Written testimony in support of SB 301, An Act Concerning the Use of Chlorpyrifos

Sarah Evans, PhD MPH
Assistant Professor
Icahn School of Medicine at Mount Sinai
63 Fox Street
Fairfield, CT 06824

March 6, 2020

To Co-chairs Cohen and Demicco, Vice-chairs Kushner and Greco, Ranking Members Miner and Harding, and members of the Environment Committee,

As a lifelong Connecticut resident, mother to three small children, and research scientist with expertise in environmental health, I urge you to support SB 301, An Act Concerning the Use of Chlorpyrifos. I have a doctorate in neuroscience and a Master’s in Public Health and completed a 3 year fellowship in Environmental Pediatrics. As an assistant professor of Environmental Medicine and Public Health at the Icahn School of Medicine at Mount Sinai, I have extensive knowledge of the impact of pesticides and other toxic chemicals on human health. The risks of chlorpyrifos exposure far outweigh its benefits.

Children are uniquely vulnerable to the harmful effects of pesticides for a number of reasons. Their age-appropriate hand-to-mouth behaviors, closer proximity to the ground, and higher breathing rates place young children at increased risk for pesticide exposures compared with adults. The Centers for Disease Control and Prevention has found that children age 6-11 have higher levels of common pesticides in their bodies than adults.

Children’s vulnerability to chemical pesticides is further magnified by the rapid growth and development of their nervous systems and other bodily organs as well as by their immature detoxification mechanisms, which make it difficult to break down and excrete pesticides. These factors place infants and children at increased risk for harmful effects of pesticide exposures, which may be permanent and irreversible. Additionally, because of their young age, children have more future years of life and thus more time to develop chronic diseases that may be triggered by early environmental exposures. The attached fact sheet and infographic that my colleagues and I created further outline the health risks that pesticides pose to children.

The negative impacts of chlorpyrifos exposure on children’s health are so well documented that the USEPA banned its use in residential applications in 2001. Chlorpyrifos is an organophosphate pesticide designed to interfere with components of the nervous system of insects that are also present in humans. Thus it should come as no surprise that numerous peer-reviewed studies find that chlorpyrifos is harmful to the developing brain, even at very low levels³. Offspring of mice treated with chlorpyrifos during pregnancy show social impairments and repetitive behaviors characteristic of autism spectrum disorder⁴. Children born to mothers with higher levels of chlorpyrifos in their bodies have disrupted brain structures⁵, decreased IQ⁶, and symptoms consistent with Attention Deficit Hyperactivity Disorder (ADHD)⁷. Decades of research demonstrate that there is no safe level of chlorpyrifos exposure.

The good news is that regulations that restrict pesticides are effective at reducing exposures. The residential ban on chlorpyrifos resulted in a ten-fold reduction in maternal and umbilical blood levels in New York City residents³. As a mother, I would love to feed my children fresh produce from our local Connecticut farms. Sadly the risks of chlorpyrifos contamination are too high and I am forced to shop elsewhere. A statewide ban on chlorpyrifos would give residents confidence to support our local farmers and send a strong message of support for measures that protect the health of children. California, New York, Maryland, and Hawaii have all already taken steps to protect their residents. I urge you to follow suit and ban the use of this highly toxic and unnecessary chemical in Connecticut.

Thank you for your time,

Sarah Evans, PhD MPH
Assistant Professor
Icahn School of Medicine at Mount Sinai
63 Fox Street
Fairfield, CT 06824

⁷. Dalsager et al. Maternal urinary concentrations of pyrethroid and chlorpyrifos metabolites and attention deficit hyperactivity disorder (ADHD) symptoms in 2-4-year-old children from the Odense Child Cohort. Environ Res. 2019 Sep;176:108533.