

May 7, 2019

House Committee on Rules 900 Court St. NE Salem, Oregon 97301 (503)-986-1731

RE: Oregon HB 2619—A Ban on Chlorpyrifos

Dear Honorable Members of the House Rules Committee,

On behalf of Friends of the Earth and our 69,622 members and supports in Oregon, we are writing in support of HB 2619, which would ban the toxic pesticide chlorpyrifos. This bill is a necessary step to protect the environment, public health and the food system in Oregon.

With over 1.7 million members and supporters nationwide and 69,622 in Oregon, Friends of the Earth is an environmental organization that defends the environment and champions a healthy and just world. We're part of Friends of the Earth International, a federation of groups working in 75 countries on today's most urgent environmental and social issues. Our current campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe for our health and the environment, and protecting marine ecosystems and the people who live and work near them.

The way we manage our landscapes and grow our food is harming our bees, along with a host of other essential species including wild bees, birds, bats, butterflies, dragonflies, lacewings, ladybugs, earthworms, small mammals, amphibians, and aquatic insects—based on an increasingly heavy use of ever more toxic pesticides, which is eliminating critical habitat and contaminating soil and water.^{1, 2, 3, 4, 5, 6, 7, 8, 9, 10} Some scientists are saying we are in the midst of a "second Silent Spring."¹¹ Further, the U.N. estimates that forty percent of all invertebrate pollinator species are on the brink of extinction.¹² In addition to these studies, which convey human exposure to pesticides, a recent meta-analysis reports on the devastating impact agricultural pesticides have on insect populations and predicts the "collapse of nature."¹³ On the heels of this study, the Food and Agriculture Organization of the United Nations published a report warning that the state of the world's biodiversity threatens our food security, nutrition, health, livelihood and environment.¹⁴ Just this week, the U.N. released a landmark global assessment finding one million species may be pushed to extinction in the next few years.¹⁵

Oregon is also experiencing significant pollinator decline. According to the Bee Informed Partnership, from 2017-2018 beekeepers in Oregon lost an average of 35 percent of their hives.¹⁶ This degree of loss is unsustainable (the beekeeping industry says annual acceptable losses are 14 percent or less).¹⁷ Chlorpyrifos has been found as the second most toxic pesticide to bees and is commonly found in pollen.¹⁸ It has shown to weaken the immune system of queen bees and they are less likely to emerge or hatch when exposed to chlorpyrifos.¹⁹ This bill would help protect bees and other pollinators, which are critical to Oregon's agricultural economy.

We are deeply concerned that chlorpyrifos is being used in Oregon in agriculture and to manage golf courses, which can cause some serious environmental problems including contaminating our water, ruining pristine streams, destroying habitats and producing landslides. Chlorpyrifos can cause brain damage in children,²⁰ contaminates our waterways and harms wildlife.^{21,22} This chemical is associated with reduced IQ,²³ loss of working memory,²⁴ attention deficit disorders²⁵ and delayed motor development.²⁶ Just a one-time exposure at a critical stage of fetal development can have a life-long impact, including severe learning disabilities and autism spectrum disorders.²⁷

In the case of chlorpyrifos, it is particularly toxic to children. Further, this pesticide can drift at unsafe levels 300 feet from the turf's edge. This means that people playing golf, course employees and families living on or near a golf course could be harmed by this pesticide if it is used.²⁸ On golf courses, unless banned or identified, parents have no way of knowing if a course is using this chemical. There is no reason for us to be putting our children, public health or the environment in jeopardy.

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There are safer alternatives that golf courses can use. In Virginia, the superintendent of the Bayville Golf Club in Virginia Beach has said, "We refuse to use [chlorpyrifos]. It damages children's brains and is toxic to Bay life."²⁹ In addition, the Golf Course Superintendents Association noted in its 2017 March magazine that, "If more courses move away from primary reliance on adulticides, monitoring of larvae will become more important, which could, in turn, reduce total insecticide use. 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 bio-rational insecticides and cultural means to manage weevil populations." It is really a no-brainer. If there are less-toxic alternatives, they should be used and chlorpyrifos should be banned. We urge the state of Oregon to take immediate action by passing HB 2619 out of committee to make the state safer for people and the planet.

In addition to putting public health, particularly young children at risk, chlorpyrifos is also contaminating waterways. By eliminating chlorpyrifos, golf course superintendents will be protecting them from the impact of this toxic runoff. By using this toxic pesticide the state is unnecessarily putting species at risk. Federal scientists have concluded that this pesticide poses a risk to about 1,800 critically threatened or endangered species.³⁰ We will help protect them by taking action in Oregon.

