SIERRA CLUB

Maryland Chapter
7338 Baltimore Avenue, Suite 102
College Park, MD 20740-3211

Testimony on: Baltimore City Council Bill 20-0495: Pesticide Control and Regulation, Healthy Committee
Position: Support
Hearing Date: May 7, 2020

Dear Honorable Committee Chairman and Members of the Baltimore City Council,

The Sierra Club Greater Baltimore Group and the Maryland Chapter strongly supports Council Bill 20-0495 Pesticide Control and Regulation. Sierra Club has over 20,300 members and supporters in Baltimore City. The bill would allow Baltimore City to provide greater public health protections from harmful pesticide exposure and set people's health and our environment as a priority.

The bill proposes restrictions on the use of **glyphosate** and **chlorpyrifos** in the city; it would restrict the use of **neonicotinoids** on city-owned property; it would restrict the use of all **conventional pesticide** on lawns, playgrounds, mulched recreation areas, children's facilities, and playing fields while allowing for the use of organic or minimal risk pesticides. There are exceptions for invasive species, disease vectors, and biting insects, and others. The bill also requires retailers to provide information about the law and applicators to provide notices or markers.

Despite federal and state regulation of pesticides, the safeguards are woefully inadequate.[1] The EPA does not evaluate actual pesticide formulations, does not assess health effects from exposure to multiple pesticides, and lacks adequate data on long-term and low-dose health effects of exposure to pesticides. Also, under the conditional registration loophole, the EPA allows many pesticides on the market without a full set of toxicity tests. Sierra Club advocates for restrictions on harmful pesticides and supports local government efforts to regulate these toxic chemicals more strictly to shift the responsibility of avoiding pesticides off of people - especially children - and onto pesticide manufacturers.

Currently, the use of dangerous pesticides in outdoor spaces is an individual choice, yet the consequences of that choice are imposed upon all other residents and our environment. Even when these chemicals are used according to their label, chemical trespass happens. Conventional pesticides do not recognize property borders, they do not stay put -- pesticides run-off when it rains, the vapors and dust can drift for miles from their application site, and the chemicals can volatilize in the air for days. This poses health risks to residents, bystanders and outdoor workers, creates involuntary exposure to especially vulnerable children and pets, it pollutes the air in our communities, contaminates water bodies that lead to our drinking water, and it poisons the habitat of our region's birds, bees and other wildlife, many of which are in crisis.

[1] Sass, J. and Wu, M. "Superficial Safeguards: Most Pesticides are Approved by Flawed EPA Process." NRDC, Mar 2013.

The proposed bill would make Baltimore City healthier for its residents, especially for children, whose developing bodies are most at risk to the harms of pesticide exposure. In 2012, the **American Academy of Pediatrics (AAP)** released a report warning that prenatal and early childhood exposure to pesticides, which include landscaping pesticides, are associated with childhood cancers, decreased brain functions, and behavioral problems.[2]

Knowledge of chronic effects of pesticide exposure is still evolving. In 2015, the International Agency for Research on Cancer (IARC) classified the most commonly used herbicide on lawns, 2,4-D, as "possibly carcinogenic to humans" (Group 2B), and the widely used herbicide, glyphosate, was classified as "probably carcinogenic to humans" (Group 2A). After decades of pesticide regulation, it was only starting in 2013 that the US EPA began to include the potential association between low-level exposure to pesticides over time and chronic diseases in their publication of *Recognition and Management of Pesticide Poisonings*. In this, low-level, long term pesticide exposure has been linked to increases in neurological effects, damage of the nervous system, Attention Deficit and Hyperactivity Disorder (ADHD), autism spectrum disorder (ASD), Parkinson's disease, thyroid dysfunction, reproductive system disorders, endocrine disruption and both adult and childhood cancers: kidney, prostate and breast cancer, childhood leukemia, childhood brain tumors, non-Hodgkin lymphoma.[3] Currently, the Monsanto Company (now Bayer) is facing tens of thousands of lawsuits across the United States filed by individuals who allege exposure to Roundup weed killer, with the active ingredient **glyphosate,** caused them to develop non-Hodgkin lymphoma.

Unfortunately, the US Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal statute that governs the registration, distribution, sale, and use of pesticides, is a risk-benefit statute and not a health-based statute. Thus, if there are many economic uses of the pesticide, low cost of the chemical or if it is in many products, it can outweigh the negative health and environmental effects in the EPA's registration decision. **Chlorpyrifos** insecticide is an example of an economic poison that has been very difficult to remove from EPA registration; although serious enough to finally be banned in 2000 for most indoor uses because of its neurotoxicity to children, EPA continues to allow chlorpyrifos use on turf grass, plants and food due to the economic benefits of the insecticide placed above the serious neurological health and environmental impacts linked to the pesticide.

Finally, for many of our wildlife species, pesticide contamination of their habitat, especially by **neonicotinoids** insecticides, has been implicated as a contributing factor in their wide-spread decline.[4] In North America, our populations of once-common species of bees, butterflies, birds, and other pollinators are disappearing at alarming rates. Harmful pesticides expose wildlife to a "toxic soup" of chemicals that have lethal and sublethal effects. Nearly 1 in 4 native bees are at increased risk of extinction.[5] The native rusty patch bumblebee, once so common throughout Maryland, has now been listed as a federally endangered species. The Monarch butterfly population, also once a familiar sight in Maryland, has plummeted by 90% in the past 20 years. Even our once common birds are falling silent as their numbers have decreased

---

[2] Pesticide Exposure in Children. American Academy of Pediatrics. Dec 2012.

[3] Robert JR, Reigart JR. Recognition and Management of Pesticide Poisonings: 6th Edition. US EPA. 2013.

[4] Sanchez-Bayo F, et al. Worldwide decline of the entomofauna: A review of its drivers. Biological Conservation. Volume 232, April 2019, Pages 8-27.

[5] Landmark Report: Hundreds of Native Bee Species Sliding Towards Extinction. Center for Biological Diversity. March 2017.

by almost 30% in the past 50 years.

There are many safer ways to care for lawns, outdoor landscaping, and hardscapes that do not require harmful pesticides. For example, Montgomery County, MD, with the passage of their pesticide restriction law, is finding success in restricting the use of conventional pesticides on private lawns, playgrounds, county properties, and public parks, allowing for safer products and encouraging residents and commercial companies to adopt more sustainable landscaping and lawn care practices. Montgomery Parks' pesticide expenditures have decreased by 73 percent.[6] All county park playgrounds are now maintained without the use of pesticides, pesticides use on general lawn areas of the park have ceased, and at least 45 parks have already transitioned as completely pesticide-free. Any pesticide use in county parks are now published publicly online in advance so families can make better-informed decisions before they visit specific parks. On the commercial front, landscape companies working within the county's boundaries are learning and adopting pesticide-free lawn care methods.

Baltimore City's families and wildlife deserve the health and environmental protection from harmful pesticide exposure that this bill would provide. Thus, Sierra Club strongly supports Baltimore City to act as a leader in this area concerning public health and sustainability -- we urge a favorable vote for the bill. Thank you for your consideration.

Sincerely,

Deborah Kleinmann
Executive Chair
Sierra Club Greater Baltimore Group
spicearoni@gmail.com

Ling Tan
Pesticide Issue Chair
Sierra Club Maryland Chapter
ling.tan@mdsierra.org; 240-244-6855

[6] Montgomery Parks Expands Pesticide-Free Program. Sept 2019, https://www.montgomeryparks.org/montgomery-parks-expands-pesticide-free-program/.

Currin, Marguerite

From: Clarke, MaryPat
Sent: Thursday, May 7, 2020 10:09 AM
To: Theresa Reuter
Cc: Roberts, Miller; Currin, Marguerite
Subject: RE: Ban Three Pesticides: I ask as born in Baltimore 1941 into a rich Bee & Butterfly pollinators Rich City .

Thanks so much for your support. Mary Pat

Mary Pat Clarke
Baltimore City Council, 14th District
City Hall, Room 501
Baltimore, MD 21202
Marypat.clarke@baltimorecity.gov
Office: 410-396-4814
Cell: 443-676-6187
Staff:
Taylor.Curry@baltimorecity.gov
Cindy.Leahy@baltimorecity.gov
Miller.Roberts@baltimorecity.gov

From: Theresa Reuter [mailto:treesrpeace@gmail.com]
Sent: Thursday, May 7, 2020 9:58 AM
To: Clarke, MaryPat <MaryPat.Clarke@baltimorecity.gov>
Cc: Theresa Reuter <treesrpeace@gmail.com>
Subject: Fwd: Ban Three Pesticides: I ask as born in Baltimore 1941 into a rich Bee & Butterfly pollinators Rich City .

Begin forwarded message:

> **From:** Theresa Reuter <treesrpeace@gmail.com>
> **Date:** May 7, 2020 at 9:51:20 AM EDT
> **To:** kristerfer.burnett@baltimorecity.gov
> **Cc:** Theresa Reuter <treesrpeace@gmail.com>
> **Subject: Ban Three Pesticides: I ask as born in Baltimore 1941 into a rich Bee & Butterfly pollinators Rich City .**
>
> Our very lives depend upon the pollination by bees & butterflies & more, ; of every plant, from vegetables to fruits .
> Allowing makers, distributors, promoters, & the use of Glyphosates, Chlorpyrifos & Nio-nics ;

life taking polluters ; to continue is tragic .

Please use your influence to prohibit these chemicals that ALSO ENTER OUR PRECIOUS WATERWAYS , killing aquatic life as well .

So fair the pollinators and fishes, so fair us humans .

Thank you as I know you will stand up for life .

Theresa Reuter

Written testimony in support of a ban on

Chlorpyrifos, Glyphosate and Neonicotinoids

May, 2020

My name is Michael Ichniowski, MD, and I am a pediatrician and Chairperson of the Environmental Health Committee of the MDAAP. This written testimony is presented with the support of this organization. The Maryland Chapter of the American Academy of Pediatrics (MDAAP) is an organization of physicians who provide health care to the children of Maryland and advocate on their behalf in matters concerning their health and well-being.

In considering toxic exposures in children, it is extremely important to be aware of their increased susceptibility to adverse effects by virtue of their size and ongoing physical and neurological development. Children are at increased risk because of their smaller size, which results in a higher dose of the toxic substance relative to their body weight. Any substance that interferes with developmental processes can result in lasting and potentially irreversible harm to children. Exposures in pregnant women can affect the growing fetus during the critical times of organ formation, brain development and early growth. Infants and toddlers play and explore at ground level, and their increased hand-to-mouth behavior results in a much greater potential for ingestion of toxic substances in their environment. It is essential to keep in mind all of these factors that put fetuses and children at increased risk from any exposure to toxic chemicals.

Chlorpyrifos

The pesticide, chlorpyrifos, is a nerve agent that works by interfering with acetylcholinesterase, an enzyme present throughout the human nervous system. Blocking this enzyme prevents the breakdown of acetylcholine; the resulting increase of this neurotransmitter at nerve endings results in excessive stimulation of the nerves to which they connect, and also the target muscles and organs of these nerves. Acute poisoning from chlorpyrifos by this mechanism includes symptoms of nausea, vomiting and diarrhea; hypersecretion from the eyes, nose and airways; bronchoconstriction and headache. Acute poisoning can progress to lethargy, seizures, coma, respiratory failure and death. **However, additional mechanisms of neurotoxicity also play a role, as adverse effects have been observed in association with far lower levels than those that produce significant inhibition of acetylcholinesterase.** These lower-dose toxic effects are of particular concern with in utero exposures. The fetal brain, which has to undergo tremendous growth and development prior to birth, can receive an enormous dose of a toxic chemical relative to its small size from such prenatal exposures. **EPA scientists concluded that there was no safe level of exposure to chlorpyrifos, and a complete ban on its use was proposed.**

Chlorpyrifos can be absorbed by oral ingestion, through inhalation or directly through the skin. Ingestion can occur from residues of this chemical on treated crops, which include many fruits, vegetables and nuts, and also through drinking water from watersheds in which

chlorpyrifos is used. Inhalation can occur from aerial spraying of this pesticide, which can drift and settle well beyond targeted areas. It can cause both acute poisoning from a single toxic exposure, as well as cumulative toxicity from chronic exposure to much smaller amounts. Because of health concerns associated with household use of chlorpyrifos, its sale for residential use was prohibited by the Environmental Protection Agency (EPA), effective December 31, 2001. An extensive review of the evidence of toxicity from agricultural use, particularly in children and in infants born to exposed mothers, led the EPA to recommend a total ban on the use of chlorpyrifos to become effective in April, 2016. A further analysis and report by the EPA in November, 2016, showed risks from dietary exposures and drinking water, which supported the EPA's original proposal.[1] Unfortunately, this proposal to revoke all tolerances for chlorpyrifos, based on the EPA's own analysis and review of available studies, was overturned by its Administrator in March, 2017.

A number of published studies have demonstrated associations between increased exposure to chlorpyrifos and adverse neurodevelopmental effects. The Columbia Center for Children's Environmental Health (CCCEH) of Columbia University in New York City followed a group of inner-city children with prenatal exposure to chlorpyrifos and compared children with higher and lower levels of chlorpyrifos in cord blood at birth. **At age 3, the children with higher levels had a 2.4 times greater risk of mental delay; a 4.9 times greater risk of psychomotor delay; a 6.5 times risk of attention deficit/hyperactivity disorder (ADHD); an 11.26 times risk of attention disorders; and a 5.39 times risk of pervasive developmental disorder, a group of disorders that includes autism-spectrum disorders.[2] Continued follow-up of this group at age 7 found decreases in Full-Scale IQ and the Working Memory Index subtest in association with increasing levels of cord blood chlorpyrifos levels,[3] which demonstrates the lasting effect from prenatal exposures.**

Another group of children in an agricultural community in the Salinas Valley in California was followed for a number of years and evaluated for possible neurotoxicity in association with prenatal and postnatal exposures to organophosphate pesticides. **Prenatal levels of urinary excretion products were associated with significant increased risk of attention problems and ADHD at age 5 and with lower scores for full-scale IQ and on scores for working memory, processing speed, verbal comprehension and perceptual reasoning in this cohort at age 7.[4,5]** Another study conducted in California evaluated neurodevelopmental disorders and prenatal residence in proximity to agricultural pesticide application. **Pregnant women living within 1.5 kilometers of an agricultural application of chlorpyrifos during the second trimester were found to have a 3.3 times increased risk of their children having an autism spectrum disorder.[6] This shows that chlorpyrifos can have effects almost 1 mile from where it was applied.**

Another study from California, published in the British Medical Journal in March, 2019, looked specifically at agricultural exposures to several pesticides, including chlorpyrifos, and evaluated pesticide use within 2 kilometers of each subject's residence. **The authors found a 27% increase**

in autism spectrum disorders with intellectual disability from fetal exposures to chlorpyrifos, and a 31% increase from exposures during the first year of life.[7]

EPA estimates of median or typical exposures to chlorpyrifos are likely 5 times greater than its proposed level of "safe" intake for pregnant women and infants, and up to 11 to 15 times greater for toddlers and older children.[8] The nation's Food Quality Protection Act (FQPA) directs the EPA to revoke permitted pesticide residue levels, or tolerances, when those levels are determined no longer to be safe. The FQPA further requires an additional tenfold safety factor be applied for potential prenatal and childhood toxicity compared to adults in considering pesticide safety. Under the FQPA, "safe" means that "there is reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and other exposures for which there is reliable information."[9]

The prevalence of autism and ADHD continues to rise each year, and these disorders have lasting adverse impacts on children and their families, as well as affecting the quality of their lives. These families bear the costs of increased medical services, including more doctor and specialist visits, long-term medications and therapy services. These children also require increased educational services at a cost to taxpayers throughout the state.

Recent research has also found associations between organophosphates and asthma through exposures, both agricultural and environmental, at levels lower than those that cause acute toxicity. Children's growing and developing lungs also have a similarly unique susceptibility to environmental chemicals. Studies from the Salinas Valley in California found that fetal and early life exposure to these pesticides were linked to increased respiratory symptoms at ages 5 and 7 years. Four other studies that combined and analyzed the evidence from multiple other investigations concluded there was a strong association between organophosphate exposure and increased risk of asthma and acute exacerbations.[10]

Glyphosate

Glyphosate is a herbicide, widely available and widely used for both agricultural and residential applications. One commonly used glyphosate product, *RoundUp*™, adds a second ingredient, a surfactant, to improve adherence of the herbicide to the targeted plants; this combination may show a synergistic increase in the toxicity of each component. Symptoms of acute ingestion include oral and throat pain, nausea, vomiting, diarrhea and abdominal pain. More severe symptoms, often seen in intentional ingestions as suicide attempts, include rapid breathing, pulmonary edema, respiratory failure, hypotension, cardiac rhythm disturbances and kidney damage. The respiratory effects in acute ingestions may be related more to the surfactant, which is a volatile organic compound. [11, 12]

With lower level more chronic agricultural use, glyphosate was associated with both allergic and non-allergic wheezing in male farmers. Animal studies have suggested a mechanism for airway inflammation due to glyphosate; exposure was found to increase eosinophil and neutrophil counts,

mast cell degranulation and the production of inflammatory cytokines. [13] A study of environmental risk factors for childhood asthma found a greater than fourfold risk of asthma with herbicide exposure but did not separate out specific herbicides. [14]

Specific studies on glyphosate and childhood cancers are lacking at present, though an increased risk of childhood leukemia has been observed in association with herbicide exposure. [15]

Neonicotinoids

Instances of human poisoning have been reported, primarily following inhalation or ingestion. Symptoms have included confusion, agitation, headache, drowsiness, dizziness, weakness and tremor; loss of consciousness has also been reported. Imidocloprid in a formulation with an organic solvent (N-methyl pyrrolide or NMP) produced symptoms of sore throat, nausea, vomiting, diarrhea and abdominal pain, with ulceration of the throat, esophagus and stomach also noted following ingestion. Respiratory symptoms have also been observed following exposure, including chest tightness, shortness of breath, hypoxia and labored breathing.[16]

Summary

Children are uniquely vulnerable to adverse effects of toxic chemicals, even at very low levels of exposure. It is important to protect them from accidental ingestion or inhalation of pesticides and herbicides capable of causing them harm. Each of the chemicals discussed above and included in this proposal before the Baltimore City Council can adversely affect the health and well-being of children. They deserve our best efforts to protect them from preventable harm.

References

[1] US Environmental Protection Administration, *Chlorpyrifos: Revised Human Health Risk Assessment for Registration Review,* EPA-HQ-OPP-2015-0653-0454 (Nov. 3, 2016).

[2] Rauh, VA, et al. Impact of prenatal chlorpyrifos exposure on neurodevelopment in the first 3 years of life among inner city children. *Pediatrics.* Dec. 2006; 118 (6): e1845-e1859.

[3] Rauh, VA, et al. Seven-year neurodevelopmental scores and prenatal exposure to chlorpyrifos, a common agricultural pesticide. *Environmental Health Perspectives.* Aug. 2011; 119 (8): 1196-1201.

[4] Marks, AR, et al. Organophosphate pesticide exposure and attention in young Mexican-American children: The CHAMACOS Study. *Environmental Health Perspectives.* Dec. 2010; 118 (12): 1768-1774.

[5] Bouchard, MF, et al. Prenatal exposure to organophosphate pesticides and IQ in 7-year-old children. *Environmental Health Perspectives.* Aug. 2011; 119 (8):1189-1195.

[6] Shelton, JF, et al. Neurodevelopmental disorders and prenatal residential proximity to agricultural pesticides: The CHARGE Study. *Environmental Health Perspectives.* Oct. 2014: 122 (10): 1103-1109.

[7] von Ehrenstein, OS, et al. Prenatal and infant exposure to ambient pesticides and autism spectrum disorder in children: population based case-control study. *BMJ* 2019; 364:I962

[8] US Environmental Protection Administration, *Chlorpyrifos Acute and Steady State Dietary (Food Only) Exposure Analysis to Support Registration Review,* EPA-HQ-OPP-2008-0850-0197 (Nov. 18, 2014).

[9] 21 U.S.C. Sec. 346a(b)(2)(C).

[10] Shaffo, FC, et al. Mechanisms of organophosphate pesticide toxicity in the context or airway hyperreactivity and asthma. *American Journal of Physiology, Lung, Cellular and Molecular Physiology.* Oct. 2018: 315(4): L485-501.

[11] Roberts, JR and Reigert, JR. *Recognition and Management of Pesticide Poisonings (6th Edition)*; Washington, DC: US EPA; 2013: 118-119.

