Want to learn whether your soil is healthy for vegetable gardening?

Gardenroots was designed in response to your research interests.

Want to learn whether your soil is healthy for vegetable gardening?

What is Citizen Science?

Citizen Science is a way for you to learn about soil, water, and plant science by participating in scientific studies.

This is a partnership between the community of Dewey-Humboldt, Arizona and scientists at the University of Arizona.

The work you do, and the samples you collect will be used in a scientific study to determine if your proximity to the Iron King Mine and Humboldt Smelter Site affects the quality of your vegetables.

This manual provides step-by-step instructions on how to collect water, soil & vegetable samples from your garden for analysis by University of Arizona laboratories.

Find out more at superfund.pharmacy.arizona.edu/gardenroots.php
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 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 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 = Tap Water
   - Tub 2 = distilled water and 1 tablespoon of bleach
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

1. Remove vegetables from paper bag
2. Tub 1 = Tap Water
3. Tub 2 = distilled water and 1 tablespoon of bleach for 30 minutes
4. Dry vegetable samples

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 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