Lead Safety for the Home Gardener

Soils

- Lead naturally occurs in soils but large quantities can be detrimental to your health.
- Previous land use can be a contributing factor to increased soil lead levels, often from the past use of lead in gasoline and lead paint in homes.
- Before growing a vegetable garden, get your soil tested if you are unsure of your soil lead levels.
- If soil lead levels exceed 300 ppm, prevent children from contact with soil (to minimize the risk of eating it) by applying mulch, or planting ground covers, turf, or installing paved stones.
- If gardening in low lead soils (100 - 400 ppm EPA low range), improve soil health by adding organic matter like compost, and maintaining pH between 6.5 and 7.5.

Vegetables

Vegetables do not readily uptake lead from the soil or water.

- Do not plant a vegetable garden if soil lead levels exceed 400 ppm; generally, it is considered safe to use garden produce grown in soils with total lead levels less than 300 ppm.
- If elevated soil lead >300ppm is a concern, use raised beds or containers, fill with fresh, non-contaminated soil; select low risk crops.
- Try to locate vegetable gardens away from roads, driveways, and old painted structures.

Water

Irrigation with lead contaminated water does not significantly increase soil lead levels. If you are concerned about watering with lead contaminated water, you can:

- Purchase a lead filter that attaches to your garden hose;
- Purchase a rain barrel or make a rain water catchment system that is best for your garden;
- Work with Flint’s OASIS TEAM to get water pumped from the Flint river delivered to your garden.
Crops by Risk

Depending on the soil lead levels you can plant different crops to manage the potential risks

Low Risk Crops

Fruiting Crops - can be safely planted in soils with lead levels of 400ppm or lower. Example include:
- Tomatoes
- Peppers
- Corn
- Beans
- Squash
- Cucumbers
- Peas

Can I Still Garden?

In general, vegetables and fruits grown in urban soils are considered insignificant sources of lead in diets. With proper urban soil management practices, the benefits associated with urban agriculture through improved nutrition and food security far outweigh the potential risks posed by elevated soil lead.

Other Crops

Do not plant if your soil test results lead levels are 300ppm or higher. If you have low soil lead levels these are safe crops. Examples include:

Leafy Greens:
- Lettuce
- Spinach
- Kale
- Cabbage

Root Crops:
- Carrots
- Radishes
- Turnips
- Beets
- Potatoes

Garden Sanitation

Soil dust or particles on the surface of fruits and vegetables is the primary concern with produce grown in lead contaminated soil.

Thoroughly wash your hands, and wash produce in filtered water prior to consuming; peel root crops and discard the outer and older leaves of leafy vegetables; do not compost the peelings or leaves.

Wear gloves while gardening, and avoid tracking soil into your home.

Resources

Check with your local MSU Extension for updates and soil testing services at www.msue.anr.msu.edu or call 1-888-678-3464.

edible flint’s services available to area gardeners, include soil testing, garden kits, and training. Visit, edibleflint.org or call 810-244-8530.

The Neighborhood Engagement Hub’s resources include a community tool-shed, a mobile toolkit, and a place to hold meetings. Call 810-620-0078 or 810-620-1299.

Sources

Lead in Residential Soils: Sources, Testing, and Reducing Exposure, Penn State University Extension, 2016 Penn State College of Agricultural Sciences http://agsci.psu.edu


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