[12] Etzel, RA and Balk, SJ (eds). *Pediatric Environmental Health (4th Edition)*; Itasca, IL: American Academy of Pediatrics; 2019: 703

[13] Hoppin, JA, et al. Pesticides are Associated with Allergic and Non-Allergic Wheeze among Male Farmers. *Environmental Health Perspectives.* April 2017; 125(4): 535-543.

[14] Salam, MT, et al. Early-Life Environmental Risk Factors for Asthma: Findings from the Children's Health Study. *Environmental Health Perspectives.* May 2004; 112(6): 760-765.

[15] Chen, M, et al. Residential Exposure to Pesticide During Childhood and Childhood Cancers: A Meta-Analysis. *Pediatrics.* October 2015; 136(4): 719-729.

[16] Roberts, JR and Reigert, JR. *Recognition and Management of Pesticide Poisonings (6th Edition);* Washington, DC: US EPA; 2013: 90-92

Chlorpyrifos is a toxic, nerve agent pesticide proven to cause brain damage in children and known to harm the environment and wildlife. It's so dangerous that, after years of study, the U.S. Environmental Protection Agency (EPA) was set to ban all uses of chlorpyrifos last year. However, the Trump Administration reversed that decision. Banning chlorpyrifos in Maryland would take a significant step in protecting the health and safety of our babies, bees and the Bay

"I support the Maryland General Assembly passing a ban of all uses of chlorpyrifos in the State of Maryland. I support Maryland taking this important step to protect its residents, especially our children."

Baltimore City Resident Signatories

www.smartonpesticides.org

330 Signers

Ellen	Adajian	5310 Holder Ave	Baltimore	Baltimore City	MD	21214-2730
Sue	Akerman	501 E 39th St	Baltimore	Baltimore City	MD	21218-1920
Alex	Akhaminov	100 International Dr	Baltimore	Baltimore City	MD	21202-4673
Laura	Allen	1 Twig Pl	Baltimore	Baltimore City	MD	21201-1512
Ina	Allen	5423 Springlake Way	Baltimore	Baltimore City	MD	21212-3445
Jeannie	Anderson	3500 Gibbons Ave	Baltimore	Baltimore City	MD	21214-2721
David	Anderson	1115 Woodheights Ave	Baltimore	Baltimore City	MD	21211-1245
Jori	Andler	3732 Tudor Arms Ave	Baltimore	Baltimore City	MD	21211-2245
Caro	Appel	5930 Greenhill Ave	Baltimore	Baltimore City	MD	21206-2626
Cesar	Arias	5430 Springlake Way	Baltimore	Baltimore City	MD	21212-3444
Bethany	Arnold	103 W 39th St	Baltimore	Baltimore City	MD	21210-3128
Jean	Athey	10 E Lee St # 2301	Baltimore	Baltimore City	MD	21202-6009
Tim	Axtell	10 E Lee St	Baltimore	Baltimore City	MD	21202-6003
Radko	Bachvaroff	4311 Rugby Rd	Baltimore	Baltimore City	MD	21210-2922
Patricia	Bahr	2901 Boston St Apt 609	Baltimore	Baltimore City	MD	21224-4891
Anne	Bailliere	913 Poplar Hill Rd	Baltimore	Baltimore City	MD	21210-1221
Rahul	Bakshi	4100 N Charles St	Baltimore	Baltimore City	MD	21218-1065
Amy	Balanoff	4314 Walther Ave	Baltimore	Baltimore City	MD	21214-3330
Ellen E	Barfield	814 Powers St	Baltimore	Baltimore City	MD	21211-2510
Sara	Baublitz	1217 S Hanover St	Baltimore	Baltimore City	MD	21230-3733
Becky	Bauer	216 W 27th St	Baltimore	Baltimore City	MD	21211-3001
Gerardo	Benavioles	218 E Preston St	Baltimore	Baltimore City	MD	21202-3975
Carol	Berman	1302 Meridene Dr	Baltimore	Baltimore City	MD	21239-2025
Holly	Bevagna	15 Charles Plz Apt 2707	Baltimore	Baltimore City	MD	21201-3946
Mary Claire	Bl	438 E Clement St	Baltimore	Baltimore City	MD	21230-4641
Dawn	Blais	2433 Brambleton Rd Apt C	Baltimore	Baltimore City	MD	21209-4339
Phelix	Blais-Evers	2433 Brambleton Rd Apt C	Baltimore	Baltimore City	MD	21209-4339
Carole	Blake	6101 Pinehurst Rd	Baltimore	Baltimore City	MD	21212-2547
Annie	Bonner	3427 Hudson St	Baltimore	Baltimore City	MD	21224-5102
Karen	Bovie	119 E Fort Ave	Baltimore	Baltimore City	MD	21230-4512
Solon	Bowden	3037 Remington Ave	Baltimore	Baltimore City	MD	21211-2844
Diana	Boyce	6002 Charlesmead Rd	Baltimore	Baltimore City	MD	21212-2413
Patricia	Bramlet	504 Evesham Ave	Baltimore	Baltimore City	MD	21212-3146
Michael	Brannon	502 Woodside Rd	Baltimore	Baltimore City	MD	21229-2327
Kate	Breimann	3100 Guilford Ave	Baltimore	Baltimore City	MD	21218-3419
Charles	Brenton	220 Stony Run Ln	Baltimore	Baltimore City	MD	21210-3029
Chris	Brohawn	1316 Appleby Ave	Baltimore	Baltimore City	MD	21209-3720
Anna	Bross	1115 Woodheights Ave	Baltimore	Baltimore City	MD	21211-1245
Mary	Buedel	3204 Overland Ave	Baltimore	Baltimore City	MD	21214-3325
Sarah	Bur	3206 Montebello Ter	Baltimore	Baltimore City	MD	21214-3323
Gabriel	Bustos	3639 Ash St	Baltimore	Baltimore City	MD	21211-1926
Grace	Byerly	5736 Nasco Pl	Baltimore	Baltimore City	MD	21239-3030

Shelley	Byrne	3021 Beverly Rd	Baltimore	Baltimore City	MD	21214-3310
Jackie	Capecci	4136 Roland Ave	Baltimore	Baltimore City	MD	21211-2034
Kristana	Carlin	209 S Robinson St	Baltimore	Baltimore City	MD	21224-2215
Marilyn	Carlisle	1238 Ramblewood Rd	Baltimore	Baltimore City	MD	21239-2637
Emjay	Carpenter	10 Light St	Baltimore	Baltimore City	MD	21202-1435
Harry	Casey	578 Saint Mary St	Baltimore	Baltimore City	MD	21201-1936
Linda	Cathy	324 Kerneway	Baltimore	Baltimore City	MD	21212-4713
Linda	Cathy	324 Kerneway	Baltimore	Baltimore City	MD	21212-4713
Mark	Chalkley	1425 Morling Ave	Baltimore	Baltimore City	MD	21211-1720
Ben	Chronister	3918 Elm Ave	Baltimore	Baltimore City	MD	21211-2103
Katherine	Clark	844 W 37th St	Baltimore	Baltimore City	MD	21211-2232
Richard	Cleaver	4000 N Charles St	Baltimore	Baltimore City	MD	21218-1760
Stephen	Cleghorn	4000 N Charles St Apt 1610	Baltimore	Baltimore City	MD	21218-1768
Meg	Cole	901 W University Pkwy	Baltimore	Baltimore City	MD	21210-2737
Bernice	Coles	5415 Nelson Ave	Baltimore	Baltimore City	MD	21215-4521
Anne	Colgan	1231 Roundhill Rd	Baltimore	Baltimore City	MD	21218-1448
Aladdin	Collar	1427 Morling Ave	Baltimore	Baltimore City	MD	21211-1720
Cathy	Cook	4422 Grand View Ave	Baltimore	Baltimore City	MD	21211-1229
mary	cooper	111 Hamlet Hill Rd Unit 303	Baltimore	Baltimore City	MD	21210-1521
Ellen	Cooper	3704 N Charles St Unit 1305	Baltimore	Baltimore City	MD	21218-2330
Carole	Cory	1018 E Belvedere Ave	Baltimore	Baltimore City	MD	21212-3728
Karen	Coughlin	500 W 29th St	Baltimore	Baltimore City	MD	21211-2915
Deborah	Cunningham	2524 Rellim Rd	Baltimore	Baltimore City	MD	21209-4125
Louis Brenda	Curran	5115 Underwood Rd	Baltimore	Baltimore City	MD	21212-4107
Antonin	Currup	102 W 39th St	Baltimore	Baltimore City	MD	21210-3152
Leanne	Curtin	3361 Beech Ave	Baltimore	Baltimore City	MD	21211-2607
Joan	Cwi	633 Stoney Spring Dr	Baltimore	Baltimore City	MD	21210-2712
David	Dallas	124 W Franklin St Apt 707	Baltimore	Baltimore City	MD	21201-4559
Janis	Danforth	909 W University Pkwy Apt 208	Baltimore	Baltimore City	MD	21210-2771
Arlene	Daniel	1911 Greenberry Rd	Baltimore	Baltimore City	MD	21209-4538
Gina	Danziger	1706 Mount Washington Ct Ap	Baltimore	Baltimore City	MD	21209-4570
Megen	Daso	727 W 40th St Apt 537	Baltimore	Baltimore City	MD	21211-2354
Nadia	Delgado	2032 N Calvert St	Baltimore	Baltimore City	MD	21218-6042
Rachel	DeMunda	910 Lenton Ave	Baltimore	Baltimore City	MD	21212-3209
Erica	Denner	2513 E Strathmore Ave	Baltimore	Baltimore City	MD	21214-2155
Kelli	DePriest	104 N Luzerne Ave	Baltimore	Baltimore City	MD	21224-1147
Denis	Dolgachev	2032 N Calvert St	Baltimore	Baltimore City	MD	21218-6042
Jamie	Doney	601 E 31st St	Baltimore	Baltimore City	MD	21218-3531
Charles	Dorsey	613 Hollen Rd	Baltimore	Baltimore City	MD	21212-2714
jerry	druch	3040 Barclay St	Baltimore	Baltimore City	MD	21218-3936
Gwen	DuBois	1817 Sulgrave Ave	Baltimore	Baltimore City	MD	21209-4515
William	Dusold	400 Ridgely Rd	Glen Burnie	Baltimore City	MD	21201-2301
Diane	Dwyer	5702 Ainsley Garth	Baltimore	Baltimore City	MD	21212-2447
Alexandra	DySard	22 E Madison St	Baltimore	Baltimore City	MD	21202-2353
Bonny	Eisenbise	2007 South Rd	Baltimore	Baltimore City	MD	21209-4509
Melissa	Ekey	704 W Melrose Ave	Baltimore	Baltimore City	MD	21210-1333
Mary	Elieisar	2905 N Charles St	Baltimore	Baltimore City	MD	21218-4056
Elizabeth	Engleman	4000 N Charles St Apt 1610	Baltimore	Baltimore City	MD	21218-1768
Alex	Englert	3925 Beech Ave Apt 412	Baltimore	Baltimore City	MD	21211-2262
Margaret	Engvall	416 Kensington Rd	Baltimore	Baltimore City	MD	21229-2401
Linda	Eustis	1326 Northview Rd	Baltimore	Baltimore City	MD	21218-1445
Mariam	Ewers	330 Park Ave	Baltimore	Baltimore City	MD	21201-3623
Terrence T	Fitzgerald	1817 Sulgrave Ave	Baltimore	Baltimore City	MD	21209-4515
Michael	Franch	607 E 34th St	Baltimore	Baltimore City	MD	21218-2904
chester	Frazier	5803 Merville Ave	Baltimore	Baltimore City	MD	21215-4126
Kata	Frederick	825 Montpelier St	Baltimore	Baltimore City	MD	21218-3542
Zoe	Friedman	402 Radnor Rd	Baltimore	Baltimore City	MD	21212-4417
Emma	Fuchs	4501 N Charles St	Baltimore	Baltimore City	MD	21210-2601
Kaitlyn	Furey	3438 Ash St	Baltimore	Baltimore City	MD	21211-2308
Jeff	Gara	600 W 37th St	Baltimore	Baltimore City	MD	21211-2230
Philip	Gear	3310 Elm Ave	Baltimore	Baltimore City	MD	21211-2725
judy	Geisler	4305 Mainfield Ave	Baltimore	Baltimore City	MD	21214-2829
Mary	Gentile	3625 Hickory Ave	Baltimore	Baltimore City	MD	21211-1808

Marianne	Gibson	26 E Fort Ave	Baltimore	Baltimore City	MD	21230-4541
Amy	Giggey	724 Colorado Ave	Baltimore	Baltimore City	MD	21210-2126
Robyn	Gilden	655 W Lombard St	Baltimore	Baltimore City	MD	21201-1512
Liz	Gilliams	2931 Guilford Ave	Baltimore	Baltimore City	MD	21218-4116
Debbie	Gioia	1443 Henry St	Baltimore	Baltimore City	MD	21230-4638
Susan	Glover	5113 Midwood Ave	Baltimore	Baltimore City	MD	21212-4341
Leslie	Goldsmith	4 Boulder Ln	Baltimore	Baltimore City	MD	21210-2225
Luis	Gonzalez	727 W 40TH ST	BALTIMORE	Baltimore City	MD	21211-2154
Kate	Gordon	3033 Fleetwood Ave	Baltimore	Baltimore City	MD	21214-1410
Scott	Gottbreht	3103 Beverly Rd	Baltimore	Baltimore City	MD	21214-3315
April	Gray	3925 Beech Ave Apt 507	Baltimore	Baltimore City	MD	21211-2265
Andy	Grefield	2522 Greenmount Ave	Baltimore	Baltimore City	MD	21218-4720
Bethany	Gregg	5748 Cross Country Blvd	Baltimore	Baltimore City	MD	21209-4230
Patricia	Gregory	5715 Park Heights Ave	Baltimore	Baltimore City	MD	21215-3943
Adrianne	Grovorgsi	4000 Norfolk Ave	Baltimore	Baltimore City	MD	21216-1241
Jonathan	Hamaker	420 E Lake Ave	Baltimore	Baltimore City	MD	21212-2542
Jacob	Hamer	3925 Beech Ave Apt 305	Baltimore	Baltimore City	MD	21211-2258
Louise	Harmony	5105 Walther Ave	Baltimore	Baltimore City	MD	21214-3021
Ramona	Harris	2555 Harlem Ave	Baltimore	Baltimore City	MD	21216-4841
Jill	Harrison	706 Dryden Dr	Baltimore	Baltimore City	MD	21229-1419
Christopher	Hart	2719 Silver Hill Ave	Baltimore	Baltimore City	MD	21207-6776
Lee	Hart	2719 Silver Hill Ave	Baltimore	Baltimore City	MD	21207-6776
Ethan	Hateb	2836 N Calvert St	Baltimore	Baltimore City	MD	21218-4409
Amelia	Hazen	3565 Sweet Air St	Baltimore	Baltimore City	MD	21211-2329
Brenda	Hedrick	3925 Beech Ave Apt 114	Baltimore	Baltimore City	MD	21211-2240
Mary	Henderson	1036 N Calvert St	Baltimore	Baltimore City	MD	21202-3822
Polly	Heninger	4000 N Charles St	Baltimore	Baltimore City	MD	21218-1760
Tanya	Hicks	501 W University Pkwy	Baltimore	Baltimore City	MD	21210-3275
Peter	Hinderberger	4801 Yellowwood Ave	Baltimore	Baltimore City	MD	21209-4622
Peter	Hinderberger	2007 South Rd	Baltimore	Baltimore City	MD	21209-4509
Elizabeth	Hodnick	3745 Beech Ave	Baltimore	Baltimore City	MD	21211-2249
Guy	Hollyday	719 Field St	Baltimore	Baltimore City	MD	21211-2731
Leo	Horrigan	306 Radnor Rd	Baltimore	Baltimore City	MD	21212-4415
Ben	Howard	3127 Guilford Ave	Baltimore	Baltimore City	MD	21218-3420
Matthew	Humphrey	3045 Saint Paul St	Baltimore	Baltimore City	MD	21218-3968
RAchel	Humphrey	3637 Elm Ave	Baltimore	Baltimore City	MD	21211-2402
Avis	Jackson	1534 Northwick Rd	Baltimore	Baltimore City	MD	21218-1604
Shannon	Jeter	4206 Roland Ave	Baltimore	Baltimore City	MD	21210-2726
Kristen	Johnson	17 S Calhoun St	Baltimore	Baltimore City	MD	21223-2411
Damon	Johnson	3905 Callaway Ave	Baltimore	Baltimore City	MD	21215-6110
Tilia	Johnson	3905 Callaway Ave	Baltimore	Baltimore City	MD	21215-6110
Martha	Johnston	702 Highwood Dr	Baltimore	Baltimore City	MD	21212-2709
Travis	Jones	638 S Charles St	Baltimore	Baltimore City	MD	21230-3810
Shelby	Kalm	3310 Moravia Rd	Baltimore	Baltimore City	MD	21214-3340
Mary	Kambic	1715 Wadsworth Way	Baltimore	Baltimore City	MD	21239-3126
Sarah	Kanchuger	406 Northway	Baltimore	Baltimore City	MD	21218-1115
Katie	Kane	3343 Chestnut Ave	Baltimore	Baltimore City	MD	21211-2623
Marla	Kanefsky	821 Powers St	Baltimore	Baltimore City	MD	21211-2511
Melora	Kaplan	201 Southway	Baltimore	Baltimore City	MD	21218-2515
David	Kaplan	201 Southway	Baltimore	Baltimore City	MD	21218-2515
David	King	215 W Lanvale St	Baltimore	Baltimore City	MD	21217-4745
Kathleen	Kiselewich	6107 Ridgeview Ave	Baltimore	Baltimore City	MD	21206-2448
Milena	Kobayashi	3436 University Pl	Baltimore	Baltimore City	MD	21218-2831
Jennifer	Kotler	4401 Roland Ave	Baltimore	Baltimore City	MD	21210-2729
Christian	Kramer	3201 Dorithan Rd	Baltimore	Baltimore City	MD	21215-7501
Elinore	Krell	3811 Canterbury Rd	Baltimore	Baltimore City	MD	21218-2340
Betsy	Krieger	411 Hawthorne Rd	Baltimore	Baltimore City	MD	21210-2304
Jeffrey	Krimmel	5003 Springlake Way	Baltimore	Baltimore City	MD	21212-3441
Julie	Kuhn	2925 Keswick Rd	Baltimore	Baltimore City	MD	21211-2733
Reagan	Lake	1606 Park Ave	Baltimore	Baltimore City	MD	21217-4305
Francine	Lampros-Klein	408 N Chapel St	Baltimore	Baltimore City	MD	21231-1110
Charlotte	Landgraf	3205 Avon Ave	Baltimore	Baltimore City	MD	21218-3514
Barbara	Larcom	PO Box 3566	Baltimore	Baltimore City	MD	21214-0566

