

School Pesticide Monitor

A Bi-monthly Bulletin on Pesticides and Alternatives



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Beyond Pesticides / National Coalition Against the Misuse of Pesticides
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Establish Organic Landscapes and Playing Fields This Fall

As temperatures drop and the leaves start to fall, it is quickly becoming the perfect season for organic lawn care. According to the National Gardening Association, the number of people caring for all-organic lawns is expected to double in the next five years, and the sale of organic products is rising 27 percent each year. It is a trend supported by a growing number of resources, making it easier to convert.

According to Chip Osborne, a horticulturist from Marblehead, Massachusetts who has transformed acres of playing fields to organic management, there are several factors that make switching away from chemically-intensive turf management practical.

■ **Less Susceptible to Disease.** A Cornell University study of turf found that chemically maintained turf is more susceptible to disease than organically managed turf due to low organic matter content and depleted soil microorganisms. A key component of organic management is topdressing with compost, adding a steadily available source of nutrients, and adding thousands of beneficial micro-

organisms that help fight disease. Research at Cornell University demonstrates that topdressing with compost suppresses some soil-borne fungal diseases just as well as conventional fungicides.

■ **Better Playing Surface.** Chemically-treated turf is generally hard and compacted because there is not much soil biology. Organic management focuses on cultural practices, such as aeration, that alleviates compaction and provides a softer, better playing surface.

■ **Value of "Weeds."** Excess clover is an indicator of the soil condition. Clover is found in fields with low nitrogen levels, compaction issues, and drought stress.

However, clover is a beneficial plant that "fixes," or transforms, free nitrogen from the atmosphere into the turf grass. Clover roots are extensive and provide significant resources to soil organisms, and it is extremely drought resistant, staying green long after turf goes dormant. The organic turf manager recognizes the value of clover and other unwanted plants, set a reasonable tolerance level, and use sound horticultural practices.

■ **Cost Effective.** Over five years, Chip transformed 15 acres of playing fields to organic care at a cost of \$2400-\$3000 per 2-acre playing field, not including mowing costs. A conventional fully chemically-treated athletic field by TruGreen ChemLawn for the same area is estimated at \$3400. While initial costs to transition a chemical-dependent turf to organic care can be higher, in the long-run costs will be lower as inputs, like fertilizer and water, decrease. Costs for annual chemical treatments are also eliminated.

■ **Resting Fields.** Ideally, all fields should be rested for recuperative growth. Athletic activity, especially football, naturally tears up turf from the soil, leaving open areas for opportunistic weeds to grow. Prepping the area and spreading a repair mixture of compost and seed that quickly establishes will negate the need for herbicides down the road.

There is not a quick and easy step-by-step formula for maintaining every sports field because there are site specific conditions and varying sports needs. It is necessary to utilize information gathered in site analysis to develop a site specific management plan.

As Paul Sachs states in his book, *Managing Healthy Sports Fields: a guide to using organic materials for low-maintenance and chemical-free playing fields* (2004), "Ecological turf maintenance calls for the manager to consider all of the organisms in the turf ecosystem, because most of them are allies. It also means expectations may have to be adjusted to a more realistic and practical threshold where a natural equilibrium can be maintained.

"There is a fear of failure," says Chip, "but actually the organically maintained fields are relatively easy to keep in good shape."

The healthy soil you promote this fall will better support healthy and weed-resistant grass in the future. The most important things you can do are:

- **Test the soil.** Knowing what balance of nutrients exists will help you plan what to apply and when. Bring soil sample to the local agricultural extension service.
- **Aerate the turf.** Soil compaction fosters weed growth and makes it harder for fertilizers and water to penetrate to the turf's roots. Aerators can be rented; once microorganisms return to the soil, they will help aerate it.
- **Fertilize moderately** - and according to what a soil test says you need. Look for slow-release fertilizers that do not overload the soil, altering the pH and running off into nearby waterways. Leaving grass clippings on the lawn after mowing is an easy way to supply 58% of the nitrogen added by fertilizers.
- **Add organic matter.** Add compost (spreading a quarter-inch layer over the turf) or spray compost tea after aeration. They suppress pathogens and feed the turf.
- **Overseed the lawn.** Choose a native and pest-resistant type of seed (free from pesticides) that will offer the best ability to thrive in your area.