This pesticide are also showing up in our food. Chlorpyrifos is widely applied in the production of fruits, vegetables, nuts and other conventionally grown crops.³¹ In February, new testing conducted by Friends of the Earth in collaboration with fourteen organizations across the country revealed that store brand foods tested from Kroger, Albertsons/Safeway, Walmart and Whole Foods contain toxic pesticides including organophosphates (the same class of pesticides as chlorpyrifos) and neonicotinoids.³² The foods tested were items that kids and families typically eat including oat cereal, apples, applesauce, spinach and pinto beans. These pesticides are linked to serious adverse human health impacts and environmental harm. A peer-reviewed study published in February in *Environmental Research* and led by researchers at UC Berkeley and Friends of the Earth found that switching to an organic diet and dramatically reduced exposure to pesticides in just one week.³³ The most significant declines involved organophosphates, a class of highly neurotoxic pesticides linked to brain damage in children: the study found a 95% drop in levels of malathion and a nearly two thirds reduction in chlorpyrifos. Organophosphates are so toxic to children's developing brains that scientists have recommended a full ban.³⁴ Farmers, farmworkers and rural communities are at increased risk of exposure; agricultural use of chlorpyrifos is associated with immediate and long-term adverse health impacts for those who are exposed.^{35, 36, 37, 38, 39}

Chlorpyrifos is so dangerous that the EPA recommended a ban on this pesticide⁴⁰ However, that decision was reversed by EPA Administrator Scott Pruitt.⁴¹ In response, numerous state attorneys general have filed a lawsuit against the EPA over the reversal, and the state of Hawaii just passed a bill banning chlorpyrifos.^{42, 43} The science is clear that chlorpyrifos is unsafe for people and the environment and the pesticide should not be used in Oregon.

While the federal government is unwilling to prioritize people, especially children, over chemical company profits, the state of Oregon has an opportunity to stand up and pass legislation to protect its citizens. There is no reason to expose anyone in the state to a pesticide that is derived from a nerve gas made in Nazi Germany. For the sake of our children and for public health, wildlife and the environmental in Oregon, we urge the committee to ban chlorpyrifos now and place restrictions on neonicotinoids by passing HB 2619.

Sincerely,

Tiffany Finck-Haynes Pesticides and Pollinators Program Manager Friends of the Earth-U.S.



¹ Mullin CA, Frazier M, Frazier JL, Ashcraft S, Simonds R, vanEngelsdorp D, et al. 2010. High Levels of Miticides and Agrochemicals in North American Apiaries: Implications for Honey Bee Health. F. Marion-Polled. PLoS ONE 5:e9754; doi:10.1371/journal.pone.0009754.

⁵ Krischik, V. A., A .Landmark, and G. Heimpel. 2007. Soil-applied imidacloprid is translocated to nectar and kills nectar-feeding Anagyrus pseudo cocci (Girault) (Hymenoptera: Encyrtidae) Environ. Entomol. 36(5): 1238-1245.

⁶ Mineau P, Palmer C. 2013. The Impact of the Nation's Most Widely Used Insecticides on Birds. American Bird Conservancy. <u>http://www.abcbirds.org/abcprograms/policy/toxins/Neonic_FINAL.pdf</u>

⁷ Goulson D. 2013. Review: An overview of the environmental risks posed by neonicotinoid insecticides. Journal of Applied Ecology 50: 977–987; doi: 10.1111/1365-2664.12111

⁸ R Mason, H A Tennekes, F Sánchez-Bayo, P U Epsen (2013) Immune suppression by neonicotinoid insecticides at the root of global wildlife declines J Environ Immunol Toxicol 1: 1. 3-12

⁹ Xerces. 2013. Scientists Call for an End to Cosmetic Insecticide Use After the Largest Bumble Bee Poisoning on Record. The Xerces Society for Invertebrate Conservation. <u>http://www.xerces.org/2013/06/27/scientists-call-for-an-end-to-cosmetic-insecticide-use-after-the-largest-bumble-bee-poisoning-on-record</u> ¹⁰ Hopwood, J, S. Hoffman Black, M. Vaughan, and E. Lee-Mader. 2013. Beyond the Birds and the Bees: Effects of Neonicotinoid Insecticides on

¹⁰ Hopwood, J, S. Hoffman Black, M. Vaughan, and E. Lee-Mader. 2013. Beyond the Birds and the Bees: Effects of Neonicotinoid Insecticides on Agriculturally Important Beneficial Invertebrates. http://www.xerces.org/wp-content/uploads/2013/09/XercesSociety_CBCneonics_sep2013.pdf
¹¹ Gibbons D, Morrissey C, Mineau P. 2014. A review of the direct and indirect effects of neonicotinoids and fipronil on vertebrate wildlife. Springer

Berlin Heidelberg. doi: 10.1007/s11356-014-3180-5

¹² Food and Agriculture Organization of the United Nations. "Pollinators vital to our food supply under threat." FAO. FAO. 26 February, 2016. Web. www.fao.org/news/story/en/item/384726/icode/

¹³ Sánchez-Bayo, F., & Wyckhuys, K. A. (2019). Worldwide decline of the entomofauna: A review of its drivers. *Biological Conservation*, 232, 8-27.