Nicole	Leistikow	1307 Park Ave	Baltimore	Baltimore City	MD	21217-4104
Gregory	Lewis	7111 Park Heights Ave	Baltimore	Baltimore City	MD	21215-1695
Michelle	Libercci	243 W Lafayette Ave	Baltimore	Baltimore City	MD	21217-4217
Mark	Linardi	1308 Asbury Rd	Baltimore	Baltimore City	MD	21209-3722
Sarah	Lord	1421 Park Ave	Baltimore	Baltimore City	MD	21217-4231
Charles	Loubert	222 S Fulton Ave	Baltimore	Baltimore City	MD	21223-3005
Eleanor	Lucas	412 Fawcett St	Baltimore	Baltimore City	MD	21211-3208
Diane	Luchese	361 Homeland Southway Apt 2	Baltimore	Baltimore City	MD	21212-3298
Judith	Lukacs	2800 Halcyon Ave	Baltimore	Baltimore City	MD	21214-2535
Elizabeth	Lutz	3700 Rexmere Rd	Baltimore	Baltimore City	MD	21218-2010
Cindy	Maddo	3310 Elm Ave	Baltimore	Baltimore City	MD	21211-2725
Avelino	Maestas	1509 Park Ave Apt 3	Baltimore	Baltimore City	MD	21217-4285
Patricia	Magyari	3511 N Calvert St	Baltimore	Baltimore City	MD	21218-2802
Laura	Malone	39 W Lexington St Apt 2001	Baltimore	Baltimore City	MD	21201-3961
Deborah	Marcuse	2205 Pelham Ave	Baltimore	Baltimore City	MD	21213-1032
Shannon	Marshall	3009 Royston Ave	Baltimore	Baltimore City	MD	21214-1322
Matt	Masaschi	3505 Roland Ave	Baltimore	Baltimore City	MD	21211-2429
James	McBee	2102 Northcliff Dr	Baltimore	Baltimore City	MD	21209-3528
jeanne	mccann	732 Light St	Baltimore	Baltimore City	MD	21230-3850
Jeanne	McCauley	430 Drury Ln	Baltimore	Baltimore City	MD	21229-2433
Jane	McClard	200 Cross Keys Rd Unit 28	Baltimore	Baltimore City	MD	21210-1519
Carol	McDonnell	4014 Walnut Ave	Baltimore	Baltimore City	MD	21206-1522
Julia	McMillan	1800 Orleans St	Baltimore	Baltimore City	MD	21210-2536
Rebecca	Mercado	3302 Beech Ave	Baltimore	Baltimore City	MD	21211-2642
Felix	Mercado	3302 Beech Ave	Baltimore	Baltimore City	MD	21211-2642
Maria	Merritt	3917 Cloverhill Rd	Baltimore	Baltimore City	MD	21218-1708
Barbara	Metz	422 Kenneth Sq	Baltimore	Baltimore City	MD	21212-3011
peggy	meyer	33 Andrew Pl	Baltimore	Baltimore City	MD	21201-2401
Karen	Meyers	4310 Roland Spring Dr	Baltimore	Baltimore City	MD	21210-2755
Susan	Minor	3205 Montebello Ter	Baltimore	Baltimore City	MD	21214-3324
Paul	Mirel	4404 Arabia Ave	Baltimore	Baltimore City	MD	21214-3303
Anyre	Mojenson	303 S Bouldin St	Baltimore	Baltimore City	MD	21224-2318
Ellen	Morrison	406 Kensington Rd	Baltimore	Baltimore City	MD	21229-2401
Janet	Morrissey	1616 Ingram Rd	Baltimore	Baltimore City	MD	21239-3608
Kevin	Muhitoh	3555 Sweet Air St	Baltimore	Baltimore City	MD	21211-2329
Dixie	Mullineaux	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
Sean	Mulvihill	2510 E Fairmount Ave	Baltimore	Baltimore City	MD	21224-1133
Marie	Murphy	3903 Cloverhill Rd	Baltimore	Baltimore City	MD	21218-1708
T J	Musgrovwe	4627 Kernwood Ave	Baltimore	Baltimore City	MD	21212-4718
T. Brett	Naylor	1527 Park Ave	Baltimore	Baltimore City	MD	21217-4238
Alice	Nelson	705 Bay St	Baltimore	Baltimore City	MD	21211-2712
Claire	Noell	4906 Roland Ave	Baltimore	Baltimore City	MD	21210-2318
Ruth	Nuhn	3317 Chestnut Ave	Baltimore	Baltimore City	MD	21211-2623
Caitlin	O'Connor	3604 Eastwood Dr	Baltimore	Baltimore City	MD	21206-6310
Dennis	O'Hara	529 S Curley St	Baltimore	Baltimore City	MD	21224-3806
Erin	O'Keefe	2944 Wyman Pkwy	Baltimore	Baltimore City	MD	21211-2802
Max	Obuszewski	431 Notre Dame Ln Apt 206	Baltimore	Baltimore City	MD	21212-4184
Richard	Ochs	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
Janet	Olney	1110 E 36th St	Baltimore	Baltimore City	MD	21218-2103
Wendy	Olsson	2211 SULGRAVE AVE	BALTIMORE	Baltimore City	MD	21209-4403
Jo-Ann	Orlinsky	3704 N Charles St	Baltimore	Baltimore City	MD	21218-2305
Virginia	Parks	2522 Saint Paul St	Baltimore	Baltimore City	MD	21218-4609
Hiru	PDMAKUMARA	124 W Ostend St	Baltimore	Baltimore City	MD	21230-3711
Nt	Peko	3959 Cloverhill Rd	Baltimore	Baltimore City	MD	21218-1708
Laurel	Peltier	4 Bellemore Rd	Baltimore	Baltimore City	MD	21210-1313
Laurel	Peltier	4 Bellemore Rd	Baltimore	Baltimore City	MD	21210-1313
Louis	Perkins	400 Winston Ave	Baltimore	Baltimore City	MD	21212-4426
Emily	Perry	4201 Falls Rd Apt 16	Baltimore	Baltimore City	MD	21211-1653
Diana	Peters	1100 W 36th St	Baltimore	Baltimore City	MD	21211-2409
Neal	Pettingill	3000 Falls Rd	Baltimore	Baltimore City	MD	21211-2474
Vanessa	Pikler	1807 W Rogers Ave	Baltimore	Baltimore City	MD	21209-4546
Cornelia	Pincus	3525 Newland Rd	Baltimore	Baltimore City	MD	21218-2513
Elizabeth	Pope	115 Deepdene Rd	Baltimore	Baltimore City	MD	21210-1911

Valesha	Populoh	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
Sheryl	Post	401 Northway	Baltimore	Baltimore City	MD	21218-1117
Michael	Prior	4800 Westparkway	Baltimore	Baltimore City	MD	21229-1335
Bonnie	Raindrop	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
Bonnie	Raindrop	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
David	Raindrop	2913 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
Jonathan	Raun	3413 Parkington Ave	Baltimore	Baltimore City	MD	21215-3747
Cheryl	Rayburn	3632 Malden Ave	Baltimore	Baltimore City	MD	21211-1321
Cheryl	Rayburn	3632 Malden Ave	Baltimore	Baltimore City	MD	21211-1321
Lauren	Raymond	1202 Cox St	Baltimore	Baltimore City	MD	21211-1729
Rob	Reichel	5112 Whiteford Ave	Baltimore	Baltimore City	MD	21212-4108
Molly	Reisman	3420 Seneca St	Baltimore	Baltimore City	MD	21211-1415
Theresa	Reuter	5304 Harford Rd	Baltimore	Baltimore City	MD	21214-2254
Anya	Rey	4229 Belmar Ave	Baltimore	Baltimore City	MD	21206-1945
Anya	Rey	4229 Belmar Ave	Baltimore	Baltimore City	MD	21206-1945
Carol	Rice	406 Northway	Baltimore	Baltimore City	MD	21218-1115
Aaeron	Robb	6130 Chinquapin Pkwy	Baltimore	Baltimore City	MD	21239-1905
Davida	Robinson	3714 Ednor Rd	Baltimore	Baltimore City	MD	21218-2049
Katie	Robinson	4106 Roland Ave	Baltimore	Baltimore City	MD	21211-2034
Katrini	Rodrigot	209 W 27th St	Baltimore	Baltimore City	MD	21211-3002
Marjorie	Roswell	3443 Guilford Ter	Baltimore	Baltimore City	MD	21218-2827
Toluwaloju	Runsewe	1726 Montpelier St	Baltimore	Baltimore City	MD	21218-4845
Mary	Russell	107 S Clinton St	Baltimore	Baltimore City	MD	21224-2341
Etta	Russell-Scott	4819 Arabia Ave	Baltimore	Baltimore City	MD	21214-2929
Angela	Sabo	3006 Northway Dr	Baltimore	Baltimore City	MD	21234-7823
Burke	Sampson	307 Wyman Park Dr	Baltimore	Baltimore City	MD	21211-2804
Amy	Sampson	307 Wyman Park Dr	Baltimore	Baltimore City	MD	21211-2804
Kathryn	Schaafsma	2905 Overland Ave	Baltimore	Baltimore City	MD	21214-3136
N.	Schneider	4205 Roland Ave	Baltimore	Baltimore City	MD	21210-2701
Christine	Schneyer Englund	105 Longwood Rd	Baltimore	Baltimore City	MD	21210-2119
Carol	Schreter	1905 Dixon Rd	Baltimore	Baltimore City	MD	21209-3507
Melvin	Scott	3044 W North Ave	Baltimore	Baltimore City	MD	21216-3180
Jeanne	Sears	3939 Roland Ave Apt 423	Baltimore	Baltimore City	MD	21211-2050
Abigail	Seiler	415 Rosebank Ave	Baltimore	Baltimore City	MD	21212-3538
Deborah	Seltzer	711 Field St	Baltimore	Baltimore City	MD	21211-2731
Anita	Sherman	10 Beechdale Rd	Baltimore	Baltimore City	MD	21210-2207
Megan	Shook	4100 N Charles St	Baltimore	Baltimore City	MD	21218-1065
Sydney	Short	919 Saint Paul St	Baltimore	Baltimore City	MD	21202-2437
Mathew	Sievers	701 Cathedral St Apt 53	Baltimore	Baltimore City	MD	21201-0814
Nahum	Silvester	2608 Banister Rd	Baltimore	Baltimore City	MD	21215-6515
Deborah	Smith	6027 Pinehurst Rd	Baltimore	Baltimore City	MD	21212-2920
Jennifer	Smith	1704 Eutaw Pl	Baltimore	Baltimore City	MD	21217-3716
Julian	Smith	424 Nottingham Rd	Baltimore	Baltimore City	MD	21229-2438
Anthony	So	1102 Terrace Gln	Baltimore	Baltimore City	MD	21210-1200
Julie	Solomon	2212 E Baltimore St	Baltimore	Baltimore City	MD	21231-2001
Jenny	Sorel	3412 Oakenshaw Pl	Baltimore	Baltimore City	MD	21218-2805
Pat	Spellman	310 Ridgemede Rd	Baltimore	Baltimore City	MD	21210-3040
Laurie	Spica	1100 W 36th St	Baltimore	Baltimore City	MD	21211-2409
Nanya	Springer	303 McMechen St	Baltimore	Baltimore City	MD	21217-5351
Cynthia	Squire	361 Homeland Southway	Baltimore	Baltimore City	MD	21212-4173
Carol	Stack	4402 Wickford Rd	Baltimore	Baltimore City	MD	21210-2810
Leslie	Starr	1806 Thornbury Rd	Baltimore	Baltimore City	MD	21209-3639
Leslie	Starr	1806 Thornbury Rd	Baltimore	Baltimore City	MD	21209-3639
Jon	Stave	628 S Charles St	Baltimore	Baltimore City	MD	21230-3810
Karen	Stave	628 S Charles St	Baltimore	Baltimore City	MD	21230-3810
Steven	Stegner	133 W Hill St	Baltimore	Baltimore City	MD	21230-3615
MW	Stevens	1800 Orleans St Apt G-1509	Baltimore	Baltimore City	MD	21287-0010
Sarah	Strahorn	3125 Chestnut Ave	Baltimore	Baltimore City	MD	21211-2716
Margaret	Stuthmann	1210 W 41st St	Baltimore	Baltimore City	MD	21211-1546
Robbie	Suilliam	3801 Greenway	Baltimore	Baltimore City	MD	21218-1826
Lynn	Supp	4604 Arabia Ave	Baltimore	Baltimore City	MD	21214-3233
Dan	Sutherland Weiser	1220 Bank St Apt 205	Baltimore	Baltimore City	MD	21202-4400
Richard	Swerling	2706 E Strathmore Ave	Baltimore	Baltimore City	MD	21214-2509

James	Sylvan	2910 Saint Paul St	Baltimore	Baltimore City	MD	21218-4123
Nancy	Tag	112 S Potomac St	Baltimore	Baltimore City	MD	21224-2251
Tara	Talaie	747 W 40th St	Baltimore	Baltimore City	MD	21211-2105
Andrew	Taylor	919 Saint Paul St	Baltimore	Baltimore City	MD	21202-2437
Maddox	Teanell	603 Parkwyrth Ave	Baltimore	Baltimore City	MD	21218-1956
Morgan	Thapa	1408 Belt St	Baltimore	Baltimore City	MD	21230-4717
Kim	Tomko	6112 Sefton Ave	Baltimore	Baltimore City	MD	21214-1843
Vivian	Tong	3122 Grindon Ave	Baltimore	Baltimore City	MD	21214-3227
Sarah	Tooley	722 E 35th St	Baltimore	Baltimore City	MD	21218-2929
Regina	Tumasella	325 E 29th St	Baltimore	Baltimore City	MD	21218-4118
Mark	Tyler	3005 Ailsa Ave	Baltimore	Baltimore City	MD	21214-2902
Terry Lynn	Tyrell	5890 Pimlico Rd	Baltimore	Baltimore City	MD	21209-4203
Dorothy	Valakos	2506 Hermosa Ave	Baltimore	Baltimore City	MD	21214-2539
Stephen	Vayda	1103 E Belvedere Ave Apt A	Baltimore	Baltimore City	MD	21239-2706
Frantz	Walker	3725 Gough St	Baltimore	Baltimore City	MD	21224-2538
Ryan	Walter	4248 Elsa Ter	Baltimore	Baltimore City	MD	21211-1519
Donna Ann	Ward	1912 Sulgrave Ave	Baltimore	Baltimore City	MD	21209-4580
Camille	Watkins	218 E Preston St	Baltimore	Baltimore City	MD	21202-3975
Caroline	Wayner	632 Saint Johns Rd	Baltimore	Baltimore City	MD	21210-2105
Nathalie	Werebe	3037 Remington Ave	Baltimore	Baltimore City	MD	21211-2844
carol	wessner	3917 Canterbury Rd	Baltimore	Baltimore City	MD	21218-1704
Jane	Wilbur	4203 Somerset Pl	Baltimore	Baltimore City	MD	21210-2708
Simon	William	131 N Decker Ave	Baltimore	Baltimore City	MD	21224-1334
Dick	Williams	1300 Linden Grn	Baltimore	Baltimore City	MD	21217-3628
Frank	Wilsey	2702 Whitney Ave	Baltimore	Baltimore City	MD	21215-4149
Thom	Wilson	1161 Quantril Way	Baltimore	Baltimore City	MD	21205-3254
Petton	Wise	PO Box 16440	Baltimore	Baltimore City	MD	21217-0440
Susan	Wolfe	327 Homeland Southway	Baltimore	Baltimore City	MD	21212-4163
Michelle	Wozniak	4803 Edgar Ter	Baltimore	Baltimore City	MD	21214-3035
Louise	Wright	3202 Montebello Ter	Baltimore	Baltimore City	MD	21214-3323
Valene	Wright	3102 Evergreen Ave	Baltimore	Baltimore City	MD	21214-2335
Robin	Yabroff	215 W Lanvale St	Baltimore	Baltimore City	MD	21217-4745
Jill	Yesko	1953 Greenberry Rd	Baltimore	Baltimore City	MD	21209-4555
chris	yoder	5701 Rusk Ave	Baltimore	Baltimore City	MD	21215-4135
Ruth	Zajicek	5523 Mattfeldt Ave	Baltimore	Baltimore City	MD	21209-3738
Kevin	Zeese	402 E Lake Ave	Baltimore	Baltimore City	MD	21212-2542
Dominique	Zeltzman	208 S Patterson Park Ave	Baltimore	Baltimore City	MD	21231-2123

SMART on PESTICIDES maryland

Website: www.smartonpesticides.org
Facebook: http://on.fb.me/Ut6rrX
Twitter: @PesticidesSmart #pesticidedata

Re: Pest Control and Regulation
Submitted to: Members of the City of Baltimore City Council
Position: In support of Council Bill # 20-0495

Submitted by: Ruth Berlin, Executive Director, Maryland Pesticide Education Network, mpnberlin@gmail.com;
Kate Breimann, Advocate, Environment Maryland and Maryland PIRG, kbreimann@environmentmaryland.org;
Bonnie Raindrop, Coordinator, Smart on Pesticides Coalition and Legislative Chair, Central Maryland Beekeepers Association, raindrop@mdpestnet.org;
Devon Payne-Sturges, DrPH, Assistant Professor, Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health and Board Member, Maryland Pesticide Education Network, dps1@umd.edu;
on behalf the Smart on Pesticides Coalition and its 105 member organizations and businesses.
Contact: Ruth Berlin, 410.849.3909 ext. 1

The Smart on Pesticides Maryland (MD) coalition, facilitated by the Maryland Pesticide Education Network, works to protect Marylanders and the natural systems we depend upon from the adverse impacts of pesticides. The coalition includes 105 organizations and institutions representing health care associations, communities, businesses, health care providers, farmers, environmentalists, waterkeepers, interfaith congregants as well as environmental justice, public health and wildlife advocates.

The Smart on Pesticides Coalition (SOPC) supports Council Bill # 20-0495 in order to regulate the use and application of pesticides in Baltimore City and prohibiting the use of certain pesticides in specified areas, including prohibiting the use and application of glyphosate and chlorpyrifos and prohibiting neonicotinoid pesticide use on City-owned land.

We applaud the bill sponsors for their vision and commitment regarding 1) City residents' right to know about pesticides being applied on a neighboring property or City property so that they can make educated decisions about their exposures, and 2) for restricting the use of notably harmful pesticides to protect the health of City residents, our waterways, and pollinators.

In this already challenging time of citizens trying to protect themselves from COVID-19, this bill is even more critical as these pesticides can actually exacerbate residents' symptoms related to COVID-19[1], especially respiratory symptoms. Please note the recent article by recently retired Director of the National Institutes of Environmental Health Sciences, Dr. Linda Birnbaum: Endocrine-disrupting chemicals weaken us in our COVID-19 battle.

[1]https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5381985/ and neonics ; https://www.intechopen.com/books/poisoning-from-specific-toxic-agents-to-novel-rapid-and-simplified-techniques-for-analysis/acute-poisoning-with-neonicotinoid-insecticide ; https://www.mdlinx.com/pulmonology/article/545

Bill # 20-0495 ensures that: 1) when a resident applies a pesticide on their own land, their neighbors are informed by markers that note the application and, 2) Residential and City applications of chlorpyrifos and glyphosate are banned and neonicotinoid pesticides are no longer allowed on City property. The Maryland Pollinator Protection Act , which went into effect in January 2018, already prohibits consumer use of garden products containing neonicotinoids. This bill also restricts this class of pesticides from being applied to City land. The bill does allow for the Commissioner to authorize the use or application of these pesticides, if a determination is made that a threat exists that requires the use of one of these pesticides when no other pesticide or class of pesticide would be effective in addressing the threat.

The dangers related to exposure to chlorpyrifos, glyphosate and neonicotinoids are backed by an ever-growing body of science – some evidence going back for two decades, as is the case for chlorpyrifos. The following is an overview of the long-term adverse impacts these chemicals can have, which underscores the need to ban/restrict them.

CHLORPYRIFOS

The Maryland General Assembly banned the use of chlorpyrifos in Maryland due to its serious and life-long impacts, especially on the health of our children. The law will be fully implemented as of January 2022, over 18 months from now. Bill opponents managed to insert a sunset of the law as of 2024, only allowing for 2 full years of implementation of the law. While legislators and advocates in support of the law intend to work on removing the sunset clause, clearly this is not guaranteed. **It therefore behooves the City of Baltimore and other municipalities to ensure our children and pregnant women are protected from this chemical, as soon as possible.**

> ***"This chemical [chlorpyrifos] is unambiguously dangerous and should be banned from use. We urge the E.P.A. to reverse its decision and protect child health."***
> *– Fernando Stein, M.D., President of the American Academy of Pediatrics, NYT 11/1/2017*

Prior to the current federal administration, the US EPA was poised to implement a national ban on chlorpyrifos. EPA scientists had determined, after a 20-year risk assessment process, that harm to pregnant women and young children from chlorpyrifos—*at any detectable level of exposure*—was an unacceptable risk. However, the current EPA administration refused to enact the ban. This led Maryland, and other states, to sue in federal court. Eventually the full 9th Circuit Court of Appeals upheld its previous 3-judge panel ruling that EPA must issue a final ruling on whether to ban chlorpyrifos, stating in August 2018 that there was *"no justification for the EPA's decision... in the face of scientific evidence that its residue on food causes neurodevelopmental damage to children*. On July 18, 2019, the EPA responded, stating it will not ban chlorpyrifos. Several states, including Maryland, are suing the EPA on the agency's continued reversal. US EPA, under the current administration, will likely continue its efforts to stall the process and will likely appeal to the Supreme Court, potentially tying up the case for years to come.

Chlorpyrifos is a toxic, nerve agent pesticide also known to harm the environment and wildlife. It is found in air and water—and people's bodies. People come in contact with the chemical through residues on food, drinking water contamination, and toxic drift from pesticide application. Negative effects of exposure to pregnant women and children include lower birth weight, developmental disorders including learning disabilities, attention and memory deficits, motor delays, behavioral issues and it is linked to autism. In addition, poorer perceptual reasoning, working memory, and intellectual development have been documented.

Baltimore City's children are at continued risk. The City Council has this opportunity to act to protect its children, pregnant women and urban farmers. Any continued use of chlorpyrifos in the City will allow for life-long adverse health impacts for our children.

