Healthy Urban Gardens: Communication of Findings

The Collaborative on Health and the Environment Partnership Call

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Northeastern

SSEHRI

Social Science Environmental Health Research Institute

Made Possible By:

Approach

*Public participation in environmental research projects improves the **quality, relevance and capacity** of investigations.*

These efforts can lead to:

- *Culturally Appropriate communication strategies and tools*
- *Positive individual, programmatic and community outcomes*

NRC, 2008

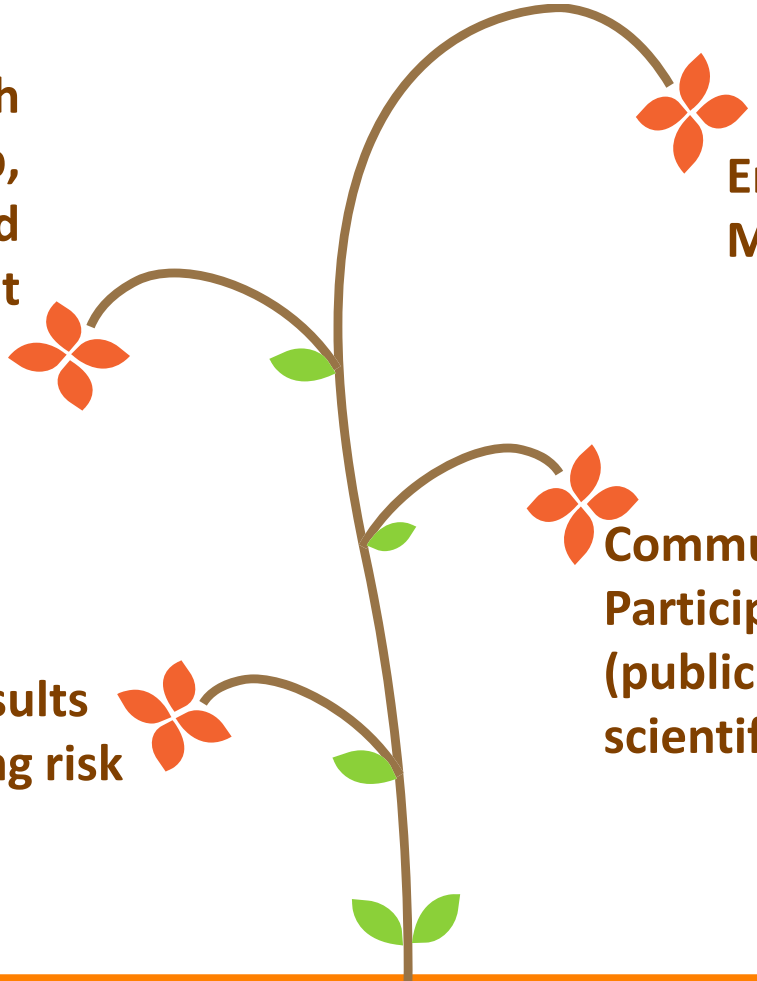
Community member's research questions

- Are my soils safe?
- Is it safe for me to consume the vegetables from my garden?
- If so, how much?

gardenroots

The Dewey-Humboldt, Arizona Garden Project

Is an applied research project that has a lab, greenhouse and field component



Environmental Monitoring

Community-based Participatory Research (public participation in scientific research)

Reporting back results and communicating risk

Strategy 1: Create a Transdisciplinary Team

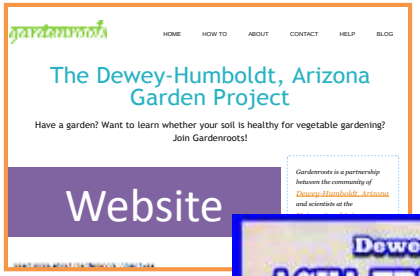
- Soil, Water and Environmental Science
- Yavapai County Cooperative Extension
- Environmental Health Sciences, College of Public Heath

Strategy 2: Build Partnerships in the Public Sphere

- Town of Dewey-Humboldt, AZ
- U.S. Environmental Protection Agency
- Dewey-Humboldt, AZ community members