¹⁴ Belanger, J and Pilling, D. (2019). The State of the World's Biodiversity for Food and Agriculture. *Food and Agriculture Organization of the United Nation*. Retrieved fromhttp://www.fao.org/3/CA3129EN/CA3129EN.pdf

¹⁵ Leahy, S. (2019). One million species at risk of extinction, UN report warns. *National Geographic*.

https://www.nationalgeographic.com/environment/2019/05/ipbes-un-biodiversity-report-warns-one-million-species-at-risk/

¹⁶ Bee Informed Partnership. (2018). 2017/2018 Total Annual All Colony Loss. Retrieved from https://bip2.beeinformed.org/loss-map/

¹⁷ Kaplan, Kim. Fact Sheet: Survey of Bee Losses During Winter of 2012/2013. United States Department of Agriculture Agricultural Research Service. August, 12, 2016. https://www.ars.usda.gov/oc/br/beelosses/index/

¹⁸ Sanchez-Bayo, F., & Goka, K. (2014). Pesticide residues and bees-a risk assessment. *PloS one*, 9(4), e94482.

¹⁹ DeGrandi-Hoffman, G., Chen, Y., & Simonds, R. (2013). The effects of pesticides on queen rearing and virus titers in honey bees (Apis mellifera L.). *Insects*, *4*(1), 71-89.

²⁰ Rauh, V. A., Perera, P. P., Horton, M. K., Whyatt, R. M., Bansal, R., ... & Peterson, B. S. (2012). Brain anomalies in children exposed prenatally to a common organophosphate pesticide. *PNAS*. Retrieved from http://www.pnas.org/content/pnas/early/2012/04/25/1203396109.full.pdf

²¹ Kristof, N. (2017). Trump's Legacy: Damaged Brains. New York Times. Retrieved from

https://www.nytimes.com/interactive/2017/10/28/opinion/sunday/chlorpyrifos-dow-environmental-protection-agency.html

²² Environmental Protection Agency. (2016). Revised Human Health Risk Assessment on Chlorpyrifos. EPA. Retrieved from

https://www.epa.gov/ingredients-used-pesticide-products/revised-human-health-risk-assessment-chlorpyrifos

²³ Rauh, V., Arunajadai, S., Horton, M., Perera, F., Hoepner, L., Barr, D. B., & Whyatt, R. (2011). Seven-year neurodevelopmental scores and prenatal exposure to chlorpyrifos, a common agricultural pesticide. *Environmental health perspectives*, *119*(8), 1196.

²⁴ Suarez-Lopez, J. R., Himes, J. H., Jacobs, D. R., Alexander, B. H., & Gunnar, M. R. (2013). Acetylcholinesterase activity and neurodevelopment in boys and girls. *Pediatrics*, peds-2013.

²⁵ Furlong, M. A., Engel, S. M., Barr, D. B., & Wolff, M. S. (2014). Prenatal exposure to organophosphate pesticides and reciprocal social behavior in childhood. *Environment international*, *70*, 125-131.

²⁶ Grabovska, S., & Salyha, Y. (2015). ADHD-like behaviour in the offspring of female rats exposed to low chlorpyrifos doses before pregnancy/Ponašanje nalik ADHD-u u potomaka ženki štakora izloženih niskim dozama klorpirifosa prije trudnoće. *Archives of Industrial Hygiene and Toxicology*, 66(2), 121-127.

²⁷ Shelton, J. F., Geraghty, E. M., Tancredi, D. J., Delwiche, L. D., Schmidt, R. J., ... & Hertz-Picciotto, I. (2014). Neurodevelopmental Disorders and Prenatal Residential Proximity to Agricultural Pesticides: The CHARGE Study. *Environmental Health Perspectives*. Retrieved from https://ehp.niehs.nih.gov/wp-content/uploads/122/10/ehp.1307044.alt.pdf

²⁸ Sherman, J. (2017). EPA Refuses to Ban Pesticide Linked to Poisonings and Damage to Children's Developing Brains. *United Farm Workers*. Retrieved from https://ufw.org/epa-refuses-ban-pesticide-linked-poisonings-damage-childrens-brains/

²⁹ Baker, W. (2018). EPA lifts ban on pesticide known to cause brain damage in children. Chesapeake Bay Journal. Retrieved from

https://www.bayjournal.com/article/epa_lifts_ban_on_pesticide_known_to_cause_brain_damage_in_children

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² Hallmann CA, Foppen RPB, vanTurnhout CAM, deKroon H, Jongejans E. 2014. Declines in Insectivorous Birds Are Associated with High Neonicotinoid Concentrations. Nature. 9 July 2014. doi:10.1038/nature13531

