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Urban Agriculture in Baltimore, MD

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LARC

9/23/2020

How do we define urban agriculture?

Definitions I have read are broad.*

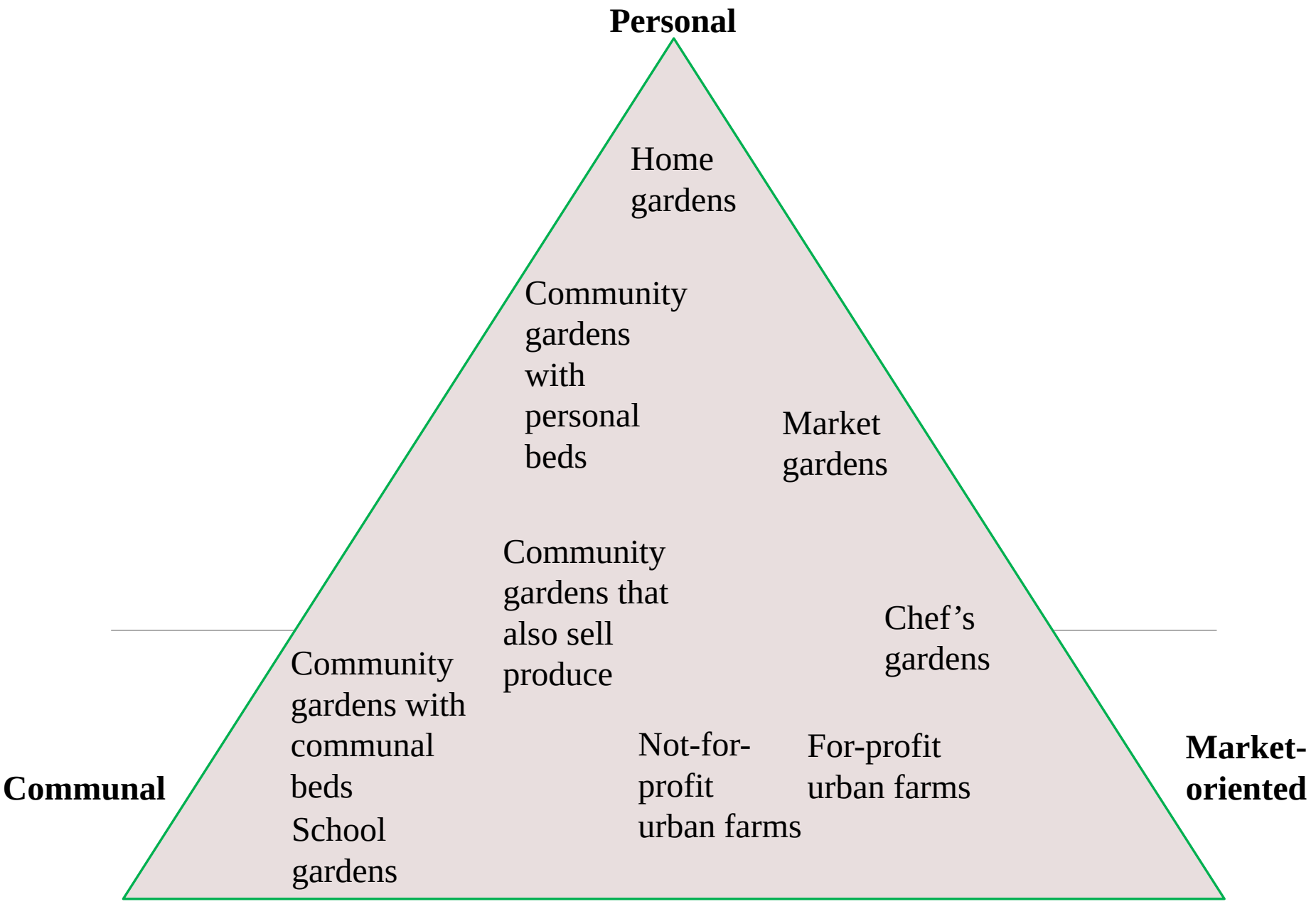
Wagstaff and Wortmann (2015) put it most concisely:

> Urban agriculture is *"all forms of agricultural production (food and non-food products) occurring within or around cities."*

Photo taken at Whitelock Community Farm by Neith Little, UMD Extension

*Food and Agriculture Organization of the UN, Diekmann et al. 2016, Dimitri et al. 2015, Hendrickson and Porth 2012, Oberholzer et al. 2014

