of farmers, workers, and children have been harmed by the use of highly toxic pesticides as regulators appease the chemical industry with mitigation instead of bans. DPR must end the sacrifice zones around California farms and end the use of synthetic pesticides.[1]

Pesticides Are Poison

Pesticides can cause both acute and long-term effects when individuals are exposed through dermal and oral pathways, inhalation, and contact with the eyes.[2,3]

Acute effects include symptoms such as headache, irritation, vomiting, sneezing and rashes, and in severe cases, muscle weakness, twitching, bronchospasm, changes in heart rate, convulsions, and coma.[4]

Chronic exposure often impacts the reproductive system, central nervous system, and endocrine system. Long-term effects of pesticides can take years to manifest after exposure and some of the more common long-term effects of pesticide exposure include lymphoma, leukemia, breast cancer, asthma, cardiac disease, diabetes, necrosis and immune system disorders.[5,6]

Pesticides are also linked to epilepsy, as "chronic exposure to pesticides increases risk factors."[7] This poses a significant threat, particularly to workers who are exposed to pesticides daily.

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[1] https://www.climaterealityproject.org/sacrifice-zones
[2] https://extension.psu.edu/potential-health-effects-of-pesticides
[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9231402/
[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1247187/
[5] https://www.pesticidereform.org/pesticides-human-health/
[6] https://www.frontiersin.org/articles/10.3389/fmicb.2022.962619/full
[7] https://beyondpesticides.org/dailynewsblog/2023/05/pesticide-exposure-increases-the-risk-of-all-seizures

Research clearly shows that counties with higher agricultural use have increased cancer (leukemia, non-Hodgkin's lymphoma, bladder, colon, lung, and pancreatic cancer) risk due to pesticide exposure.[8] The increased cancer risk is not only for farmers and their families but also for the entire surrounding communities.

Pesticides are known endocrine disruptors for both humans and wildlife, which should be reason enough to ban pesticide usage and shift towards sustainable and organic agricultural practices.[9]

Numerous studies have shown that exposure to a single pesticide active ingredient is associated with adverse neurobehavioral outcomes in farmers, and in agriculture, exposure to multiple pesticide ingredients is more common.[10]

Pesticide drift can also impact people in the surrounding areas of application, while applicators and farmers consistently face direct exposures to pesticides that harm their health.[11] Pesticide drift settles on playgrounds, porches, laundry, toys, pools, furniture, gardens, and lawns where people and children live, learn, and play.[12] This exposes people, pollinators, and wildlife to danger from what they touch, breathe, and eat.

Pesticides are heavily persistent in the environment and affect farmers who apply them or engage in manual labor on pesticide-treated grounds. Unfortunately, this kind of exposure is often underestimated despite it being the most prominent exposure risk in the country.[13]

We Must Protect Children From Toxic Pesticides

Pesticides damage human health and the environment.[14] Pesticides increase children's cancer risk, and 95% of the pesticides used miss their target.[15,16]

In children, pesticide exposure causes delayed physical and mental development, ADHD, and childhood cancers like leukemia.[17]

Children diagnosed with retinoblastoma, a rare eye cancer, often live in areas with high pesticide exposure.[18]

Pesticides are also a significant threat to prenatal development and birth outcomes,[19]

[8] https://www.frontiersin.org/journals/cancer-control-and-society/articles/10.3389/fcacs.2024.1368086/
[9] https://pubmed.ncbi.nlm.nih.gov/25666658/
[10] https://www.sciencedirect.com/science/article/pii/S0160412021001021
[11] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9231402/
[12] https://www.epa.gov/reducing-pesticide-drift/introduction-pesticide-drift
[13] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5606636/
[14] https://www.dw.com/en/pesticide-atlas-2022
[15] https://www.sciencedirect.com/science/article/abs/pii/S1438463919306212?via%3Dihub
[16] https://www.scientificamerican.com/article/pesticide-drift/
[17] https://publications.aap.org/pediatrics/article/130/6/e1765/30343/Pesticide-Exposure-in-Children
[18] https://www.sciencedirect.com/science/article/pii/S1438463922001080
[19] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-020-00611-z

increasing the risk of adverse effects on the developing fetus[20] including birth defects and developmental problems.[21]

Rates of childhood leukemia and brain cancer have been increasing since 1976, and cancer is now the leading cause of death by disease among American children under the age of 15, with around 10,000 children being diagnosed every year.[22,23] Notably, exposure to pesticides in children has been linked to an elevated risk of various cancers, including leukemia and lymphoma.[24]

Children of color are more likely to be exposed to pesticides, making them not just more susceptible, but also more vulnerable to harm.[25]

Children who work in agriculture are routinely exposed to neonicotinoids and other toxic pesticides.[26] As such, it is morally reprehensible to allow child agricultural workers. Documented pesticide poisonings, shorter lifespans, and serious health problems of farmworkers are of major concern.[27]

Children are surrounded by an estimated 350,000 synthetic chemicals and chemical mixtures every day.[28] Stopping the use of one toxic pesticide in place of another is never the answer. It is vital to transition to non-toxic methods as children exposed to pesticides have an increased risk of developing intellectual impairment and behavioral problems.[29,30]

Children have a higher risk of immediate (acute) and long-term (chronic) toxicity due to the fact that they cannot metabolize toxic chemicals as effectively as adults.[31] As a result, children acquire higher exposure levels of these pesticides by means of inhalation of air, water, and food per their body weight in comparison to adults.[32]

Legal Does Not Mean Safe

The US uses toxic pesticides banned in many other countries.[33] The US only bans 22 pesticides, while China bans 55, and the EU bans 274, (for a list of pesticides banned in other countries, please click here.)[34]

Approximately 1/3 of the annual US pesticide use, over 300 million pounds from 85

[20] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4247335/
[21] https://journals.lww.com/epidem/Fulltext/2001/03000/The_Epidemiologic_Study_of_Birth_Defects
[22] https://www.annals-research-oncology.com/pediatric-cancer-and-the-environment-a-fifty-year-perspective/
[23] https://www.cancer.org/cancer/types/cancer-in-children/key-statistics.html
[24] https://www.hsph.harvard.edu/news/hsph-in-the-news/pesticide-exposure-in-childhood-linked-to-cancer
[25] https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-022-13057-4
[26] https://www.aft.org/community/child-labor-united-states
[27] https://www.farmworkerjustice.org/wp-content/uploads/2013/07/Exposed-and-Ignored-by-Farmworker
[28] https://thehill.com/sustainability/environment/590167-scientists-say-current-level-of-chemical/
[29] https://www.beyondpesticides.org/programs/children-and-schools/alternatives-at-schools
[30] https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0020061
[31] https://www.scopus.com/record/display.uri?eid=2-s2.0-8444235339
[32] https://publications.aap.org/pediatrics/article-abstract/Children-s-Behavior-and-Physiology-and-How-I
[33] https://biologicaldiversity.org/united-states-uses-85-pesticides-outlawed-in-other-countries-2019-06-06/
[34] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/

different pesticides, are from pesticides banned in the EU.[35] In 2017 & 2018, the EPA registered more than 100 pesticides with ingredients widely considered to be dangerous.[36] There are also pesticide additives (adjuvants) which can also be toxic, yet are not considered in pesticide safety regulations.[37,38]

99% of synthetic pesticides and fertilizers come from fossil fuels and the continued use of these petrochemicals is a direct threat to the climate and our world.[39]

Also, many common pesticides[40] have been found to contain PFAS[41] which are incredibly toxic and are a direct threat to human and environmental health.[42]

For information on how the pesticide industry makes sure their products are approved without proper testing, we encourage you to look at the article "How Pesticide Companies Corrupted the EPA and Poisoned America".[43] Sen. Richard Blumenthal, D-Conn., is quoted in the article: "These findings are profoundly alarming and point to a troubling pattern of disregard at the EPA's Office of Pesticide Programs."

Pesticide companies often sit on panels, committees, and working groups to "advise" regulators and have ensured the EPA relies almost entirely on industry-funded studies.[44]

There is also a 10-part series in the Intercept on how the EPA is failing to evaluate and test pesticides and chemicals due to industry interference.[45] For example, the EPA's pesticide office approved 89% of 972 industry requests to waive toxicity tests between 2011 and 2018.[46]

The Dangers Of Pesticide Mixtures And Their Environmental Health Risks

People are often exposed to multiple pesticides through various channels, such as water, air, soil, and food (including produce, meat, fish, and processed foods.[47]

In agricultural communities, the risk of exposure is particularly high,[48] especially for children,[49] who may be subjected to pesticide mixtures through contaminated water, air, dust, and even through take-home exposures from family members working with

[35] https://biologicaldiversity.org/united-states-uses-85-pesticides-outlawed-in-other-countries-2019-06-06/
[36] https://www.biologicaldiversity.org/campaigns/pesticides_reduction/pdfs/Toxic-Hangover.pdf
[37] https://ncipmhort.cfans.umn.edu/sites/files/2020-05/adjuvants%20harmful%20frontiers%20article.pdf
[38] https://pubmed.ncbi.nlm.nih.gov/29404314/
[39] https://www.ciel.org/reports/fossil-fertilizers/
[40] https://beyondpesticides.org/alarming-levels-of-pfas-found-in-commonly-used-pesticides/
[41] https://www.scientificamerican.com/article/pesticides-are-spreading-toxic-forever-chemicals-scientists-warn/
[42] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7906952/
[43] https://theintercept.com/2021/06/30/epa-pesticides-exposure-opp/
[44] https://www.panna.org/gmos-pesticides-profit/corporate-science-spin
[45] https://theintercept.com/2022/08/01/epa-chemical-assessments-health-risks-cancer-whistleblowers/
[46] https://theintercept.com/2021/06/30/epa-pesticides-exposure-opp/
[47] https://pmc.ncbi.nlm.nih.gov/articles/PMC9231402/
[48] https://beyondpesticides.org/farmers-face-elevated-cancer-risks-tied-to-chemical-soup-of-pesticide-exposure
[49] https://pmc.ncbi.nlm.nih.gov/articles/PMC5813803/#

pesticides.[50]

These frequent and widespread exposures, coupled with the fact that many individuals unknowingly encounter multiple pesticides simultaneously, amplify the associated health risks.