Autism Spectrum Disorders Statistics of Note:. In 2019, the CDC reported that current median national autism rates are 1 out of every 40 children[2], up from 1 in 59 children in 2014, and 1 in 88 children in 2008. If that isn't already alarming enough, Maryland has been found to have the second highest rate in the country[3]

In a Centers for Disease Control and Prevention study, published in 2018, scientists found that 6.1 million children aged 2-17 years living in the U.S. had been diagnosed with attention-deficit/hyperactivity disorder (ADHD)[4]

WHY THE US EPA PLANNED TO BAN ALL USES OF CHLORPYRIFOS

Health risks of chlorpyrifos have been raised by US EPA for the past two decades

2000: In response to US EPA research-based concerns *20 years ago*, regarding the adverse impacts of chlorpyrifos, in the year 2000 Dow and other manufacturers of chlorpyrifos reached an agreement with the EPA to voluntarily restrict the use of chlorpyrifos in places where children may be exposed, including inside homes, schools and day care centers. At that time, the agency also banned its use on some crops, such as tomatoes, and limited its use on other crops, including apples, grapes and citrus. The EPA also banned its use in certain areas near residential and public spaces.

2015: In November of 2015, after continued and extensive study, US EPA scientists confirmed that there is no detectable level of chlorpyrifos for dietary exposure that can be considered safe and recommended that the pesticide be banned for all uses. At that time the agency determined that all food uses of chlorpyrifos should be stopped due to the high risk of children's exposure *in utero* or during critical periods of growth and to the link between chlorpyrifos exposure and autism, ADHD and other neurodevelopmental issues. [5]

EPA'S 2015 SCIENTIFIC FINDINGS

In November 2015, **the EPA's revised human health risk assessment for chlorpyrifos** [6] found that:

- All food exposures exceed safe levels, with children ages 1–2 exposed to levels of chlorpyrifos that are **140 times what EPA deems safe**.
- There is **no safe level** of chlorpyrifos in drinking water.
- Pesticide drift continues at unsafe levels 300 feet from the field's edge.
- Chlorpyrifos is found at unsafe levels in the air at schools, homes, and communities in agricultural areas.
- All workers who mix and apply chlorpyrifos are exposed to unsafe levels of the pesticide **even with maximum personal protective equipment** and engineering controls.
- Field workers are allowed to re-enter fields within 1–5 days after pesticide spraying, but unsafe exposures continue on average 18 days after applications.

THE VERACITY OF EPA'S RISK ASSESSMENT OF CHLORPYRIFOS

You may hear opponents question the scientific basis of EPA's risk assessment, claiming that 1) EPAs Science Advisory Panel (SAP) concluded that there was insufficient evidence for a ban and also claiming that 2) one of three significant epidemiological studies conducted at Columbia University could not be replicated by the other two studies. This is not accurate.

1) EPA submitted its analysis to EPA's Science Advisory Panels (SAP) on multiple occasions beginning in 2008, and each time, the SAP confirmed EPA's conclusion that early life exposures to chlorpyrifos pose a risk of long-

[2] https://pediatrics.aappublications.org/content/142/6/e20174161
[3] https://www.cdc.gov/nchs/products/databriefs/db291.htm
[4] https://www.tandfonline.com/doi/full/10.1080/15374416.2017.1417860
[5] https://www.regulations.gov/document?D=EPA-HQ-OPP-2015-0653-0454
[6] https://www.epa.gov/pesticides/updated-human-health-risk-analyses-chlorpyrifos

lasting, adverse cognitive, behavioral, and motor impairments. And both EPA and the SAP found that the exposures associated with serious damage to children's brains were far below the regulatory endpoint used by EPA in its 2001 and 2006 re-registration determinations, and in establishing the chlorpyrifos tolerances currently in effect.

As early as 2000, EPA noted that, "Results of multiple studies have consistently shown that the developing brain is susceptible to chlorpyrifos treatment." (EPA, Human Health Risk Assessment: Chlorpyrifos, June 8, 2000). The SAP convened in 2008, found that laboratory studies show that "gestational or early postnatal exposures can lead to neurochemical and behavioral alterations that persist into adulthood," including long-term neurobehavioral changes in motor and cognitive behaviors. (2008 SAP Report)

2) The SAP also found the Columbia study the most sound and appropriate for use in assessing developmental toxicity of chlorpyrifos, citing "chlorpyrifos is likely associated with adverse neurodevelopmental outcomes." Finally, SAP panel members noted that the exposures in the Columbia study were below EPA's regulatory endpoint and of concern in light of evidence demonstrating that low levels of exposure to toxicants like lead, mercury, and PCBs are now known to produce significant adverse effects when they were previously thought to be harmful only at high levels.[7]

There were small differences between the Columbia and Mount Sinai studies given they were conducted by different groups of scientists in different populations, using somewhat different protocols. The Columbia University study measured amount of chlorpyrifos in umbilical cord blood whereas a Mt. Sinai study used metabolites in urine that are specific to organophosphates. Chlorpyrifos is an organophosphate. Substantial amount of experimental data supports the Columbia University findings. **The bottom-line findings were powerfully similar**, as described in an editorial by senior scientists from the National Institute of Environmental Health Sciences[8]. **The basic conclusion of both studies was essentially the same, that chlorpyrifos is associated with adverse neurodevelopmental outcomes.**

In 2012, EPA convened its SAP to review EPA's more comprehensive analysis of the neurotoxicity of chlorpyrifos. In its report, the SAP noted significant, long-term adverse effects on neurobehavioral development from chlorpyrifos in laboratory animal studies. It found that the epidemiology "studies show some consistent associations relating exposure measures to abnormal reflexes in the newborn, pervasive development disorder at 24 or 36 months, mental development at 7-9 years, and attention and behavior problems at 3 and 5 years of age." **The Panel concurred with EPA and the 2008 SAP that "chlorpyrifos likely plays a role in impacting the neurodevelopmental outcomes examined in the three cohort studies."**
(https://www.regulations.gov/document?D=EPA-HQ-OPP-2012-0040-0029)

In December 2014, EPA released its *Revised Human Health Risk Assessment for Chlorpyrifos* ("2014 RHHRA") and acknowledged the strong convergence in the findings from the animal studies and the three mother-child cohort studies. It found that the laboratory animal studies indicated "that gestational and/or postnatal exposure may cause persistent behavioral effects into adulthood... upon review of the published literature a pattern of neurodevelopmental adverse outcomes emerges." It called the cohort studies **strong studies which support a conclusion that chlorpyrifos causes long-lasting damage to children's brains** at exposures lower than EPA's regulatory endpoint. The 2014 risk assessment also documented unsafe chlorpyrifos exposures from drinking water contamination[9].

2015: EPA proposed to revoke all chlorpyrifos tolerances based on these findings (Nov. 6, 2015). In the proposed revocation rule, **EPA explicitly and repeatedly found chlorpyrifos unsafe.**

EPA recognized that its 2014 risk assessment and 2015 proposed tolerance revocation did not address the greatest risks and most sensitive endpoint, as EPA policy requires and therefore, continued to explore ways to

7 https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0274-0064
8 https://www.researchgate.net/publication/51538799_Strength_in_Numbers_Three_Separate_Studies_Link_in_Utero_Organophosphate_Pesticide_Exposure_and_Cognitive_Development
9 Chlorpyrifos: Revised Human Health Risk Assessment for Registration Review; Dec. 29, 2014 ; EPA- HQ-OPP-2008-0850-0195

establish an exposure limit that would protect children from neurodevelopmental harm. Each method it explored revealed more serious risks from chlorpyrifos than the 2014 risk assessment.

In November 2016, EPA released its second revised human health risk assessment using a regulatory endpoint designed to guard against damage to children's brains. **That risk assessment found unsafe exposures from every way that people come into contact with chlorpyrifos**—on food, in drinking water, through pesticide drift, and from applying the pesticide or working in fields that had recently been sprayed. **EPA indicated it had found no chlorpyrifos uses that meet the FFDCA safety standard and all chlorpyrifos tolerances would need to be revoked.**[10]

EPA DETERMINED CHLORPYRIFOS ALSO ADVERSELY IMPACTS WILDLIFE

2017: In January 2017 the EPA released its first rigorous nationwide analysis of the effects of pesticides on endangered species, finding that **97 percent of the more than 1,800 animals and plants protected under the Endangered Species Act are likely to be harmed by** malathion and **chlorpyrifos**, including more than 100 listed bird species, fish, aquatic invertebrates, insects and crustaceans.

CHLORPYRIFOS AND POLLINATORS

Independent research underscores chlorpyrifos also harms pollinators. According to a 2014 study, Chlorpyrifos is second only to neonicotinoids[11] as a risk to bees (third highest total, after two different types of neonics). Another 2014 study found that chlorpyrifos at hive-residue levels more than doubled larval mortality compared to untreated larvae [Zhu et al., 2014]. A ground-breaking peer-reviewed field study showed that not only does chlorpyrifos cause colony threatening brain damage to honeybees, but it does so at the sub-lethal concentrations found in the majority of fields sprayed as directed by the manufacturer [Urlacher et al., 2016]. A 2014 study listed chlorpyrifos among the top five pesticides considered the highest risk to bees [Sanchez-Bayo and Goka, 2014]. Chlorpyrifos can damage the learning and memory of bees that are exposed.

CHLORPYRIFOS AND THE CHESAPEAKE BAY

A Chesapeake Bay Program report found[12] chlorpyrifos in 90 percent of Bay water samples analyzed for this chemical, and 40 percent of those had concentrations that exceeded thresholds indicating possible ecological effects. The report found that chlorpyrifos ranks among the "top five individual toxics of concern." In 2018, the National Marine Fisheries Service reported[13] that adult and juvenile Atlantic sturgeon, which are listed as endangered, are at a high risk from exposure to chlorpyrifos because concentrations of the chemical would reduce their abundance and spawning productivity. Chlorpyrifos toxicology studies suggest behavioral, reproductive and endocrine disruption to all aquatic arthropods, especially those in close proximity to chlorpyrifos runoff[14] [15] [16] [17] [18]

ALTERNATIVES TO CHLORPYRIFOS

Extensive scientific data is available on alternatives to chlorpyrifos for treating pests such as blue grass weevil on golf courses or peach tree borer on orchards. Chlorpyrifos is not needed to address the invasive spotted lanternfly. Detailed information in a report separately submitted today regarding specific products that can

[10] Revised Human Health Risk Assessment for Registration Review; Nov. 3, 2016; EPA- HQ-OPP-2015-0653-0454
[11] https://bit.ly/2smjenY
[12] https://bit.ly/2RoIPk3
[13] https://repository.library.noaa.gov/view/noaa/16997
[14] http://npic.orst.edu/RMPP/rmpp_main2a.pdf
[15] https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/red_PC-059101_1-Jul-06.pdf
[16] https://www.ncbi.nlm.nih.gov/pubmed/7531775
[17] https://www.pwrc.usgs.gov/eisler/CHR_13_Chlorpyrifos.pdf
[18] https://link.springer.com/article/10.1007/s002449900299

replace chlorpyrifos for Maryland-grown crops, including turf on golf courses, comes from resources including:

- **IPM Institute of North America**, Specialty Crop Grower Services - www.ipminstitute.org, www.pesticiderisk.org
- **Rutgers University, The IR-4 Project** - fifty years of successful research into sustainable crop protection in specialty crops and off-label uses, http://ir4.rutgers.edu/index.html
- **Pesticide Research Institute** – provides research, analysis, technical services, expert consulting on chemistry and toxicology of pesticides - www.pesticideresearch.com
- **PRI Pesticide Product Evaluator** - an online tool providing information for over 18,000 pesticide products, http://pesticideresearch.com/site/evaluator/

NEONICOTINOIDS

Neonicotinoids (aka neonics) are a widely used class of pesticides confirmed by peer-reviewed science to be a major contributor to honeybee and wild bee declines, which threaten our food supply and also adversely impact wildlife, aquatic life and human health.

In 2016, the Maryland General Assembly banned consumer sale of home lawn and garden products containing neonics, effective January 1, 2018. Bill # 20-0495 is needed to address the continued use of neonic products on City property.

Neonics are pervasive—a single application to a shrub or tree has a half-life of 7 years or more, so when an exposed tree blossoms in subsequent years after the initial neonic exposure, it will express toxic nectar and pollen and continue to harm pollinators. Neonics and the chemically-similar fipronil currently account for approximately one third of the world insecticide market revenue (Simon-Delso et al. 2014). Reducing the use and impact of neonics is an urgent issue. Here's why:

POLLINATORS AND OUR FOOD SUPPLY

Our honeybees and wild pollinators are in trouble. Maryland beekeepers continue to lose 50% or more of their hives since 2014— tracking with the surge in neonic-containing consumer products that entered the marketplace. Urban and suburban neighborhoods, including Baltimore City, have always supplied critical pollinator habitat with their flowering trees, parks, and residential gardens. The introduction of neonics into hundreds of garden and lawncare products transformed pollinator Edens into poisoned killing fields.

Passage of Bill # 20-0495 is an important step for the City Council to support its work in helping to feed Baltimore City. Baltimore City has made important progress in addressing it challenges of food deserts and food insecurity with the development of an increasing number of urban garden and farming projects throughout the city. The success of these urban garden projects depend upon the health of honeybees and wild pollinators for vegetables and fruits to prosper. For example, a tomato blossom must be visited no less than 15 times by a bumble bee to be sufficiently pollinated to grow a well-formed tomato.

Pollinator protection is an urgent problem requiring timely action because one of every three bites of food we eat depends on pollinators, including most fruits and vegetables which are the most nutritious part of our diet. Bees pollinate 71 of the 100 crops that make up 90 percent of the world's food supply. **No bees** – no honey and **no produce** to feed our families. The impact of continued pollinator losses is unimaginable.

Backyard beekeepers are critical to supplying needed pollination to city urban gardens. But there is a high rate of beekeepers leaving beekeeping due to the costs of beehive losses year after year. This degree of loss is unsustainable; the beekeeping industry cites an annual loss rate of no more than 15 percent as economically viable. Maryland's annual losses are threatening the beekeeping industry—a beehive loss costs beekeepers $1,000-1,500 in lost income from honey, pollination, bee sales plus replacement costs; this figure does not include

the beekeepers labor. Maryland honeybee pollination directly supports farming in the state and is valued at more than $26 million, annually.

THE SCIENTIFIC EVIDENCE OF HARM TO POLLINATORS IS CONCLUSIVE

A review of more than 1,121 peer-reviewed studies released in 2014 by the *Task Force on Systemic Pesticides*—a group of 30 global, independent scientists—confirmed that neonics are a key factor in bee declines and are harming beneficial organisms essential to functional ecosystems and food production, including soil microbes, butterflies, earthworms, reptiles, and birds. The Task Force called for immediate regulatory action to restrict neonics. In addition to killing bees outright, a preponderance of research confirms that even low levels of these toxic pesticides impair bees' ability to learn, find their way back to the hive, collect food, produce new queens, and mount an effective immune response to diseases such as the varroa mite.

In January 2016, the US EPA released a study recognizing the significant risks from the legal use of one type of neonic pesticide (imidacloprid), which they concluded "potentially poses risk to hives when the pesticide comes in contact with certain crops that attract pollinators." The EPA is currently assessing three other neonicotinoids: clothianidin, thiamethoxam, and dinotefuran. This initial federal government risk assessment further underscores the growing body of research substantiating the role neonics play in pollinator decline.

Previously benign viruses and parasites causing minor damage become killers to bees affected by neonics. Neonics, at field-relevant doses, are found to suppress the immune systems that lead to death of honeybees. (De Prisco et.al. 2013). This was also noted earlier in 2010, from the work of Alaux and Pettis (USDA Beltsville Bee lab). In April 2015, the European Academies Science Advisory Council referring to the results of Di Prisco et al. concluded "that neonicotinoids cannot be considered as the only 'cause' of colony losses, but they can aggravate the impact of viral pathogens, stably associated with honeybee colonies all over the world." Dr. Klaus-Werner Wenzel, a member of the Task Force on Systemic Pesticides has stated that there is "no scientific evidence that Varroa mite can kill a healthy bee colony." France had varroa in every hive in the country from 1968 until 1994 without any instances of mass colony deaths. But the year in which neonics were introduced, varroa turned from a "problem parasite" to a colony killer.
(http://www.moraybeedinosaurs.co.uk/neonicotinoid/Neonicotinoid_Insecticides_Causing_Bee_Losses.pdf)

More than 400 species of wild bees also pollinate Maryland's agricultural bounty. Wild bees' contribution has been valued at $8,000 an acre. A Swedish study published in 2015 found that neonics cause wild bee declines, reducing populations in field realistic doses by 50%. Honeybees are merely the canary in the coal mine

PUBLIC HEALTH RISKS

Neonics are neurotoxic and may adversely affect the development of neurons and brain structures associated with functions such as learning and memory according to recent research by the European Food Safety Authority. Although neonicotinoids have been considered low toxicity to mammals and humans in comparison with traditional insecticides, more and more studies show exposure to neonicotinoids do indeed pose potential risk to mammals and even humans.

Some neonics may affect the developing human nervous system, as well as potentially increase the risk of cancer, reproductive harm and endocrine disruption. The National Resources Defense Council had a well-respected GreenScreen review conducted to evaluate the human health hazards of neonics. The review identified potential hazards for the following human health endpoints: cancer, reproductive harm, developmental harm and potential endocrine disruption. As a result, NRDC and other organizations asked the NIEHS Office of Health Assessment and Translation to conduct hazard assessments of these pesticides.

In recent years, neonicotinoids and their metabolites have been successfully detected in various human biological samples and in fruits and vegetables by the US Department of Agriculture (https://www.ams.usda.gov/datasets/pdp). Meanwhile, many studies have focused on the health effects of

neonicotinoids on humans.[22] Given the wide-scale use of neonicotinoids, more studies are needed to fully understand their effects on human health.[23] Investigations, conducted mostly on laboratory rats, have shown adverse effects of imidacloprid on the reproductive ability in both parental and offspring generations as well as on the development of the offspring. Like many pesticides, imidacloprid may also act as an endocrine disrupting chemical (EDC). It may disrupt the metabolic homeostasis, contribute to obesity, and disrupt steroidogenesis by inhibiting cytochrome P450 (CYP) enzyme activities. All these endocrine associated adverse effects of imidacloprid may pose a serious risk for reproduction and development with long term consequences in adulthood.[24]

CHESAPEAKE BAY/AQUATIC LIFE

Neonics are linked to death of molting blue crabs, Maryland's signature seafood. Neonics are also linked to declines in macro-invertebrates which are the food chain of many Bay species (including slugs, snails, mayflies and crustaceans). A 2015 USGS study found 59 percent of all streams sampled nationwide had detectable levels of neonic contamination – including sampling from the Chesapeake Bay watershed.

WILDLIFE RISKS

Like the other neonicotinoids, imidacloprid is highly water soluble and persistent in both terrestrial and aquatic environments, and poses potential risks to birds and mammals, especially from seed treatment. Imidacloprid is already classified as highly toxic to birds on an acute oral basis, and chronic toxicity results in effects on egg production, egg hatchability, and body weight. EPA's overall risk conclusion states, "For the registered agricultural and non-agricultural foliar spray applications, there is a potential for acute risk above the level of concern (LOC) to non-listed birds for all uses modeled when evaluated on an acute, oral basis." For mammals, "a potential for chronic risks is identified when evaluated on an oral basis."[19] Alarmingly, as little as 1 to 6 percent of a bird's diet of treated seed is enough to trigger acute and chronic risks. Reproduction impairment has also been demonstrated from neonicotinoid exposure in wild mammals, including rabbits and white-tailed deer.[20,21]

WORLDWIDE CONCERN AND ACTION ON NEONICS:

In April 2018, member states in the European Union agreed upon a total ban on neonicotinoid use, except in enclosed greenhouses. More than 20 states, municipalities, federal agencies and universities have taken steps to restrict neonicotinoids.

ALTERNATIVES ARE AVAILABLE

The good news is that there are safer neonic-free products available to consumers. (Please see attached chart identifying 30 pests with examples of neonic-free less-toxic products for each pest.)

---

[19] USEPA. 2017. Imidacloprid -Transmittal of the Preliminary Terrestrial Risk Assessment to Support the Registration Review.

[20] Memon, S.A., Memon, N., Mal, B., Shaikh, S.A. and Shah, M.A., 2014. Histopathological changes in the gonads of Male rabbits (Oryctolagus cuniculus) on exposure to imidacloprid insecticide. J Entomol Zool Stud, 2, pp.159-63.

[21] Berheim, E.H., Jenks, J.A., Lundgren, J.G., Michel, E.S., Grove, D. and Jensen, W.F., 2019. Effects of neonicotinoid insecticides on physiology and reproductive characteristics of captive female and fawn white-tailed deer. Scientific reports, 9(1), pp.1-10.