For more: https://go.umd.edu/whaturbanag


Personal
Home gardens
Community gardens with personal beds
Market gardens
Community gardens that also sell produce
Chef's gardens
Community gardens with communal beds
School gardens
Not-for-profit urban farms
For-profit urban farms
Communal
Market-oriented

Whitelock Community Farm, Baltimore, MD
Photo by Neith Little, UMD Extension

Strength to Love 2, Baltimore, MD
Photo by Neith Little, UMD Extension

Miss Maxine's Garden at Pleasant Hope Baptist Church, the Black Church Food Security Network
Photo by Neith Little, UMD Extension

The Greener Garden, LLC, Baltimore, MD
Photo by Neith Little, UMD Extension

Real Food Farm, Baltimore, MD
Photo by Neith Little, UMD Extension

JHU-CLF Food Systems Lab, Baltimore, MD
Photo by Neith Little, UMD Extension

Urban Pastoral, Baltimore, MD
Photo by Neith Little, UMD Extension

CityHydro, Baltimore, MD
Photo by Neith Little, UMD Extension

Pattison et al. (2018) LEDs for photons, physiology, and food.

Up Top Acres, Washington, DC
Photo by Neith Little, UMD Extension

What does urban agriculture have to do with hunger?

What we have:

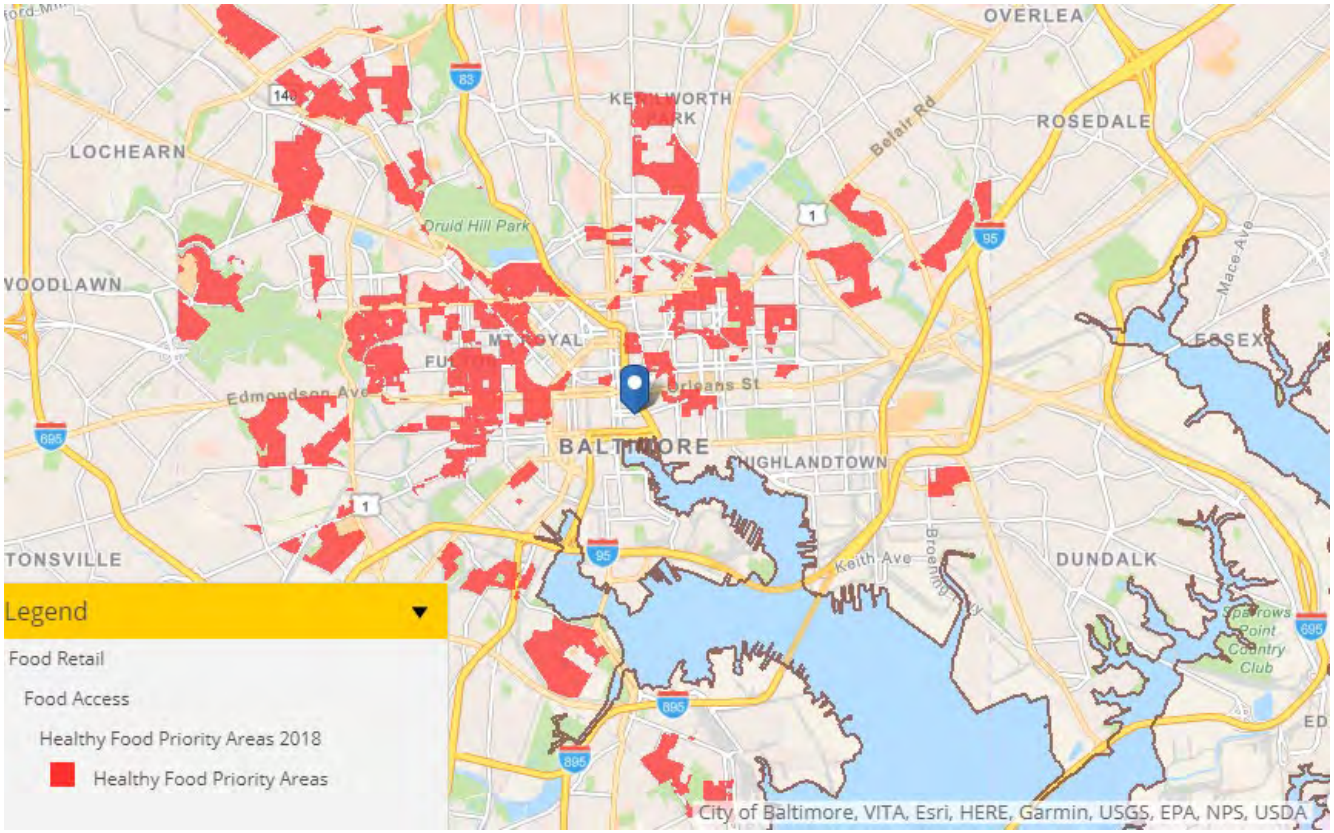
"Food deserts"