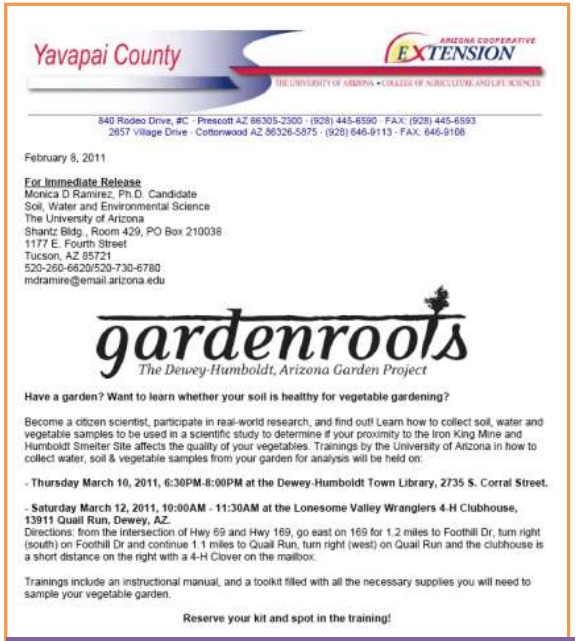
Strategy 3: Place-Specific Information Transfer

Promotional Bookmark that was distributed at all community events and meetings



Website

Community Events



Press Release

Letter to community members

Newsletter Announcement

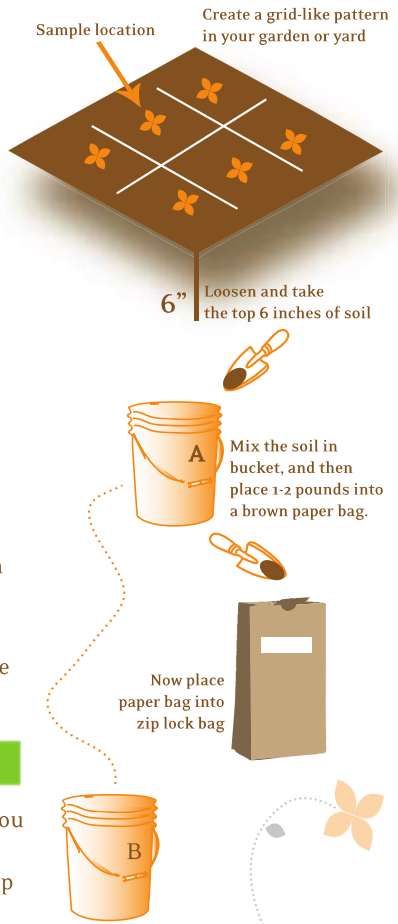
Strategy 4: Public Participation in Research

1. **Chose question for study**
2. Completed pre-survey, participated in training, took kit home
3. **Develop explanations (hypotheses)**
4. **Collected yard and garden soil, water, and vegetable samples from their home garden for analysis**
5. Participated in informal learning events throughout the project
6. **Received a personalized booklet of their home garden results**
7. **Translated results into action**
8. Took a post-survey to determine
9. **Discussed results and asked new questions**

Strategy 5: Material Design for Audience Type

1. Collecting Soil Samples from your Garden

1. Select (mark) six locations (spots) in a roughly grid-like pattern to sample in your garden.
2. Using a the hand trowel provided, loosen the top 6" of each of the six soil spots.
3. At each location take one full scoop of soil and place it into a 5-gallon bucket labeled A.
4. Mix the six soil samples thoroughly inside the bucket. This process is called sample bulking.
5. Place about 1-2 pounds of the bulked soil sample into a brown paper bag and attach the label provided.
6. Place the soil paper bag into a 1-gallon Ziploc bag making sure that the label on the brown paper bag is clearly visible.
7. Soil should now be air-dried or kept cold until you are ready to drop-off at the Yavapai County Extension Office.



2. Collecting Soil Samples from your Yard

You will do the same soil sampling process as you did above for you garden soil, but now for your yard soil. Complete steps 1-7 above, note for step 3 now use the 5-gallon bucket labeled B.

Drop-Off Checklist:
1) Garden soil sample in paper bag and then 1-gallon Ziploc bag
2) Yard soil sample in paper bag and then 1-gallon Ziploc bag
3) 3 water sample bottles in a 1-gallon Ziploc bag
4) Vegetable samples individually bagged, and then in a 1-gallon Ziploc bag

Drop off all samples at the UA Yavapai Cooperative Extension Office, 840 Rodeo Dr, Bldg C, Prescott, AZ 86305

3. Collecting Water Samples (preferably in the late afternoon)

Using the water source you use to irrigate your garden:

1. Turn on the water (hose) and allow to flow for 2-3 minutes. During this you may fill out the labels of the bottles with all the information requested.
2. Slow the flow to a small trickle and carefully fill each bottle until water overflows.
3. Once full quickly cap each bottle and seal.
4. Place the 3 bottles in a 1-gallon Ziploc bag, seal and store in a refrigerator (do NOT freeze water samples) until you are ready to drop off at the Yavapai County Extension Office.