[22] Han, W., Tian, Y. and Shen, X., 2018. Human exposure to neonicotinoid insecticides and the evaluation of their potential toxicity: An overview. Chemosphere, 192, pp.59-65

[23] Cimino, A.M., Boyles, A.L., Thayer, K.A. and Perry, M.J., 2017. Effects of neonicotinoid pesticide exposure on human health: a systematic review. Environmental health perspectives, 125(2), pp.155-162.

[24] Mikolić, A. and Karačonji, I.B., 2018. Imidacloprid as reproductive toxicant and endocrine disruptor: investigations in laboratory animals. Archives of Industrial Hygiene and Toxicology, 69(2), pp.103-108.

GLYPHOSATE

Glyphosate, most commonly known and applied as "RoundUp," is the most widely used pesticide in the world. It is applied to lawns and gardens, parks and playgrounds, farm fields and food crops – and then runs with rainfall into the waterways and thus our drinking water.

THE SCOPE OF THE PROBLEM

Roundup, and generic versions of it, is the most widely used herbicide in the US. Nearly 1.8 million tons of glyphosate have been used in the U.S. since its introduction in 1974. For comparison, that's equivalent to the weight of water in more than 2,300 Olympic-size swimming pools. And in 2014 alone, there was enough used to spray nearly half a pound of glyphosate on every cultivated acre of land in the world.

Lately, Roundup hasn't been getting the job done. Weeds have grown resistant, and these "super weeds" require more and more Roundup to kill. Not surprisingly, the response has been to increase the dosage of Roundup used, increasing the frequency of Roundup use, or combining Roundup with other herbicides.

And it's not just used on farms. **In the US, 26 million pounds of Roundup are sprayed on public parks, playgrounds, schools, and gardens every year.** From 2005 to 2012, the non-agricultural use of Roundup grew by 14 percent.

To make matters worse, there is more research that shows that the other "inert" ingredients in Roundup, and herbicides like it might actually increase the health risks posed by the main ingredient, or pose health risks of their own.

PUBLIC HEALTH RISKS

Just how serious is the risk? Scientists are still researching the scope of the problem, but there is cause for serious concern. According to the cancer agency at the World Health Organization, glyphosate – the main chemical ingredient in Roundup – is a probable human carcinogen. This study links glyphosate to a wide range of cancers including pancreatic cancer, skin cancers, non-Hodgkin's lymphoma and endocrine disruption, as well as non-cancer illness such as liver and kidney damage, genetic damage, decreased sperm count and developmental abnormalities. In April 2019, the Agency for Toxic Substances and Disease Registry (a US federal public health agency) released its draft Toxicological Profile for Glyphosate, which supports the earlier cancer assessment of the IARC. By 2017, glyphosate was listed as a cancer-causing chemical under California's Safe Drinking Water and Toxic Enforcement Act. This requires cancer warning labels be placed on end-use glyphosate products in California.

So far the EPA and many other decision makers have largely been taking Monsanto at their word when they claim their product is safe. But Monsanto has not been transparent about the potential health effects of Roundup. In 2017, Monsanto was caught ghost-writing studies for "independent scientists" to show that glyphosate, the main ingredient is safe, and in late 2017 newly unsealed court documents showed Monsanto has had an influence on U.S. regulators in the EPA for years, while suppressing scientific information about the potential dangers of its widely used pesticide, Roundup.

In 2019, a jury awarded a California couple $2 billion in punitive damages after concluding that sustained exposure to Monsanto Co.'s Roundup weed killer was a significant cause of their cancer. The evidence against Monsanto included private text exchanges between company officials and EPA regulators and evidence that the company ghost-wrote studies for independent scientists. **Monsanto, now Bayer, faces** over 40,000 lawsuits **from plaintiffs over glyphosate's toxicity.**

GLYPHOSATE AND OUR FOOD

Glyphosate is everywhere - even in places where it doesn't belong. A 2018 study found glyphosate in Cheerios, Quaker Oats, beer and ice cream. Studies are finding that more and more of this chemical is showing up in our bodies. **One scientific study found that the percentage of people who tested positive for glyphosate increased by 500 percent between 1993 and 2016. A 2015 study detected glyphosate in 93% of Americans tested.**

Not only has glyphosate been deemed a probable carcinogen, but a recent study identified that glyphosate use is associated with respiratory wheeze in farmers. But glyphosate isn't only used on farms; it's used in our yards, on our playgrounds and in our parks. **Researchers are finding more evidence every day that exposure to glyphosate and similar chemicals contributes to respiratory symptoms and asthma.** We are living in a time where respiratory health is a critical issue and we should be taking steps to protect our community from additional respiratory stress.

ACTION ON GLYPHOSATE

Hundreds of US cities and countries around the world have already taken action. Right here in Maryland, Greenbelt, Hyattsville, Takoma Park and Montgomery County have all taken steps to restrict the use of glyphosate. We're also seeing action across the country, from Boulder, Colorado, to Dubuque, Iowa, to South Portland, Maine. And with high profile court cases in California, more and more people are becoming aware of the dangers of Roundup and glyphosate. France, Austria, Vietnam and many more countries have banned glyphosate because of the toxic health impacts.

Let's make Baltimore City the next city that takes action on these toxic chemicals.

Testimony support documents
continue on following pages...

SMARTon PESTICIDES maryland

Website: www.smartonpesticides.org
Contact: Ruth Berlin mpnberlin@gmail.com
410.693.7319 (c)

THE SMART ON PESTICIDES COALITION MEMBERS

105 members – Baltimore City organizations noted in bold

A.I.R Lawncare and Landscaping Services
Alliance of Nurses for a Healthy Environment
American Academy of Pediatrics–Md. Chapter
American Public Health Association–Md. Chapter
Anacostia Watershed Society
Annapolis Green
Anne Arundel Beekeepers Association
Assateague Coastal Trust
Audubon Maryland - DC
Audubon Naturalist Society
Baltimore Backyard Beekeepers Network
Baltimore Bird Club
Beyond Pesticides
Big City Farms
Bowie-Upper Marlboro Beekeepers Association
CATA, Farmworker Support Committee
Carroll County Beekeepers Association
Cecil Bird Club
Center for Food Safety
Central Maryland Beekeepers Association
Central Md. Ecumenical Council
Charm City Meadworks
Chesapeake BaySavers
Chesapeake Physicians for Social Responsibility
Children's Environmental Health Network
Clean Bread and Cheese Creek
Clean Water Action
Common Market Co-Op
Conservation Community Consultants
Cottingham Farm
Crossroads Community Food Network
Earth Coalition
Earthjustice
Eastern Shore Food Hub
Environment Maryland
Fair Farms
F&D and Charles Smith Apiaries
Farmworker Justice
Food and Water Watch
Fox Haven Farm and Learning Center
Frederick Co. Beekeepers Association
Friends of Briers Mill Run
Friends of Lower Beaverdam Creek
Friends of Quincy Run
Friends of the Earth
Greenbelt Forest Preserve Butterfly Brigade
Hampden Community Council
Hereford Bed and Biscuit
HoneyFlower Foods
Howard County Beekeepers Association
Howard County Bird Club
Interfaith Partners of the Chesapeake
Interfaith Power & Light
Johns Hopkins Center for a Livable Future
Karma.Farm
KW Landscaping
Latino Farmers & Ranchers Assoc.–Md. Chapter
League of Women Voters of Maryland
Learning Disabilities Association–Md. Chapter
Lower Susquehanna Riverkeeper
Maryland Autism Project
Maryland Bass Nation
Maryland Conservation Council
Maryland Ethical Cannabis Association
Maryland League of Conservation Voters
Maryland Nurses Association
Maryland Organic Food and Farming Association
Maryland Ornithological Society
Maryland Pesticide Education Network
Maryland Public Interest Research Group
Maryland United for Peace and Justice
Maryland Votes for Animals
McDaniel Honey Farm
Migrant Clinicians Network
Moms Clean Air Force
MOM'S Organic Market
Montgomery Countryside Alliance
National Aquarium
National Resources Defense Council
Organic Consumers Association
Pearlstone Conference Center
Pesticide Action Network–North America
Potomac Riverkeeper
Queen Anne's Conservation Association
Rachel Carson Council
Red Top Farm
Rodale Institute
Rousedale Farm
Ruscombe Community Health Center
SafeGrow Montgomery
Safe Minds
Safe Skies Maryland
Sierra Club–Maryland Chapter
Spa Creek Conservancy
The Flower Factory
Towson Estates Association
Trout Unlimited
Washington County Beekeepers Association
Waterkeepers Chesapeake
Westport Farmers Market
Westport Neighborhood Association
Wicomico Environmental Trust

Maryland Pesticide Education Network

EVALUATING HEALTH & ENVIRONMENTAL SCIENCE

A Guide for Legislators

Scientific evidence is the underpinning for policy decisions regarding health. This checklist offers guidance for legislators listening to and assessing scientific testimony and scientific arguments on these often difficult questions, as well as help in questioning witnesses during a hearing.

1. What is the purpose, and what is the source of the research being presented?

The goal of a study may influence the outcomes. For instance, studies that a manufacturer must undertake to submit a chemical or drug for federal registration are different from studies performed by independent scientists seeking to understand impacts of chemicals on humans, animals, or the ecosystem.

What you need to know: Are government findings based on industry-provided research? Are they based on a review of all available sources?

Example: In the debate of e-cigarette / vapor product regulation, research reports by the FDA's Division of Pharmaceutical Research was very credible because it reflected totally independent testing.

2. Have the studies been peer-reviewed?

Independent scientific research is subject to review by a panel of "peers"; these are other scientists with no stake in the findings and no conflicts of interest. Peer review ensures accuracy in methodology and statistical significance, as well as proper interpretation of the results. When a study passes peer review, it is usually published in a scientific journal, such as Environmental Health Perspectives or the Journal of the American Medical Association. This is a transparent process, ensuring that rigorous standards are upheld.

What you need to know: Are the studies being cited peer reviewed? If not, consider the source. Blogs and newspaper articles are not peer-reviewed materials, but may link back to a peer-reviewed source.

Peer Reviewed

A panel of independent experts in the same scientific field, who have no connection to the study and no conflicts of interest, have reviewed it and judged it to be valid and worthy of publication.

3. How certain is "certain enough" to act?

Scientists examine facts and complex information and then look for a preponderance of evidence. While scientists routinely disclose elements of uncertainty in their research, they form their conclusions based on the weight of the evidence.

What you need to know: Is there sufficient evidence regarding possible harms that warrants taking action? Is there sufficient evidence of safety to justify inaction?

Example: Based on the preponderance of evidence of likely harm, we passed seat belt laws and prevented children from drinking alcohol.

4. Are the scientists being too cautious?

Scientists are conservative regarding "certainty." They use a "95% confidence test" in order to conclude that two observations that happen together are more than accidental and probably causal. When it comes to taking action,

however, public and environmental health experts recommend action based on sufficient scientific evidence to warrant concern and not on a specific percentage.

What you need to know: What are the risks and what could be the harm if we wait for more research to be conducted before taking action?

Example: Laws limiting human exposure to DDT, lead, tobacco and alcohol were all passed long before a 95% confidence test was met. These laws were based on a preponderance of evidence rather than 95% certainty.

Weight of the Evidence

This term refers to a judgment in the scientific community that most studies to date confirm a particular conclusion. Scientists are always open to new findings, so they may avoid using terms like "certainty", "100%" or "we are sure."

5. Are the findings influenced by funding source, trade secrets, or suppression of data?

The design of a scientific study may be influenced by the source of its funding. This has been well documented by independent observers. It is therefore reasonable and prudent for legislators to ask all scientists and those who cite scientific research about their sources of funding.

What you need to know: What are the sources of funding for the work being cited? Were any data omitted due to trade secret protections or similar reasons?

Example: 1) The source of funding for a study can influence important findings or cause contrary results to be omitted from the study's report. 2) Important data that an industry provides to a federal agency before marketing will not be in the public domain and may not have been subjected to peer review.

6. Has anyone addressed the economic harm associated with inaction?

Policy-makers must weigh not only the cost of taking action but also the cost of inaction. Science offers insight into the costs of inaction.

What You Need to Know: What public and private costs may be incurred if we do not take action on this proposed policy?

Example: A 2015 peer reviewed study estimated the costs to the EU of human exposure to endocrine disruptors at $209 billion annually in medical care and lost productivity. *(Trasande et al J Clin Endocrinol Metab. 2015 Apr; 100(4): 1245–1255.)*

Note: The fiscal note on a bill will not typically assess the costs of inaction. It addresses only the costs of adopting the policy, and usually only the costs to government.

7. Have long term effects been assessed?

Early life exposures can create high risks in later life. An example is the link between lead poisoning and long-term harms to children, or between tobacco and cancer. Over time, human exposures to multiple chemicals will have interactive effects that may be quite different from the effects of a single chemical.

What you need to know: Does the science presented also address the long-term effects of exposure? If not, is that because the research does not exist?

Note: Federal agency review does not establish absolute safety. The US EPA registers chemicals based on "reasonable certainty of no harm" and has yet to address the synergistic effects of chemicals in real life, such as interactions with other chemicals in the environment, medications, and illness.

SAFER AND EFFECTIVE AGRICULTURE ALTERNATIVES TO CHLORPYRIFOS IN MARYLAND

RESOURCES FOR FARMERS

SAFER ALTERNATIVES TO CHLORPYRIFOS

- Maryland Department of Agriculture Pesticide Database Searches
- Integrated Pest Management (IPM) Institute of North America
- Rutgers University IR-4 Project
- Pesticide Research Institute
- Alternatives to Chlorpyrifos for Maryland Agriculture report
- University of Maryland Extension Service

Chlorpyrifos (chlor·pyr·i·fos) is a toxic, nerve agent pesticide that has been found to damage children's brain development, contaminate waterways and injure wildlife. Safer, effective alternatives to chlorpyrifos exist for agriculture use to control every Maryland crop pest, such as conventional pesticides, biopesticides, organic pesticides and cultural controls.

Maryland farmers—including organic and conventional farmers—are able to produce thriving crops without relying on brain-harming chlorpyrifos. Listed below are numerous alternative treatments and practices available to Maryland farmers and golf course owners.

Effective Alternative Treatments Against Key Maryland Pests

** While High Hazard rated pesticides increase the number of alternative options, this fact sheet highlights insecticides rated as Low Hazard or Moderate Hazard (by Pesticide Research Institute and Rutgers IR-4 Project)*

Orchard Fruits

Pests	Alternative Treatments
Peach tree borer	Over 100 products including 16 Moderate/Low Hazard insecticides plus cultural practices • USDA found a single application of nematodes suppressed 88% of orchard borer infestation; spring and fall application suppressed 100% infestation USDA Agriculture Research Service study • Cultural practices include painting the first 12 inches of trunk area with Surround WP Kaolin clay or Latex paint. Other options are to set pheromone traps or to spread cedar chips or bark around the bases of the trees.
Coddling moth	Over 300 products

FACTS

- "The apple industry is moving away from organophosphates like chlorpyrifos due to safety concerns. For many pests, reduced-risk pesticides and non-pesticide alternatives have replaced chlorpyrifos."
  - Vincent P. Jones et al., Outlooks on Pest Management
- "A study of apple orchards found no difference in fruit damage between blocks treated with reduced-risk pesticides (clean fruit: 90-96%) and blocks treated with growers standard pesticides, which were mostly organophosphates like chlorpyrifos (clean fruit: 93%-96%)."
  - Arthur M. Agnello et al., American Entomologist

Vegetables & Grains

Pests	Alternative Treatments
Corn rootworm	Over 75 products, including 19 Moderate/Low Hazard insecticides
Seedcorn maggot	Over 100 products, including 13 Moderate/Low Hazard insecticides, plus Regard SC Seed Treatment as well as biological and cultural controls

FACTS

- There are 50 organic corn growers in Maryland who do not use chlorpyrifos
- "Chlorpyrifos-treated seeds can leach chlorpyrifos into the soil, ending up in our waterways as 95% of seed coatings wash off and can become runoff."
  - Dave Goulson, School of Life Sciences, University of Sussex

Golf Courses

Pests	Alternative Treatments	Cultural Controls/Practices
Annual bluegrass weevil (ABW)	Over 75 products including 17 Moderate/Low Hazard insecticides	• Maryland Cooperative Extension recommends various biological and cultural controls for upkeeping golf courses. • Cultural practices include the use of ABW-tolerant Bermuda grass and creeping bent grass, which is naturally resistant to ABW. *– NJ Turfgrass Assoc on Rutgers Annual Bluegrass Weevil Research*

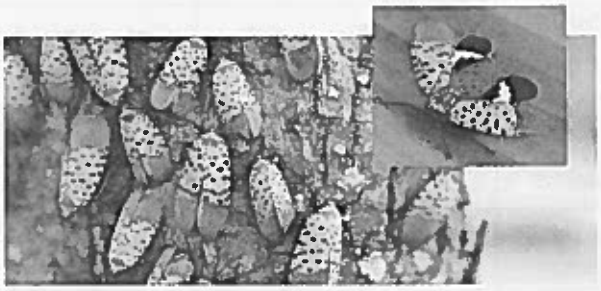
FACTS

Many Maryland golf courses report they do not use chlorpyrifos

"Because highly resistant weevil populations are also more tolerant of—if not resistant to—most of the currently available larvicides, superintendents will also have to start relying more on biorational insecticides and cultural means to manage weevil populations."
— Golf Course Superintendents Association of America's GCM Magazine

PEST: Spotted Lanternfly

Target Crops	Alternative Treatments	Cultural Controls/Practices
Tree fruit and Wine grapes	15 products that do not contain chlorpyrifos identified as "excellent" or "good" by the Spotted Lanternfly Task Force at Penn State • 10 products are 98-100% effective for nymphs and adults • Insecticides used for other pests will also kill SLF nymphs	Cultural controls include scraping egg masses, baiting trees and using sticky tape



SMART on PESTICIDES maryland
For Safe Water & Healthy Kids

The Smart on Pesticides Maryland coalition, spearheaded by the Maryland Pesticide Education Network, works to protect Marylanders and the natural systems we depend upon from the toxic impacts of pesticides. The coalition includes more than 100 organizations and institutions representing communities, businesses, health care providers, farmers, environmentalists, waterkeepers, interfaith

SMARTONPESTICIDES.ORG

SMARTon PESTICIDES maryland

Website: www.smartonpesticides.org **Facebook:** http://on.fb.me/Ut6rrX
Twitter: @PesticidesSmart #beesafe

Neonicotinoid-Free Consumer Pesticide Products

Maryland citizens, scientists, beekeepers and healthcare advocates, are alarmed about the widespread use of neonicotinoid pesticides (aka neonics), in hundreds of home and garden consumer products. Neonics have been confirmed to contribute to honey bee mortality, declines in native pollinators, birds and aquatic life; are linked to the death of molting blue crabs; and pose a risk to human health. Neonics also kill beneficial insects, making landscapes chemically dependent for insect control.

