

**From:** jody spear  
**Sent:** Monday, August 06, 2018 4:57 PM  
**To:** Pesticides <Pesticides@maine.gov>  
**Subject:** Fwd: bruce taylor on pesticide effects on children

To: members of the pesticide control board  
Fr: Jody Spear, Harborside

Herewith a principled statement from Bruce Taylor, a doctor concerned especially with the effects of pesticides on children, but the points apply in a general sense to counter the rash recommendations of Mark Aranson (sent to the board, June 22). Dr. Aranson wants browntail moth gone "once and for all," and he wants it dispatched by aerial spraying of toxic chemicals on trees.

Is Dr. Aranson aware that there are better ways, as outlined in state literature: clippings webs from October to mid-April and hosing down caterpillars when they emerge? Using Bt (a nontoxic insecticide) in double applications before caterpillars emerge is preferable to the neonicotinoids and pyrethroids used more conventionally.

Does he care that these board-approved insecticides for BTM will kill beneficial insects and harm ecosystems, including humans, as well? Or that insecticide use leads to superbugs, resistant to whatever has been sprayed to kill them, and requiring more toxic chemicals?

Does it matter to him that bees, on which we depend for pollination of food crops, are being decimated by neonics in particular?

Clearly it does not matter to chemical industry lobbyists like Riley Titus (RISE), who petitioned the board at its last meeting and has asked for more time on Aug. 15. to inveigh against local pesticide ordinances. Nor does collateral damage matter to Syngenta sales rep Melissa Gugliotti (letter of June 1), who wants residents of South Portland to be able to make preventive applications of Syngenta preemergence herbicides, insecticides, and fungicides without a waiver.

Given where we are now, at the end of summer, this would be a time to take the most precautionary action recommended by Dr. Taylor rather than Dr. Aranson, following the life cycle of the moth, which will begin building nests in trees soon. Instead of the trigger-happy approach demanded by Dr. Aranson, homeowners can remove webs within reach, aided when necessary by a long pole pruner. (They might follow the example of the Bowdoinham library, which has a 16-foot pole that patrons can check out for the purpose.) Simply poking a hole in the nest kills caterpillars, which cannot survive outside their cocoon. Or arborists can be called in to clip webs. We have all noticed that most landscapers now offer organic services, filling a niche that builds business opportunities.

This is a teachable moment for young people, who need to learn early that pesticides sicken and kill indiscriminately in every part of the ecosystem: pollinating birds, insects, aquatic organisms, wildlife, and humans. They could be organized into brigades to help in the work of destroying nests during fall and winter months. In fact, the example of Portland and South Portland, with pesticide ordinances in place, demonstrates that consumers can be educated to do things differently.

According to Portland's city arborist, Jeff Tarling, "This [pesticide] ordinance gives our staff opportunities to manage nature respectfully, to preserve and adapt to nature, rather than trying to control it [with chemicals]." In a statement released through Friends of Casco Bay, Tarling goes on to recommend "mowing high, replacing lawn with meadow, and planting native shrubs and trees ... for public and private properties." Removal of invasive plants in the parks will be done over time by hand, not by spraying with pesticides, he states.

An organic pesticide management (OPM) protocol comparable to Portland's for vegetation is readily available for insect pest control. Rather than the quick and dirty way advocated by industry -- the "IPM" approach that has been hijacked and now means no more than business as usual -- I urge the board to exercise its mandate to minimize reliance on pesticides in advising state residents on managing BTM responsibly. Practical advice would include covering skin surfaces in areas where toxic hairs are present and discontinuing activities like leaf blowing, which spreads hairs around.

<https://mail.google.com/mail/u/0/#search/bruce+taylor%2C+pesticides/15a3a811295f63ab>

## Written comments concerning **LD 174**

Joint Standing Committee on Agriculture, Conservation and Forestry

Dear Senator Davis and Representative Dunphy, and Members of the Committee,

I support LD 174, An Act to Limit the use Of Pesticides on School Grounds. As a pediatrician I am greatly concerned about the exposure of the infant, child and the pregnant and nursing mother to environmental toxins.

There are more than 80,000 chemicals in commercial use; many of these have only been very superficially evaluated for toxicity. Although not all will enter commercial production, a recent study estimated that about 1,000 new chemicals are synthesized every month.