4. Collecting Vegetable Samples

1. Collect a minimum of 4-5 ounces of 4 different vegetables (leaf, root, or fruit) from your garden and place it temporarily into a brown bag.
2. Take the vegetable sample(s) to the washing area, which should have the following (see diagram below):
   Tub 1 filled with tap water. Use brush to clean all soil off the vegetable sample and rinse.
   Tub 2 filled with provided distilled water and 1 tablespoon of bleach. Dip your sample several times in the solution.
3. Place each sample on clean paper towels and if possible allow to air dry indoors, away from dust for 30+ minutes. Additionally, clean paper towel may be used to soak up excess water as necessary. (note: plant tissue does not need to be fully dried before next step)
4. Place each vegetable sample in separate Ziploc bag(s) that have been pre-labeled, and remove all air from bag before sealing. Then place all your bagged vegetable samples in a 1-gallon Ziploc bag.
5. Promptly place the bag in the refrigerator till you are ready to drop off at the Yavapai County Extension Office.

Vegetable Washing Area as described in Steps 2 and 3

Inside

Strategy 6: Ongoing communication and informal science educational opportunities throughout the project to manage community expectation and involvement

Upcoming Gardening Seminars - May 3, 2011

APR
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2011

Dear Gardenroots Participants,

Jeff Schalau, University of Arizona Cooperative Extension Agent, will be offering 2 two-hour gardening seminars for beginning vegetable gardeners on May 3 between 3-5 pm and 7-9 pm at Lonesome Valley Wranglers 4-H Clubhouse, 13911 Quail Run, Dewey, Arizona*.

Both seminars will be identical and will cover: soil amendment/preparation, fencing, irrigation, warm vs. cool season crops, season extending strategies, pest management/crop protection, and more.

Tags: Upcoming Gardening Seminars Login or register to post comments read more

gardenroots presents:

A Community Health Talk

Thursday June 2, 2011, from 6:00PM to 8:00PM
Dewey-Humboldt Town Library
2735 S. Corral Street
Humboldt, AZ 86329

Please join us for an informational/Q&A session with researchers from the University of Arizona to discuss the contaminants of concern found at the Iron King Mine and Humboldt Smelter Superfund Site.

For more information, please contact:
Monica Ramirez-Andreotta; Email: mdramire@email.arizona.edu; Phone: 520.260.6620

Results for Lunch

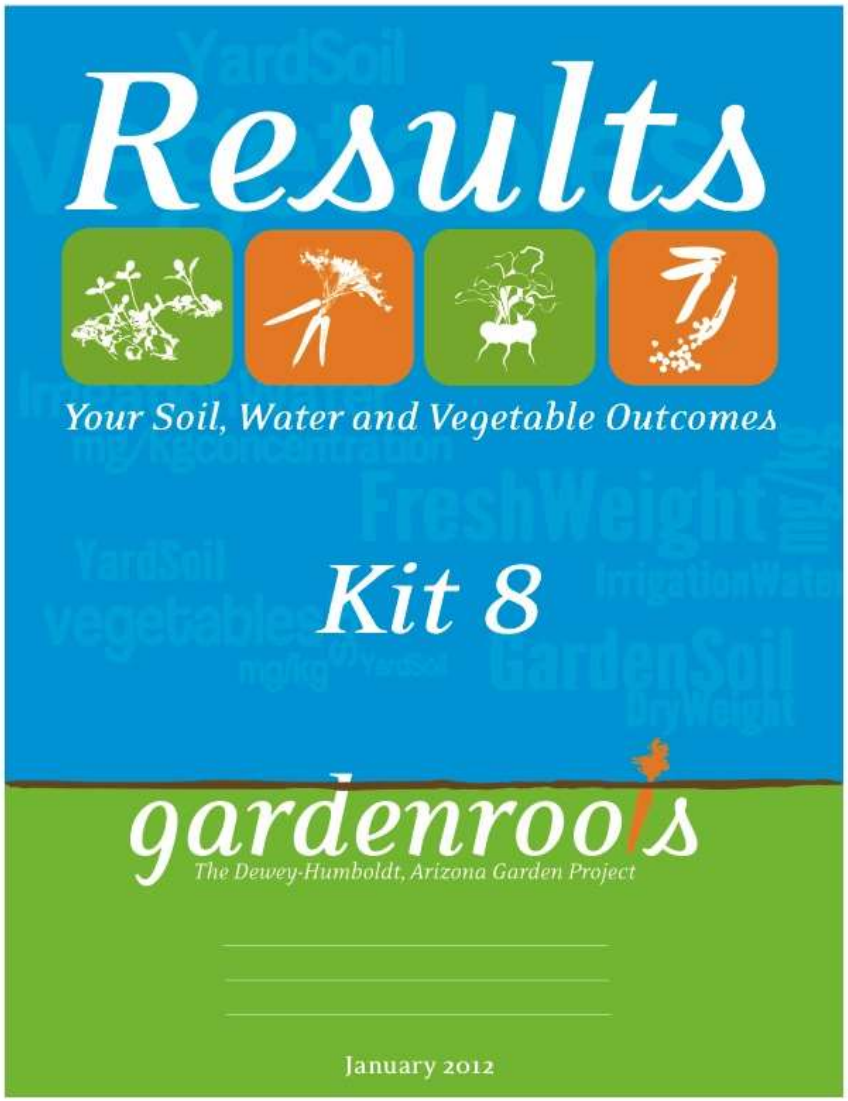
Your Soil, Water and Vegetables Outcomes

