

Gardening in an Urban Setting

What you should know before you plant

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How you should plant for a successful and fun garden

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Outline

- ❖ Why urban gardening is unique
- ❖ What we know about soil and health
- ❖ What factors you need to consider
- ❖ Overcoming the challenging situation

- ❖ Some environmental awareness can ensure that your garden is a healthy place for you and children, and that your food is safe to eat and share

Why urban gardening is unique



NPK
Organic matter
Water



NPK
Organic matter
Water
AND contaminants

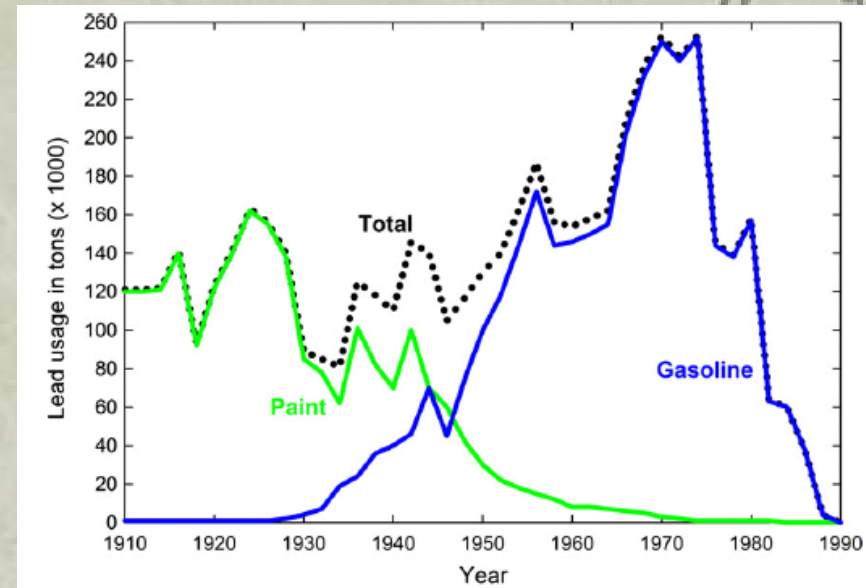


- ❖ Urban soils have a human history
- ❖ Legacy of contaminant sources

What we know about soil and health

❖ Most surface contamination in urban settings is from harmful metals. Sources include...

- Automobile exhaust
- Degraded paint
- Tire and vehicle debris
- Industrial emissions