While individual pesticides can be harmful on their own, the dangers posed by pesticide mixtures extend far beyond the risks posed by a single chemical. The cumulative effects of multiple pesticides can result in more severe, unpredictable, and often underestimated consequences for both human health and ecosystems.[51,52]

Multiple Pesticide Exposure Increases Cancer Risk In Children

Pesticide mixtures can interact in ways that amplify their toxicity, a phenomenon referred to as "synergistic" or "additive" effects.[53,54] These interactions can occur either toxicodynamically (how the chemicals affect the body at the cellular or physiological level) or toxicokinetically how the body absorbs, distributes, metabolizes, and excretes the chemicals).

In some cases, the combined toxicity of pesticide mixtures is greater than the sum of the individual chemicals' effects, leading to significantly heightened health risks.[55]

Exposure to multiple pesticides significantly increases the risk of childhood cancers compared with exposures to just one pesticide, with every 10% increase in pesticide mixture associated with increased brain cancer rates of 36%, leukemia rates by 23% and overall pediatric cancer rates by 30%.[56] The most potent mix of pesticides included dicamba, glyphosate, paraquat, triasulfuron, and tefluthrin.[57]

This highlights the alarming reality that even trace amounts of multiple pesticides, when combined, can have a far greater and more harmful impact on human health than anticipated.

One of the most concerning aspects of pesticide mixtures is their disproportionate impact on vulnerable populations, especially children. Due to their developing organs such as the blood-brain barrier, immature metabolic pathways, and faster metabolic rate, children are more susceptible to adverse effects than adults.[58]

Even low-level exposure can have considerable long-term consequences. The risk is particularly pronounced in agricultural communities, where farmworkers and their

[50] https://pubmed.ncbi.nlm.nih.gov/12460819/
[51] https://www.sciencedirect.com/science/article/abs/pii/S0924224424000165
[52] https://www.sciencedirect.com/science/article/pii/S0147651323007418#bib50
[53] https://pmc.ncbi.nlm.nih.gov/articles/PMC2661902/
[54] https://enveurope.springeropen.com/articles/10.1186/s12302-020-00394-7
[55] https://www.sciencedirect.com/science/article/pii/S0045653524003242
[56] https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2024GH001236
[57] https://www.theguardian.com/us-news/2025/mar/05/pesticides-childhood-cancer-study
[58] https://www.sciencedirect.com/science/article/abs/pii/S2468584422000927

families are exposed to higher concentrations of pesticides.[59] However, the dangers extend beyond those directly working with pesticides; children's exposure to contaminated food sources presents an often underestimated risk.

The combined action of chemical mixtures can lead to disruption of the endocrine system and the transformation of normal cells to cancer cells.[60] This cancer cell proliferation is induced even when the individual chemical is present at levels at or below its no observed-effect concentration.[61]

Environmental Consequences Of Pesticide Mixtures

Beyond human health risks, pesticide mixtures pose a significant threat to the environment. These chemicals can harm non-target organisms, including wildlife, beneficial insects (such as bees and pollinators), and aquatic life, resulting in increased mortality.[62]

The simultaneous presence of several pesticides in the terrestrial environment may lead to increased toxicity, causing more disturbing effects on the soil ecosystem than expected.[63] These mixtures can also accelerate the development of resistance to pesticides, making future pest control more difficult.[64]

Pesticides Disproportionately Affect BIPOC Neighborhoods

BIPOC and low-income communities are the primary victims of pesticide exposure. This injustice is rooted in decades of systemic oppression and classism ingrained in American culture.

Black Americans are the majority of the population in poverty at 17.9%, with White Americans being the lowest at 7.7%.[65] These 60 million Black American residents occupy the poorest areas of the United States, surrounded by industrial plants and agricultural operations.

Low-income areas are more likely to be the home of these operations due to the lower land costs and little to no political resistance from residents because of socioeconomic disparities.[66] Big businesses capitalize on these populations' vulnerability and create isolated instances of pesticide exposure, presenting the problem as just for them as opposed to the general public.

The issue worsens as frequent pesticide exposure leads to long-term illnesses such as asthma, cancer, neurological disorders, developmental delays, and much more

[59] https://pmc.ncbi.nlm.nih.gov/articles/PMC5644974/
[60] https://www.mdpi.com/1660-4601/8/3/629
[61] https://ehp.niehs.nih.gov/doi/10.1289/ehp.01109391
[62] https://www.sciencedirect.com/science/article/abs/pii/S0045653524011263#
[63] https://www.soilassociation.org/media/19535/the-pesticide-cocktail-effect.pdf
[64] https://ipm.ucanr.edu/agriculture/floriculture-and-ornamental-nurseries/managing-pesticide
[65] https://federalsafetynet.com/poverty-statistics/
[66] https://ballardbrief.byu.edu/disproportionate-exposure-to-air-pollution-for-low-income-communities

that we listed above.

The Asthma and Allergy Foundation of America state that people with low income and who are Black, Hispanic, and American Indian/Alaska Native people have the highest asthma rates, deaths, and hospitalizations in the United States.[67]

Pesticide Harm To Wildlife

The harms to wildlife from pesticides are widespread and well-documented.[68] These toxic chemicals can cause death, cancer, endocrine disruption, reproductive effects, neurotoxicity, kidney and liver damage, birth defects, and developmental harm in many species.[69]

Wildlife are exposed to pesticides from many sources: fields, streets, parks, lawns, waterways, spray drift, soil residue, the food chain, etc.[70]

It is critical to protect the environment and biodiversity. Scientists have confirmed that Earth is experiencing the sixth mass extinction, a "biological annihilation" of the diverse species on our planet.[71]

Pesticide Usage And Its Effect On Reproductive Health

Pesticide exposure causes miscarriages in pregnant women as well as hormonal changes and birth defects.[72] Toxic pesticides can accumulate in breast milk and be transferred to the developing child.[73] During pregnancy, if a pregnant woman is exposed to pesticides, she is more likely to develop an insufficient placenta, intrauterine growth restriction and risk of frequent pregnancy loss than a woman who is not exposed.[74]

Hormonal changes in both women and men can lead to genotypic changes, including interference of hormonal receptors, hormone synthesis, as well as clearance.[75] Pesticides also have the ability to mimic hormones and their interactions, causing direct dysfunction to the endocrine system.[76] Ovulation systems and sperm quality for both male and female development can also be disrupted from exposure to pesticides.[77]

Pesticides Usage And Its Effect On Learning and Developmental Disorders

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[67] https://aafa.org/asthma/asthma-facts/
[68] https://www.beyondpesticides.org/programs/wildlife
[69] https://pesticidestewardship.org/non-target/pesticide-impact/
[70] https://policy.friendsoftheearth.uk/insight/effects-pesticides-our-wildlife
[71] https://www.theguardian.com/environment/earths-sixth-mass-extinction-event-already-underway
[72] https://doi.org/10.1098/rstb.2009.0206
[73] https://www.cdc.gov/niosh/reproductive-health/prevention/pesticides.html
[74] https://www.sciencedirect.com/science/article/pii/S0303720723002216
[75] https://pmc.ncbi.nlm.nih.gov/articles/PMC1280395/#
[76] https://www.niehs.nih.gov/health/topics/agents/endocrine
[77] https://www.sciencedirect.com/science/article/abs/pii/S037842749900051X

Pesticide exposure, especially from the critical period from birth to age five, can harm learning and development as the brain is rapidly forming connections and increasing in density and pesticides can cause chemical imbalances, sever connections, and even cause lesions to form in the brain.[78]

Pesticides can also impact how the brain will physically develop, impacting the development of a child's emotions, social skills, ability to focus, motor skills, mobility, and their ability to process and take in knowledge.[79]

Children are more likely to be exposed to environmental toxins as they spend a great deal of time outside, and because children breathe faster than adults do, they inhale more air.[80] Children are still growing and developing their body's natural defense mechanisms until young adulthood and as a result are vulnerable to the harms of the active ingredients found in pesticides.[81]

Pesticides And Neurodegenerative Diseases

Alzheimer's Disease (AD)

Alzheimer's disease (AD) is the most common neurological disease and the most common form of dementia.[82] This progressive disease causes memory loss, cognitive decline, and increased disruption of daily life and independence where changes in the brain result in the irreversible loss of neurons and abnormal protein clumps which form plaques between and tangles within the neurons.[83] A decrease in neurotransmitters shrinks the brain, and causes cell death which leads to cognitive dysfunction and other issues.[84]

Even low-level pesticide exposure to pesticides like organophosphates and glyphosate and linked to elevated risk of AD.[85]

Chronic exposure to pesticides such as parathion, hexachlorocyclohexane, and aldrin result in an increased risk of dementia and the subsequent onset of Alzheimer's disease later in life.[86,87]

This risk is increased in agricultural workers and people living near agricultural areas where pesticides are used.[88]

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[78] https://bipartisanpolicy.org/download1-The-Science-of-Early-Childhood.pdf
[79] https://pmc.ncbi.nlm.nih.gov/articles/PMC4247335/pdf/nihms583215.pdf
[80] https://www.michigan.gov/-/media/Project/Websites
[81] https://pmc.ncbi.nlm.nih.gov/articles/PMC8715263/
[82] https://www.cdc.gov/alzheimers-dementia/about/index.html
[83] https://www.sciencedirect.com/topics/neuroscience/alzheimers-disease
[84] https://pmc.ncbi.nlm.nih.gov/articles/PMC5007474/
[85] https://beyondpesticides.org/study-finds-connection-between-pesticide-exposure-and-alzheimers
[86] https://pmc.ncbi.nlm.nih.gov/articles/PMC10452640/#
[87] https://www.sciencedirect.com/science/article/abs/pii/S0378427420300771
[88] https://www.nature.com/articles/s41514-018-0033-3

