Is Your Garden Lead Safe?

By Justin Husher
1) Where is lead found in urban soils around homes?
2) Soil testing and thresholds
3) Transmission
4) Specific vegetable accumulation
5) Mitigation strategies
1-3 Foot Halo Around House
About Landbank Properties

• Before 1986
  – House was collapsed into basement.
  – Assumption: lead is everywhere.
  – Still soil test.

• After 1986
  – Whole house is removed.
  – Topsoil is scraped off and backfilled.
  – Rarely heavy leaded.
  – Still soil test.
DON’T GUESS, SOIL TEST

• 10-50ppm is normal
• Below 150 ppm is low
• 150-400ppm, safe*
• 400-1,000ppm, raised bed

**European EPA equivalent says 200ppm needs a raised bed**
X Ray Fluorescence Analyzer

DELTA Handheld XRF Configuration

- Viewing Screen
- Detector
- Processor
- X-ray Tube
Transmission

- Eating
- Dust—mostly from tilling
ROOTS > LEAVES > FRUITS

- Beets
- Carrots
- Radishes
- Turnips
- Potatoes

- Lettuce
- Bok Choy
- Kale
- Chard
- Spinach

- Tomatoes
- Peppers
- Melons
- Cucumbers
- Beans
Mitigation Strategy: Chemical

- Adjust pH to 6.5-7
  - Lime
- Add phosphorus
  - Organic: rock phosphate, bone meal, composted chicken manure
- Add organic matter
  - Leaf humus, other compost
Mitigation Strategy: Physical

• Raised beds with clean soil
Mitigation Strategy: Cultural

- Don’t eat dirt.
- Peel root crops.
- Remove outer leaves.
- Wash hands.
- Moisten soil before tilling and mowing.