"Healthy food priority areas"

"Food apartheid"

1 in 4 Baltimore residents live in a food desert

(Buczynski et al. 2015)



Map by Johns Hopkins Center for a Liveable Future, 2018.

What does urban agriculture have to do with hunger?

What we want:

"Food security"

"Food justice"

"Food sovereignty"

Hunger is not caused by a lack of food, but by a lack of power.

Paraphrased from Frances Moore Lappé, Karen Washington, and a lot of other wise people.

Urban gardening
Self-sufficiency

Urban farming
Economic power

Image credits: © University of Maryland--AGNR Image Library

Urban farming
Economic power

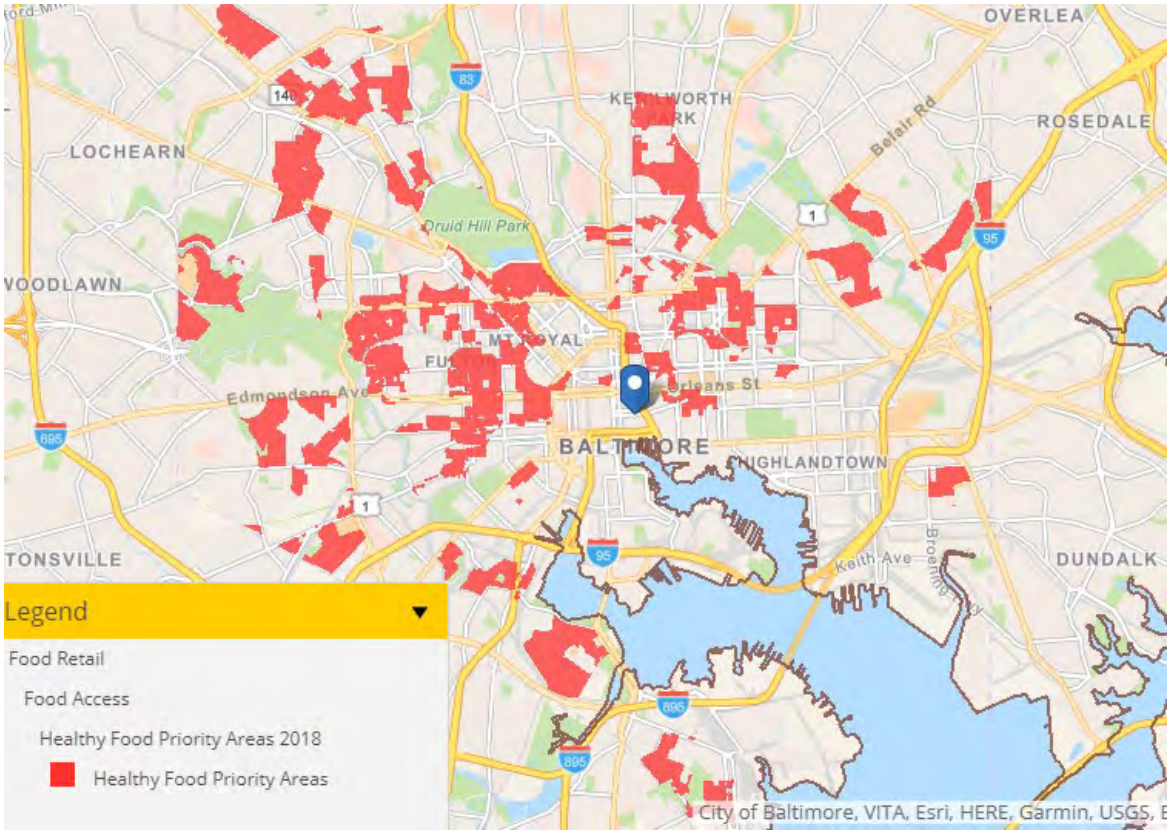
Tension

Image credits: © University of Maryland--AGNR Image Library

Who benefits?

How can urban farmers balance mission to feed people with economic realities of making a living?