gardenroots
The Dewey-Humboldt, Arizona Garden Project

Saturday January 28, 2012
11:00AM to 2:00PM

Dewey-Humboldt Town Library
2735 S Corral Street

Strategy 7: Report-back All Results and Potential Risks



- The metal(loid) concentrations in their soil, water and vegetables
- How much they can eat at excess target risks
- Estimated risks associated with soil, water and vegetables → allowed participant to compare risks posed by the different exposure routes
- Nutritional content in vegetables

Results for Lunch

Strategy 8: Informal Gatherings to Discuss Results and Project

- Food!
- Presentation on result booklets
- Ways to reduce exposure
  - ✧ Water treatment systems
  - ✧ Gardening practice

Saturday January 28, 2012
11:00AM to 2:00PM

Dewey-Humboldt Town Library
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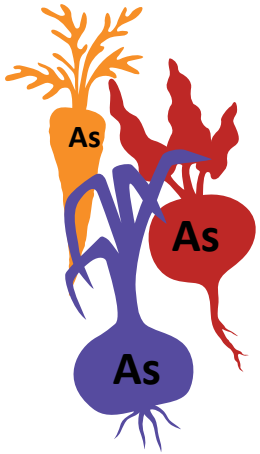
Explained how exposure assessments are conducted to build their capacity when working with regulatory agencies



Bioavailability of arsenic

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Scale Image source: http://www.healthycheck.net

Sand Clock: http://all-free-download.com/free-icon/vista-icon/sand_clock_5101.html

Measuring cup:http://www1.free-clipart.net/gallery2/clipart/Household/Kitchen/Measuring_Cup_2.jpg

Compared *Gardenroots* to a nationwide study for reference

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FDA U.S. Food and Drug Administration
Protecting and Promoting *Your* Health

Total Diet Study – Market Baskets

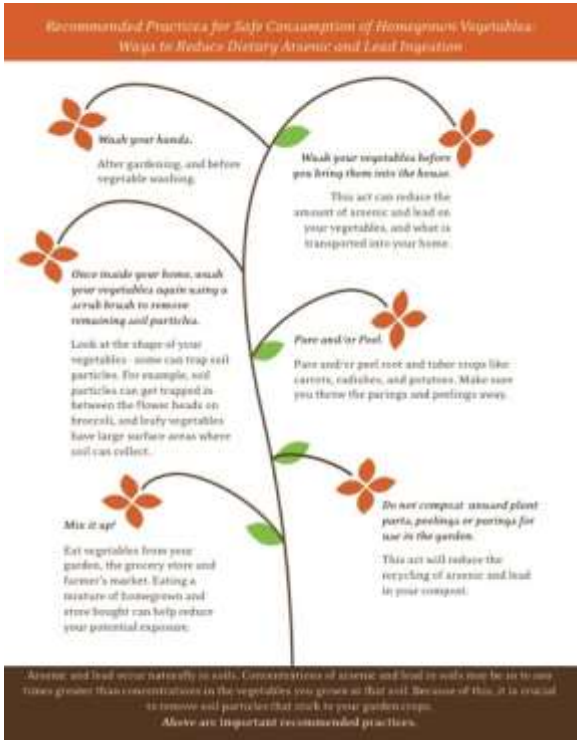
Strategy 9: Allow them to decide for themselves