Mild cognitive impairment is considered a prodromal phase of cognitive decline that can rapidly develop into emergency Alzheimer's disease (AD) if left untreated and farmers as well as gardners are at the highest risk of these harmful effects following exposure to such pesticides.[89]

Parkinson's Disease (PD)

Parkinson's disease (PD) is the second most common neurodegenerative disease, causing tremors at rest, the inability to move voluntarily, slurred speech, and the stiffening of muscles which get progressively worse.[90] There is a direct connection between PD and diminished dopamine levels and neurons.[91]

Rates of PD increase with pesticide exposure, especifically diquat dibromide and organophosphates.[92]

Amyotrophic Lateral Sclerosis (ALS)

Amyotrophic lateral sclerosis (ALS) is a fast-moving neurodegenerative disease that attacks nerve cells in the brain and spinal cord, causing progressive muscle weakness and atrophy with a median survival time of 2-5 years.[93]

It is estimated that global incidences of ALS will increase 69% by 2040 with pesticide exposure a significant cause.[94]

Exposure to commonly used pesticides increases the chance of developing ALS in residential locations, disproportionately harming farmers and their children.[95]

Pesticide Usage And Breast Cancer

Pesticides have negative effects on the endocrine system and have also been known to cause mutations in gene sequencing, which can be passed down through generations.[96] Organochlorine pesticides, which are xeno-estrogens, are likely to induce breast cancer cell growth through estrogen receptors, as its chemical properties allow them to make alterations to hormone receptors in the human body.[97]

Many pesticides, including DDT and DDE, are detected in breast milk which causes toxic residues to be passed down to children from breastfeeding and women who were exposed to these pesticides within their first 14 years of life were five times more

[89] https://pmc.ncbi.nlm.nih.gov/articles/PMC5007474/#sec8
[90] https://my.clevelandclinic.org/health/diseases/8525-parkinsons-disease-an-overview
[91] https://www.sciencedirect.com/science/article/pii/S0896627319302119
[92] https://www.apdaparkinson.org/article/the-relationship-between-pesticides-and-parkinsons/
[93] https://my.clevelandclinic.org/health/diseases/16729-amyotrophic-lateral-sclerosis-als
[94] https://pmc.ncbi.nlm.nih.gov/articles/PMC7977264/
[95] https://beyondpesticides.org/commonly-used-neurotoxic-pesticide-exposure-increases-als-risk
[96] https://doi.org/10.1016/j.scitotenv.2024.172988
[97] https://doi.org/10.1177/0960327116685887

likely to develop breast cancer.[98,99]

Pesticide exposure causes generational harm.

Many of the farmers who utilize pesticides, fungicides, and insecticides do not know correct handling methods and are ignorant to the cost they have in the development of diseases like breast cancer.[100]

Pesticide Usage And Autoimmune Diseases

Many pesticides are known endocrine disruptors, harming hormone functioning, including the thyroid gland, altering the synthesis of endogenous hormones as well as binding and altering the function of many hormone receptors.[101] This disruption increases the risk of autoimmune disease.[102]

Below are 2 examples of pesticide exposure and autoimmune disease.

Lupus, also known as systemic lupus erythematosus (SLE), is a chronic autoimmune disease that can cause pain and inflammation in the body due to the immune system attacking healthy cells, tissues, and organs.[103] Environmental exposure to pesticides is a known trigger for lupus, as they can harm hormonal regulation.[104]

Rheumatoid arthritis (RA) is an autoimmune disorder that occurs when the immune system attacks the body's tissues, harming various body systems, including the eyes, skin, lungs, heart, and even blood vessels.[105] There is a direct link between rheumatoid arthritis and pesticide exposure, particularly pyrethroids, with high levels of exposure increasing the incidence of rheumatoid arthritis in adults.[106]

Farmers have shown a higher risk of developing RA due to their strong exposure to pesticides such as fonofos, carbaryl, and chlorimuron.[107]

Pesticides Usage And Its Effect On Lung Cancer, Chronic Bronchitis, And Asthma

Lung Cancer

Long-term occupational exposure to pesticides increases the risk of lung cancer, which has become the leading cause of cancer related deaths worldwide.[108]

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[98] https://www.bcpp.org/resource/ddt/
[99] https://doi.org/10.4236/abcr.2012.13005
[100] https://biblio.iita.org/documents/S13ArtAbangVegetableNothomNodev.pdf
[101] https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NHEERL&dirEntryId=212273
[102] https://pubmed.ncbi.nlm.nih.gov/37224951/
[103] https://www.mayoclinic.org/diseases-conditions/lupus/symptoms-causes/syc-20365789
[104] https://www.lupus.org/resources/understanding-lupus-environmental-triggers
[105] https://www.mayoclinic.org/diseases-conditions/rheumatoid-arthritis/symptoms-causes/syc-20353648
[106] https://pubmed.ncbi.nlm.nih.gov/36151437/
[107] https://pmc.ncbi.nlm.nih.gov/articles/PMC5744649/
[108] https://pmc.ncbi.nlm.nih.gov/articles/PMC8756132/

The insecticide methomyl is listed by OEHHA as having genotoxic potential, meaning methomyl can cause DNA damage and mutations leading to cancer.[109,110]

Environmental exposure to the insecticide cypermethrin can induce oxidative damage and inflammation in lung tissue with cypermethrin having a metastasis-promoting effect in lung cancer models.[111,112] Cypermethrin is classified as a Group C possible human carcinogen by the EPA.[113] Alpha-cypermethrin is also classified as a Group C possible human carcinogen by the EPA, as exposure can cause lung adenomas.[114] Additionally, alpha-cypermethrin induces pulmonary toxicity by modulation of oxidative damage, inflammation, and fibrotic changes in lung tissues.[115]

Exposure to organophosphates such as diazinon, acephate, malathion, and ethephon can cause the development and progression of lung cancer.[116]

Chronic Bronchitis And Asthma

Farmers have an increased risk for chronic bronchitis because of pesticides, which increases the risk of respiratory infections and COPD.[117,118]

Occupational exposure to pesticides can trigger adult on-set asthma and decreased lung function.[119]

Long term exposure to organochlorines (such as chloropicrin, 1,3 Dichloropropene, and chlorothalonil), organophosphates (such as diazinon, acephate, malathion, ethephon, and thiamethoxam), and carbamates (such as propamocarb hydrochloride and methomyl) are related to development of asthma and asthmatic symptoms.[120]

Both organophosphates and carbamates are directly associated with doctor diagnosed asthma.[121]

Exposure to pyrethroids (such as permethrin, fenpropathrin, cyfluthrin, bifenthrin, alpha-cypermethrin, zeta-cypermethrin, lambda-cyhalothrin, and esfenvalerate) are significantly associated with the development of asthma in adolescent girls.[122]

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[109] https://oehha.ca.gov/media/downloads/pesticides/report/oehhareviewdprmethomylrcdfinal.pdf
[110] https://pubmed.ncbi.nlm.nih.gov/19157059/
[111] https://onlinelibrary.wiley.com/doi/abs/10.1002/tox.21891
[112] https://academic.oup.com/toxsci/article/163/2/454/4870159?login=false
[113] https://www.federalregister.gov/documents/2023-21821/cypermethrin-pesticide-tolerances
[114] https://www.regulations.gov/document/EPA-HQ-OPP-2012-0167-0145
[115] https://onlinelibrary.wiley.com/doi/epdf/10.1002/tox.21891?saml_referrer
[116] https://www.tandfonline.com/doi/abs/10.1080/15569543.2023.2282494
[117] https://pmc.ncbi.nlm.nih.gov/articles/PMC2806052
[118] https://www.hopkinsmedicine.org/health/conditions-and-diseases/chronic-bronchitis
[119] https://link.springer.com/article/10.1007/s11356-023-30174-8
[120] https://www.mdpi.com/2305-6304/9/9/228
[121] https://pmc.ncbi.nlm.nih.gov/articles/PMC3881124/
[122] https://link.springer.com/article/10.1007/s00431-024-05696-z

Neurological Disorders, Epilepsy and Cancer from Organophosphates

Chronic exposure to organophosphates like acephate can cause epileptogenesis which is when a normal brain develops epilepsy after a brain injury.[123]

Organophosphates as a class can cause damage to the nervous system by damaging nerve endings and overall contributing to cerebral disorders.[124]

The United States currently registers 36 organophosphates to be used in homes, agriculture, and veterinary practices.[125]

Children are at a higher risk for organophosphate poisoning with 77,000 babies each day exposed to high levels in baby food such as apple sauce, peaches, and pears.[126] Organophosphate residue is commonly found on crops such as lettuce, peaches, and apples.[127] Organophosphates can cause increased urination, vomiting, memory loss, breathing difficulty, headaches, sweating, cancer, and seizures, as well as symptoms including nausea, vomiting, diarrhea, and trouble breathing.[128,129]

Organophosphates are known to contain carcinogens,[130] leading to childhood cancers[131] and breast cancer.[132] When pregnant women come in contact with organophosphates, their unborn babies are at risk of developing neurological disorders and subsequent birth defects.[133]

Ban Organophosphates

Organophosphates (OP) are chemical substances produced by the process of esterification between phosphoric acid and alcohol.[134] OPs cause harm to insects, humans, plants, and animals and are commonly found in insecticides. Organophosphates are found in most insecticides and are used for mosquito spraying.[135] Currently, the United States registers thirty-six organophosphates to be used in homes, for agriculture, and even veterinary practices.[136]

Organophosphate residue is commonly found on crops such as lettuce.[137] Most Americans have one or more pesticide agents in their bodies and organophosphates

