

TOXIC PESTICIDES AND CHILDREN'S HEALTH

Pesticides are intended to target pests in the agriculture industry but they can also cause severe harm to humans. These chemicals most commonly enter the human body through eating, drinking, skin contact, or inhalation. While pesticides are dangerous for all of us, they pose unique risks to our children.

How Do Toxic Pesticides Impact Children?

Pesticide poisoning is of particular risk to children, who are more likely to come into contact with the floor through playing and crawling, and are also more likely to put objects in their mouths.¹ These behaviors can increase the chance of exposure to pesticides. Children also have a higher skin-surface-area-to-bodyweight ratio than adults, which can increase their chance of exposure to toxins via skin.² As a result, children are three times more likely to develop cancer than adults when exposed to pesticides.³

Despite these increased risks, an estimated 800,000 children work in the agricultural industry.⁴ Many of these children are undocumented and exploited. Often, they are sent to work in the fields with little or no protective equipment or training. The failure of policymakers to protect children from both child labor and pesticides puts them at great risk of health complications.

What Are The Risks Of Pesticide Exposure?

A lack of regulation means that many pesticides that pose various risks to human health are still commonly used in the U.S. Among the most dangerous for children are organophosphates, neonicotinoids, and paraquat.

Organophosphates: Organophosphates are the most widely used pesticide and use chemicals to target and poison insects and mammals. Evidence shows that organophosphate pesticides can cause poor neurodevelopment in children.⁵ Studies have documented that prenatal exposure to organophosphate pesticides can raise the chances of neurodevelopmental disorders throughout one's life.⁶

Neonicotinoids: Neonicotinoids are a class of water-soluble chemicals used to target insects by being absorbed through a plant's water supply. In addition to causing extensive environmental damage, neonicotinoids can cause risks to human health. These pesticides are linked to birth

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defects and hormonal dysregulation, and their solubility in water may lead to food and water contamination.⁷

Paraquat: Paraquat has several known health risks including pulmonary fibrosis, renal failure, and respiratory distress syndrome. Paraquat, which is primarily used in agriculture to control weed and grass growth, is fatal 70% of the time when consumed.⁸ Ingestion, skin contact, and inhalation are so dangerous that only licensed professionals may legally use it. Children, who are more prone to accidentally consuming incorrectly labeled or unmarked liquids, are at a particular risk of ingestion.

This list notes some of the most dangerous pesticides for children, but it is far from comprehensive — more than 160 registered agricultural pesticides in the U.S. are known carcinogens, and even more have potential health risks similar to those listed above.⁹

What Can We Do?

Currently, the U.S. Environmental Protection Agency (EPA) assesses the human health risks of pesticide ingredients and sets corresponding limits. However, industry influence has led to under-regulation — and even deregulation — of many pesticides, including those that are banned in other countries.

Congress has the opportunity to protect children from these toxic pesticides through the Protect America's Children from Toxic Pesticides Act (S.269). Specifically, this legislation bans the use of organophosphates, neonicotinoids, and paraquat and cancels the registration of pesticides that have been banned in the European Union (EU).

The reduction of harmful pesticide use is critical to children's health and well-being. Acknowledging and reducing the dangers they pose means that our children have a better chance at a healthier future.

Contact Information

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ENDNOTES

- ¹ Sapbamrer, Ratana and Hongsibsong, Surat. "Effects of Prenatal and Postnatal Exposure to Organophosphate Pesticides on Child Neurodevelopment in Different Age Groups: A Systematic Review." Springer Link. 30 April 2019. <https://link.springer.com/article/10.1007/s11356-019-05126-w>.
- ² Sapbamrer, Ratana and Hongsibsong, Surat. "Effects of Prenatal and Postnatal Exposure to Organophosphate Pesticides on Child Neurodevelopment in Different Age Groups: A Systematic Review." Springer Link. 30 April 2019. <https://link.springer.com/article/10.1007/s11356-019-05126-w>.
- ³ "Child Labor in the United States." American Federation of Teachers. Last accessed August 18, 2023. <https://www.aft.org/community/child-labor-united-states>.
- ⁴ "Fingers to the Bone: United States' Failure to Protect Child Farmworkers." Human Rights Watch. June 2, 2000. <https://www.hrw.org/report/2000/06/02/fingers-bone/united-states-failure-protect-child-farmworkers>
- ⁵ Muñoz-Quezada, María Teresa et al. "Neurodevelopmental Effects in Children Associated with Exposure to Organophosphate Pesticides: A Systematic Review. Neurotoxicology. Vol. 39. 9 October 2013. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3899350/>
- ⁶ Sapbamrer, Ratana and Hongsibsong, Surat. "Effects of Prenatal and Postnatal Exposure to Organophosphate Pesticides on Child Neurodevelopment in Different Age Groups: A Systematic Review." Springer Link. 30 April 2019. <https://link.springer.com/article/10.1007/s11356-019-05126-w>.
- ⁷ Lindwall, Courtney. "Effects of Neonicotinoids on Humans and Bees." NRDC. 25 May 2022. <https://www.nrdc.org/stories/neonicotinoids-101-effects-humans-and-bees>
- ⁸ Sukumar, Cynthia. "Paraquat: The Poison Potion." Indian Journal of Critical Care Medicine. Vol. 23(4). December 2019. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6996657/>
- ⁹ Schwingl, Pamela J., Lunn, Ruth M., & Mehta, Suril S. "A tiered approach to prioritizing registered pesticides for potential cancer hazard evaluations: implications for decision making." Environmental Health, Vol. 20. February 12, 2021. <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00696-0#:~:text=Among%20these%20458%20registered%20pesticides,carcinogens%2C%20totaling%20168%20potential%20carcinogens.>