

## Commonly-Accepted BMPs for Gardening in Contaminated Soil

### Sources:

- *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening, Practice Guide #25* (University of Louisville, Southeast Environmental Finance Center, Winter 2009),
- *Soil Contaminants and Best Practices for Healthy Gardens* (Cornell Waste Management Institute, Cornell University, 20 October 2009), and
- *Urban Gardens and Soil Contaminants* (University of Minnesota Extension, et. al., 3/2010).

### General Gardening and Land Use

- Incorporate or top dress the garden area with clean materials such as uncontaminated soil, compost, manure, or peat moss. Increasing the organic matter content of soils can make metals less mobile in soil, reducing plant uptake.
- Adjust soil pH to near neutral (6.5 or higher) as most metals are more bioavailable in more acid soils.
- Mulch or otherwise cover walkways and other areas to reduce dust and soil splashback onto crops.
- Don't grow edible produce directly adjacent to older buildings, where lead levels are likely highest.
- Build raised beds using clean soil on top of a layer of landscape fabric to prevent plant roots from entering the contaminated soil below the bed. (However, airborne contaminants, soil dust, or soil splashback from other uncovered areas may enter the raised beds and contaminate the plants).
- Don't use railroad ties, other pressure-treated lumber or previously painted wood that may further contaminate the soil (PAHs, copper, chromium, arsenic, lead).
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- Consider growing crops that are less likely to become contaminated, such as fruiting vegetables and seeds, and fruiting trees. Root and leafy green vegetables and herbs are more likely to be contaminated by direct contact with soils, soil splashback, air deposition and plant uptake of contaminants.

### Food Preparation Practices

- Wash produce well to remove soil particles, such as with a 1 percent vinegar solution.
- Peel root crops.
- Discard outer leaves of leafy vegetables since soil may cling to them.

### General Practices

- Wash hands and other exposed skin areas that come into contact with soil, especially before eating or preparing food.
- Use gloves when handling soil, and change gloves when wet or soiled.

- Watch children carefully to prevent them from eating soil.
- Frequently wash toys and pacifiers.
- Cover contaminated soil with clean soil, mulch or other materials, or keep these areas well vegetated.
- Limit access to more contaminated areas, especially for children; do not locate storage units (especially containers for toys) in these areas. Consider restricting access to these areas (i.e., fences or lattice).
- Keep soil outdoors:
  - Take off shoes.
  - Use doormats.
  - Clean floors often with a damp mop. Vacuum cleaners put dust in the air, unless they are equipped with a high efficiency particulate air (HEPA) filter.
  - Wash boots and tools outside.
- Clean or replace filters on heating and cooling systems.
- Reduce exposure from pets that go outside:
  - Wash pets.
  - Wash hands after handling pets.
  - Limit pets' access to more contaminated areas.
- Seal pressure-treated wood (and re-seal as needed).