

Facts about Fertilizers

What do we know about the effects of using fertilizers?

Fertilizers containing nitrogen and phosphorus are a source of nutrient pollution. When it rains, excess nutrients can wash away into lakes, streams and rivers or even leach into groundwater.¹

Excess nitrogen is a serious stressor in estuaries where it causes algae and seaweeds to grow vigorously and out-compete the native sea grasses that are the foundation of a healthy estuary.²

Excess nutrients cause harmful algal blooms which are an over growth of algae. Some of these blooms, such as cyanobacteria, produce toxins that are dangerous to wildlife, swimmers, and pets. Blooms that are not toxic can still harm local economies and the environment.³

Synthetic fertilizers can cause harm to the structure of our soil, and evaporate into the atmosphere in the form of nitrous oxide, a green house gas 300x more potent than Co2.⁴

Production of synthetic fertilizers is an energy intensive process that is dependent upon fossil fuel, and releases 3% of the world's carbon emissions.⁵

What is the solution?

Organic best management practices can significantly reduce the use of fertilizer and eliminates the use of synthetic fertilizer. Good cultural practices like leaving grass clippings can add nitrogen, and regular soil tests can identify deficiencies so that only what is needed is applied.⁶

Regular compost top dressing can add organic matter to the soil and mimics natural processes. A healthy soil food web can cycle its own nitrogen, carbon and other elements, and help break down slow release organic fertilizers making the nutrients available to plants.⁷

¹ US EPA, The Sources and Solutions: Agriculture | Nutrient Pollution, March 10, 2017

² Piscataqua Region Estuaries Partnership (PREP) State of Our Estuaries, accessed November 2018

³ US EPA, Harmful Algal Blooms | Nutrient Pollution, July 19, 2018

⁴ Philpott, T., New research: synthetic nitrogen destroys soil carbon, undermines soil health, Grist, February 24, 2010

⁵ Zhang, S., We need a new, sustainable way to make fertilizer, Newsweek, May 17, 2016

⁶ UCONN, Best Management Practices for Pesticide-Free, Cool-Season Athletic Fields, October 2013

⁷ Ingham, E. R., soil food web: soil biology and the landscape, USDA, accessed November 2018



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