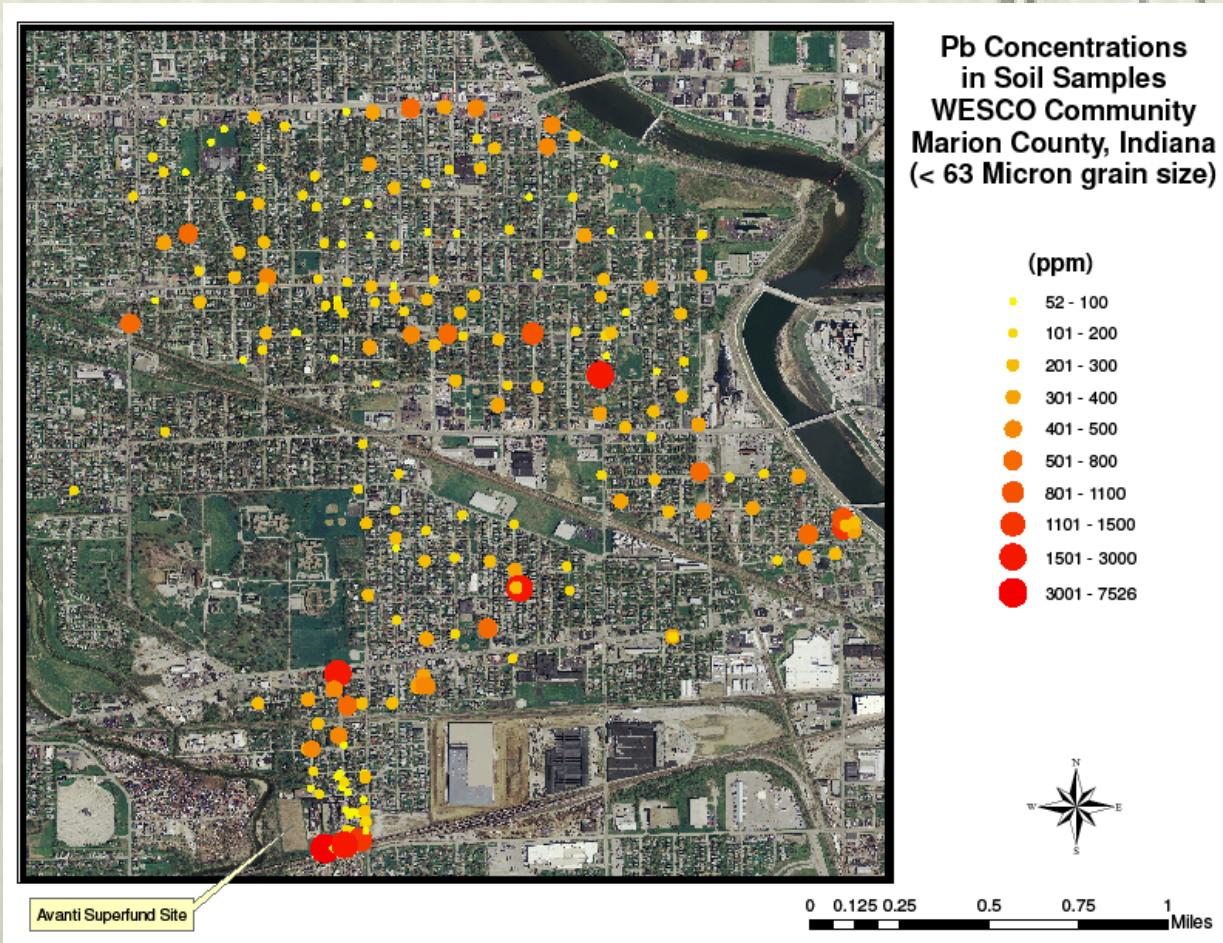


❖ Lead is a reasonable “proxy” for most metal contamination

Where is lead?