Who benefits?



Why do we have to talk about race and class?

"A failure to examine urban agriculture's role in either supporting or dismantling unjust structures may perpetuate an inequitable system"*
(Reynolds 2015).

*Cranston 2017

Why are you farming? Is what you're doing going to achieve that goal?

Miss Maxine's Garden at Pleasant Hope Baptist Church, the Black Church Food Security Network

Janice Spells-Bell, Strength to Love 2.

Walker Marsh,Tha Flower Factory

Photographs by Neith Little, University of Maryland Extension

Growing food sustainably has costs

1,000 lbs tomatoes, at $2/lb = $2,000

-$10/hr for 8 hrs preparing beds = $1920

-$10/hr for 8 hrs planting = $1840

-$10/hr for 16 hrs staking = $1760

-$10/hr for 8 hrs/wk watering, weeding, and harvesting = $480

-$10/hr for 6 hrs/wk at farmers market = **-$600**

A helpful urban farm case study:

Lennon et al. (2018). Sowing the seeds of food justice: A guide for farmers who want to supply low-income communities while maintaining financial sustainability. NESARE

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https://extension.umd.edu/urbanag

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URBAN AGRICULTURE

About:

The goal of the University of Maryland Extension Urban Agriculture Program is to help urban residents learn what they need to better achieve their urban agriculture goals.

Contact Us

Urban Agriculture
6615 Reisterstown Road
Baltimore, MD 21215

Contact: Neith Little
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Email: nglittle@umd.edu

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Learn More About

Agriculture

Home Gardening

Photo of Whitelock Community Farm, taken by Neith Little, UMD Extension

Photos in header of Pleasant Hope Baptist Church, Up Top Acres, and Envista Farms at Southern Friendship Missionary Baptist Church, taken by Neith Little, UMD Extension

This website is under construction. Keep an eye out for new resources coming soon!

Get Help

For entrepreneurs:

ENTREPRENEURIAL COACHING

For home and community gardeners:

ask AN EXPERT

Event Calendar:

Mar 27	Introduction to Backyard Poultry
Mar 27	MidAtlantic Women in Agriculture Webinar: Soils and Salts: From

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https://extension.umd.edu/hgic

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About:

Our Vision: People gardening and managing land in harmony with nature.

Our Mission: Develop and deliver science-based, sustainable gardening and integrated pest management education for better human and environmental health.

Staff directory

Contact Us

Home and Garden Information Center
12005 Homewood Road
Ellicott City, MD 21042

Phone: (410) 531-5556

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Environment & Natural Resources

Home Gardening

ASK

ASK MARYLAND'S GARDEN EXPERTS
YOUR PLANT AND PEST QUESTIONS

GET ANSWERS

from Maryland Certified Professional Horticulturists.
Ask a Question | See Recent Answers

READ

MARYLAND GROWS BLOG

FEATURED POST

Gardening Resolutions 2020 (January 3, 2020)

PARTICIPATE

Please fill out teaching evaluation:
https://go.umd.edu/AGTEACH

Neith Little, nglittle@umd.edu

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Supplemental slides for potential questions

How to decide what to grow (in a market garden)

- What do you want to eat?
- What can you grow efficiently with the resources and space you have?
- Who are your customers and what do they want to buy locally?
- What can you grow that is not already available in the local market?
- What can you grow that is best suited to direct marketing?
  - *Quality is best when very fresh*
  - *Does not ship well*
  - *Has ties to local culture / history*
- What can you sell at a price that will cover your costs?

https://extension.umd.edu/womeninag/what-grow-urban-market-garden

Water access

- Depends on local municipality (usually Department of Public Works)
- If a building as demolished, does the water line still exist?
- Rain water capture is a good sustainability practice, but
  - How will you store it?
  - How will you assess and reduce health risks?
  - https://go.umd.edu/rainwater

What to fill your beds with?

