



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, planting ground covers, turf, or installing pavers
- 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; it is generally 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 rainwater catchment system that is best for your garden



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 before 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

To contact an expert in your area, visit extension.msu.edu/experts or call 888-MSUE4MI (888-678-3464)

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For additional information, visit extension.msu.edu

Crops by Risk

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

Fruiting Crops that can be safely planted in soils with lead levels of 400ppm or lower.

- Tomatoes
- Peppers
- Corn
- Beans
- Squash
- Cucumbers
- Peas



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.

- Lettuce
- Spinach
- Kale
- Cabbage
- Carrots
- Radishes
- Beets
- Potatoes



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 of elevated soil lead.

Resources

MSU Extension offers gardening information at https://www.canr.msu.edu/home_gardening/ and soil testing services at <https://homesoiltest.msu.edu/>. The MSU Extension Lawn and Garden Hotline can be reached at 1-888-678-3464 MWF 9:00 am-12:00 pm.

Sources

Lead in Soil, U.S. ENVIRONMENTAL PROTECTION AGENCY, 2020 <https://www.epa.gov/sites/default/files/2020-10/documents/lead-in-soil-aug2020.pdf>

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