SOIL LEAD CONTAMINATION

Lead is naturally present in all soils. It generally occurs in the range of 15 to 40 parts lead per million parts of soil (ppm), or 15 to 40 milligrams lead per kilogram of soil (mg/kg).

The major cause of soil lead contamination in populated areas is the weathering, chipping, scraping, sanding, and sand-blasting of structures bearing lead-based paint.

Soil lead becomes a health risk when directly ingested or inhaled as dust.

- Garden produce, which has accumulated lead in its tissue or has soil particles adhering to it, can also be a hazard if eaten.
- Lead poisoning is a particular concern for young children (under the age of six) because their rapidly developing bodies are very sensitive to the effects of lead, and their play habits tend to increase exposure
- Lead contamination is especially a concern for those who are pregnant as well.

Information adapted from MA NRCS & UMass Amherst's "Soil Lead: Testing, Interpretation, & Recommendations" and the Agency for Toxic Substances

American Farmland Trust

USDA Natural Resources Conservation Service

USDA is an equal opportunity provider, employer and lender.

CONTACT

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Persons with access barriers and or who require accommodations to participate in this event should contact Charline as early as possible ahead of time.

UMass Extension's Center for Agriculture, Food, and the Environment
https://ag.umass.edu/resources

UMass Extension's Urban Agriculture
Contact: urbanag@umass.edu

ENGLISH

what's the scoop on

URBAN SOIL SCREENING

and what it means

_____ _____
Submitter Initials

_____
Sample Name

Results are based on individual soil samples and will not be reported.

FREE

SOIL LEAD SCREENING

Hosted by USDA's Natural Resources Conservation Service and American Farmland Trust

GOOD GARDENING PRACTICES
to Reduce Lead Exposure

Place gardens in a sunny location away from old painted structures & busy roads.

Test your soil for nutrient and (sorbed) heavy metal results to amend soil appropriately.

Lime soil as recommended by soil test (a soil pH of 6.5 to 7.0 will minimize lead availability).

Raise soil organic matter using compost, organic mulches, and cover crops.

Prioritize fruiting crops (squash, peas) and minimize growing root and leafy crops.

Take off gardening shoes, gloves, and other dusty or dirty outerwear before entering your home.

Wash hands right after gardening and before processing food.

Remove outer leaves from leafy vegetables before cooking or consuming.

Protect garden from airborne particulates using a fence or hedge. Fine dust has the highest lead concentration.

Keep dust in the garden to a minimum by maintaining a thickly mulched, vegetated, and a moist soil surface.

PH LEVELS

The deal pH range (6.5 to 7) for minimizing lead availability because it is possible that some gardeners may be above that pH range or would apply more lime than is necessary.

SCREENING RESULTS

Lead Level (ppm)

_____ _____ _____

_____

Average

ppm = parts per million
1 ppm = 1 mg per liter = mg/liter

PXRF ANALYSIS

- The Portable X-ray Fluorescence (pXRF) tests for heavy metals or other targeted elements and is safe when used by trained individuals.
- The values that we provide with the pXRF should not be considered as accurate as a laboratory test for heavy metals.
- The pXRF is not able to provide information that a nutrient test will.

GROWING PRACTICES BY LEAD LEVELS

100 to 200 ppm

Potential Risk: Low

- Follow the "Good Gardening Practices for all lead levels.

200 to 400 ppm

Potential Risk: Medium

- Restrict access of children to these soils by maintaining dense cover (live mulch) , fencing, or heavy mulch (3 inches).
- Do not grow leafy green vegetables or root crops in this soil; instead, grow them in raised beds built with uncontaminated soil and organic amendments.

400 to 2000 ppm

Potential Risk: High

- Do not grow food crops in this soil and do not allow children access to it. Keep soil covered.
- Grow all food crops in containers filled with uncontaminated growing media; or create raised beds filled with noncontaminated soil and organic amendments.
- Contact your local Health Department, Cooperative Extension, or the Department of Environmental Protection office for advice on lead abatement measures