Image credit: Purdue University

https://extension.umd.edu/hgic/topics/soil-fill-raised-beds

Soil vs. growing media

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Types of soil contaminants

Heavy metals: lead, arsenic, cadmium, chromium, copper, mercury, selenium, zinc

Organic compounds: solvents, pesticides, creosote, petroleum

Soil contamination risk assessment

Additional resources:

- Section of urban ag guide on soil contamination risk assessment:

https://go.umd.edu/soilcontamination

- Recorded webinar on soil contamination risk assessment:

https://go.umd.edu/soilrisk

1. Knowledge is power

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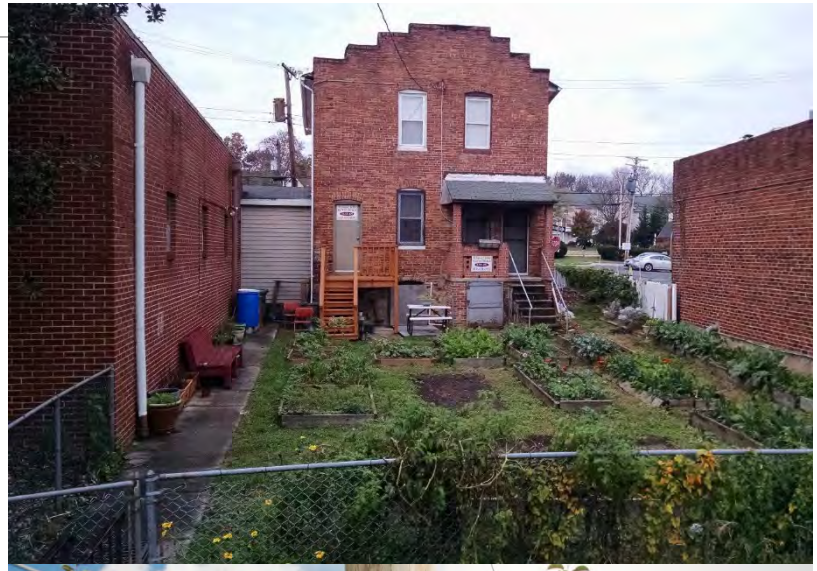
Don't panic,
but don't be complacent either

(Mielke et al. 1983, Chaney et al. 1984, Brown et al. 2016)

Find out your site history,
and get your soil tested



Top: Church garden, Baltimore, photo by Neith Little, UMD Extension
Bottom: Apple orchard, photo by Edwin Remsberger, © University of Maryland--AGNR Image Library

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2. Collect a representative sample

Consider high risk areas

Image Credit: Google Maps

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2. Collect a representative sample

- Sample should be representative
- Take multiple cores from each “unit” and mix well
- Collect 2-3” deep
- Check with lab for drying and mailing instructions

