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Organic vs. Chemical Lawn Care

Traditional lawn fertilization practices can lead to surface and groundwater pollution. Even when applied at the recommended rates, highly concentrated chemical fertilizers cause water pollution when a heavy rain or too much irrigation follows soon after application. In addition, many homeowners do not calibrate their fertilizer spreaders or they throw fertilizer on their lawns by hand, leading to nitrogen and phosphate loading in lakes.

While banning the application of certain nutrients can reduce pollution problems, a more feasible solution is the use of more sustainable practices and natural products. For example, the recycling of nutrients through the return of grass clippings (using a mulching mower) stimulates soil biological activity and supplies at least two pounds of nitrogen per 1,000 square feet per year without causing any pollution. Applying low levels of natural nutrients such as fish, kelp, humates and corn-gluten meal stimulates the proliferation of microbes and earthworms, which readily consume nutrients before they can reach lakes. As the creatures in the soil multiply, they excrete nutrients and die or are consumed, digested and excreted by other organisms, slowly releasing nutrients as plants need them.

An actual comparison of natural and chemical fertilizer illustrates the difference. One homeowner applies 30-5-10 fertilizer to his lawn at 20 pounds per 5,000 square feet, while his neighbor applies one quart (2.3 pounds) of fish-kelp humate fertilizer per 5,000 square feet. The natural fertilizer puts 0.0184 pounds of nitrogen and 0.013 pounds of phosphate per 1,000 square feet into the soil, and the naturally fertilized lawn is more drought and pest resistant and requires less irrigation because it uses less water. The natural fertilizer also stimulates biological activity, creating stable soil aggregates that enable the roots to go deeper and develop better, keeping nutrients in the root zone. The chemical fertilizer, on the other hand, puts 1.2 pounds of nitrogen and 0.2 pounds of phosphate per 1,000 square feet into the soil (65 times more nitrogen and 15 times more phosphate than the natural fertilizer). Because the grass relies on the chemical to supply the nutrients, the chemically fertilized lawn uses more water and requires constant irrigation. In addition, the chemical toxifies the soil, inhibiting biological activity and leading to compacted soil and an unhealthy root environment. Most of the nutrients are free to flow over the compacted surface, into the surface water or past the restricted root zone into the ground water. Research shows that up to 96 percent of high-analysis chemical fertilizers are not taken up by plants.

Nitrogen and phosphate are present in all ecosystems, and nature knows how to hold them and make them readily available when they are needed. Fertilization in itself is not inherently bad, but the type and amount of fertilization is the key to producing healthy lawns and eliminating water pollution.



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