

Despite Myths, Communities and Farms End Toxic Pesticide Use

Towns and cities across the country are going organic in the management of land within their jurisdictions because it eliminates use of chemicals that have known environmental and public health hazards. Community discussions are taking place in the spirit of biologist Rachel Carson, who with the publication of *Silent Spring* over 50 years ago alerted the nation to the adverse effects of DDT and other pesticides on people and wildlife. In this process, people are learning that toxic pesticides and synthetic fertilizers undermine the ability of nature through healthy soil biology teeming with beneficial organisms, including fungi and bacteria, to support thriving resilient lawns and landscapes. Beyond Pesticides engages the debate and provides technical resources to support the transition to soil management practices that prevent infestations, diseases, and weeds, and in the process protect pollinators, biodiversity, wildlife, and human health.

Since the 1960's, U.S. pesticide use to kill insects, weeds, and fungus has climbed to nearly a billion pounds annually. Per acreage use in parks, home lawns, and golf courses in some cases is higher than in agriculture, and a number of safety myths are often voiced by those who oppose banning lawn pesticides.

Myth 1: Our health is adequately protected by the Environmental Protection Agency (EPA) and the state pesticide regulatory agency. While states rely on EPA for the underlying assessment of pesticides' legal use patterns and allowable harm, epidemiologic and laboratory studies link pesticide use to disease outcomes, including cancer, neurological and immune system effects, reproductive disorders, Alzheimer's and Parkinson's disease, respiratory problems, and learning disabilities. The effects on vulnerable population groups, such as children and those with pre-existing health conditions, are elevated. The American Academy of Pediatrics in 2012 concluded, "Children encounter pesticides daily and have unique susceptibilities to their potential toxicity. . . Recognizing and reducing problematic exposures will require attention to current inadequacies in medical training, public health tracking, and regulatory action on pesticides."

Myth 2: The environment is adequately protected by EPA and the state. Ecological hazards of pesticides and their impact on complex biological systems in nature are even less studied than human health effects. With the severe decline of bees and other pollinators, EPA recently acknowledged that bees experience many indirect exposure pathways to a widely used bee-toxic insecticide, such as contaminated surface water, plant guttation fluids, soil, and leaves, and said it "lacks information to understand the relative importance of these other routes of exposure and/or to quantify risks from these other routes." This deficiency extends to the life-sustaining microbiome, or microbes, in the soil and in mammalian species, performing critical digestive, immune and biological functions.

Myth 3: **Toxicity classifications by EPA** assess the full range of acute and chronic effects. The toxicity classification of pesticide products does not tell the full story because it is limited to immediate poisoning effects and not long-term illnesses, such as cancer. Equally important, incomplete data are not a part of the classification. So, the public is not aware that the pesticides have not been tested for their ability to disrupt the endocrine system, the message center of the body, or the increased toxicity associated with mixtures of multiple pesticides on a treated lawn or playing field.

Myth 4: Pesticides used on private and public property stay where they are used. Pesticides move off the use site through drift and runoff. Those not allowed for indoor use find their way into houses, through air currents and being tracked inside. According to the U.S. Geological Survey, the overwhelming majority of the most popular pesticides have been detected in surface waters, including popular herbicides. In referring to various pollutants, including pesticides and fertilizers, for example, the Maine Department of Environment Protection states on its website, "Individually small amounts of pollutants may seem insignificant, but collectively they add up to create the largest source of pollution to Maine's waters." As a result, pesticide use on all property is a community public and environmental health concern.

Myth 5: We cannot have beautiful lawns without toxic pesticides. Toxic pesticides are not necessary for a landscape with beautiful turf, just as they are not needed in a \$40 billion organic food industry. Organic turf systems focus on building soil health to support healthy lawns that do not threaten the health of children and pets that play on them. Numerous practices and organic compatible products work in concert with nature to enhance soil biology and the resiliency of grass and other plants, and cycle nutrients naturally. They also reduce energy and water use, sequester atmospheric carbon, and provide business opportunities for retailers and service providers. It's a win-win for health, the environment, and business.

Heal the soil to solve the bee problem and biodiversity crisis. Jonathan Lundgren, Ph.D., the renowned scientist who became a whistleblower when USDA stifled his research and publications, gave a chilling and, at the same time, uplifting talk at Beyond Pesticides 34th National Pesticide Forum this year. Excerpts of his talk are published in this issue and the complete talk is on our YouTube channel. Dr. Lundgren and the communities engaging to end the use of toxic pesticides know that the solution to ecological decline is within our grasp and, with Beyond Pesticides, are leading the way to transform our approach to land management.



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