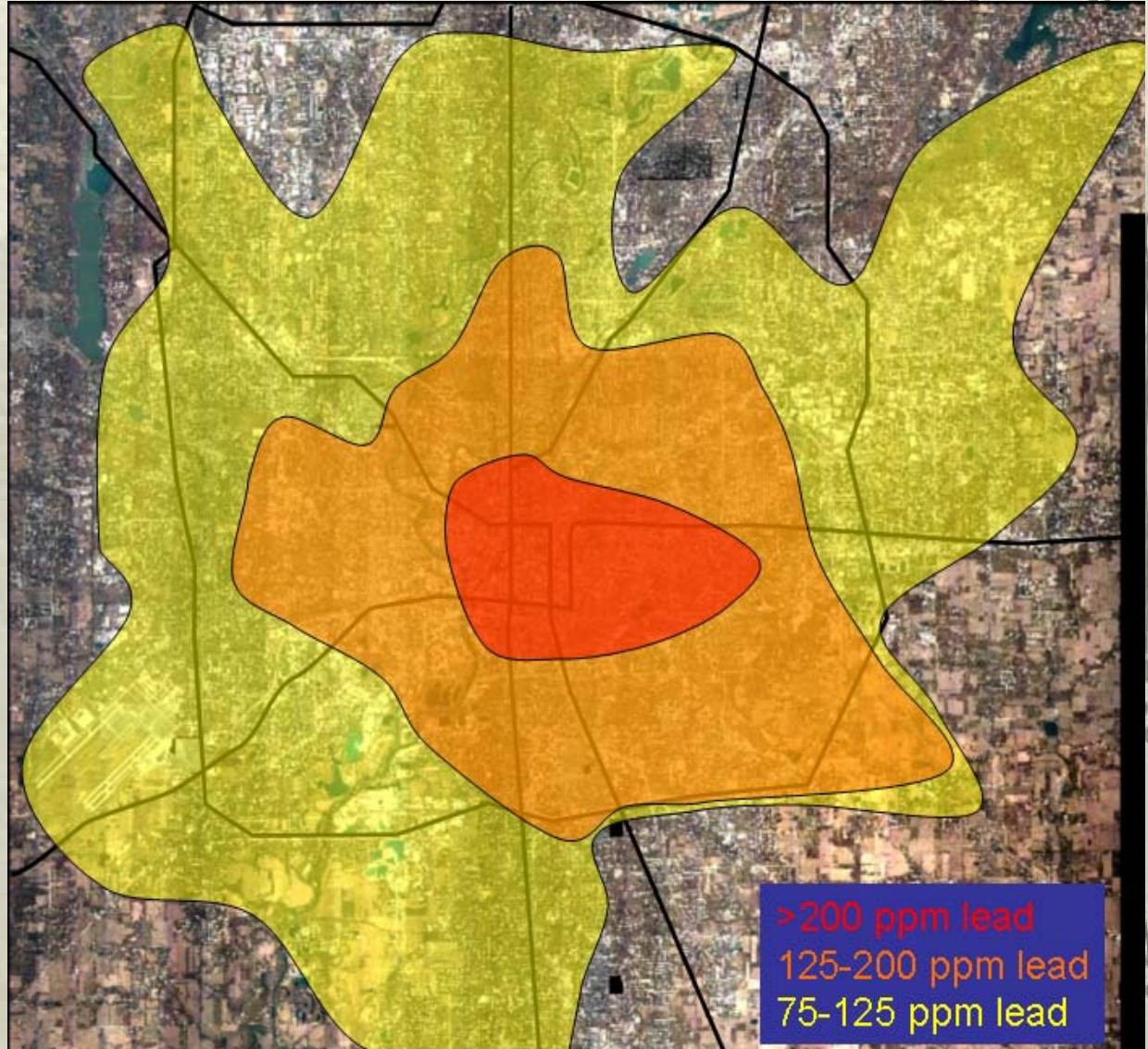
Lead deposited in three areas:

