Environmental Sciences Graduate Program Student Seminar Series

In situ soil remediation for Pb contaminated urban soils using beneficial products

Loryssa Lake

March 5th, 2021 | 2:00-3:00 PM

Join Zoom Meeting

https://osu.zoom.us/j/99820921442?pwd=d3hpTS9wYnc2Z29uZDR4NE4wNy81UT09

Meeting ID: 998 2092 1442

Abstract

The deindustrialization of cities has resulted in a legacy of contaminated vacant lots which pose numerous human health and ecological risks. These vacant lots also create an environmental justice issue as they are disproportionately located in lower income, inner-city neighborhoods. Incidental ingestion of Pb contaminated soil among children is of utmost concern. As a result, it is vitally important to remediate and redevelop these vacant lot. The most common remediation method is to excavate the soil and then replace it with clean topsoil. However, this process can be extremely expensive and does not treat the contamination. An alternative, inexpensive, remediation approach is to use soil amendments which can remediate the contamination without the expensive process of soil excavation and replacement. Phosphorus containing materials are particularly useful components of soil amendments because as they can form insoluble precipitates with Pb. However, not all phosphorus amendments reduce the bioavailability of Pb and effectiveness is dependent on the form of P found in the amendment, the form of lead in the soil, soil type, and soil pH. This study evaluates the ability of an incinerated biosolid from the city of Cleveland to remediate Pb contaminated soil. The efficacy of this material will then be compared to other P containing materials to determine the soil amendment(s) that can best immobilize Pb for both human and ecological receptors. This presentation will discuss the soil amendments selected and project updates.

For more information, contact Heather Lochotzki (Lochotzki.7@osu.edu) or visit https://esgp.osu.edu/