[123] https://www.mdpi.com/1660-4601/16/17/3147
[124] https://www.sciencedirect.com/science/article/abs/pii/S152550502300241X
[125] https://www.epa.gov/sites/default/files/documents/rmpp_6thed_ch5_organophosphates.pdf
[126] https://www.ewg.org/research/overexposed-organophosphate-insecticides-childrens-food
[127] https://www.ewg.org/research/overexposed-organophosphate-insecticides-childrens-food
[128] https://www.medicalnewstoday.com/articles/320350#symptoms
[129] https://cwhl.vet.cornell.edu/disease/organophosphate-toxicity
[130] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734986/#R1
[131] https://www.cdc.gov/nceh/clusters/fallon/organophosfaq.htm
[132] https://www.mdpi.com/1660-4601/17/14/5030
[133] https://earthjustice.org/feature/organophosphate-pesticides-united-states
[134] https://www.ncbi.nlm.nih.gov/books/NBK499860/
[135] https://www.cdc.gov/biomonitoring/OP-DPM_FactSheet.html
[136] https://www.epa.gov/sites/default/files/documents/rmpp_6thed_ch5_organophosphates.pdf
[137] https://www.ewg.org/research/overexposed-organophosphate-insecticides-childrens-food

contain carcinogens which puts everyone at risk.[138] Organophosphates are believed to cause childhood cancers and breast cancer.[139,140] When pregnant women come in contact with organophosphates their unborn babies have a risk of developing neurological disorders and experiencing birth defects.[141]

Children are at a higher risk for organophosphate poisoning. 77,000 babies each day are exposed to high levels of organophosphates in baby food such as apple sauce, peaches, and pears.[142] Organophosphates can also cause increased urination, vomiting, memory loss, breathing difficulty, headaches, sweating, cancer, and seizures.[143] Wildlife and domesticated animals are both at risk of being exposed to organophosphates, as they can experience nausea, vomiting, diarrhea, and trouble breathing.[144] Humans and animals can be poisoned by ingestion, dermal contact, and inhalation.[145] In the past 10 years, the EPA has banned the use of two types of organophosphates for residential use: parathion and diazinon.[146] Organophosphates are toxic and extremely harmful to humans and wildlife alike.

Chlorpyrifos is one type of organophosphate that is shown to harm human health and the environment. Children and farmworkers are the most at risk for illness and disease due to the ability of even small amounts of chlorpyrifos to be toxic.[147] The EPA banned the use of chlorpyrifos on any food sold in the United States in 2022, and it has been banned from residential use for over two decades. However, this is the only organophosphate pesticide that the EPA has addressed.[148] More needs to be done concerning a ban on all organophosphates due to the risks to human health and the environment. Over a dozen organophosphates are used on food in the United States, despite the fact that they are acutely toxic and can cause learning disabilities and other neurodevelopmental harm to children.[149]

Ban Glyphosate

Glyphosate is already banned in 12 countries because of its toxicity to both humans and wildlife.[150]

Glyphosate is highly disruptive to our health, metabolic processes and systems with heavy correlations between exposure to this toxic chemical and hypertension, stroke, diabetes, obesity, lipoprotein metabolism disorder, Alzheimer's, dementia,

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[138] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734986/#R1
[139] https://www.cdc.gov/nceh/clusters/fallon/organophosfaq.htm
[140] https://www.mdpi.com/1660-4601/17/14/5030
[141] https://earthjustice.org/feature/organophosphate-pesticides-united-states
[142] https://www.ewg.org/research/overexposed-organophosphate-insecticides-childrens-food
[143] https://www.medicalnewstoday.com/articles/320350#symptoms
[144] https://cwhl.vet.cornell.edu/disease/organophosphate-toxicity
[145] https://www.ncbi.nlm.nih.gov/books/NBK470430/
[146] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7399930/
[147] https://earthjustice.org/press/2022/voices-across-the-u-s-demand-ban-on-brain-harming-pesticide
[148] https://www.nrdc.org/bio/jennifer-sass/epa-bans-chlorpyrifos-food-crops
[149] https://earthjustice.org/action/ban-organophosphates
[150] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/

Parkinson's, multiple sclerosis, autism, inflammatory bowel disease, intestinal infections, renal disease, kidney failure, cancers of the thyroid, liver, bladder pancreas kidney, and myeloid leukemia.[151]

Glyphosate Exposure

It is estimated that 81% of the US population has had recent exposure to glyphosate from skin contact and air contamination to the food we eat, especially corn, legumes, and grain products like bread and cereal.[152]

Glyphosate is found in 80-95% of oat-based foods, including pasta, cereal, pizza and crackers.[153] It was found in 63% of corn, 67% of soybeans, and 60% of beans and lentils.[154,155] It's even found in beer and wine.[156]

Glyphosate is TOXIC

Glyphosate increases the risk of cancer, especially non-Hodgkin's lymphoma.[157]

A 2019 study showed glyphosate increased the chances of non-Hodgkin's lymphoma by 41%.[158]

There is also significant evidence tying glyphosate to many other serious health problems,[159] including Parkinson's disease[160] and autism.[161]

The International Agency for Research on Cancer (IARC) designated glyphosate as potentially carcinogenic in 2015.[162] In 2018, California listed glyphosate under Proposition 65 as a carcinogen.[163] Glyphosate is banned in 12 countries.[164]

Recent research reveals that childhood exposure to glyphosate is linked to liver inflammation and metabolic syndrome in early adulthood; these conditions can lead to liver cancer, diabetes, and cardiovascular disease later in life.[165]

Even at low doses, glyphosate is also an endocrine disruptor, which is linked to thyroid, breast, ovarian, and prostate cancers, as well as reproductive disorders.[166,167]

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[151] https://www.organic-systems.org/journal/92/abstracts/Swanson-et-al.html
[152] https://www.cdc.gov/biomonitoring/featured-work/diet-is-a-factor-in-contact-with-glyphosate.html
[153] https://www.ewg.org/news-insights/news/glyphosate-contamination-food-goes-far-beyond-oat-products
[154] https://www.ewg.org/release/fda-glyphosate-testing-conspicuously-skips-oats-wheat-products
[155] https://www.ewg.org/foodnews/five-lesser-known-foods-high-in-pesticides.php
[156] https://www.usatoday.com/story/new-pirg-study-says-weed-killer-in-your-wine-beer/2943880002/
[157] https://www.atsdr.cdc.gov/toxprofiles/tp214.pdf
[158] https://www.sciencedirect.com/science/article/abs/pii/S1383574218300887
[159] https://beyondpesticides.org/dailynewsblog/2019/09/health
[160] https://beyondpesticides.org/dailynewsblog/2020/05/glyphosate-in-roundup-linked-to-parkinsons-disease/
[161] https://www.bmj.com/content/364/bmj.l962
[162] https://beyondpesticides.org/dailynewsblog/2015/03/glyphosate-classified-carcinogenic
[163] https://beyondpesticides.org/dailynewsblog/2018/04/court-affirms-listing-glyphosate-probable-carcinogen/
[164] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[165] https://publichealth.berkeley.edu/news-media/research-highlights/
[166] https://pubmed.ncbi.nlm.nih.gov/31295307/
[167] https://pubmed.ncbi.nlm.nih.gov/19539684/

Research clearly shows glyphosate harms female and male fertility in both humans and animals and is shown to induce alterations in male and female human reproductive tracts.[168,169]

Glyphosate is especially damaging to any organism undergoing hormonal changes: fetuses, babies, children, adolescents, and the elderly.[170]

Glyphosate is so damaging that it may cause multi-generation harm to women's reproductive systems, affecting their children and grandchildren.[171]

Glyphosate Harms Wildlife

Glyphosate is also very dangerous to wildlife. It has also been found to be deadly to bees and destructive to butterfly habitats, especially monarchs.[172,173]

The EPA draft biological evaluation of glyphosate stated it is likely to injure or kill 93% of the plants and animals protected under the Endangered Species Act.[174]

Bayer-Monsanto Knows Glyphosate is POISON

Bayer-Monsanto knew for decades that glyphosate was toxic.[175] It was proven in court that Bayer-Monsanto ghost-wrote favorable studies, interfered with regulators, set up a fake "academic" website to defend glyphosate, and attacked scientists and journalists who disagreed with them.[176]

The judge stated in the verdict that Bayer-Monsanto "acted with malice, oppression or fraud and should be punished for its conduct."[177]

Much of the evidence from the trial can be seen in the Monsanto papers, internal documents that showed that Bayer-Monsanto not only knew it was toxic, but also actively campaigned against scientists and research studies that showed otherwise.[178]

In June 2020, Bayer-Monsanto announced a $10 billion settlement to deal with over 125,000 lawsuits for cancer.[179]

In February 2025, a Philadelphia jury awarded $2.25 billion in damages for blood cancer from Roundup.[180]

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[168] https://pubmed.ncbi.nlm.nih.gov/34831302/
[169] https://pubmed.ncbi.nlm.nih.gov/34305812/
[170] https://pmc.ncbi.nlm.nih.gov/articles/PMC3620733/
[171] https://pubmed.ncbi.nlm.nih.gov/36611967/
[172] https://www.pnas.org/doi/full/10.1073/pnas.1803880115
[173] https://geneticliteracyproject.org/2020/09/15/bayers-roundup-glyphosate-weedkiller-wiping-out-monarch
[174] https://biologicaldiversity.org/w/news/press-releases/epa-finds-glyphosate-likely-injure-or-kill-93-endanger
[175] https://www.sierraclub.org/sierra/monsanto-s-big-lie-about-roundup-and-system-enabled-it
[176] https://beyondpesticides.org/dailynewsblog/2017/06/inspector-general-investigates
[177] https://www.usatoday.com/jury-orders-monsanto-pay-289-million-cancer-patient-roundup-lawsuit
[178] https://pubmed.ncbi.nlm.nih.gov/29843257/
[179] https://beyondpesticides.org/dailynewsblog/2020/06/bayer-monsanto-committed-to-continued-sales
[180] https://apnews.com/article/weed-killer-roundup-philadelphia-verdict-cancer

In March 2025, a jury in Georgia found Bayer-Monsanto liable for over $2 billion in damages to a plaintiff who got cancer from using Roundup.[181]

Ban Neonicotinoid Pesticides

CleanEarth4Kids.org calls for the ban of neonicotinoid pesticides in the United States of America, including neonicotinoid-treated seeds. Recognizing the harm to health, pollinators, wildlife, aquatic life, water, and the environment, as well as realizing the economic and social cost of neonicotinoid pesticides, the European Union (EU) has banned all outdoor uses of neonicotinoid pesticides, including treated seeds.[182,183]

Neonicotinoid pesticides are a threat to public health,[184] children's health,[185] brain development,[186] learning ability, and neonicotinoids harm our water,[187] aquatic life,[188] wildlife, earthworms,[189] soil,[190] bees, and other pollinators vital for ecosystems, biodiversity, food sources, crops, and our economy in Massachusetts. Neonicotinoid pesticides must be banned.