THERE ARE OVER 290 NEONIC-FREE PRODUCTS FOR COMMON PESTS THAT ARE SAFER FOR HONEYBEES.
Here is a sample list of neonicotinoid-free products for 30 of the most common home & garden pests
Resources: PRI Product Evaluator, Beyond Pesticides, Xerces Society ; PRI Product Evaluator available for mobile through iTunes store)

Insect Pest	# of Neonic-Free Tier 3 Products	Neonic-Free Products of Least Concern to Honey Bees * Neonic-free products which may be linked to health and/or other wildlife and aquatic impacts are marked with asterisk ** Insecticidal soaps, horticultural oils & limonene are low risk to bees if applied at night, when bees are inactive					
Ants	**53**	**Drax Liquidator Ant Bait**	**Gourmet Ant Bait Gel**	**Safer Brand Ant & Crawling Insect Killer**	**Cinnacure A3005**	**EcoPCO ACU**	**Mint oil, cedar oil, orange oil garlic spray**
Adelgids	**10**	** Civitas	Golden Pest Spray Oil	Leaf Life Gavicide Green 415	** Orange Guard for Ornamental Plants	Purespray Green, Horticultural oils, Insecticidal soaps	
Aphids	**33**	**Essentria IC3**	**Aphid-Pruf**	**BFR 440 Supreme Spray Oil**	**Cinnacure A3005**	**Clean Crop Supreme Oil**	**Insecticidal soaps, Neem oil**
Beetles	**5**	Essentria IC3	Golden Pest Spray Oil	NEU 1160 Vegetable Oil Insecticide	Purespray Green or Purespray Spray Oil 10 E	Boric acid	
Centipedes, Millipedes & Sowbugs	**12**	T*A*P* (indoor use)	Mosquito & Tick Control Yard Pro-tection Concentrate	EcoPCO ACU	Boric acid	** Whitmire Micro-Gen TC 232	
Crickets & Katydids	**22**	Redzone Bait	Safer Brand Garden Fungicide, Insecticide & Miticide Ready-to-Use	Mosquito & Tick Control Yard Protection Concentrate	Essentria IC3	** Whitmire Micro-Gen TC 232	
Cutworms, Armyworms	**26**	Agree 50 WP or Agree WG	Bonide Dipem 150 Dust for Vegetables	Cinnacure A3005	Golden Pest Spray Oil	Dipel Regular or 2X Biological Insecticide Wettable Powder	
Earwigs & Springtails	**17**	Redzone Bait	Safe Brand Garden Fungicide, Insecticide & Miticide Read-to-Use Spray	EcoPCO ACU	Essentria IC3	Surround WP Crop Protectant	
Fleas	**20**	**Eaton's Answer Boric Acid Insecticidal Dust (indoor use)**	**Dri-out Insecticide**	**Diatomaceous earth (indoor use), Silica aerogel, Boric acid**	**EcoSmart Insect Killer for Lawns & Landscapes**	**** Whitmire Micro-Gen TC 232**	**EcoPCO ACU**
Flies	**25**	**Vector 960**	**BMP 144**	**Cinnacure A3005**	**EcoSmart Insect Killer Spray for Lawns & Landscapes**	**** Whitmire Micro-Gen TC 232**	*** RF 9707 Aerlosol**
Grubs & Maggots	**9**	Cinnacure A3005	Prokil Cryolite 50 Dust	Bacillus Thuringiensis, Milky spore, Nematodes	Surround WP Crop Protectant	Zone Defense	
Hornets, Wasps, Yellow Jackets	**11**	**Essentria IC3**	**** Whitmire Micro-Gen TC 232**	**Rescue W·H·Y Trap for Wasps, Hornets & Yellowjackets**	**Soap and water, Enzyme solution (such as Super C Professional)**	**EcoPCO ACU**	**Silica aerogel, Acetic acid, Boric acid, Peppermint oil**
Japanese Beetles	**5**	**Bag-A-Bug Japanese Beetle Trap**	**Surefire Japanese Beetle Trap**	**EcoPCO ACU**	**Milky spore**		
Lace Bugs	**13**	Golden Pest Spray Oil	Leaf Life Gavicide Green 415	Safer Brand Garden Fungicide, Insecticide, & Miticide Ready-to-Use Spray	Surround WP Crop Protectant	Purespray Green and Purespray Spray Oil 10E	
Leafhopper	**14**	Cinnacure A3005	Golden Pest Spray Oil	Safer Brand Garden Fungicide, Insecticide & Miticide Read-to-Use Spray	Ringer Aphid Mite Attack/Fruit & Vegetable	Purespray Green and Purespray Spray Oil 10E	
Locusts & Grass-hoppers	**6**	Essentria IC3	Prokil Cryolite 96 or 50 Dust	Surround WP Crop Protectant	EcoPCO ACU		

Insect Pest	# of Neonic-Free Tier 3 Products	Neonic-Free Products of Least Concern to Honey Bees * Neonic-free products which may be linked to health and/or other wildlife and aquatic impacts are marked with asterisk ** Insecticidal soaps, horticultural oils & limonene are low risk to bees ft applied at night, when bees are inactive					
Loopers	22	Agree 50 WP or Agree WG	Cinnacure A3005	* BT 320 Sulfur 25 Dust	Dipel Regular or 2X Biological Insecticide Wettable Powder	Dipel Bio Garden Spray or Dipel WP Home & Garden Insecticide	Bonide Bacillus Thuringiensis (BT) Moth Larvae Contro
Midges	7	BPM 144 (2X)	BMP 144	KBR 3023 All-family Insect Repellant Non-aerosol Spray	* Agnique MMF GR Mosquito Liquid	Vectobac 12AS Biological Larvicide	
Mites	71	BFR 440 Supreme Spray oil	Safer Brand Garden Fungicide, Insecticide & Miticide Ready-to-Use	BFR 440 Supreme Spray Oil	Cinnacure A3005	** Orange Guard for Ornamental Plants	
Mosquitoes	35	**Bonide Mosquito Beater WSP**	**BMP 144**	**Cutter Natural Insect Repellent**	**Vectobac – AS or 12As Biologic Larvicide**	**Bacillus Thuringiensis, Citronella oil, Linalool, Oil of Lemon Eucalyptus,**	EcoPCO ACU
Psylla & Psyllids	22	BFR 440 Supreme Spray Oil	Britz 415 or Supreme Spray Oil	Gavicide Super 90	Golden Pest Spray Oil	Purespray Green or Purespray Spray Oil	
Roaches	41	**Gourmet Ant Bait Gel**	**Safer Roach & Ant Killing Powder**	**EcoSmart Ant & Roach Killer**	**Dri-out Insecticide**	**EcoPCO ACU**	**Redzone Bai**
Scale Insects	29	BFR 440 Supreme Spray Oil	Britz 415 Supreme Oil or Spray Oil	Cinnacure A3005	Safer Brand Garden Fungicide, Insect-icide & Miticide Ready-to-Use Spray	** Orange Guard for Ornamental Plants	
Spiders	12	**EcoSmart Spider Blaster**	**Dri-out Insecticide**	** Whitmire Micro-Gen TC 232	**EcoSmart Insect Killer Spray for Lawns & Landscapes**	**EcoPCO ACU**	**Sticky traps**
Termites	290	**BorActin Insecticide Powder**	**Aphid-Pruf**	**Bonide Bacillus Thuringiensis (BT) Moth Larvae (Caterpillar) Control**	**Zone Defense**	**Agent Gold**	**Silica aerogel, Boric acid, Metarhizium anisoplae, Nematodes**
Thrips	33	Golden Pest Spray Oil	Dusting Sulfur Fungicide-Insecticide	Cosavet DF	BFR 440 Supreme Spray Oil	Cinnacure A3005	
Webworms	23	Bonide Bacillus Thuringiensis (BT) Moth Larvae (Caterpillar) Control	Bonide Dipem 150 Dust for Vegetables	Dipel Regular or 2X Biological Insecticide Wettable Powder or Dipel Bio Garden Spray I	Golden Pest Spray Oil	Purespray Green or Purespray Spray Oil 10E	
Weevils	17	Prokil Cryolite 50 Dust	Agree 50 WP	Cinnacure A3005	EcoPCO ACU	Essentria IC3	
Whiteflies	25	Golden Pest Spray Oil	Aphid-Pruf	Cinnacure A3005	Gavicide Super 90	Insecticidal soap, sticky tape and cards	
Wood-boring Beetles	19	Prokil Cryolite 96	Cinnacure A3005	* Board Defense	Beetleblock-Verbenone	* Sunspray 6E	

Understanding Pesticide Hazard Tier Rating* The LEED-compliant pesticide product Hazard Tier Rating system, Pesticide Product Hazard Tier rankings, allow consumers and property managers to make informed decisions about choosing less toxic neonicotinoid –free pesticide products. (PRI Hazard Tier Evaluator, www.pesticideresearch.com)

Hazard Tier 1 – HIGHEST CONCERN - Over 230 products contain neonicotinoids are rated Tier 1
The formulated product is listed by US EPA as a Restricted Use Product (RUP), and/or is highly toxic to people, fish or other aquatic life, birds, wildlife, or honey bees.

Hazard Tier 2 – MODERATE CONCERN - Over 30 products contain neonicotinoids are rated Tier 2
The formulated product is moderately toxic to people, fish or other aquatic life, birds, wildlife, or honey bees.

Hazard Tier 3 – LOWER CONCERN - Over 290 products (none contain neonicotinoids) are rated Tier 3
The formulated product is listed as low acute toxicity and/or has no warnings about toxicity to honey bees.

Neonicotinoid chemical names include: **Acetamiprid, Clothianidin, Dinotefuran, Imidacloprid, Nitenpyram (commonly sold as Capstar), Thiacloprid** and **Thiamethoxam.**

The Smart on Pesticides Maryland coalition works to protect Marylanders and the natural systems we depend upon from the toxic impacts of pesticides. The coalition includes more than 55 organizations, and institutions representing communities, businesses, health care providers, farmers, environmentalists, Waterkeepers, interfaith congregants as well as environmental justice, public health and wildlife advocates

Safer Glyphosate Alternatives from USDA IR-4 Project Biopesticide Database - https://www.ir4project.org/bpos/biopesticide-organic-database/									
TradeName	**ActiveIngredient**	**Organic**	**LabelPDF**	**EPA Registration**	**CompanyName**	**CompanyContact**	**CompanyWebsite**	**Worker Reentry**	**Efficacy Data**
Also see PRI Herbicide & Defoliant lists									
All Down Concentrate	Acetic Acid, citric acid	Y	http://ir4.rutgers.edu/Biopesticides/Labels/AllDown_Concentrate_label.pdf	84069-1	SummerSet	(952)-368-0020	http://www.summersetproducts.com	0 hours	http://www.hos.ufl.edu/sites/default/files/faculty/cachase/publications/FSHS_2004.pdf
Avenger	Citrus Oil (d-limonene)	Y	https://www3.epa.gov/pesticides/chem_search/ppls/082052-00004-20170228.pdf	82052-1	Avenger Organics	866-906-9333 support@avengerorganics.com	http://www.avengerorganics.com/	4 hours	http://ir4.rutgers.edu/Ornamental/SummaryReports/NEWSS_ResearchUpdate_2013.pdf
Avenger AG Optima	d-limonene	Y	http://ir4.rutgers.edu/Biopesticides/Labels/AvengerAgOptima_01-19.pdf	92967-4	Avenger Organics	866-906-9333 support@avengerorganics.com	http://www.avengerorganics.com/	4 hours	
Axxe	Ammonium nonanoate	N	http://www.biosafesystems.com/wp/wp-content/uploads/2018/09/AXXEV8SpecimenLabel.pdf	70299-23	BioSafe Systems	Vijay Choppakatla 8602908890 x221 vijayc@biosafesystems.com	http://www.biosafesystems.com/	4 hrs	http://www.hortla.okstate.edu/research-and-outreach/programs/HIS/pdfs/2013-HIS.pdf
BioLink	Capric Acid, Caprylic Acid	Y	http://ir4.rutgers.edu/Biopesticides/Labels/BioLink_01-19.pdf	51517-10	Westbridge Agricultural Products	Andy Hudson (800) 876-2767 ahudson@westbridge.com	http://westbridge.com/	24 hours	
Chontrol Peat Paste	Chondrostereum purpureum isolate PFC 2139	N	http://ir4.rutgers.edu/Biopesticides/Labels/Chontrol.pdf	74200-2	MycoLogic, Inc.	250-213-6941		Use same day after opening	http://ir4.rutgers.edu/Biopesticides/bioFinalReport/neal%2006.pdf
Devine Mycoherbicide	Live Chlamydospores of Phytophthora palmivora MWV	N	https://www3.epa.gov/pesticides/chem_search/ppls/073049-00009-20060301.pdf	73049-9	Valent U.S.A. LLC.	Jeff Smith 678-364-0258 jeffrey.smith@valent.com	http://www.valentbiosciences.com/	4 hours	
Dominus	Allyl isothiocyanate	N	http://www.cdms.net/ldat/ldBS3004.pdf	89285-2	Isagro	Chris Leon 601-856-0714 cleon@isagro-usa.com	http://www.isagro-usa.com/	5 days	http://goo.gl/6HaNRM
Ecosharp Weed & Grass Killer RTU	Acetic acid	N	https://www3.epa.gov/pesticides/chem_search/ppls/069836-00002-20061003.pdf	69836-2	Ecoval Corp.	Jeffrey Dreben 866-298-2229	http://www.ecosharp.us/		
Fiesta	Iron HEDTA (FeHEDTA)	N	http://www.fiestaweedkiller.com/_media/downloads/product-label.pdf	67702-26-87865	Neudorff	Lauren Hall 2506525888 x203 lauren@neudorff.ca	http://www.neudorff.com/neudorff-usa/home.html	0 hours	http://ir4.rutgers.edu/Biopesticides/bioFinalReport/Wilen13.pdf
Greenmatch O	d-limonene	Y	https://assets.greenbook.net/L117242.pdf	82052 - 1				4 hours	
MBI-011	(E,E)-1-(1-oxo-2,4-decadienyl) pyrrolidine / Sarmentine	N	https://www3.epa.gov/pesticides/chem_search/ppls/084059-00020-20140826.pdf	84059-20	Marrone Bio Innovations, Inc.	Tim Johnson 530-750-2800 tjohnson@marronebio.com	http://www.marronebioinnovations.com/	12 hours	
Scythe Herbicide	Pelargonic Acid (Nonanoic Acid)	N	http://www.gowanco.com/sites/default/files/gowanco_com/_attachments/product/resource/label/scythe_10163325_03-r1112.pdf	62719-529	Gowan Company	Nikki Yepez / Emily Foley 928-819-1516 efoley@gowanco.com	http://www.gowanco.com/	12 hours	http://www.hortla.okstate.edu/research-and-outreach/programs/HIS/pdfs/2007-HIS.pdf#page=145
Suppress	Caprylic acid, Capric acid	Y	http://ir4.rutgers.edu/Biopesticides/Labels/SUPPRESS.pdf	51517-9	Westbridge Agricultural Products	Andy Hudson (800) 876-2767 ahudson@westbridge.com	http://westbridge.com/	24 hours	
Weed Pharm	Acetic Acid	Y	http://www.pharmsolutionsinc.com/index_htm_files/Weed-Pharm-Food-Use-Label-Comm-1gal.pdf	81936-1-81935	Pharm Solutions Inc	Susan E. Lewis 805-927-7500 susan@psiorganic.com	http://www.pharmsolutionsinc.com/	48 hours	https://goo.gl/emxDxl
Weed Zap	Cinnamon and Clove Oil	Y	http://ir4.rutgers.edu/Biopesticides/Labels/weed_zap.pdf	25b EXEMPT	SaferGro	(805) 650-8918 info@safergro.com	http://www.safergro.com/	0 hours	http://www.hae-journals.org/archives/haen_25/hae_25_15.pdf
WOW! Supreme	Corn gluten meal	N	http://cdn.gardensalive.com/downloads/4894_label.pdf	56872-2	Gardens Alive Inc	(513)354-1482	http://www.gardensalive.com/	0 hours	

Pesticide Research Institute

Pesticide Product Evaluator®

contains / starts with — Search for a product name or registration number — Search

Go to Advanced Search

Results 1 - 25 of 25

Results for **Hazard Tier:** *3*; **Use Type:** *Herbicide / Plant Growth Regulator* — Show List

Product Name	Registration Number	Hazard Tier
ADMIRAL LIQUID Product type: Herbicide Aquatic; Algaecide	67064-2	3 ✓
AIM HERBICIDE Product type: Defoliant; Desiccant; Herbicide Terrestrial	279-3194	3 ✓
AVENGER WEED KILLER Product type: Herbicide Terrestrial	82052-3	3 ✓
AVENGER WEED KILLER CONCENTRATE Product type: Herbicide	82052-1	3 ✓
BIOWEED Product type: Herbicide	EXEMPT-1	3 ✓
BONIDE TOMATO AND BLOSSOM SET SPRAY Product type: Biochemical Pesticide; Plant Growth Regulator	4-456	3 ✓
CINNACURE A3005	58866-12	

Product type Fungicide; Herbicide Terrestrial; Biochemical Pesticide; Insecticide; Miticide; Repellent Or Feeding Depressant; Algaecide

3 ✓

EcoEXEMPT HC EXEMPT-2

Product type Herbicide

3 ✓

EMBARK 2-S PLANT GROWTH REGULATOR 2217-759

Product type Herbicide Terrestrial; Regulator

3 ✓

FLOREL BRAND G/R PLANT GROWTH REGULATOR 264-543

Product type Herbicide Terrestrial; Regulator

3 ✓

FLOREL BRAND GROWTH REGULATOR 54705-8

Product type Defoliant; Herbicide Terrestrial; Regulator

3 ✓

FLURIDONE SC 67690-30

Product type Herbicide Aquatic

3 ✓

FLURIDONE SC 67690-64

Product type Herbicide Aquatic

3 ✓

GreenMatch EX EXEMPT-1258582

Product type Herbicide

3 ✓

KILLER FOR ICE PLANT WEEDS 84396-30

Product type Herbicide Terrestrial

3 ✓

Matran 2	EXEMPT-8	3	✓
Product type Herbicide			
NEU1173H RTU	67702-27	3	✓
Product type Herbicide; Algaecide			
POLYVERSUM	81606-1	3	✓
Product type Plant Growth Regulator; Plant Growth Stimulator; Fungicide/Fungistat			
SONAR A.S.	67690-4	3	✓
Product type Herbicide Aquatic			
SONAR SRP	67690-3	3	✓
Product type Herbicide Aquatic			
SONAR X	67690-12	3	✓
Product type Herbicide Aquatic			
SONARONE	67690-45	3	✓
Product type Herbicide Aquatic			
Weed & Grass Killer	EXEMPT-708582	3	✓
Product type Herbicide			
WOW PLUS	56872-2	3	✓
Product type Herbicide Terrestrial			

GROTEK ELIMAWEED WEED AND GRASS KILLER

86313-1

Product type Herbicide

1 - 25 of 25

Pesticide Research Institute
Pesticide Product Evaluator®

contains
starts with

Search for a product name or registration number

Search

Go to Advanced Search

Results 1 - 2 of 2

Results for **Hazard Tier:** *3*; **Use Type:** *Defoliant / Dessicant*

Show List

Product Name	Registration Number	Hazard Tier
AIM HERBICIDE	279-3194	3 ✓
Product type: Defoliant; Desiccant; Herbicide Terrestrial		
FLOREL BRAND GROWTH REGULATOR	54705-8	3 ✓
Product type: Defoliant; Herbicide Terrestrial; Regulator		

A checkmark means this product is currently registered by US EPA or that the product is exempt from registration requirements.

1 - 2 of 2

Currin, Marguerite

From: Stephanie Buttner <svbuttner@yahoo.com>

Sent: Wednesday, May 6, 2020 10:03 PM
To: Burnett, Kristerfer; Henry, Bill (email); Reisinger, Edward
Cc: Scott, Brandon; Sneed, Shannon; Dorsey, Ryan; Clarke, MaryPat; Bullock, John; Cohen, Zeke; Middleton, Sharon; Currin, Marguerite
Subject: testimony in support of city council bill 20-0495

Testimony in Support of City Council Bill 20-0495

Pesticide Control and Regulation

Stephanie Buttner, President, Mayfield Improvement Association

First of all, thank you, Chairman Burnett, for this opportunity to offer testimony in support of this bill. I also thank Councilwoman Clarke for her outstanding leadership on tackling the thorny issue of pesticide control. Finally, we are grateful for the support from you and the other co-sponsors of the bill: Council President Scott, Councilman Bullock, Councilman Cohen, Councilman Dorsey, Councilman Henry, Councilwoman Middleton, Councilman Reisinger, and Councilwoman Sneed.

I am very happy to offer this testimony in support of City Council Bill 20-0495, which, among other provisions, would prohibit the use of glyphosate and chlorpyrifos in Baltimore City, as well as prohibit the use of neonicotinoid on City property.

The issue of glyphosate use first came up as an issue in Mayfield when residents noticed that contractors for the City Department of Transportation were using them to control weeds on the medians in our neighborhood. Given the links between glyphosate and cancer, as well as Mayfield's proximity to Herring Run, one of the local tributaries to the Bay, the Mayfield Improvement Association raised the issue with the Department of Transportation. Secretary Sharkey was very responsive to our concerns, and pledged not to use glyphosate in Mayfield. However, that left us with the wider issue: should glyphosate be used by the City at all? We raised the issue with Councilwoman Clarke and Councilman Dorsey, and this bill is the result.

As noted in the bill's legislative findings, glyphosate, chlorpyrifos, and neonicotoids are linked to a host of human health issues. The U.S. Department of Health and Human Services has identified both cancer and non-cancer health effects linked to glyphosate exposure, including adverse effects on reproduction and child development, and organ toxicity. Chlorpyrifos is linked to low birth weight, disrupted neurological development, and endocrine disorders, as well as lung and prostate cancer. Neonicotinoids, which were marketed as being safer to the

environment because they were delivered directly to crops by irrigation instead of widespread dusting, are actually entering both the broader environment and the human food chain. Studies indicate that ingesting neonicotinoids is linked to neurological disorders, although there is a need for further study.

Those findings alone would warrant a cautious approach to pesticide use; however, when considered alongside the environmental damage done by these chemicals, it is clear that banning their use is the most reasonable approach. Neonicotinoids have been implicated in the dramatic decline in pollinators, and evidence suggests that they are also linked to birth defects found in wild deer herds. Herbicides such as glyphosates and pesticides in general have been found in significant amounts in the Chesapeake Bay watershed, posing risks to the health of the Bay.