Further, there are over 10,000 chemicals registered as pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). EPA's current labelling regulation only requires that the pesticide manufacturers only disclose chemical ingredients that are "active". Thus inert ingredients and adjuvants do not have to be disclosed. Not only are they poorly tested but they can be more toxic than the listed active agent. They can make up to 99% of the product and do not have to be listed on the label. For example Tallowamine (POEA) that can be found in products containing glyphosate does not have to be listed. Importantly it has found to be "more deadly" to human placental and umbilical cells than the active pesticide glyphosate. Adjuvants are also considered inert ingredients and they can be emulsifiers, surfactants, extenders of the life of active pesticide after application, and penetrants. Many are not chemically or biologically inert but are environmentally persistent and pose significant risk to human health. Despite several of the inert chemicals being listed as toxic under the Clean Water Act, they are acceptable under FIFRA.

It is important to note that many standards or limits for exposure are estimated on occupational exposure studies done on adults at 40 hours per week. Also in

many of the adult exposure studies protective measures are in place at the time of study. The child at home and at play will have a far greater time for exposure and far greater entry of toxics into their bodies. Further, most studies in adults only measure a single route of exposure.

Commonly in children, compared to adults, there are multiple routes of exposure. One route of exposure might appear benign or within standards but multiple sources can be significant. These include water, dietary, skin absorption and inhalation. A small child will crawl in the soil and dust absorbing through contact with the skin but also by inhalation and even swallowing from hand mouth activity.

A recent study (2015) from the Harvard School of Public Health looked at exposure of pesticides at home and school. It was found that the highest rate was from indoor exposure. This surprising finding suggests a concentrating effect and longer exposure time inside the home or school instead of outside where there is more direct exposure. This should also hold true for the pregnant mother (although not part of the study).

Pesticides are linked to:

1. Cancer In 2015 the journal Pediatrics reported a meta-analysis that demonstrated a “significant increase in risk of leukemia” associated with herbicide exposure. Also found was a “positive but not statistically significant association between childhood home pesticide or herbicide exposure and childhood brain tumors.”
2. Neurotoxicity -developmental and behavioral problems
3. Birth defects
4. Prematurity and low birth weight
4. Endocrine disruption -obesity, premature puberty, thyroid disorders
5. Suppression of immune system

Probably the most troubling effect is intellectual deficit. Elise Gould of the Economic Policy Institute estimates that the loss of each IQ point equates to a life time earning loss of about \$21,000 in today's dollars. This does not include loss of tax revenue, medical or special education costs etc. Significantly, toxic exposures in children typically lower more than just one IQ point.

Not only are the standards of exposure to individual pesticides scientifically inadequate for the fetus and small child, but the exposure to multiple chemicals is not considered. A child can be exposed through inhalation, skin absorption and by oral through hand –mouth activity. Despite such multimodal exposure, each individual path of exposure could be deemed within administratively “acceptable limits” so no action would be taken but in reality be cumulative or synergistic and cause great harm. Thus exposure to several chemicals that are below their safe levels can as aggregate cause harm. The dangers of cumulative and synergistic exposure are recognized by the National Academy of Sciences in a study commissioned by the EPA (Pesticides in the Diet of Infants and Children, NRC, 1993). However, harm from all agents together is disregarded in the pesticide evaluation mandated by FIFRA despite the complexity of exposures in the real world the child and mother live in. This harm is costly in human and economic terms. In order to protect the health of our youth, especially their neurodevelopment, I feel strongly that whenever possible environmental exposure to toxic chemicals, especially pesticides, should be prevented. An additional benefit is that pregnant school personnel will also be protected.

Children and pregnant and lactating mothers today are exposed to a vast number of chemicals in their daily lives. It seems very sensible to restrict the exposure to the more toxic dangerous agents whenever possible. I have treated vector borne illnesses such as Lyme disease, vector borne encephalitis and Dengue and realize the importance of prevention and environmental control when rationally indicated. In the course of my years of practice, the damage from environmental toxic chemicals causing human suffering and economic damage is clearly evident. LD 174 provides sound and balanced protection by limiting unnecessary exposure to pesticides yet allows them to be used when indicated to safeguard public health.

As the American Academy of Pediatrics stated “recognizing and reducing children’s exposure to pesticides will require improved medical training, public health tracking, and regulatory approaches”. So I am grateful that you are formulating a much needed regulatory approach to protect our children.

I appreciate being able to present my concerns about pesticide exposure in children. As a pediatrician, I appreciate the protections for children and mothers contained in LD 174.

Respectfully submitted,

Bruce D. Taylor, MD, FAAP

Sweden, Maine