Neonicotinoid pesticides are a threat to children's health, even at low doses.[191] Research shows that once ingested, they can accumulate in children's cerebrospinal fluid, plasma, and urine.[192] Neonicotinoids are known endocrine disruptors[193] and can cause negative reproductive outcomes,[194] such as low birth weight,[195] preterm birth,[196] and loss of pregnancy.[197] Neonics can harm the nervous system of different species of mammals, including humans."[198] They are linked to developmental and neurological problems and increased risk of Type 1 diabetes.[199,200]

Neonicotinoid pesticides are also toxic[201] to bees,[202] insects, birds,[203] bats,[204] and other pollinators. A single neonicotinoid-treated seed is enough to kill a songbird.[205]

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[181] https://www.spokesman.com/stories/2025/mar/22/georgia-jurors-award-21-billion-verdict-against-ba
[182] https://friendsoftheearth.eu/news/eu-bans-bee-killing-neonic-pesticides/
[183] https://curia.europa.eu/juris/document/document.jsf?text=&docid=269405&pageIndex=0&doclang=
[184] https://www.sciencedirect.com/science/article/pii/S0160412022001271
[185] https://www.regulations.gov/document/EPA-HQ-OPP-2012-0329-0102
[186] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3290564/
[187] https://www.sciencedirect.com/science/article/pii/S0160412014003183
[188] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8431157/
[189] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7071835/
[190] https://www.cebc.cnrs.fr/wp-content/uploads/publipdf/2021/PAEE305_2021.pdf
[191] https://www.regulations.gov/document/EPA-HQ-OPP-2012-0329-0102
[192] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00821-z
[193] https://academic.oup.com/humupd/article/18/3/284/610048
[194] https://academic.oup.com/occmed/article/56/8/521/1465431
[195] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0219208
[196] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3279127/
[197] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0219208
[198] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8395098
[199] https://ehp.niehs.nih.gov/doi/10.1289/EHP515
[200] https://pubmed.ncbi.nlm.nih.gov/35902493/
[201] https://link.springer.com/article/10.1007/s11356-017-0341-3
[202] https://xerces.org/sites/default/files/2018-05/16-022_01_XercesSoc_How-Neonicotinoids-Can-Kill-Bees_web
[203] https://ocm.auburn.edu/newsroom/news_articles/2020/10/141359-miao-bird-study.php
[204] https://cwf-fcf.org/en/resources/research-papers/BatNeonicsReport_en.pdf
[205] https://abcbirds.org/neonics

Neonicotinoids also poison bats through their food supply and negatively impact echolocation. Neonicotinoid pesticides are the leading cause of harm to pollinators over the past 20 years which is a direct threat to agriculture.[206] Recognizing the harm to health, pollinators, wildlife, aquatic life, water, and the environment, as well as realizing the economic and social cost of neonicotinoid pesticides, the European Union (EU) has banned all outdoor uses of neonicotinoid pesticides, including treated seeds.[207,208]

Neonicotinoid pesticides easily get into our water and can last for years in soil, contaminating the environment.[209] As one study put it: "Neonics are persistent in the environment: They have been found in soil, dust, wetlands, groundwater, nontarget plants and vertebrate prey, and foods common to the American diet, including wild and aquacultured marine species."[210] Research shows half the US population over 3 years old are exposed to neonicotinoids on a regular basis.[211]

Neonicotinoids are systemic, in every part of a plant, from root to leaf to pollen to seeds, making the whole plant poisonous to insects. This poison is water-resistant and cannot be washed off.[212] 95% or more of the active ingredient in neonics stay in the soil for years, spreading via rain and irrigation to pollute soil, water, and even other plants.[213]

For example, the neonicotinoid pesticide imidacloprid is banned in 29 countries, but is commonly used in parks, schools, golf courses, homes, and farms in the United States.[214] Imidaclorpid, like other neonicotinoid pesticides, drifts to surrounding areas.[215] According to the EPA, nearly 80% of all endangered species are likely to be harmed by imidacloprid, and the critical habitats of 658 species are likely to be impacted.[216]

Neonicotinoid pesticides are toxic to all aquatic life with long-term effects on the aquatic environment.[217] Neonicotinoid pesticides are in our water, soil, and food. Neonicotinoid residue is found on most fruits and vegetables in the US.[218] Unlike many other pesticides, neonicotinoids cannot be washed off of food before eating.[219] According to the FDA, over half of our food has the residue of at least 1 pesticide with

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[206] https://www.theguardian.com/environment/2020/jul/29/bees-food-crops-shortage-study
[207] https://friendsoftheearth.eu/news/eu-bans-bee-killing-neonic-pesticides/
[208] https://curia.europa.eu/juris/document/document.jsf?text=&docid=269405&pageIndex=0&doclang=
[209] https://www.sciencedirect.com/science/article/abs/pii/S0048969717324397
[210] https://ehp.niehs.nih.gov/doi/10.1289/ehp515
[211] https://www.sciencedirect.com/science/article/abs/pii/S0013935119303524
[212] https://xerces.org/systemic-insecticides-reference-and-overview
[213] https://www.nrdc.org/bio/daniel-raichel/california-must-regulate-toxic-neonic-coated-crop-seeds
[214] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[215] https://www.epa.gov/sites/default/files/2020-01/documents/imidacloprid_pid_signed_1.22.2020.pdf
[216] https://www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-imidacloprid
[217] http://www.centerforfoodsafety.org/files/neonic-water-report-final-242016_web_33288.pdf
[218] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-018-0441-7
[219] https://pubag.nal.usda.gov/catalog/4668856

10% having levels above legal limits.[220] 90% of Americans have detectable pesticide levels.[221]

Neonicotinoid pesticides can also impact the brain development of children, especially during the prenatal period. Exposure could affect various emotional, motor, and neurological functions.[222] Of a group of children (ages 3-18), nearly 93% of the collected plasma and 64% of the collected cerebrospinal fluid samples contained at least one neonicotinoid.[223]

Additionally, there are reported links between neonic exposures and malformations of the developing heart and brain, as well as a cluster of symptoms including memory loss and finger tremors.[224]

Banning Neonicotinoids Protects Our Food Supply and Future

Pollinators across the US are on the edge of extinction.[225] This is an immediate threat to the Massachusetts environment and biological diversity, and a direct threat to agriculture.[226] Pollinators are "responsible for helping 90% of the world's flowering plants reproduce" and nearly 75% of food crops, as recognized by the EPA and FAO.[227,228]

Pollinators play a critical role in maintaining ecosystem health, food supplies, and the economy.[229] In the United States alone, honey bees and other pollinators contribute approximately $200 billion annually in ecological services by facilitating the reproduction of plants.[230] Pollinators are essential to the production of the fruits and vegetables that humans and other organisms in the food chain rely on for their sustenance.[231] Without these pollinators, our food supply would be severely limited.[232] Additionally, pollinators contribute to clean air, soil stabilization, and oxygen supplies, making them crucial for the overall health of our ecosystem.[233] Native bees are vital for pollination, but they are not the only pollinators. Other important pollinators include native beetles, flies, butterflies, wasps, moths, and hummingbirds. These diverse groups of pollinators play a crucial role in maintaining the health and productivity of ecosystems and the agricultural systems rely on them.

Ban Dicamba

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[220] https://www.fda.gov/food/pesticides/pesticide-residue-monitoring-program-reports-and-data
[221] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734986/#R1
[222] https://pubmed.ncbi.nlm.nih.gov/31520389/
[223] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00821-z
[224] https://ehp.niehs.nih.gov/doi/full/10.1289/EHP515
[225] https://grist.org/food/mass-extinction-threatens-the-worlds-pollinators-and-its-crops/
[226] https://www.theguardian.com/environment/2020/jul/29/bees-food-crops-shortage-study
[227] https://www.epa.gov/sciencematters/protecting-pollinators
[228] https://www.fao.org/pollination/background/bees-and-other-pollinators/en/
[229] https://www.nps.gov/subjects/pollinators/what-is-a-pollinator.htm
[230] https://www.farmers.gov/blog/value-birds-and-bees
[231] https://www.pollinator.org/pollinators#
[232] https://ento.psu.edu/research/centers/pollinators/resources-and-outreach/pollinators-101
[233] https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/

Dicamba is an organophosphate that is highly volatile and can easily become airborne.[234] Dicamba is found in over 1,000 different herbicide products in the United States. It is commonly used to selectively control broadleaf weeds in corn, soy, and other crops.[235]

Organophosphates (OP) are chemical substances produced by the process of esterification between phosphoric acid and alcohol.[236] These chemicals are harmful to insects, humans, plants, and animals and are commonly found in many insecticides.[237] Organophosphates are found in most insecticides and are frequently used for mosquito control.[238] In the United States, thirty-six organophosphates are approved to be used in homes, agriculture, and veterinary practices.[239]

