



March 22, 2019

Dear Chair Dembrow and Senate Environment and Natural Resource Committee members,

I will not be able to appear in person. I appreciate the opportunity to address SB 853 and offer a statement of support.

Removing Clopyrifos from sale and use is overdue. There are alternative strategies in place for transition. Putting restrictions on Neonicotinoid pesticides and taking them out of the hands of the general public is a good step. The most important part of his bill is the required commercial training in the newer alternatives. I have long believed that if we restrict something, we have an obligation to provide Information and training on alternatives.

I have been a professional horticulturist for forty-five years. I have been involved in the organic industry for the past twenty years. I am conventionally trained and spent twenty-five years as a chemical applicator in nursery, greenhouse, and horticultural production. Twenty years ago, I shifted my focus from chemical intensive management to natural, organic strategies. At that time, I expanded my area of expertise to include turf and landscape management. In addition to my industry experience, I am an eighteen-year elected member and Chairman of the Town of Marblehead, MA Recreation and Park Commission.

I believe that there is enough science that exists to show that there are issues with many of the products that we routinely use where children and adults intersect with turf and the landscape. It is true that we will never be able to say that a specific product caused a specific disease, but we do know that science has shown that repeated exposures to low dose applications is problematic with developing children and many adults. The protocol of risk assessment based on LD 50 as established in FIFRA (Federal Insecticide, Fungicide and Rodenticide Act), is outdated in light of current research.

I believe that the use of synthetic fertilizers and pesticides puts one on a treadmill when managing the landscape. Generally speaking, the insects that we are targeting with Chlopyrifos and Neonicotinoid insecticides can be managed with alternative active ingredients. Insects are often not the problems in the landscape but rather they are the symptoms of underlying problems. We have been taught by an industry to repeatedly treat those symptoms as opposed to focusing on solving the problem. If we just use chemicals and do not employ other inputs or strategies to grow healthy plants, the insects will often return, and we will fall back on chemicals once again.



A chemical-free approach does not focus on a product swap. It is following this concept where many fail. There is a general lack of understanding that organic management is not just switching to organic products, but in reality it is learning how to manage the lawn, the garden, or any other area as a system. That system involves what we can see above ground and most importantly what we cannot see below ground. Once we learn to manage everything, particularly the microbial community in the soil that nature put in place, we move into the area of success in synthetic free management.

The use of pesticides does not acknowledge nor pay much attention to the biological component in the soil other than when a certain organism is functionally needed to release synthesized, slow release form of nitrogen or break down pesticide residuals. In an organic system, the biological life in the soil is central to nutrition management, some insect control, and much disease suppression.

Education is the key to making programs work. In addition to being a hands-on consultant that works with school districts, municipalities, corporate campuses, universities, and the federal government in developing organic transition programs for turf and the landscape, I instruct landscape contractors and municipal officials in the practical application strategies, products, and protocols of natural, organic management of turf and the landscape.

Because natural strategies do not just swap out product, rather than follow a traditional IPM Program, the organic industry follows a protocol referred to as Organic IPM. This protocol retains many of the same sound protocols as its predecessor, but it directly focuses on the system and restricts the use of materials to an allowed list. That list is extensive and when combined with the other concepts of a systems-based approach assists in the successfully transition of public and private areas. A copy of the Organic IPM protocol follows.

An example of a product that replaces Neonicotinoids for white grub control is GrubGone. This is a biorational insecticide whose active ingredient is Bt (*Bacillus thuringiensis*) sp. *galleriae*. It is extremely effective when used within the appropriate application window.

There are now alternatives that can be employed as we learn to move beyond the traditionally more toxic materials that we have been using and currently use. The toxicity can be equally experienced from both human and environmental health perspectives.

Respectfully,

Chip Osborne, President
Osborne Organics



Organic IPM

Organic IPM is a problem-solving strategy that prioritizes a natural, organic approach to turf and landscape management without the use of toxic pesticides. It mandates the use of natural, organic cultural practices that promote healthy soil and plant life as a preventative measure against the onset of turf and landscape pest problems.

The US EPA and CDC recommend the use of an Integrated Pest Management (IPM) program by local governments. IPM promotes the use of nonchemical methods for pest prevention and management, such as physical, mechanical, cultural, and biological controls. Least toxic pesticides may be selected for pest control only after all other reasonable nonchemical methods have been exhausted. The use of even allowed pest control products should be used on a rescue basis as opposed to incorporation into routine management programs.

This approach will eliminate or significantly reduce the use of, and exposure to, pesticides in the management of lawn areas, playing fields, and landscapes. Furthermore, it will mitigate the potentially negative impact of landscape management on local waterways, air quality, and ecosystems.

This protocol will rely on a systems approach that integrates soil health and plant vigor with proper cultural practices. The goal is to put a series of preventative steps in place that can naturally attenuate pest issues before they become a significant concern. Careful monitoring for pests and the development of the threshold levels within this system will allow for easier control of pest problems, if they do arise. This protocol is knowledge-based utilizing an intimate understanding of soil dynamics, grass biology, and pest/disease morphology to establish the proper procedures for maximizing the health of the landscape. This protocol should mitigate most serious pest pressures.

When a pest has not been satisfactorily controlled by the above strategies, the rescue approach follows the path to the use of the least toxic pesticides. Recommendations are for the use of Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25b minimum risk, pesticides listed by the US Environmental Protection Agency. Materials that are bio-rational in nature can



also be used. Bio-rational pesticides are EPA registered. They have been approved by the Organic Materials Review Institute (OMRI) or an equivalent certifying body.

Essential Organic Integrated Pest Management practices include, but are not limited to:

- Regular soil testing
- The addition of approved materials for soil fertility and amendment as necessitated by soil test results
- Selection of plantings using criteria of hardiness; suitability to native conditions; disease and pest resistance; and ease of maintenance
- Modification of outdoor management practices to comply with organic horticultural science, including scouting, monitoring, watering, mowing, pruning, proper spacing, and mulching
- The use of physical controls, including hand weeding and over seeding
- The use of biological controls, including the introduction of natural predators, and the enhancement of the environment of a pest's natural enemy
- Through observation, determining the most effective treatment time, based on pest biology and other variables, such as weather and local conditions
- Eliminating pest habitats and conditions supportive of pest population increases