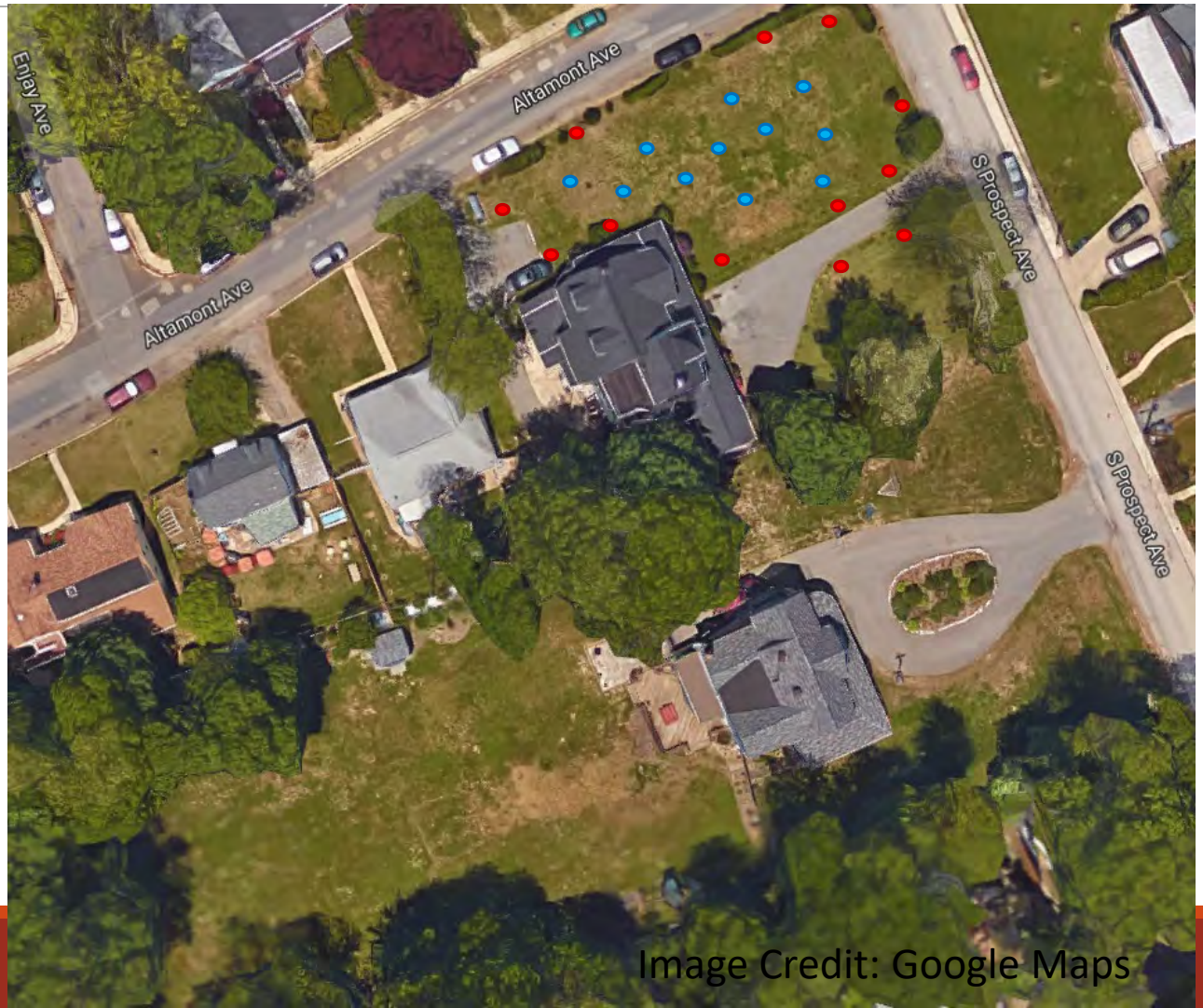

Image Credit: Google Maps

3. “Threshold” values depend on contaminant, land use, and state

No federal standards for **agricultural soil** (EPA 2011).

EPA sets standards for **“brownfield”** remediation and residential use. These were not intended for agriculture, but they’re what is most commonly used.

Clipper Mill brownfield remediation, Baltimore. From EPA success stories report: https://www.epa.gov/brownfields/

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Current EPA threshold for **lead** is <400ppm for bare soil in play areas and <1,200 ppm for bare soil in other residential areas (EPA 2001).

Local regulators may set their own thresholds.

Baltimore City is considering a draft soil safety policy for those seeking a use permit for a community garden or farm, under the new urban agriculture zoning code. It’s based on EPA thresholds.

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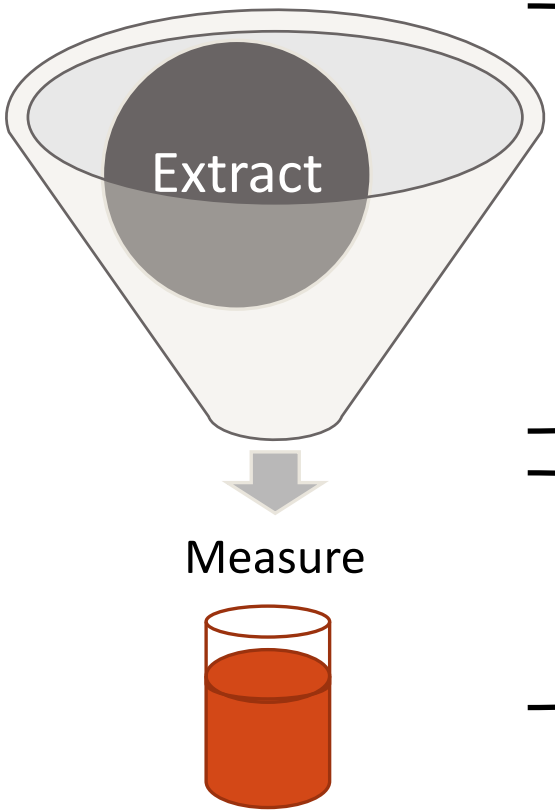
4. Make sure lab test and "threshold" use the same methods

All soil analysis methods have two basic steps:

- Extract stuff from the soil
- Measure what comes out



Digest soil with some combination of

- Acid or base
- Heat

"Fingerprint" based on

- How fast they move through a magnetic field when heated a lot *(ICP-MS)*
- How much light they give off when heated a lot *(ICP-AES)*
- How much light they absorb when heated a lot *(GFAAS or FLAA)*

