

What is Growing Healthy Soil for Healthy Communities?

GHSHC is a research collaboration that is exploring residential soil contamination in North & South side Milwaukee neighborhoods. We are specifically looking at soil lead concentrations in backyard gardens & produce, lawns, and drip lines (areas alongside structures, such as homes & garages).

Why is this important?

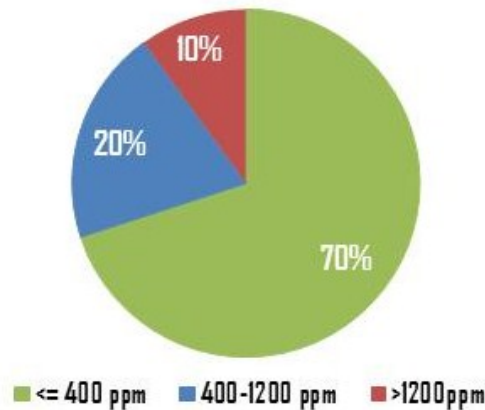
- Urban agriculture is a thriving, locally growing movement. Moreover, many Milwaukee organizations, families, and individuals are actively involved in community and backyard gardening.
- However, some gardens contain lead-contaminated soil and require specific gardening practices to decrease risk of lead exposure. In some cases, gardening isn't safe.
- What *is* safe? What did our pilot study find out about lead in Milwaukee backyard gardens?



Study Findings:

- Among 182 soil samples, the average lead level was **432** ppm
- 30% of all soil samples tested above **400** ppm, the threshold for lead concentration levels of health concern
- 10% of all soil samples tested above **1200** ppm, the lead concentration level that signifies that **gardening is not safe**

Lead Level Distribution (%)



- A small number of residential garden vegetables and vegetables purchased from local stores were tested and compared. Results showed that residentially grown vegetables had slightly higher lead concentration. However, as there are currently no standards on lead concentration in produce, we do not know if this is a problem.

Next Steps:

- The GHSHC team received a Healthier Wisconsin Partnership Program grant that begins in January 2014. Our collaboration will grow to include the Milwaukee Health Department and many other community partners. Over the next five years, the primary study objectives are:

Objective 1:

- Determine best practices for safe gardening through community based participatory research.

Objective 2:

- Improve community-wide environmental health literacy through interactive educational outreach and workshops

Objective 3:

- Improve awareness and understanding of current environmental health policies & work towards policy formation that best supports safe gardening practices in Milwaukee.



Soil Safety:

What levels of lead are dangerous and how do you know if the soil is contaminated?

- The Environmental Protection Agency (EPA) suggests precautions be taken when soil lead concentration is above **400** parts per million (ppm).
- When soil lead concentration is **1200** ppm or higher, **soil should not be used to garden.**



- * Soil testing is recommended before food production begins in any urban area and safe gardening practices are recommended for all gardeners. Testing through public or commercial labs provides information about soil lead levels as well as garden nutrient needs. There are costs associated with testing and reporting requirements may apply. Check out the websites on the back to learn more.

Where can I learn more?

To learn more about GHSHC study results and our future work, visit us at: <http://www.growinghealthysoil.org>

Other great resources:

- <http://www2.epa.gov/lead/lead-regulations>
- <http://learningstore.uwex.edu/Soil-Contaminants-in-Community-Gardens-P1471.aspx>
- http://cwmi.css.cornell.edu/Soil_Contaminants.pdf



Growing Healthy Soils for Healthy Communities



A Walnut Way Conservation Corps & Sixteenth Street Community Health Centers Research Collaboration



In partnership with the Medical College of Wisconsin and the University of Wisconsin-Madison