Additionally, if the recent Covid-19 outbreak has taught us anything, it is how much our lives depend upon understanding, respecting, and protecting the environment. Emerging diseases are linked to human interference with the environment. Climate change and habitat destruction readily come to mind, but one also needs to whether what impact the continued use of dangerous chemicals will have on our future health. What new conditions or illnesses might emerge from the removal of a "pernicious" weed or "pest" insects? We do not fully understand how biological systems work, and the unintended consequences of our actions can be devastating.

Consequently, we need to take a more cautious and sensitive approach to controlling weeds and insects. There are alternatives to glyphosate for eliminating weeds, including the use of the minimally toxic pesticides, as permitted by the bill, and manually removing overhanging/overgrown grass from curbs and around trees. There should also be the recognition that, if we were to remove all "weeds," we would have no "turf" at all. Frequently, plants that are seen as weeds are actually highly beneficial, providing food and cover for birds and pollinators, as well as fixing nitrogen in the soil. Similarly, by reducing the use of pesticides, we support the use of sustainable natural methods of pest control by encouraging birds and "beneficial" insects to eat destructive or dangerous insects.

The first duty of a government is to secure the well-being of its citizens, and this bill will have a direct impact on the health and safety of our neighborhoods. We want a healthy environment where we can raise our children. We want our green spaces to be self-sustaining, without the use of dangerous chemicals. We want to clean and protect the Bay. Most of all, we want to live in a City where we know that our government puts our well-being above the concerns of convenience and economy. This bill is a significant step in that direction, and the Mayfield Improvement Association heartily supports its passage.

Testimony in Support of City Council Bill 20-0495

Pesticide Control and Regulation

Stephanie Buttner, President, Mayfield Improvement Association

First of all, thank you, Chairman Burnett, for this opportunity to offer testimony in support of this bill. I also thank Councilwoman Clarke for her outstanding leadership on tackling the thorny issue of pesticide control. Finally,

we are grateful for the support from you and the other co-sponsors of the bill: Council President Scott, Councilman Bullock, Councilman Cohen, Councilman Dorsey, Councilman Henry, Councilwoman Middleton, Councilman Reisinger, and Councilwoman Sneed.

I am very happy to offer this testimony in support of City Council Bill 20-0495, which, among other provisions, would prohibit the use of glyphosate and chlorpyrifos in Baltimore City, as well as prohibit the use of neonicotinoid on City property.

The issue of glyphosate use first came up as an issue in Mayfield when residents noticed that contractors for the City Department of Transportation were using them to control weeds on the medians in our neighborhood. Given the links between glyphosate and cancer, as well as Mayfield's proximity to Herring Run, one of the local tributaries to the Bay, the Mayfield Improvement Association raised the issue with the Department of Transportation. Secretary Sharkey was very responsive to our concerns, and pledged not to use glyphosate in Mayfield. However, that left us with the wider issue: should glyphosate be used by the City at all? We raised the issue with Councilwoman Clarke and Councilman Dorsey, and this bill is the result.

As noted in the bill's legislative findings, glyphosate, chlorpyrifos, and neonicotoids are linked to a host of human health issues. The U.S. Department of Health and Human Services has identified both cancer and non-cancer health effects linked to glyphosate exposure, including adverse effects on reproduction and child development, and organ toxicity. Chlorpyrifos is linked to low birth weight, disrupted neurological development, and endocrine disorders, as well as lung and prostate cancer. Neonicotinoids, which were marketed as being safer to the environment because they were delivered directly to crops by irrigation instead of widespread dusting, are actually entering both the broader environment and the human food chain. Studies indicate that ingesting neonicotinoids is linked to neurological disorders, although there is a need for further study.

Those findings alone would warrant a cautious approach to pesticide use; however, when considered alongside the environmental damage done by these chemicals, it is clear that banning their use is the most reasonable approach. Neonicotinoids have been implicated in the dramatic decline in pollinators, and evidence suggests that they are also linked to birth defects found in wild deer herds. Herbicides such as glyphosates and pesticides in general have been found in significant amounts in the Chesapeake Bay watershed, posing risks to the health of the Bay.

Additionally, if the recent Covid-19 outbreak has taught us anything, it is how much our lives depend upon understanding, respecting, and protecting the environment. Emerging diseases are linked to human interference with the environment. Climate change and habitat destruction readily come to mind, but one also needs to whether what impact the continued use of dangerous chemicals will have on our future health. What new conditions or illnesses might emerge from the removal of a "pernicious" weed or "pest" insects? We do not fully understand how biological systems work, and the unintended consequences of our actions can be devastating.

Consequently, we need to take a more cautious and sensitive approach to controlling weeds and insects. There are alternatives to glyphosate for eliminating weeds, including the use of the minimally toxic pesticides, as permitted by the bill, and manually removing overhanging/overgrown grass from curbs and around trees. There

should also be the recognition that, if we were to remove all "weeds," we would have no "turf" at all. Frequently, plants that are seen as weeds are actually highly beneficial, providing food and cover for birds and pollinators, as well as fixing nitrogen in the soil. Similarly, by reducing the use of pesticides, we support the use of sustainable natural methods of pest control by encouraging birds and "beneficial" insects to eat destructive or dangerous insects.

The first duty of a government is to secure the well-being of its citizens, and this bill will have a direct impact on the health and safety of our neighborhoods. We want a healthy environment where we can raise our children. We want our green spaces to be self-sustaining, without the use of dangerous chemicals. We want to clean and protect the Bay. Most of all, we want to live in a City where we know that our government puts our well-being above the concerns of convenience and economy. This bill is a significant step in that direction, and the Mayfield Improvement Association heartily supports its passage.

Currin, Marguerite

From: Clarke, MaryPat
Sent: Thursday, May 7, 2020 7:27 AM
To: Currin, Marguerite; Roberts, Miller
Subject: FW: testimony in support of city council bill 20-0495

From: Stephanie Buttner [mailto:svbuttner@yahoo.com]
Sent: Wednesday, May 6, 2020 10:03 PM
To: Burnett, Kristerfer <Kristerfer.Burnett@baltimorecity.gov>; Henry, Bill (email) <Bill.Henry@baltimorecity.gov>; Reisinger, Edward <Edward.Reisinger@baltimorecity.gov>
Cc: Scott, Brandon <Brandon.Scott@baltimorecity.gov>; Sneed, Shannon <Shannon.Sneed@baltimorecity.gov>; Dorsey, Ryan <Ryan.Dorsey@baltimorecity.gov>; Clarke, MaryPat <MaryPat.Clarke@baltimorecity.gov>; Bullock, John <John.Bullock@baltimorecity.gov>; Cohen, Zeke <Zeke.Cohen@baltimorecity.gov>; Middleton, Sharon <Sharon.Middleton@baltimorecity.gov>; Currin, Marguerite <Marguerite.Currin@baltimorecity.gov>
Subject: testimony in support of city council bill 20-0495

Testimony in Support of City Council Bill 20-0495

Pesticide Control and Regulation

Stephanie Buttner, President, Mayfield Improvement Association

First of all, thank you, Chairman Burnett, for this opportunity to offer testimony in support of this bill. I also thank Councilwoman Clarke for her outstanding leadership on tackling the thorny issue of pesticide control. Finally, we are grateful for the support from you and the other co-sponsors of the bill: Council President Scott, Councilman Bullock, Councilman Cohen, Councilman Dorsey, Councilman Henry, Councilwoman Middleton, Councilman Reisinger, and Councilwoman Sneed.

I am very happy to offer this testimony in support of City Council Bill 20-0495, which, among other provisions, would prohibit the use of glyphosate and chlorpyrifos in Baltimore City, as well as prohibit the use of neonicotinoid on City property.

The issue of glyphosate use first came up as an issue in Mayfield when residents noticed that contractors for the City Department of Transportation were using them to control weeds on the medians in our neighborhood. Given the links between glyphosate and cancer, as well as Mayfield's proximity to Herring Run, one of the local tributaries to the Bay, the Mayfield Improvement Association raised the issue with the Department of Transportation. Secretary Sharkey was very responsive to our concerns, and pledged not to use glyphosate in

Mayfield. However, that left us with the wider issue: should glyphosate be used by the City at all? We raised the issue with Councilwoman Clarke and Councilman Dorsey, and this bill is the result.

As noted in the bill's legislative findings, glyphosate, chlorpyrifos, and neonicotoids are linked to a host of human health issues. The U.S. Department of Health and Human Services has identified both cancer and non-cancer health effects linked to glyphosate exposure, including adverse effects on reproduction and child development, and organ toxicity. Chlorpyrifos is linked to low birth weight, disrupted neurological development, and endocrine disorders, as well as lung and prostate cancer. Neonicotinoids, which were marketed as being safer to the environment because they were delivered directly to crops by irrigation instead of widespread dusting, are actually entering both the broader environment and the human food chain. Studies indicate that ingesting neonicotinoids is linked to neurological disorders, although there is a need for further study.

Those findings alone would warrant a cautious approach to pesticide use; however, when considered alongside the environmental damage done by these chemicals, it is clear that banning their use is the most reasonable approach. Neonicotinoids have been implicated in the dramatic decline in pollinators, and evidence suggests that they are also linked to birth defects found in wild deer herds. Herbicides such as glyphosates and pesticides in general have been found in significant amounts in the Chesapeake Bay watershed, posing risks to the health of the Bay.

Additionally, if the recent Covid-19 outbreak has taught us anything, it is how much our lives depend upon understanding, respecting, and protecting the environment. Emerging diseases are linked to human interference with the environment. Climate change and habitat destruction readily come to mind, but one also needs to whether what impact the continued use of dangerous chemicals will have on our future health. What new conditions or illnesses might emerge from the removal of a "pernicious" weed or "pest" insects? We do not fully understand how biological systems work, and the unintended consequences of our actions can be devastating.

Consequently, we need to take a more cautious and sensitive approach to controlling weeds and insects. There are alternatives to glyphosate for eliminating weeds, including the use of the minimally toxic pesticides, as permitted by the bill, and manually removing overhanging/overgrown grass from curbs and around trees. There should also be the recognition that, if we were to remove all "weeds," we would have no "turf" at all. Frequently, plants that are seen as weeds are actually highly beneficial, providing food and cover for birds and pollinators, as well as fixing nitrogen in the soil. Similarly, by reducing the use of pesticides, we support the use of sustainable natural methods of pest control by encouraging birds and "beneficial" insects to eat destructive or dangerous insects.

The first duty of a government is to secure the well-being of its citizens, and this bill will have a direct impact on the health and safety of our neighborhoods. We want a healthy environment where we can raise our children. We want our green spaces to be self-sustaining, without the use of dangerous chemicals. We want to clean and protect the Bay. Most of all, we want to live in a City where we know that our government puts our well-being above the concerns of convenience and economy. This bill is a significant step in that direction, and the Mayfield Improvement Association heartily supports its passage.

Testimony in Support of City Council Bill 20-0495

Pesticide Control and Regulation

Stephanie Buttner, President, Mayfield Improvement Association

First of all, thank you, Chairman Burnett, for this opportunity to offer testimony in support of this bill. I also thank Councilwoman Clarke for her outstanding leadership on tackling the thorny issue of pesticide control. Finally, we are grateful for the support from you and the other co-sponsors of the bill: Council President Scott, Councilman Bullock, Councilman Cohen, Councilman Dorsey, Councilman Henry, Councilwoman Middleton, Councilman Reisinger, and Councilwoman Sneed.

I am very happy to offer this testimony in support of City Council Bill 20-0495, which, among other provisions, would prohibit the use of glyphosate and chlorpyrifos in Baltimore City, as well as prohibit the use of neonicotinoid on City property.

The issue of glyphosate use first came up as an issue in Mayfield when residents noticed that contractors for the City Department of Transportation were using them to control weeds on the medians in our neighborhood. Given the links between glyphosate and cancer, as well as Mayfield's proximity to Herring Run, one of the local tributaries to the Bay, the Mayfield Improvement Association raised the issue with the Department of Transportation. Secretary Sharkey was very responsive to our concerns, and pledged not to use glyphosate in Mayfield. However, that left us with the wider issue: should glyphosate be used by the City at all? We raised the issue with Councilwoman Clarke and Councilman Dorsey, and this bill is the result.

As noted in the bill's legislative findings, glyphosate, chlorpyrifos, and neonicotoids are linked to a host of human health issues. The U.S. Department of Health and Human Services has identified both cancer and non-cancer health effects linked to glyphosate exposure, including adverse effects on reproduction and child development, and organ toxicity. Chlorpyrifos is linked to low birth weight, disrupted neurological development, and endocrine disorders, as well as lung and prostate cancer. Neonicotinoids, which were marketed as being safer to the environment because they were delivered directly to crops by irrigation instead of widespread dusting, are actually entering both the broader environment and the human food chain. Studies indicate that ingesting neonicotinoids is linked to neurological disorders, although there is a need for further study.

Those findings alone would warrant a cautious approach to pesticide use; however, when considered alongside the environmental damage done by these chemicals, it is clear that banning their use is the most reasonable approach. Neonicotinoids have been implicated in the dramatic decline in pollinators, and evidence suggests that they are also linked to birth defects found in wild deer herds. Herbicides such as glyphosates and pesticides in general have been found in significant amounts in the Chesapeake Bay watershed, posing risks to the health of the Bay.

Additionally, if the recent Covid-19 outbreak has taught us anything, it is how much our lives depend upon understanding, respecting, and protecting the environment. Emerging diseases are linked to human interference

with the environment. Climate change and habitat destruction readily come to mind, but one also needs to whether what impact the continued use of dangerous chemicals will have on our future health. What new conditions or illnesses might emerge from the removal of a "pernicious" weed or "pest" insects? We do not fully understand how biological systems work, and the unintended consequences of our actions can be devastating.

Consequently, we need to take a more cautious and sensitive approach to controlling weeds and insects. There are alternatives to glyphosate for eliminating weeds, including the use of the minimally toxic pesticides, as permitted by the bill, and manually removing overhanging/overgrown grass from curbs and around trees. There should also be the recognition that, if we were to remove all "weeds," we would have no "turf" at all. Frequently, plants that are seen as weeds are actually highly beneficial, providing food and cover for birds and pollinators, as well as fixing nitrogen in the soil. Similarly, by reducing the use of pesticides, we support the use of sustainable natural methods of pest control by encouraging birds and "beneficial" insects to eat destructive or dangerous insects.

The first duty of a government is to secure the well-being of its citizens, and this bill will have a direct impact on the health and safety of our neighborhoods. We want a healthy environment where we can raise our children. We want our green spaces to be self-sustaining, without the use of dangerous chemicals. We want to clean and protect the Bay. Most of all, we want to live in a City where we know that our government puts our well-being above the concerns of convenience and economy. This bill is a significant step in that direction, and the Mayfield Improvement Association heartily supports its passage.

Maryland PIRG
Standing Up To Powerful Interests

May 5th, 2020

Dear Members of the Baltimore City Council,

We applaud Councilmember Mary Pat Clarke for introducing legislation to ban all pesticides containing chlorpyrifos, neonicotinoids, and glyphosate (the main chemical in RoundUp).

This summer Maryland PIRG staff knocked on doors across the state and talked with 7,000 Marylanders about pesticide use and its impact on public health. Staff also collected hundreds of petition signatures from Baltimore residents, and thousands statewide calling on legislators to support a ban on the toxic pesticide RoundUp. We thought you would be interested in seeing the Baltimore City signatures.

It's absurd that a weed killer, designed to make our lives more convenient, and food production more efficient, should be allowed to put public health at risk.

Roundup, and generic versions of it, is the most widely used herbicide in the U.S. But because of its robust use, recently it hasn't been getting the job done. Weeds have grown resistant, and these "super weeds" require more and more Roundup to kill. Not surprisingly, the response has been to increase the dosage of the chemicals used, increasing the frequency of its use, or combining Roundup with other herbicides.

Recent research, including some done by the World Health Organization and the state of California, found that Roundup, and other glyphosate-based herbicides, could pose significant risks to human health, including links to cancer and reproductive problems. Even so, 26 million pounds of Roundup are sprayed on public parks, playgrounds, schools and gardens every year, putting Baltimore families and children at risk.

We urge you to support CB 20-0495 to ban these toxic chemicals.

Sincerely,
Emily Scarr
Maryland PIRG Citizen Lobby Director
emily@marylandpirg.org
@emilyscarr @marylandpirg

Petition text:

Recent research, including some done by the World Health Organization and the state of California, has linked the chemicals in Monsanto's Roundup to serious health risks, including cancer. Even so, 26 million pounds of Roundup are sprayed on public parks, playgrounds, schools and gardens every year.

Now, we're beginning to feel the effects of the weed killer as it turns up in our rivers, our neighborhoods, and even our food. I urge you to ban Roundup unless and until independent research proves it's safe for crop use and our communities.

PREFIX	First Name	Last Name	CITY	STATE	ZIP	PLUS4
	Shawnicey	Smith	Baltimore	MD	21207	
MS.	Karen	Nelson	Baltimore	MD	21209	4537
MS.	Lindsey	Sachs	Baltimore	MD	21209	5230
MR.	Geoff	Neuner	Baltimore	MD	21210	2543
MS.	Lisa	Beacham	Baltimore	MD	21210	2514
MS.	Mary	Cooper	Baltimore	MD	21210	1521
MS.	Joy	Hare	Baltimore	MD	21210	2341
MR.	Gordon	Smith	Baltimore	MD	21212	3423
MR.	David	Morris	Baltimore	MD	21212	
MR.	Paul	Welliver	Baltimore	MD	21212	3807
MR.	Hal	Standiford	Baltimore	MD	21212	3425
MR.	Charles	Hatter	Baltimore	MD	21212	3420
MR.	Bryan	Heasley	Baltimore	MD	21212	
MR.	Richard	Messick	Baltimore	MD	21212	2717
MR.	Tucker	Williams	Baltimore	MD	21212	1904
MR.	David	Hurwitz	Baltimore	MD	21212	
MR.	John	Nuckels	Baltimore	MD	21212	1924
MR.	Karl	Huber	Baltimore	MD	21212	
MR.	Mark	Feiring	Baltimore	MD	21212	
MR.	David	Williams	Baltimore	MD	21212	
MR.	Harmon	Burke	Baltimore	MD	21212	
MR.	Sean	Quinn	Baltimore	MD	21212	1749
MR.	Ascanio	Boccuti	Baltimore	MD	21212	1617
MR.	Larry	Schumaker	Baltimore	MD	21212	3135
MR.	Thomas	Piccin	Baltimore	MD	21212	
MR.	Carl	Thistel	Baltimore	MD	21212	3135
MR.	Seth	Berkowitz	Baltimore	MD	21212	2015
MR.	Peter	Saar	Baltimore	MD	21212	3808
MR.	Miles	Patterson	Baltimore	MD	21212	3135
MR.	Hugh	Trader	Baltimore	MD	21212	2101
MR.	Scott	Buresh	Baltimore	MD	21212	1927
MR.	John	Horenkamp	Baltimore	MD	21212	3434
MR.	Thomas	Waldinger	Baltimore	MD	21212	1635
MR.	John	McKusick	Baltimore	MD	21212	2012
MR.	Stephen	Courtin	Baltimore	MD	21212	3315
MR.	James	Sterner	Baltimore	MD	21212	
MR.	Brent	Hoffman	Baltimore	MD	21212	3536
MR.	Jeff	Crabtree	Baltimore	MD	21212	1815
MR.	Kevin	Barnett	Baltimore	MD	21212	1711