Organophosphate residue is commonly found on crops such as lettuce, peaches, and apples.[240] A significant number of Americans have at least one or more pesticide agents in their bodies. Multiple organophosphates are carcinogenic to humans and animals, and many more still need to be adequately tested.[241]

Organophosphates are believed to greatly contribute to childhood cancers and breast cancer.[242,243] If pregnant women come in contact with organophosphates, their unborn babies have a risk of developing neurological disorders and birth defects.[244] Children are at a higher risk for organophosphate poisoning; 77,000 babies each day are exposed to high levels of organophosphates in baby food such as apple sauce, peaches, and pears.[245] The smaller size of children compounded with less-developed immune and nervous systems creates a more serious health risk than adults.[246]

Organophosphates can also cause increased urination, vomiting, memory loss, breathing difficulty, headaches, sweating, and seizures.[247] Both wildlife and domesticated animals are at risk of exposure to organophosphates; OP exposure in animals can cause experiences of nausea, vomiting, diarrhea, and trouble breathing.[248] Humans and animals can be poisoned by ingestion, dermal contact, and inhalation.[249] In the past 10 years, the EPA has only banned the use of two types of organophosphates – parathion and diazinon – for residential use.[250]

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[234] https://www.centerforfoodsafety.org/issues/6459/pesticides/dicamba
[235] https://www.mda.state.mn.us/dicamba#:~:text=DicambaselectiveherbicidecropsMinnesota.
[236] https://www.ncbi.nlm.nih.gov/books/NBK499860/
[237] https://www.dcceew.gov.au/environment/protection/npi/substances/fact-sheets/phosphoric-acid#:~
[238] https://www.cdc.gov/biomonitoring/OP-DPM_FactSheet.html
[239] https://www.epa.gov/sites/default/files/documents/rmpp_6thed_ch5_organophosphates.pdf
[240] https://www.ewg.org/research/overexposed-organophosphate-insecticides-childrens-food
[241] https://monographs.iarc.who.int/wp-content/uploads/2018/07/mono112.pdf
[242] https://www.cdc.gov/nceh/clusters/fallon/organophosfaq.htm#:~:text=Some%20studies%20in%20adults
[243] https://www.mdpi.com/1660-4601/17/14/5030
[244] https://earthjustice.org/feature/organophosphate-pesticides-united-states
[245] https://www.supermarketnews.com/archive/study-baby-food-has-unsafe-pesticide-levels
[246] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6982419/#:~:text=Infants%20and%20children%20are
[247] https://www.medicalnewstoday.com/articles/320350#symptoms
[248] https://cwhl.vet.cornell.edu/disease/organophosphate-toxicity
[249] https://www.ncbi.nlm.nih.gov/books/NBK470430/Organophosphatepesticideexposure
[250] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7399930/

A 2020 epidemiological study followed nearly 50,000 pesticide applicators in Iowa and North Carolina for over two decades, with over half of the applicators using dicamba. This study proved a relation between high dicamba exposure and increased risk of cancer, especially leukemia, liver cancer, and intrahepatic bile duct cancer.[251] Dicamba can alter liver function in ways that promote liver cancer and tumors in combination with other carcinogens.[252,253] Additionally, dicamba was found to cause DNA mutations[254] and induce oxidative stress[255] through DNA damage, which are both conditions that can cause cancer.[256] Oxidative stress has also been linked to neurodegenerative disease, cardiovascular disease, diabetes mellitus, and many other pathologies.[257] The reckless decisions made by the EPA and state government agencies concerning dicamba need to come to an end.[258] In order to protect human, plant, and animal species from harmful dicamba exposure, it needs to be banned now.

Ban 2,4-D

2,4-D is in the phenoxy class of chemicals and is classified as a herbicide.[259] This herbicide alters plant cells and ends up killing them.[260] 2,4-D is widely used and is one of two ingredients in Agent Orange, a dangerous chemical mixture used by the military on forests during the Vietnam War, which has been shown to cause many types of cancer and other serious health issues like Parkinson's disease, hypothyroidism, type 2 diabetes, and ischemic heart disease.[261,262]

There has been a 67% increase in the amount of 2,4-D that has been applied in agriculture in the past 10 years, which has greatly increased exposure rates.[263] 1 in 3 Americans have detectable concentrations of 2,4-D in their bodies.[264] This toxic herbicide is linked to cancer, endocrine disruption, reproductive effects, neurotoxicity, kidney/liver damage, and birth/developmental effects and is toxic to birds, fish, and bees.[265] Children ages 6-11 are twice as likely to be harmed by 2,4-D due to various factors such as playing outside as well as increased sensitivity to chemical exposures. A recent study predicts that the exposure to 2,4-D will rise in vulnerable populations if we do not act now to ban this toxic herbicide.[266]

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[251] https://academic.oup.com/ije/article/49/4/1326/5827818
[252] https://pubmed.ncbi.nlm.nih.gov/7657066/
[253] https://pubmed.ncbi.nlm.nih.gov/9863012/
[254] https://pubmed.ncbi.nlm.nih.gov/18676083/
[255] https://pubmed.ncbi.nlm.nih.gov/16828255/
[256] https://www.sciencedirect.com/science/article/pii/S1535610820302749
[257] https://www.sciencedirect.com/science/article/pii/S2213231715000038
[258] https://biologicaldiversity.org/w/news/press-releases/national-institutes-health-study-links-dicamba
[259] https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/fs_PC-030001_30-Jun-05.pdf
[260] https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/TRACKINGASSESSMENT/ENVIRO
[261] https://www.epa.gov/ingredients-used-pesticide-products/24-d
[262] https://www.va.gov/disability/eligibility/hazardous-materials-exposure/agent-orange/
[263] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00815-x
[264] https://beyondpesticides.org/dailynewsblog/2022/02/one-third-of-americans-have-hazardous-weed-killer
[265] https://www.beyondpesticides.org/resources/pesticide-gateway?pesticideid=1
[266] https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00815-x

The International Agency for Research on Cancer (IARC) designated 2,4-D as possibly carcinogenic in 2015, despite the EPA claiming that it is not likely to be carcinogenic to humans.[267]

2,4-D and Dicamba Harm Pollinators

2,4-D is toxic to bees and can inhibit bees' ability to fly.[268] It can also cause heart contractions in honey bees.[269] 2,4-D indirectly harms pollinators by destroying their food sources and causing death by starvation.[270] Weeds are killed by 2,4-D but they are a vital food source for pollinators and they rely on them for survival.[271]

Dicamba causes plants to bloom less,[272] resulting in fewer visitations by pollinators. This can lead to issues with reproduction, navigation, and memory of pollinators and habitats, and exposure to pathogens and diseases.[273] Dicamba drifts can also damage natural areas and wildlife insects, including species that bees and other pollinators rely on for survival.[274]

Ban Pyrethroid Insecticides

Pyrethroid insecticides are toxic to pollinators.[275] Although pyrethroids are sprayed on crops and in the air to control mosquitos,[276] they are one of the main toxins that cause colony collapse disorder in bees.[277] Pyrethroids are also extremely toxic to fish, especially in their juvenile stages.[278]

Exposure to pyrethroids can cause dizziness, headaches, muscle spasms, loss of consciousness, and convulsions.[279] Many pyrethroid insecticides are linked to autism, Alzheimer's, and Parkinson's diseases and are known to be highly toxic to pollinators and fish.[280] The only current protective mandate by the EPA is a 10- to 25-foot-wide buffer of permanent vegetation between fields sprayed with the pesticides and any body of water. This is drastically smaller than its original recommendation for a 66-foot wide buffer.[281]

There have been other EPA decisions concerning pyrethroids that have lowered protections and mandates, despite the links between the harmful chemicals and

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[267] https://www.iarc.who.int/wp-content/uploads/2018/07/pr236_E.pdf
[268] https://www.tandfonline.com/doi/pdf/10.1080/00288233.1964.10416414
[269] https://rachelcarsonlandmarkalliance.org/rcla-reporting/a-herb
[270] https://www.xerces.org/pesticides/understanding-pesticides
[271] https://www.oneearth.org/six-reasons-why-you-should-love-weeds/#:~:text=1.,crops%20wo
[272] https://setac.onlinelibrary.wiley.com/doi/10.1002/etc.3169
[273] https://pubmed.ncbi.nlm.nih.gov/26184786/
[274] https://biologicaldiversity.org/w/news/press-releases/farmers-conservationists-
[275] http://npic.orst.edu/factsheets/pyrethrins.html
[276] https://wwwn.cdc.gov/TSP/PHS/PHS.aspx?phsid=785&toxid=153
[277] https://www.sciencedaily.com/releases/2020/11/201124152820.htm#:~:text=Pyrethroids
[278] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8300353/
[279] https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=786&toxid=153
[280] https://www.regulations.gov/document/EPA-HQ-OPP-2008-0331-0176
[281] https://biologicaldiversity.org/w/news/press-releases/trump-epa-proposes-weaker-protections-toxic

subsequent learning disabilities and neurological diseases.[282] For instance, the agency decided to increase threefold the amount of pyrethroid exposure considered safe for children based on confidential pesticide-industry studies and a model developed by pyrethroid pesticide companies. Two separate scientific advisory panels with peer-reviewed, independent studies displayed contradictory evidence but were ignored by the EPA.[283,284]

Ban All Toxic Pesticides That Increase the Risk of Children's Cancer

Two California studies showed elevated childhood cancer risk from 13 agricultural pesticides applied up to 2.5 miles away (bromacil, chlorothalonil, dimethoate, diuron, kresoxim-methyl, linuron, metam-sodium, paraquat dichloride, phosmet, propanil, propiconazole, thiophanate-methyl, triforine), but only four are classified as Restricted in California.[285,286]