- Near roadways
- Near older homes
- Near lead smelters

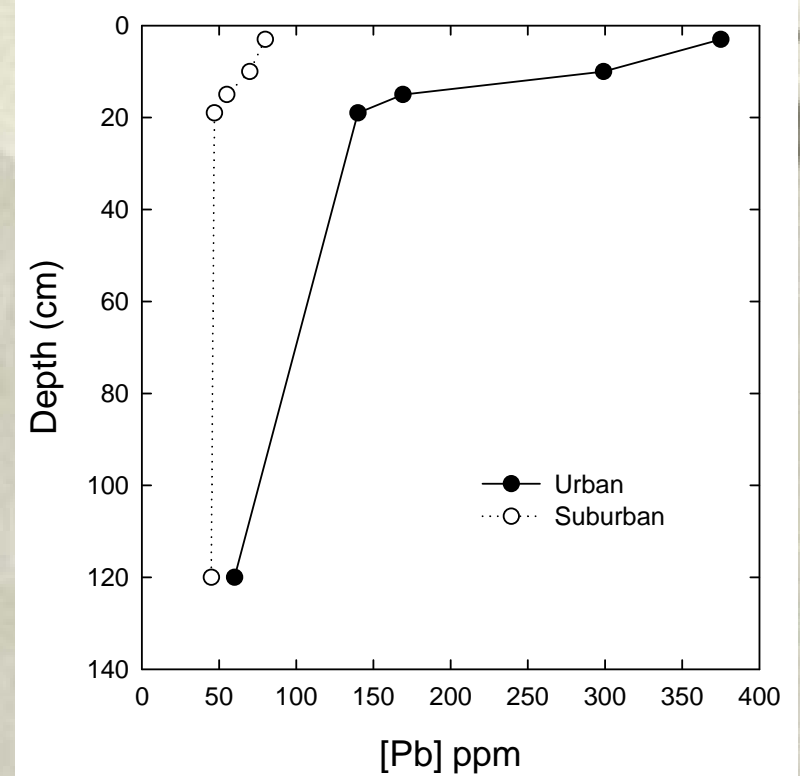
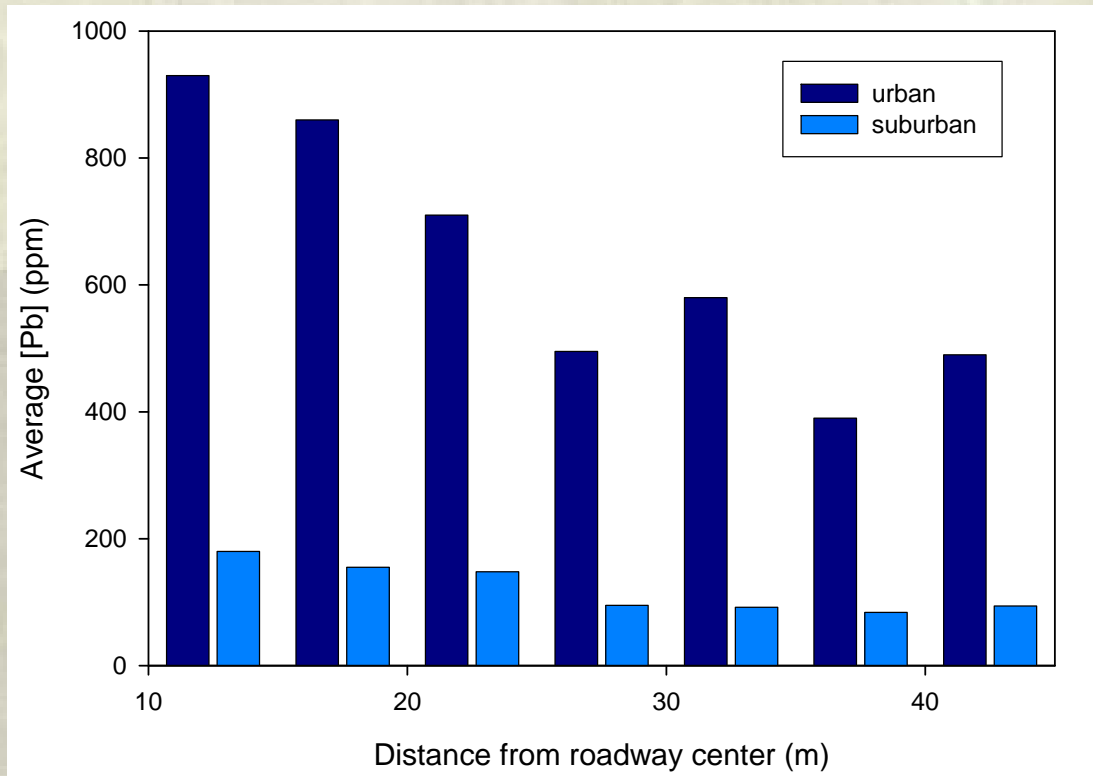


Where is lead in Indianapolis?

- ❖ Lead now distributed widely in urban cores of cities, including Indianapolis



Lead doesn't "go away"



❖ Lead and particulates can be blown into homes, gardens during dry season

So, what is a gardener to do?