³ Lu C, Warchol KM, Callahan RA. 2014. Sub-lethal exposure to neonicotinoids impaired honey bees winterization before proceeding to colony collapse disorder. Bulletin of Insectology 67: 125–130

⁴ Krischik VA. Non-Target Effects of Imidacloprid on Beneficial Insects. University of Minnesota CUES: Center for Urban Ecology and Sustainability website (last modified March 6, 2013). <u>http://www.entomology.umn.edu/cues/non-target/index.html</u>



³⁰ Associated Press. (2017). Dow Chemical is pushing Trump administration to ignore studies of toxic pesticide. *Los Angeles Times*. Retrieved from <u>http://www.latimes.com/business/la-fi-dow-pesticides-trump-20170420-story.html</u>

³¹ American Bird Conservancy. (2017). Chlorpyrifos: Why It Is Time to Ban This Dangerous Chemical. *American Bird Conservancy*. Retrieved from https://abcbirds.org/dangerous-chemical-ban/

³² Klein, K. (2019). Toxic Secret: Pesticides Uncovered in Store Brand Cereal, Beans and Produce. *Friends of the Earth.* Retrieved from https://foe.org/food-testing-results/

³³ Lu, C., Toepel, K., Irish, R., Fenske, R. A., Barr, D. B., & Bravo, R. (2005). Organic diets significantly lower children's dietary exposure to organophosphorus pesticides. *Environmental health perspectives*, *114*(2), 260-263.

³⁴ Hertz-Picciotto, I., Sass, J.B., Engel, S., Bennett, D.H., Bradman, A., Eskenazi, B., Lanphear, B. and Whyatt, R., (2018). Organophosphate exposures during pregnancy and child neurodevelopment: Recommendations for essential policy reforms. *PLoS medicine*. 15(10), p.e1002671.

³⁵ London, L., Beseler, C., Bouchard, M. F., Bellinger, D. C., Colosio, C., Grandjean, P., ... & Meijster, T. (2012). Neurobehavioral and

neurodevelopmental effects of pesticide exposures. Neurotoxicology, 33(4), 887-896. Retrieved from

https://www.sciencedirect.com/science/article/pii/S0161813X12000071

³⁶ Rastogi, S. K., Tripathi, S., & Ravishanker, D. (2010). A study of neurologic symptoms on exposure to organophosphate pesticides in the children of agricultural workers. *Indian journal of occupational and environmental medicine*, *14*(2), 54. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2992866/

³⁷ Khan, K., Ismail, A. A., Rasoul, G. A., Bonner, M. R., Lasarev, M. R., Hendy, O., ... & Rohlman, D. S. (2014). Longitudinal assessment of chlorpyrifos

exposure and self-reported neurological symptoms in adolescent pesticide applicators. *BMJ open*, 4(3), e004177. Retrieved from http://bmjopen.bmj.com/content/4/3/e004177.short

³⁸ Koureas, M., Tsakalof, A., Tsatsakis, A., & Hadjichristodoulou, C. (2012). Systematic review of biomonitoring studies to determine the association between exposure to organophosphorus and pyrethroid insecticides and human health outcomes. *Toxicology letters*, *210*(2), 155-168. Retrieved from https://www.sciencedirect.com/science/article/pii/S0378427411015748

³⁹ Rauh, V., Arunajadai, S., Horton, M., Perera, F., Hoepner, L., Barr, D. B., & Whyatt, R. (2011). Seven-year neurodevelopmental scores and prenatal exposure to chlorpyrifos, a common agricultural pesticide. *Environmental health perspectives*, *119*(8), 1196. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3237355/

⁴⁰ United States Environmental Protection Agency. (2017). Proposal to Revoke Chlorpyrifos Food Residue Tolerances. *U.S. EPA*. Retrieved from https://archive.epa.gov/epa/ingredients-used-pesticide-products/proposal-revoke-chlorpyrifos-food-residue-tolerances.html

⁴¹ Associated Press. (2017). EPA chief met with Dow Chemical CEO before deciding not to ban toxic pesticide. *Los Angeles Times*. Retrieved from http://www.latimes.com/business/la-fi-epa-pesticide-dow-20170627-story.html

⁴² Office of the Maryland Attorney General. (2017). Attorney General Frosh Joins Coalition of State Attorneys General in Suing the U.S. Department of Education for Abandoning Critical Student Protections. *Office of Maryland Attorney General*. Retrieved from

http://www.marylandattorneygeneral.gov/Press/2017/070617a.pdf

⁴³ Kay, R. (2018). First In The Nation to Ban Chlorpyrifos! Hawaii Reporter. Retrieved from http://www.hawaiireporter.com/first-nation-chlorpyrifos-ban/