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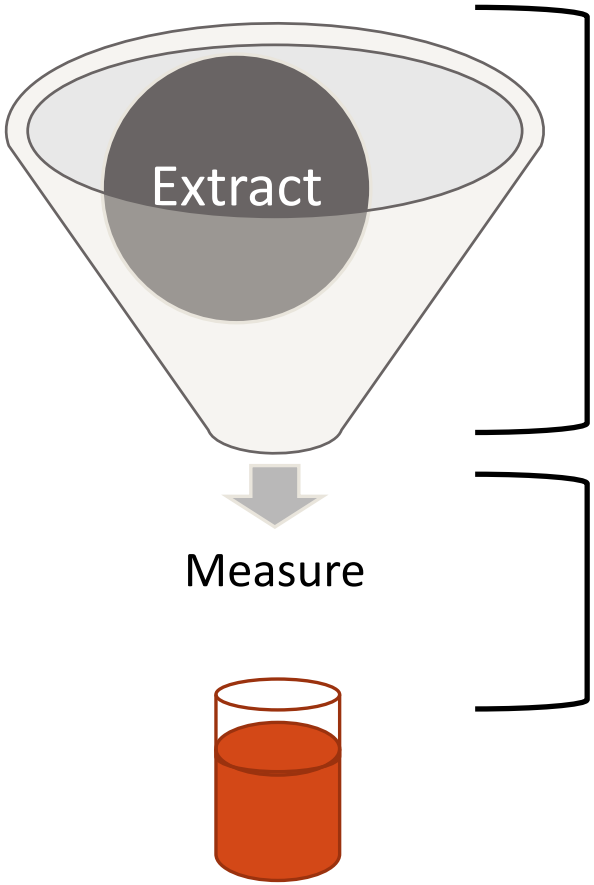
Testing labs and methods

Methods vary in how strong the acid and/or heat are.

A stronger extraction pulls more out of the soil.



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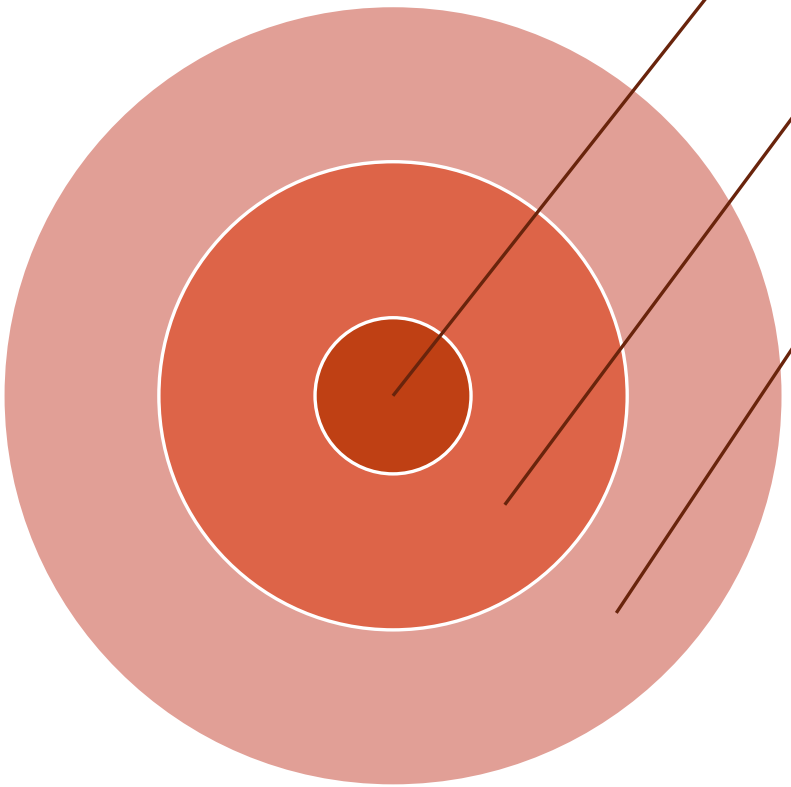

"Leachable" (EPA 1311 and 1312)

"Total recoverable" (EPA 3050B)

"Total digestion" (EPA 3051A)