1. Where are you on the map?

2. Identify nearby sources

Major roadways, freeways

Dilapidated painted structures

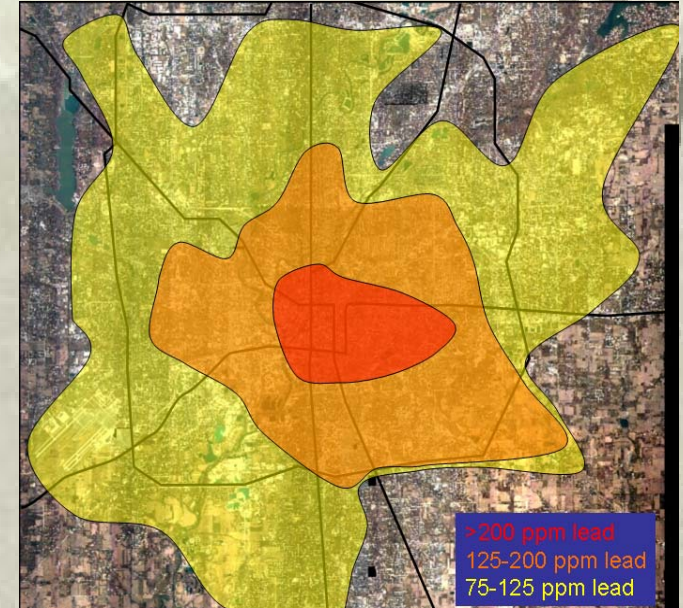
Old industrial facilities

3. Consider risk

Low outside elevated lead zone, far from major roadways, old structures

Medium within moderate lead zone, near to major roadways

High within high lead zone



So, what is a gardener to do?

❖ **Low Risk**

- Relax, plant away, and gets your kids in there too!

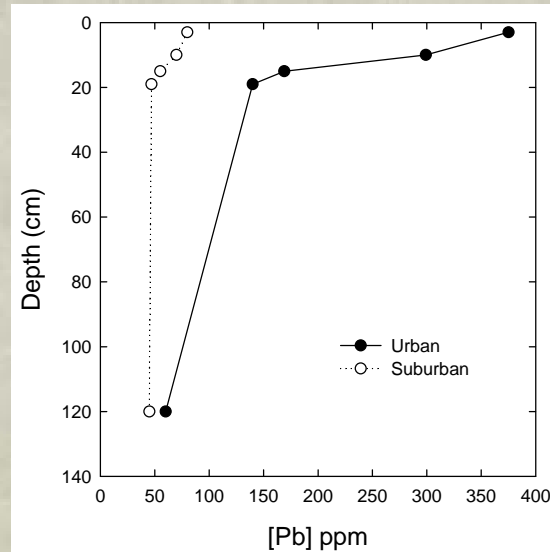
❖ **Medium and High Risk**

- Test soil (gfilippe@iupui.edu)
- **Below 200 ppm**
 - Plant with amendments, consider cover to make kid-safe, and wash all produce thoroughly

So, what is a gardener to do?

❖ **200-600 ppm**

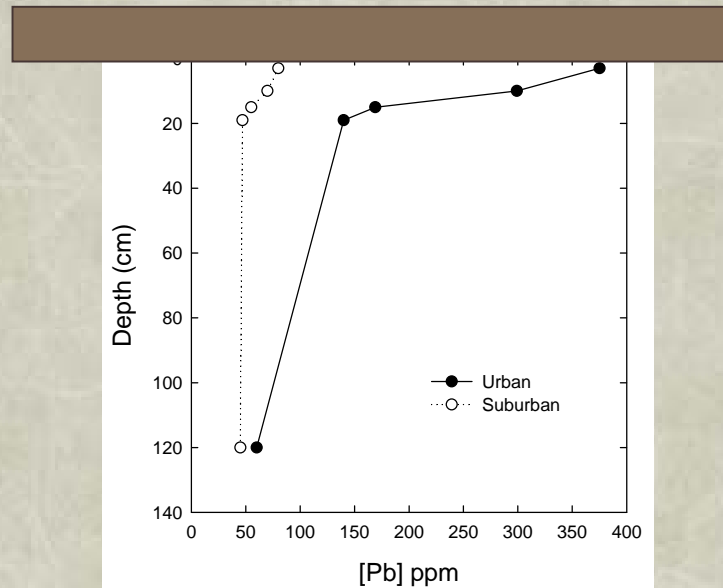
- Cover soil, plant in raised bed settings