For detailed steps and citations, go to www.beyondpesticides.org/lawn.

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New Law Bans Some Toxic Chemicals in Children's Toys

In an attempt to protect children from toxic chemicals, Congress passed in July and the President signed in August the *Consumer Product Safety Improvement Act of 2008* (H.R. 4040), which bans phthalates in toys and infant products, requires child products be tested before they are sold, and overhauls the Consumer Product Safety Commission (CPSC). The new law also creates the first comprehensive publicly accessible consumer complaint database and requires a study on the use of formaldehyde in the manufacture of textile and apparel articles.

Phthalates are used to soften plastic and are found in homes across the U.S. in a wide range of products including shower curtains, shampoos, perfumes, toys and pesticides, to name a few. They are associated with adverse developmental and reproductive health effects, including low sperm counts. Scientific research has indicated that phthalates act as hormones and children can ingest these toxic chemicals by chewing on their plastic toys.

Earlier this year, the country's largest retailer, Wal-Mart; the biggest toy seller, Toys R Us; and Babies R Us told their suppliers that they will no longer carry products containing these chemicals as of Jan. 1, 2009.

This new law has long been opposed by the chemical industry. Leading the charge is Exxon Mobile, which spent \$22 million in lobbying over 18 months opposing the ban. Exxon manufactures diisononyl

phthalate, or DINP, the phthalate most frequently found in children's toys.

Senator Dianne Feinstein (D-CA), a sponsor of the measure, said that the action is a first step toward moving the United States closer to the European model, where industry must prove the safety of a chemical before it is allowed on the market. "Chemical additives should not be placed in products that can impact health adversely until they are tested and found to be benign," she said.

The European Union (EU) banned six phthalates from children's products in 1999 and more than a dozen other countries have done the same. Last year the state of California prohibited their use in children's products, while Washington and Vermont have since passed similar legislation on use of the chemicals. Other consumer products, such as children's jewelry, cribs and strollers, will also be affected by this new measure and stricter standards for testing will be imposed.

Phthalates are a ubiquitous class of chemicals and are found in most of the population. Studies at the University of Rochester Medical School found that male babies born to women with high levels of phthalates in their blood exhibited changes related to low sperm count, un-descended testicles and other reproductive problems. Other studies have connected some phthalates to liver and kidney cancer. Health experts argue that dangers may be more significant from

cumulative exposure, because phthalates surround babies not only in toys and products but also in breast milk if the mother has been exposed to the chemicals. Several phthalates have also been listed as potential endocrine disruptors.

Over \$1.4 billion worth of phthalates are manufactured in the U.S. annually. Phthalates are also among the many "inert ingredients" (nondisclosed) used in pesticides.

Another toxic chemical, triclosan (Microban®, Biofresh®), found in many children's toys and consumer goods (including soaps, toothpastes and personal care products, mattresses, clothing, plastic toys, sponges, countertops, cutlery, hairbrushes, hair accessories, sporting equipment, and paints) is not addressed by the law. Triclosan, also widely used in hand soaps, affect the central nervous system, are linked to endocrine disruption, increase allergies and asthma, promote bacterial resistance, cause environmental damage, and has been proven to be no more effective against germs than handwashing with soap and water.

In comments to the U.S. EPA on its new risk assessment and evaluation of triclosan, public interest health and environmental groups urge the agency to use its authority to cancel triclosan's non-medical uses.

The American Medical Association is on record questioning the efficacy of triclosan in consumer products, questioning whether the consumer uses are necessary and doing more harm than good.