MR.	Seth	Hammer	Baltimore	MD	21212	1631
MR.	Patrick	Montgomery	Baltimore	MD	21212	
MR.	Robert	Kordon	Baltimore	MD	21212	1748
MR.	Paul	Satterfield	Baltimore	MD	21212	1812
MR.	James	Doyle	Baltimore	MD	21212	
MR.	Joe	Ross	Baltimore	MD	21212	
MR.	William	Smillie	Baltimore	MD	21212	3438
MR.	Mitchel	Mencer	Baltimore	MD	21212	3503
MR.	Kent	Muirhead	Baltimore	MD	21212	2710
MR.	Cole	Bailey	Baltimore	MD	21212	3529
MR.	Matthew	Sullivan	Baltimore	MD	21212	
MR.	Will	Benassi	Baltimore	MD	21212	
MR.	M.	Mc Kenzie	Baltimore	MD	21212	1816
MR.	Bruce	Edwards	Baltimore	MD	21212	1911
MR.	Mitchell	Trivas	Baltimore	MD	21212	1814
MR.	Clifford	Athey	Baltimore	MD	21212	
MR.	Chester	Joseph	Baltimore	MD	21212	
MR.	Scott	Harrington	Baltimore	MD	21212	3540
MR.	Phil	Perkins	Baltimore	MD	21212	3532
MR.	Glenn	Rabut	Baltimore	MD	21212	2707
MR.	Zachary	Waugh	Baltimore	MD	21212	3440
MR.	Ken	Ironside	Baltimore	MD	21212	3145
MR.	Bradley	Wray	Baltimore	MD	21212	
MR.	William	Worley	Baltimore	MD	21212	1624
MR.	Greg	Herwig	Baltimore	MD	21212	
MR.	Mel	Somma	Baltimore	MD	21212	
MR.	Eric	Nolley	Baltimore	MD	21212	
MR.	David	Brierly	Baltimore	MD	21212	3314
MR.	Adam	Conway	Baltimore	MD	21212	3434
MR.	Carl	Negin	Baltimore	MD	21212	3310
MR.	Charles	Gentemann	Baltimore	MD	21212	3526
MR.	John	Grayson	Baltimore	MD	21212	3445
MR.	Andre	Colombat	Baltimore	MD	21212	2103
MR.	Steven	Anderson	Baltimore	MD	21212	2106
MR.	Matthew	Kelley	Baltimore	MD	21212	1801
MR.	Tom	Mitchell	Baltimore	MD	21212	1801
MR.	Joshua	Marx	Baltimore	MD	21212	1747
MR.	Arthur	Connelly	Baltimore	MD	21212	3135
MR.	Curtis	Adams	Baltimore	MD	21212	

MR.	Gary	Kosyjana	Baltimore	MD	21212	1748
MR.	Eric	Gee	Baltimore	MD	21212	
MR.	Jonathan	Myers	Baltimore	MD	21212	
MR.	Kevin	Heinlein	Baltimore	MD	21212	1817
MR.	Stephen	Sutton	Baltimore	MD	21212	3810
MR.	Gary	Smolyak	Baltimore	MD	21212	
MR.	Ian	Mcfadden	Baltimore	MD	21212	
MR.	Carol	Mcfee	Baltimore	MD	21212	3536
MR.	Jarrod	Wunderlich	Baltimore	MD	21212	2103
MR.	Tom	Wells	Baltimore	MD	21212	3134
MR.	Craig	Mcdaniel	Baltimore	MD	21212	2710
MR.	Michael	Teret	Baltimore	MD	21212	1820
MR.	Thomas	Desert	Baltimore	MD	21212	1814
MR.	Harry	Brizee	Baltimore	MD	21212	1711
MR.	Peter	Forney	Baltimore	MD	21212	
MR.	James	Rosenthal	Baltimore	MD	21212	3812
MR.	Ross	Tyrie	Baltimore	MD	21212	1631
MR.	David H.	Frisch	Baltimore	MD	21212	1911
MR.	James	Norwood	Baltimore	MD	21212	1820
MRS.	Karen	Coyle	Baltimore	MD	21212	2002
MRS.	Andrea	Sweet	Baltimore	MD	21212	1631
MRS.	Jeri	Mancini	Baltimore	MD	21212	3807
MRS.	Mary	Eisenberg	Baltimore	MD	21212	1649
MRS.	Jane	Barton	Baltimore	MD	21212	1925
MRS.	Maria	Wetherington	Baltimore	MD	21212	1931
MRS.	Dani	Smith	Baltimore	MD	21212	1936
MRS.	Erin	Woodward	Baltimore	MD	21212	2015
MRS.	Bonnie	Ellis	Baltimore	MD	21212	3815
MS.	Kathryn	Knight	Baltimore	MD	21212	2706
MS.	Stephany	Harper	Baltimore	MD	21212	1719
MS.	Suzanne	Leborti	Baltimore	MD	21212	3138
MS.	Stephanie	Strunge	Baltimore	MD	21212	1625
MS.	Julie	Evans	Baltimore	MD	21212	3401
MS.	Merideth	Peterson	Baltimore	MD	21212	1910
MS.	Martha	Johnston	Baltimore	MD	21212	2709
MS.	Lauren	Niles	Baltimore	MD	21212	2101
MS.	Catherine	Felter	Baltimore	MD	21212	1712
MS.	Kathleen	Flynn	Baltimore	MD	21212	
MS.	Rachel	Adams	Baltimore	MD	21212	

MS.	Anna	Chatard	Baltimore	MD	21212	1616
MS.	Alice	Florin	Baltimore	MD	21212	
MS.	Barbara	Heiland	Baltimore	MD	21212	2108
MS.	Pamela	Sotir	Baltimore	MD	21212	
MS.	Alisha	Wolf	Baltimore	MD	21212	
MS.	Julia	Johnson	Baltimore	MD	21212	
MS.	Julie	Klinger-Luht	Baltimore	MD	21212	2002
MS.	Chris	Garwood	Baltimore	MD	21212	2019
MS.	Lorraine	Strow	Baltimore	MD	21212	2015
MS.	Susan	Marshall	Baltimore	MD	21212	2022
MS.	Pascaline	Wolfermann	Baltimore	MD	21212	1748
MS.	Melissa	Rothwell	Baltimore	MD	21212	2014
MS.	Madeline	Holbrook	Baltimore	MD	21212	1820
MS.	Andrea	Van Arsdale	Baltimore	MD	21212	
MS.	Arlene	Gioia	Baltimore	MD	21212	
MS.	Kathleen	Herold	Baltimore	MD	21212	3541
MS.	Laura	Daugherty	Baltimore	MD	21212	1631
MS.	Denise	Stablein	Baltimore	MD	21212	
MS.	Allison	Ferguson	Baltimore	MD	21212	1921
MS.	Susan	Mullally	Baltimore	MD	21212	1617
MS.	Karen	James	Baltimore	MD	21212	2011
MS.	Jessica	Morgan	Baltimore	MD	21212	2715
MS.	Barbara	Sechrist	Baltimore	MD	21212	
MS.	Natalie	Palermo	Baltimore	MD	21212	
MS.	Elizabeth	Gurney	Baltimore	MD	21212	
MS.	Hailey	Harvey	Baltimore	MD	21212	1819
MS.	Anna	Connors	Baltimore	MD	21212	
MS.	Jenell	Coleman	Baltimore	MD	21212	1911
MS.	Anne	Gocke	Baltimore	MD	21212	1622
MS.	Katherine	Frey	Baltimore	MD	21212	1716
MS.	Jessica	Klaitman	Baltimore	MD	21212	1912
MS.	Keila	Muniz	Baltimore	MD	21212	
MS.	Jeannine	Sydnor	Baltimore	MD	21212	
MS.	Margaret	Brassil	Baltimore	MD	21212	2021
MS.	Lois	Joellenbeck	Baltimore	MD	21212	1512
MS.	Alice	Philips	Baltimore	MD	21212	1817
MS.	Alise	Davies	Baltimore	MD	21212	
MS.	Eleanor	Fishburn	Baltimore	MD	21212	2517
MS.	Nancy	Colvin	Baltimore	MD	21212	1609

MS.	Tina	Mccoach	Baltimore	MD	21212	3503
MS.	Claudia	Salzberg	Baltimore	MD	21212	3503
MS.	Laura	Stewart	Baltimore	MD	21212	2708
MS.	Barbara	Shellhorn	Baltimore	MD	21212	1820
MS.	Mary	Swarts	Baltimore	MD	21212	1946
MS.	Cecilia	Broerman	Baltimore	MD	21212	1941
MS.	Orla	Wilson	Baltimore	MD	21212	1707
MS.	Megan	Cohen	Baltimore	MD	21212	1604
MS.	Rebecca	Young	Baltimore	MD	21212	
MS.	Eloise	Quarles	Baltimore	MD	21212	1632
MS.	Mary	Munoz	Baltimore	MD	21212	
MS.	Jo-Ann	Pilardi	Baltimore	MD	21212	3105
MS.	Mary	Steinke	Baltimore	MD	21212	
MS.	Lacey	Talbott	Baltimore	MD	21212	2101
MS.	Emily	Kirkpatrick	Baltimore	MD	21212	
MS.	Elizabeth	Miller	Baltimore	MD	21212	
MS.	Laura	Bankey	Baltimore	MD	21212	1651
MS.	Carolyn	Jenkins	Baltimore	MD	21212	1822
MS.	Colleen	Christmas	Baltimore	MD	21212	1630
MS.	Katherine	Graham	Baltimore	MD	21212	
MS.	Valerie	Moore	Baltimore	MD	21212	
MS.	Susan	Weingast	Baltimore	MD	21212	3516
MS.	Mia	Gogel	Baltimore	MD	21212	
MS.	Laura	Lindstrom	Baltimore	MD	21212	1801
MS.	Julie	Healy	Baltimore	MD	21212	1814
MS.	Heather	Hromoho	Baltimore	MD	21212	
MS.	Lisa	Sirota	Baltimore	MD	21212	1817
MS.	Stephanie	Pessin	Baltimore	MD	21212	1819
MS.	Mary	Forte	Baltimore	MD	21212	1912
MS.	Cynthia	Slaughter	Baltimore	MD	21212	1931
MS.	Suzy	Filbert	Baltimore	MD	21212	3312
MS.	Susan	Legg	Baltimore	MD	21212	3815
MS.	Rebecca	Bradley	Baltimore	MD	21212	3529
MS.	Kate	Whalen	Baltimore	MD	21212	2019
MS.	Bonnie	Weissfeld	Baltimore	MD	21212	2708
MS.	Lisa	Twiss	Baltimore	MD	21212	1910
MS.	Megan	Skinner	Baltimore	MD	21212	1645
MS.	Siobhan	McQuillan	Baltimore	MD	21212	2016
MS.	Pamela	Broussard	Baltimore	MD	21212	1921

MS.	Maria	Scatina	Baltimore	MD	21212	
MS.	Linda	Cichan	Baltimore	MD	21212	2002
MS.	Hailey	Hays	Baltimore	MD	21212	1821
MS.	Mary	Stanley	Baltimore	MD	21212	
MS.	Sue	Stewart	Baltimore	MD	21212	3422
MS.	Mary	Ludwig	Baltimore	MD	21212	
MS.	Shannon	Carney	Baltimore	MD	21212	1911
MS.	Mary	Artis	Baltimore	MD	21212	3536
MS.	Michelle	Trageser	Baltimore	MD	21212	
MS.	Carolyn	Stutt	Baltimore	MD	21212	1647
MS.	Mary	Landen	Baltimore	MD	21212	3136
MS.	Amanda	Superville	Baltimore	MD	21212	1931
MS.	Caroline	Zuidema	Baltimore	MD	21212	
MS.	Maria	Molteni	Baltimore	MD	21212	
MS.	Jane	Schaffer	Baltimore	MD	21212	1632
MS.	Lisa	Mahoney	Baltimore	MD	21212	
	Cleo	Manuel Stamatos	Baltimore	MD	21212	1926
	Siena	Trehy	Baltimore	MD	21212	2707
	Devin	Wittman	Baltimore	MD	21212	
	Leabe	Commisso	Baltimore	MD	21212	
	Shawn	Ralston	Baltimore	MD	21212	3539
	Dominique	Sacin	Baltimore	MD	21212	3135
	Arune	Gulati	Baltimore	MD	21212	
	Beco	Zekic	Baltimore	MD	21212	
	Braad	Jones	Baltimore	MD	21212	
	Anonymous	Donor	Baltimore	MD	21212	3438
	Whitney	Martel	Baltimore	MD	21212	1631
	Aidan	Kirchgraber	Baltimore	MD	21212	
	Cm	Rothbaum	Baltimore	MD	21212	
	Charin	Contomann	Baltimore	MD	21212	3526
	Gautam	Patel	Baltimore	MD	21212	
	Tracy	Dusablon	Baltimore	MD	21212	
	Kris	Rutledge	Baltimore	MD	21212	
	Marlo	Macintosh	Baltimore	MD	21212	1812
	Kelly	Koay	Baltimore	MD	21212	
	Kieren	Marr	Baltimore	MD	21212	1614
	Jean Michel	Lareuse	Baltimore	MD	21212	
	Amelle	Schultz	Baltimore	MD	21212	
MR.	Charles	Hampsey	Baltimore	MD	21214	3019

MR.	David	Fishkin	Baltimore	MD	21215	4115
MS.	Nancy	Henderson	Baltimore	MD	21228	3401

Council Ordinance 20-0495 Pesticide Control and Regulation
Position: Support
May 7, 2020
Health Committee
Chaired by Councilmember Kristerfer Burnett

Environment Maryland is a citizen-based environmental advocacy organization. We work to protect clean air, clean water, and open space. We have thousands of members across the state and are based in Baltimore.

Maryland PIRG is a statewide, non-partisan, non-profit, citizen-funded public interest advocacy organization with grassroots members across the state and a student-funded, student-directed chapter at the University of Maryland College Park.

Chairman Burnett and Members of the Committee,

We applaud Councilmember Mary Pat Clarke for introducing legislation to ban all pesticides containing **chlorpyrifos, neonicotinoids, and glyphosate** (the main chemical in RoundUp). Scientists, farmers, beekeepers and advocates have sounded the alarm: it's time to ban these toxic chemicals.

As members of Maryland's **Smart on Pesticides Coalition**, we have helped create robust coalition testimony, but also wanted to highlight a few key points for our organizations.

It's absurd that weed killers, designed to make our lives more convenient, and food production more efficient, should be allowed to put public health at risk. All of these toxic pesticides are harmful to health.

Glyphosate is the main chemical ingredient in RoundUp. Roundup, and generic versions of it, is the most widely used herbicide in the U.S. According to the cancer agency at the World Health Organization, glyphosate is a probable human carcinogen. This study links glyphosate to a wide range of cancers including pancreatic cancer, skin cancers, non-Hodgkin's lymphoma and endocrine disruption, as well as non-cancer illness such as liver and kidney damage, genetic damage, decreased sperm count and developmental abnormalities.

Chlorpyrifos is a toxic, nerve agent pesticide that harms public health, the environment and wildlife. It is found in air and water—and people's bodies. In 2016, the EPA found that infants, children, young girls and women are exposed to dangerous levels of chlorpyrifos through the food they eat, and that children eat up to 140 times the safety limit throughout their lifetimes.[1]

Even low-level exposure can cause developmental delays, brain damage and behavioral problems in children. This insecticide belongs to a class of chemicals called organophosphates, which includes now outlawed chemicals like sarin gas that were used in WWI as neurotoxins. While chlorpyrifos is most harmful to developing humans, people of all ages can suffer from nausea, dizziness, and convulsions from acute exposure.[2] Evidence of these harmful effects were witnessed in California in 2017, when several workers were hospitalized from exposure and dozens more sought medical attention.[3]

---

[1] CCCEH Team, "April 30, 2012: Prenatal Exposure to the Insecticide Chlorpyrifos Linked to Alterations in Brain Structure and Cognition," Columbia Center for Children's Environmental Health, April 30, 2012.
[2] Virginia A. Rauh, et al., "Brain anomalies in children exposed prenatally to a common organophosphate pesticide," PNAS, April 30, 2012.
[3] Xindi Hu, "The Most Widely Used Pesticide, One Year Later," Harvard University Science in the News, April 17, 2018.

Neonics are neurotoxics and may adversely affect the development of neurons and brain structures associated with functions such as learning and memory according to recent research by the European Food Safety Authority. Some neonics may affect the developing human nervous system, as well as potentially increase the risk of cancer, reproductive harm and endocrine disruption.

No Bees, No Food
In addition to direct impacts on public health, we should be taking every precaution to protect our pollinators and our food supply. There is conclusive evidence that neonicotinoids and Chlorpyrifos are deadly to bees. These chemicals not only kill bees outright, but can also damage their ability to learn, their memory, their ability to produce a new queen and it reduces their ability to fight varroa mites.

Bees are dying at an unprecedented rate—millions of them—with real consequences for our environment and our food supply. A University of Maryland study found that honeybee losses last winter were the greatest in 13 years.

Pollinator losses should concern us because losing our bees means losing a huge percentage of our food. Bees are essential to our food supply. They pollinate apples, blueberries, avocados, coffee, almonds, cucumbers, pumpkins, alfalfa used to feed dairy cows, tomatoes and so much more. **Just 100 crops provide 90 percent of the world's food. We rely on bees to pollinate 71 of these essential crops.** And beyond food, a world without bees weakens the web of life that sustains us and all species.

We should be taking every precaution to protect our pollinators and our food supply. Banning these toxic chemicals is a critical step.

Thank you for your service to Baltimore. We urge you to support this bill.

Sincerely,

Emily Scarr
Maryland PIRG
emily@marylandpirg.org

Kate Breimann
Environment Maryland
kbreimann@environmentmaryland.org

MARYLAND VOTES FOR ANIMALS

PO BOX 10411
BALTIMORE, MD 21209

May 7, 2020

To: The Baltimore City Council Health Committee
From: Lisa Radov, President and Chairman, Maryland Votes for Animals
Re: Pesticide Control and Regulation Council Bill 20-0495 - SUPPORT

Chairman Burnett, Vice Chairman Henry, members of the Baltimore City Council Health Committee, my name is Lisa Radov. I am President and Chairman of Maryland Votes for Animals. Our organization represents thousands of Marylanders across the state, many of whom reside in Baltimore City. On behalf of our members who live and work in your districts, I am here in SUPPORT of Council Bill 20-0495.

Chlorpyrifos, Neonicotinoids, and Glyphosphate have been shown to be toxic to animals, people, and the environment. Chlorpyrifos is toxic to many species of birds including robins, grackles, pigeons, and Mallard ducklings. In addition to laying fewer eggs, the eggshells of those eggs laid by Mallards are thinner than normal, so fewer ducklings survive. DDT, which was banned in the US in 1972, was the subject of Rachel Carson's book *Silent Spring* exposed the hazards of DDT to people and wildlife, especially birds.

Chlorpyrifos was invented as an alternative to the pesticide DDT – which itself was a substitute for toxic lead arsenate – and has become part of a pattern known as "regrettable substitution". Originally banned at the federal level by the Obama Administration in 2017, the ban was reversed before it went into effect by the Trump Administration. This was despite the fact that in 2017 The US Fish and Wildlife Service found that chlorpyrifos was so toxic that it would "jeopardize the existence" of more than 1200 endangered species including including birds, fish, and other wildlife.

While we do have some wildlife in Baltimore, we have to examine the link between these pesticides, our pets, and the residents of Baltimore City. Maryland Votes for Animals worked on the statewide bills to ban chlorpyrifos and restrict the use of neonicotinoid pesticides, a.k.a. The Pollinator Protection Act, to protect wildlife as well as bees and other pollinators. With the passage of the Pollinator Protection Act, neonicotinoids are not only heavily limited for outdoor application but also banned for neonicotinoid-containing flea and tick repellents for pets, lice and bedbug treatments as well as other indoor insecticides, including ant baits.

Many of these anti-tick treatments for pets include chlorpyrifos and neonicotinoids. Since people come into close contact with their pets, human exposure to these active ingredients is inevitable as people play, cuddle, and even sleep with their pets. Glyphosphate is still widely used as an herbicide in residential gardens and commercial properties. Roundup, the most popular pesticide that contains glyphosphate, says on its

label that it is safe once it dries, but that is more to keep it from being tracked onto carpets than for the safety of the pet or people. Pets who ingest glyphosphate may have issues that range from developmental effects, cataracts, and acute stomach problems. Most people walk their dogs twice a day, bringing pesticide residue from the outdoor environment into their homes, exposing families to pesticides that pets and people pick up when they walk on or in close proximity to pesticide treated lawns, neighborhood playgrounds, parks, or golf courses. Pets and people are at risk so long as these chemicals can be used in Baltimore City.

In a study by Perdue University and University of North Carolina that measured lawn chemicals in dog urine from households chemically treated their lawns versus those that do not, chemicals were found in the urine of 14 of 25 dogs in households before lawn treatment, and in 19 out of 25 households after lawn treatment. Those lawn chemicals were also found in the urine of dogs in 4 out of 8 households that did not treat their lawns with chemicals. This is most likely due to the fact that the chemicals do not observe property lines, and are not restricted to just staying in the yard in which they were applied. When testing for pesticides in humans, Pesticide Watch reported that a study of 9,282 people nationwide by The US Center for Disease Control and Prevention (CDC) found pesticides in 100% of the people who had both blood and urine tested. The average person carried 13 of 23 pesticides tested.

It is time to stop poisoning our environment with toxic chemicals that end up doing more harm than good. Councilwoman Clarke, thank you for sponsoring this bill. I urge this committee to stand up for pets and people in Baltimore City and pass Pesticide Control and Regulation Council Bill 20-0495.