



New Hampshire

Department of Agriculture, Markets & Food

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Results from agricultural soil screening testing for perfluorooctanoic acid (PFOA) in Southern New Hampshire

Summary

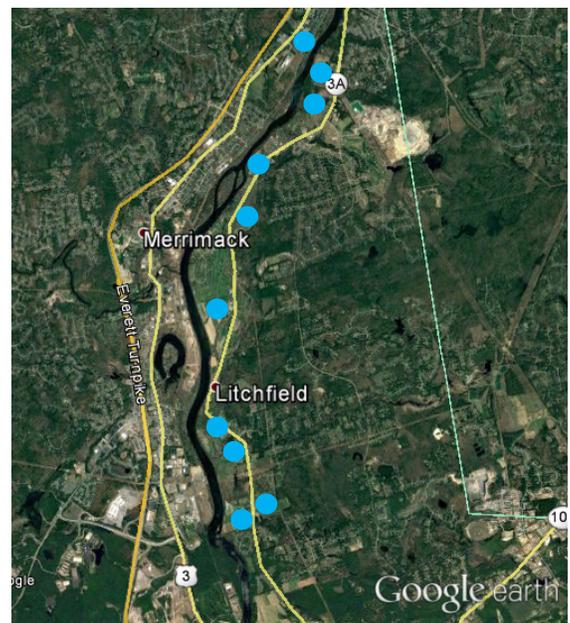
Over 160 soil samples were collected from 10 farm properties within approximately 5 miles of Saint-Gobain Performance Plastics' Merrimack facility to determine if soil contamination is present in agricultural soil. Preliminary results show PFOA levels ranging from non-detect to 33 parts per billion in the tested soils; most of the properties tested had levels less than 10 parts per billion. These results are consistent with results in other states in the Northeast region where PFOA impacted groundwater has been found. Based on our review of findings from literature studies on PFOA uptake in produce, the New Hampshire Department of Environmental Services (NHDES) does not see the need for restrictions on produce grown in these soils, as long as a clean source of water (i.e., with less than 70 parts per trillion of PFOA) is used for irrigation.

Sampling Plan

The soil sampling plan was designed to test soils in agricultural areas in Litchfield and Merrimack. One non-agricultural area was included as it may be a location where wild berries grow. Soil samples were collected at depths of 0-12" and 12-24".

Data

NHDES has the preliminary results on their PFOA information website (<http://des.nh.gov/organization/commissioner/pfoa.htm>). Data are considered preliminary while they are undergoing a review for quality assurance.



Results - Low Soil Levels of PFOA

The highest level detected under the scope of this study was 33 parts per billion. Although part of the study, this sample is not from an agricultural site, but from a property that abuts the Saint-Gobain

facility where wild berries might grow. Levels at agricultural properties in Litchfield where produce is grown commercially for human consumption have levels of less than 10 parts per billion.

Based on our review of findings from literature studies on PFOA uptake in produce, NHDES does not see the need for restrictions on produce grown in these soils, as long as a clean source of water (i.e., with less than 70 parts per trillion of PFOA) is used for irrigation. Soil remediation is not necessary, and additional sampling is not planned for agricultural properties.

In addition, PFOA soil concentrations are well below the NHDES soil screening level for exposure at 500 parts per billion, which is intended to be protective of a young child coming into direct contact with the soil.

Frequently Asked Questions

1. What is a part per billion?

Parts per billion (ppb) is the number of units of mass of a contaminant per 1,000 million units of total mass. Mathematically, one part per billion is expressed as 0.000000001. Some analogies of parts per billion: one silver dollar in a roll stretching from Detroit to Salt Lake City; one sheet in a roll of toilet paper stretching from New York to London; one second in nearly 32 years; or one pinch of salt in 10 tons of potato chips. Source: Zane Satterfield, National Environmental Services Center.

2. What is a part per trillion?

Parts per trillion (ppt) is the number of units of mass of a contaminant per 1,000,000,000,000 parts of total mass. Mathematically, one part per trillion is expressed as 0.000000000001. Some analogies of parts per trillion: one drop of detergent in enough dishwater to fill a string of railroad tank cars ten miles long; one square inch in 250 square miles; one drop of water in 20 Olympic-sized swimming pools. Sources: Wikipedia; <http://www.waterontheweb.org/resources/conversiontables.html>

3. Why is the unit of measurement for soils in parts per billion instead of parts per trillion?

Parts per billion (nanograms per gram, or ng/g) is the standard unit for measuring PFOA in soil. Soil is a different media than water and requires a different scale of measurement. The standard unit for measuring PFOA in water is parts per trillion (nanograms per liter, or ng/L).

A similar comparison is the units for length or distance. Longer distances are measured in miles, while shorter distances are measured in feet.

4. Where can I get more information about PFOA?

NHDES has a webpage dedicated to PFOA: <http://des.nh.gov/organization/commissioner/pfoa.htm>
You can also contact the PFOA Public Inquiry Hotline at (603) 271-9461.

5. Where can I get more information about PFOA and New Hampshire agricultural products?

The Department of Agriculture, Markets & Food has a Frequently Asked Questions document on its website: <http://agriculture.nh.gov/publications-forms/documents/pfoa-facts-ag.pdf>