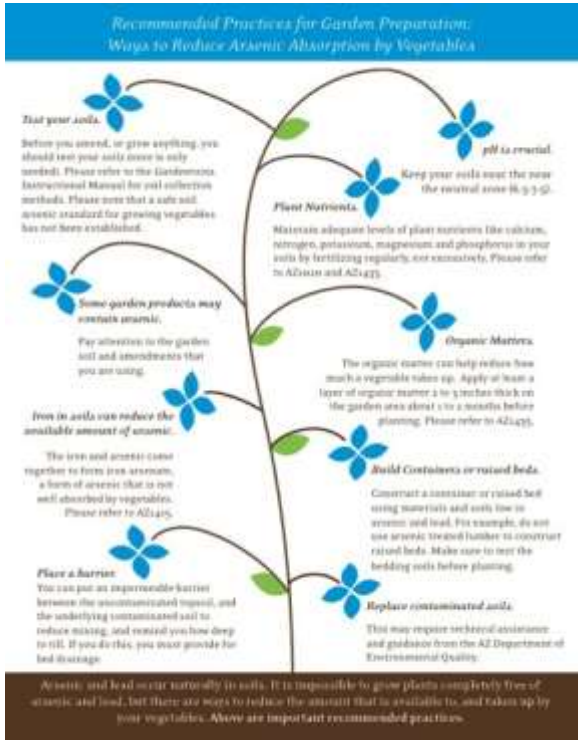
"It is your choice to decide what target risk you want to use to make decisions about how many cups per week to consume from your garden."

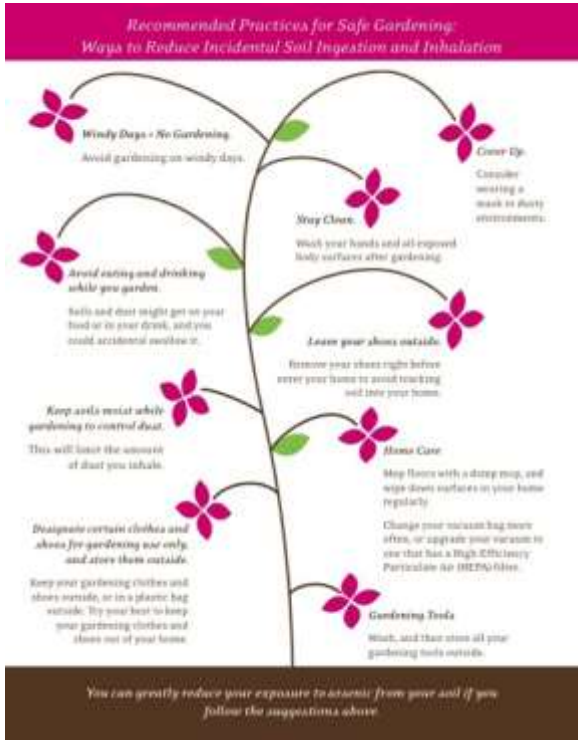
Amount You Can Eat from Your Garden Based on a Cancer Target Risk

Location	Target Risk 1/1,000,000	Target Risk 1/100,000	Target Risk 1/10,000	USDA Recommended Amount (cups/week)
Onion				
Your Garden	3/4	7	70	4 cups/week total of "Other Vegetables"
Lettuce				
Your Garden	1/2	5	50	3 cups/week total of "Raw Leafy Dark Green Vegetables"
Tomato				
Your Garden	1-1/2	15	150	5 cups/week of "red and orange vegetables"

Strategy 10: Presented Solutions and Recommended Best Practices







Safe Consumption of Homegrown Vegetables

Garden Preparation

Safe Gardening

Current Work

Community-Engaged Field Project

Citizen Participation in Risk Assessment and Communication

Highlights: Working with Boston Natural Areas Network , Gardener's Gathering Workshop designed by Social Science Environmental Health Research Institute members: Monica Ramirez-Andreotta, Sara Wylie, Max Liboiron, Dvera Saxton

What do you think is missing from the calculation?

What do you think needs to be added to the exposure assessment process?

What questions do you have?