

DEPARTMENT OF ENVIRONMENTAL HEALTH AND ENGINEERING

Submitted to: **Education, Energy and the Environment Committee**  
on: **SB345: Pesticides - PFAS Chemicals – Prohibitions**  
Position: **Favorable**  
Submitted by: Ana María Rule, PhD, Board member, Maryland Pesticide Education Network  
Hearing Date: February 18, 2024

My name is Dr. Ana Rule and I am Assistant Professor at the Johns Hopkins Bloomberg School of Public Health (JHBSPH) in the Department of Environmental Health and Engineering. The impacts of pesticides on public health have been one of my professional concerns for many years, and the recent revelation of pesticides containing PFAS has increased my concern. The opinions expressed here are my own and do not necessarily reflect the views of The Johns Hopkins University. I am submitting this written testimony **in support of SB345**.

As an exposure scientist focused on Public Environmental Health research, I am concerned that PFAS, which we know is a family of chemicals that persist in the environment and are associated with adverse health effects, have been identified in pesticides currently used in Maryland.

We need to turn off the tap of pesticides where the active ingredient is an EPA-identified PFAS. The costs – both financial and to humanity are extraordinary, given these ‘forever chemicals’ take years to be detoxified by the human body or the environment. This is alarming because the persistence of PFAS in the human body and the environment means that with every application, we are adding to the human and environmental burden, and increasing the amount of PFAS that people are exposed to through food, air, and water.

**I am the principal investigator at JHBSPH of a recent pilot study, in which PFAS were found in every one of the Maryland residents that we tested. In some cases (4 of 41), the concentration of PFAS was higher than the maximum recommended level by the NASEM (20 ng/mL).** At these levels, there is sufficient evidence of several concerning health effects, including: increased risk of kidney cancer, increased risk of high cholesterol, (significant risk for cardiovascular disease), decreased infant and fetal growth, decreased antibody response in both adults and children (this means they are more susceptible to infections and reduced response to vaccines). Of our 41 participants, 35 (85%) have PFAS levels in their blood between 2 and 20 ng/mL, which trigger special screening by clinicians, including for breast, liver and testicular cancer.

**There is a cost to not taking action to prevent unnecessary, accumulating PFAS pollution and SB345 takes a simple step.** Two [recent studies have extrapolated](#) healthcare costs for the United States from PFAS pollution and disease at an alarming \$37–62 billion annually. **Maryland’s portion, based on 2020 census data, is estimated between \$689 million and 1.09 billion dollars annually.**

**Because of their persistence, Just one exposure to a PFAS pesticide can have long-term impacts.** Given that these pesticides are widely used, we are experiencing ongoing, even if intermittent, exposures that increase our toxic body burden. Furthermore, as a researcher, I am well aware and concerned that there is no research on the synergistic impacts of combining pesticides with long-term persistent PFAS, both classes of chemicals associated with health effects.

For example, the pesticide Bifenthrin is a PFAS and is often used in health care facilities, home lawn care, and agriculture. It is also used for mosquito control where it may be applied weekly to residential yards and other public areas. Bifenthrin is a synthetic pyrethroid, considered an endocrine disruptor, that is linked to autism, Alzheimer's, and Parkinson's diseases. Because Bifenthrin is also a PFAS it is a highly persistent pesticide with the longest known residual time in soil of insecticides currently on the market. Bifenthrin works by interfering with the nerve cell's ability to send normal signals. There is little research on the effects on pregnant women, children and vulnerable populations, but Bifenthrin is just one of a thousand PFAS pesticide products allowed in Maryland. We are one large human and environmental experiment — with health consequences that are now expected to impact generations to come.

Much like lead, negative health outcomes from PFAS will be found in the people exposed even decades after enacting safety measures. While lead and tobacco exposures were largely attributed to personal behaviors, **PFAS can contaminate anyone who eats food, drinks water, or is exposed environmentally – via mosquito control products like Bifenthrin.**

To summarize, PFAS leads to changes in liver function, increased risk of breast, kidney, and testicular cancer, decreased vaccine response in children, increased risk of high blood pressure in pregnant women, increased cholesterol, and decreases in infant birth weights. Unfortunately, similar health effects have been associated with exposure to pesticides, adding to the health burden I mentioned earlier.

By passing **SB345**, this committee can protect the health of Maryland citizens and the environment from avoidable ongoing PFAS contamination. We need to stop unnecessarily adding to the already huge PFAS burden of our environment — especially since there are a great many known alternative products that can replace these persistent PFAS pesticides.

I urge you to give **SB345** a favorable vote. Thank you for your consideration.



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