Around the world, 11 of the 13 are banned or not approved in other countries and 10 of them are banned in at least 28 countries.[287]

1. **Ban the Herbicide Bromacil**

Children poisoned by bromacil are at a major risk of developing unilateral retinoblastoma, or cancer in one eye.[288] Bromacil is known to cause eye, nose, and throat irritation in workers handling formulations.[289]

Bromacil is also linked to potential liver cancer in humans and animals.[290] Bromacil is very toxic to aquatic life.[291]

Bromacil is banned in 33 countries.[292]

2. **Ban the Organochlorine Chlorothalonil**

Chlorothalonil is registered on a variety of sites which include field, vegetable, and orchard crops as well as synthetic turf.[293] Exposure to high doses includes vomiting, rapid breathing, vomiting, and loss of muscle coordination. Long-term exposure classifies the chemical as a human carcinogen.[294] Long-term toxicity to people and

[282] https://biologicaldiversity.org/w/news/press-releases/trump-administration-ends-long-standing-
[283] https://pubmed.ncbi.nlm.nih.gov/8240001/
[284] https://pubmed.ncbi.nlm.nih.gov/8184428/
[285] https://www.sciencedirect.com/science/article/abs/pii/S1438463919306212?via%3Dihub
[286] https://pubmed.ncbi.nlm.nih.gov/33798513/
[287] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[288] https://newsroom.ucla.edu/releases/pesticides-increase-retinoblastoma-cancer-risk-children
[289] https://www.cdc.gov/niosh/docs/81-123/pdfs/0063.pdf
[290] https://nj.gov/health/eoh/rtkweb/documents/fs/0251.pdf
[291] https://alligare.com/wp-content/uploads/2018/08/alligare-bromacil-80-sds-v.3.0-080618.pdf
[292] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[293] https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/fs_PC-081901_1-Apr-99.pdf
[294] https://www.state.nj.us/dep/enforcement/pcp/bpc/wps/chlorothalonil.pdf

other mammals has been recorded according to the EPA, along with having a high risk of becoming runoff, which impacts water quality.[295]

Chlorothalonil is banned in 34 countries.[296]

3. Ban the Organophosphate Dimethoate

Dimethoate is an insecticide that is effective against a variety of insects and mites when mass applied to crops. It can be found on crops such as apples, corn, grapes, lemons, tomatoes, tangerines, wheat, and other fruits and vegetables.[297] It is available in aerosol spray, dust, emulsifiable concentrate, and ULV concentrate formulations. Repeated exposure in workers is linked to impaired memory and concentration, disorientation, severe depression, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking, drowsiness or insomnia, headaches, nausea, weakness, loss of appetite, and malaise.[298]

Exposure has been linked to cancer, endocrine disruption, reproductive toxicity, and neurodevelopmental harm.[299,300] Dimethoate is also highly toxic to birds, aquatic organisms, and insects.[301,302]

Dimethoate is banned in 34 countries.[303]

4. Ban the Herbicide Diuron

The EPA categorizes diuron as a "known/likely" human carcinogen.[304] Exposure to Diuron causes irritation to the eyes, skin, nose, and throat.[305] It also can cause birth defects in a developing fetus and can negatively impact liver function. Diuron is a broad-spectrum herbicide most often used to control grasses and weeds on lands that are not supposed to have an abundance of vegetation, like on highways and industrial sites.[306] Biologically, diuron is an active pollutant and present in soil, water, and sediments, and "could be a potential poisoning pesticide contaminant of groundwater".[307]

Diuron is banned in 31 countries.[308]

5. Ban the Fungicide Kresoxim-methyl

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[295] https://ipm.ucanr.edu/TOOLS/PNAI/pnaishow.php
[296] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[297] https://pubchem.ncbi.nlm.nih.gov/compound/Dimethoate
[298] https://golsamco.com/doc/products/pdf/Dimethoate1.pdf
[299] https://earthjustice.org/feature/organophosphate-pesticides-united-states/dimethoate
[300] https://nj.gov/health/eoh/rtkweb/documents/fs/0733.pdf
[301] https://www3.epa.gov/pesticides/endanger/litstatus/effects/redleg-frog/dimethoate/analysis.pdf
[302] https://pubmed.ncbi.nlm.nih.gov/26613988/
[303] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[304] https://wsdot.wa.gov/sites/default/files/2021-10/Herbicides-factsheet-Diuron.pdf
[305] https://nj.gov/health/eoh/rtkweb/documents/fs/0819.pdf
[306] https://alligare.com/products/diuron-80-df/
[307] https://pubmed.ncbi.nlm.nih.gov/15276715/
[308] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/

Kresoxim-methyl, the chemical commonly used in fungicides, is a known carcinogen.[309] Kresoxim-methyl is often used on apples, cherries, grapes, pears, pome fruits, and pecans.[310] The ingestion of these fruits can introduce the carcinogen orally. Side effects from exposure may include drowsiness or dizziness.[311] Children prenatally exposed to the chemical can increase the risk of all kinds of retinoblastoma.[312]

Kresoxim-methyl is also known to be toxic to aquatic life, as it affects larval development,[313] alters levels of oxidative stress,[314] and more.[315]

6. Ban the Fumigant Metam-sodium

Sodium N-methyldithiocarbamate, more commonly known as metam-sodium, is a chemical used as a soil fumigant, fungicide, pesticide, and herbicide in agriculture.[316] Metam-sodium is used to sterilize soil before planting a variety of crops.

Despite proof of the fumigant being an irritant as well as a likely carcinogen, the EPA has continued to allow its widespread use in agriculture.[317]

Exposure to metam-sodium is linked to illness among non-farmers and farmers alike, with farmers having higher rates of exposure and therefore higher rates of illness.[318] Exposure can lead to birth defects and fetal death, as it is a commonly known mutagen.[319] Metam-sodium is also toxic to fish and other aquatic organisms.[320] When metam-sodium is met with enough water, it decomposes to form a volatile compound called methyl isothiocyanate (MITC), which then contributes to the increasing levels of tropospheric ozone (O3).[321]

Public concern over the pesticide was heightened when 19,500 gallons were spilled in California's Sacramento River on July 14, 1991.[322] If the chemical comes into contact with skin that has been perspiring, it can become a volatile compound, causing irritation to the eyes, respiratory system, and lungs.

Since the 1980s, metam-sodium has been one of the most widely used soil fumigants and pesticides in the country, especially in the farming of potatoes.[323,324] MITC and all

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[309] https://oehha.ca.gov/proposition-65/crnr/chemical-listed-effective-february-3-2012-known-state-california
[310] https://oehha.ca.gov/proposition-65/crnr/notice-intent-list-kresoxim-methyl-and-tetraconazole
[311] https://www.agilent.com/cs/library/msds/PST-2405K1000_NAEnglish.pdf
[312] https://www.sciencedirect.com/science/article/pii/S1438463922001080
[313] https://www.sciencedirect.com/science/article/abs/pii/S004565351832383X
[314] https://www.sciencedirect.com/science/article/abs/pii/S0045653522032325
[315] https://www.sciencedirect.com/science/article/abs/pii/S004565351832383X
[316] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5898219/
[317] https://www3.epa.gov/pesticides/chem_search/cleared_reviews/csr_PC-039003_30-Sep-04_a.pdf
[318] https://www.cdpr.ca.gov/docs/risk/rcd/metam.pdf
[319] https://www.beyondpesticides.org/assets/media/documents/pesticides/factsheets/metam%20sodium.pdf
[320] https://pubchem.ncbi.nlm.nih.gov/compound/Metam-sodium#section=GHS-Classification
[321] https://www.sciencedirect.com/science/article/abs/pii/B9780123743671000197
[322] https://www.latimes.com/archives/la-xpm-1991-07-16-mn-2353-story.html
[323] https://www.pesticide.org/pesticide_factsheets#:~:text=Chlorpyrifos%2C%20an%20
[324] https://www.ers.usda.gov/webdocs/publications/43854/46734_eib124.pdf?v=8951.9

fumigants containing metam-sodium have attained Restricted Use Pesticide classification, and France has officially banned metam-sodium after too many illnesses reports.[325,326]

In addition to being banned in France, metam-sodium is also banned in Saudi Arabia.[327]

7. Ban the Herbicide Paraquat Dichloride

Paraquat dichloride (also referred to just as paraquat) is classified as a Restricted Use Pesticide in the United States.[328] It is one of the most widely used herbicides in the United States for use in controlling weeds, in both agricultural and non-agricultural settings. Common uses include use as a burn-down product, controlling grass cover crops or volunteer cereals, and may provide control of perennial and annual broadleaf weeds.[329]

The manufacturer of paraquat, Syngenta, has known since 1975 that paraquat increased the chance of Parkinson's, but to this day pushes the false narrative that the connection is "fragmentary" despite decades of research confirming the link.[330,331] Syngenta maintains a team to attack and dispute any evidence that shows paraquat is toxic.[332]

The paper *Paraquat and Parkinson's Disease* is a peer-reviewed scientific journal article that clearly shows exposure to paraquat leads to Parkinsons, yet this poison is still being used in the United States.[333]

Paraquat dichloride is banned in 58 countries.[334]

8. Ban the Organophosphate Phosmet

Phosmet is an organophosphate insecticide, widely used in agriculture for pest control.[335] It is used in 40 states of the USA. The EPA allows phosmet to be used in alfalfa, fruits and vegetables, orchards, and grapes livestock.[336] The primary risks of concern are related to applicators, re-entry workers, and the general public.[337] There are also potential ecological risks to birds, mammals, fish, and aquatic

