

# Organic vs. Chemical Lawn Care:

## Why organic fertilizers outperform chemical fertilizers

Traditional lawn fertilization practices certainly cause surface and groundwater pollution, but banning the application of certain nutrients is not the answer.

The application of both nitrogen and phosphorus can be problematic. Chemical fertilizers that are highly concentrated cause water pollution even when they are applied at the recommended rates if a heavy rain or too much irrigation are applied soon after they are applied. However, many homeowners do not calibrate their fertilizer spreaders or just throw fertilizer on their lawns by hand which is the most likely cause of most of the nutrient loading in lakes.

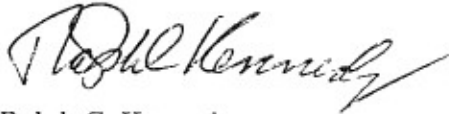
The real answer to this dilemma is to start using more sustainable practices and natural products. The recycling of nutrients through the return of grass clippings (using a mulching mower) stimulates soil biological activity and supplies at least 2 pounds of nitrogen per 1,000 square feet per year without causing any pollution. The application of low levels of natural forms of nutrients such as fish, kelp, humates and corn gluten meal stimulates the proliferation of microbes and earthworms which readily fix these forms of nutrients before they ever get into lakes. As these creatures in the soil multiply they excrete nutrients and die or are eaten and digested and excreted by other organisms which releases nutrients slowly as plants need them.

An actual comparison of two types of fertilizer, one that is natural and one that is chemical, illustrates the difference. One homeowner applies 30-5-10 fertilizer to their lawn at 20 pounds per 5,000 square feet and their neighbor applies 1 quart (2.3 pounds) of fish-kelp humate fertilizer per 5,000 square feet. The natural fertilizer puts 0.0184 pounds and 0.013 pounds of phosphate per 1,000 square feet into the soil. The naturally fertilized lawn is more drought and pest resistant and uses less water, so it needs to be irrigated less often. The natural fertilizer stimulates biological activity which creates stable soil aggregates enabling the roots to go deeper and become better developed which keeps nutrients in the root zone. The chemical fertilizer 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). The chemically fertilized lawn is water hungry and needs constant irrigation because the grass relies on the chemical to supply the nutrients. The chemical toxifies the soil inhibiting biological activity which results in 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 92-96% of high analysis chemical fertilizers are not taken up by plants).

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. Remember nitrogen and phosphate are present in all ecosystems, but nature knows how to hold them and make them readily available when they are needed. We need to learn how to work with nature not against her.

Sincerely,

A handwritten signature in cursive script that reads "Ralph C. Kennedy". The signature is written in dark ink and is positioned above the printed name.

Ralph C. Kennedy  
M.S. Agronomy