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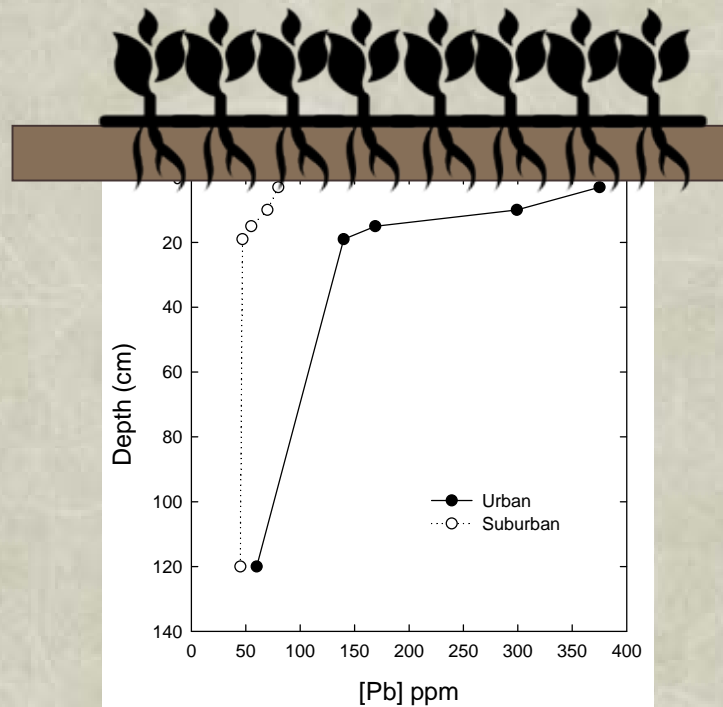
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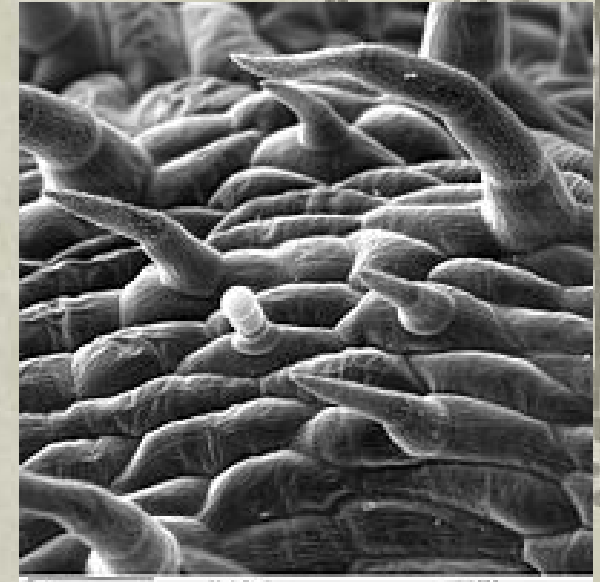
- Cover soil, plant in raised bed settings, beware of between-bed soils, wash all produce thoroughly



So, what is a gardener to do?

❖ **Above 600 ppm**

- Proceed with caution—contamination could be coming from below and above
- Think carefully about root vegetables, leafy greens. Taller fruiting plants OK
- Cap all soils, maintain cap, avoid disturbing soils, wash all vegetables thoroughly



Lettuce trichosomes, 200x

Urban gardens are powerful

❖ Urban gardens critical to

- urban sustainability
- lower carbon footprints
- neighborhood revitalization
- health

❖ Knowledge is power—don't be afraid

- know about the geochemistry and patterns of heavy metals
- determine what your risk level is
- Take simple steps to ensure safe gardening, safe foods, safe neighborhoods



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- ❖ Learn how to actually garden in an urban setting from Laura Henderson