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[325] https://pubchem.ncbi.nlm.nih.gov/compound/Metam-sodium
[326] https://www.reuters.com/article/us-france-health-metamsodium/france-bans-crop-pesticide-metam
[327] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[328] https://www.epa.gov/ingredients-used-pesticide-products/paraquat-dichloride
[329] https://psep.tennessee.edu/paraquat/
[330] https://www.theguardian.com/syngenta-weedkiller-pesticide-parkinsons-disease-paraquat-documents
[331] https://www.paraquat.com/en/safety/safety-humans/paraquat-and-parkinsons-disease
[332] https://www.theguardian.com/us-news/paraquat-parkinsons-disease-research-syngenta-weedkiller
[333] https://www.nature.com/articles/cdd2009217
[334] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[335] https://archive.epa.gov/pesticides/reregistration/web/html/phosmet_fs.html
[336] https://earthjustice.org/feature/organophosphate-pesticides-united-states/phosmetdefine-bystander
[337] https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/related_PC-059201_18-Jan-07.pdf

invertebrates.[338] People exposed to even low levels of phosmet can lead to cancer[339], neurodevelopmental harm, and reproductive toxicity.[340]

Phosmet is banned in 28 countries.[341]

9. Ban the Herbicide Propanil

Propanil is an herbicide that is used to treat numerous grasses and broad-leaf weeds in rice, potatoes, and wheat.[342] Environmentally, propanil is hazardous and toxic to aquatic invertebrates and fish.[343] The herbicide can even be found in groundwater and deposit toxins in vital drinking water sources through runoff and drift.[344] Effects of propanil on the human body include local irritation and central nervous system depression. Ingestion impacts the stomach, leading to nausea and vomiting, along with headaches, confusion, dizziness, and drowsiness.[345]

Propanil is banned in 28 countries.[346]

10. Ban the Fungicide Propiconazole

Propiconazole, also known as DMI, is a fungicide that is commonly used commercially on soft fruits such as apricots, peaches, nectarines, plums, and prunes. The fungicide is also used on nuts (peanuts, pecans, and almonds), mushrooms, and grasses grown for seeds.[347] It plays a role as an environmental contaminant and agrochemical. Propiconazole is also commonly used on turfgrasses for aesthetic or athletic value, corn, wild rice, oats, and sorghum. This fungicide has observed toxic effects on humans, animals, and plants.[348] It has also been labeled as a rodent carcinogen.[349]

Propiconazole is banned in 29 countries.[350]

11. Ban the Fungicide Thiophanate-Methyl

Thiophanate-methyl (also known as TM) is a systemic fungicide used on tree varieties, vines, and root crops, along with canola and wheat. It was registered as a pesticide in the U.S. in 1973 for use as a fungicide. Residential homeowners usually use this pesticide on lawns. It has been shown to produce oral and inhalation

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[338] https://www3.epa.gov/pesticides/endanger/litstatus/effects/redleg-frog/2010/phosmet/assessment.pdf
[339] https://www.fluoridealert.org/wp-content/pesticides/pesticides.cancer.potential.2006.pdf
[340] https://earthjustice.org/feature/organophosphate-pesticides-united-states/phosmet#define-bystander
[341] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[342] https://pubchem.ncbi.nlm.nih.gov/compound/Propanil#section=Formulations-Preparations
[343] https://nepis.epa.gov/Exe/ZyNET.exe/91024KZD.TXT?ZyActionD=ZyDocument&Client=EPA&Index=
[344] https://www3.epa.gov/pesticides/chem_search/ppls/090188-00002-20141110.pdf
[345] https://cdn.who.int/media/docs/default-source/wash-documents/wash-chemicals/propanil.pdf
[346] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[347] https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:8489
[348] https://downloads.regulations.gov/EPA-HQ-OPP-2018-0127-0007/content.pdf
[349] https://www.sciencedirect.com/science/article/abs/pii/S0166445X15300953
[350] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/

toxicity, be a skin irritant, as well as impacting the liver and thyroid.[351] It is classified to "likely be carcinogenic to humans". Exposure can occur through food ingestion, occupation, and proximity.[352]

Thiophanate-methyl is banned in 29 countries.[353]

12. Ban the Fungicide Triforine

Triforine is dangerous to humans as exposure can cause mouth irritation, and cause mucus build-up in the throat and stomach and red and itchy skin.[354] Inhaling triforine can irritate the nose, throat, and respiratory system, causing dizziness, headaches, and confusion.[355,356] Exposure to triforine is linked to cancer.[357]

Triforine is also banned in 31 countries.[358]

13. Ban the Herbicide Linuron

Linuron is an herbicide commonly used to control weeds and is listed under California's Proposition 65 list.[359] Animal testing on rats, mice, and dogs has shown critical effects on red blood cells, increased risk of reproductive toxicity, as well as tumor growth, strongly suggesting human carcinogenic potential.[360] Linuron is a threat to groundwater, soil, and plant health.[361]

Linuron is known to be very toxic by inhalation, risky to unborn children, and potentially damaging to fertility.[362]

Linuron is banned in 34 countries.[363]

Please Support Organic, Non-Toxic Synthetic Pesticides

Regenerative and organic agricultural practices have demonstrated that poisons like neonicotinoid pesticides are not necessary.[364] There are many cultural, mechanical, and biological solutions that can be used for effective pest control in our homes, parks, and farms.[365]

Organic farming practices do not use synthetic pesticides, fertilizers, or GMOs.

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[351] https://pubmed.ncbi.nlm.nih.gov/28364781/
[352] https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/fs_PC-102001_1-Nov-04.pdf
[353] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[354] https://files.fernland.com.au/SDS/SDS%20-%20Kendon%20Triforine%20Rose%20
[355] https://www.missouribotanicalgarden.org/gardens-gardening/
[356] https://www.epa.gov/sites/default/files/documents/pestsymptoms.pdf
[357] https://archive.epa.gov/pesticides/reregistration/web/html/status_page_t.html
[358] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[359] https://oehha.ca.gov/proposition-65/chemicals/linuron
[360] https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2016.4518
[361] https://core.ac.uk/reader/24065280
[362] https://datasheets.scbt.com/sc-250252.pdf
[363] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/
[364] https://cleanearth4kids.org/farming-regenerative
[365] https://cleanearth4kids.org/stop-pesticides#ipm

Rather, this practice includes methods such as cover crops, manure, crop rotation, and natural pest controls like neem oil that can repel pests and maintain soil health.[366]

Regenerative agriculture practices focus on soil health, biodiversity, and the water cycle by using cover crops, managed grazing, reduced tilling, and planting a wide variety of crops to better close the carbon cycle.[367] Synthetic pesticides, fertilizers, and GMOs are not common practices in regenerative agriculture.[368]

Permaculture is a form of land management that encourages working with natural ecosystems to provide diversity, stability, and resilience.[369] Bill Mollison, the "Grandfather of Permaculture", describes it as working with nature rather than against it in order to combine landscapes, plants, animals, and humans in a symbiotic relationship, using companion planting, water harvesting, and agroforestry as key components.[370]

Microbial pesticides and parasitic insects can be used through a method called biological controls, using an insect's natural enemies (such as other insects, bacteria, viruses, nematodes, or fungi) to control the pest population.[371] This method can be very specific, targeting just a specific pest, eliminating indirect harm.

Biological control methods are also economically self-sufficient in the long term, making them a more viable option than synthetic pesticides on multiple levels as they end the need for synthetic chemical pesticide, improve crop quality, reduce environmental contamination, and protect human health.[372]

While monoculture is encouraged and prioritized in United States agriculture, polyculture can prove to be a natural pest control system.[373] For instance, planting ilium (onions, garlic, leeks) can protect vegetables such as tomatoes and carrots by repelling aphids, slugs, carrot flies, and Japanese beetles while petunias repel aphids, tomato hornworms, and squash bugs.[374]

Natural plant oils,[375] organic matter,[376] and biosolarization, are all methods that have been shown to sustainably control pests, even on large scales.[377]

Sustaining clean soil is another integral part of natural pest control and upholding

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[366] https://www.sare.org/resources/transitioning-to-organic-production/#:~:text=More%
[367] https://regenerationinternational.org/2017/02/24/what-is-regenerative-agriculture/
[368] https://civileats.com/with-regenerative-agriculture-booming-the-question-of-pesticide-use-looms-large/
[369] https://worldpermacultureassociation.com/holmgren-principles
[370] https://www.nomos.net/post/what-is-permaculture-farming-a-simplified-guide
[371] https://www.ars.usda.gov/oc/utm/biological-green-alternatives-to-chemical-pesticides/
[372] https://www.nj.gov/agriculture/divisions/pi/prog/buglab/what-is-biological-control
[373] https://cupola.gettysburg.edu/cgi/viewcontent.cgi?article=1045&context=gssr
[374] https://magazine.scienceconnected.org/2022/04/organic-gardening-alternatives-pesticides/
[375] https://extension.colostate.edu/topic-areas/insects/insect-control-horticultural-oils-5-569
[376] https://chembioagro.springeropen.com/articles/10.1186/s40538-022-00332-0
[377] https://attra.ncat.org/solarization-biosolarization-harnessing-the-sun-and-organic-matter-to-control-weeds/

sustainable gardens and landscapes: food production, water filtration, groundwater replenishment, and the breakdown and recycling of numerous crucial nutrients are required throughout the entire food chain.[378]

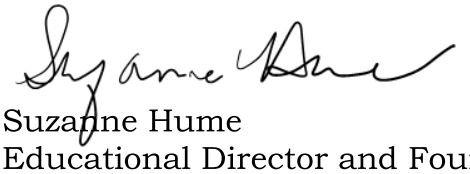
Protect Human Health, The Environment, And Wildlife

CleanEarth4Kids.org asks DPR to put people before profit and prioritize stopping the use of pesticides already banned in the EU as they have already been risk assessed and shown to be a danger to human health and the environment.

By dedicating funding and research into companion planting and polyculture, DPR can eliminate the need for synthetic pesticides.

The decisions we make today affect our children's health and future.

Sincerely,



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[378] https://indiana.clearchoicescleanwater.org/pledges/healthy-soils/why-soil-matters