Testing labs and methods

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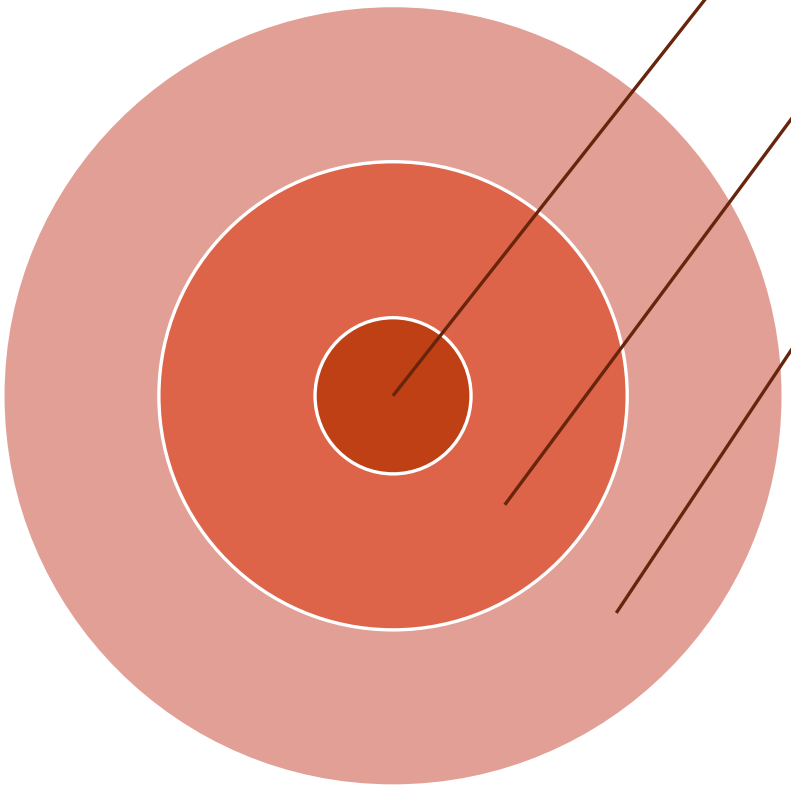

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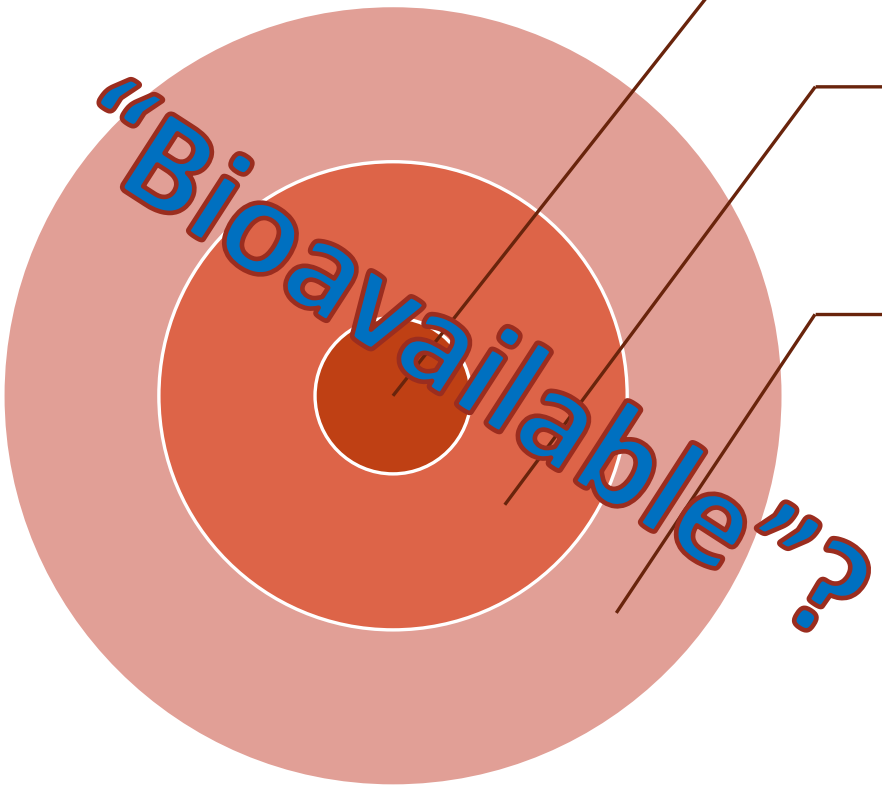

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Best Management Practic

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Primary goal: keep soil out of people's mouths

Keep soil covered

Use raised beds with clean soil or growth medium (test or buy from source that tests!)

Clean tools, hands, boots before leaving garden

Avoid growing leafy greens or root vegetables

Use extra caution when gardening with children or pregnant/nursing women