

Gardenroots Contacts

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Gardenroots was designed in response to your research interests.

What is Citizen Science?

Citizen Science can be defined as intentional collaborations in which members of the public engage in the process of research to generate new science-based knowledge.

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

Gardenroots: The Nevada County, CA Garden Project was made possible by:



This is a partnership between the University of Arizona's Integrated Environmental Science & Health Risk Laboratory and the Sierra Streams Institute.

Instruction
Manual

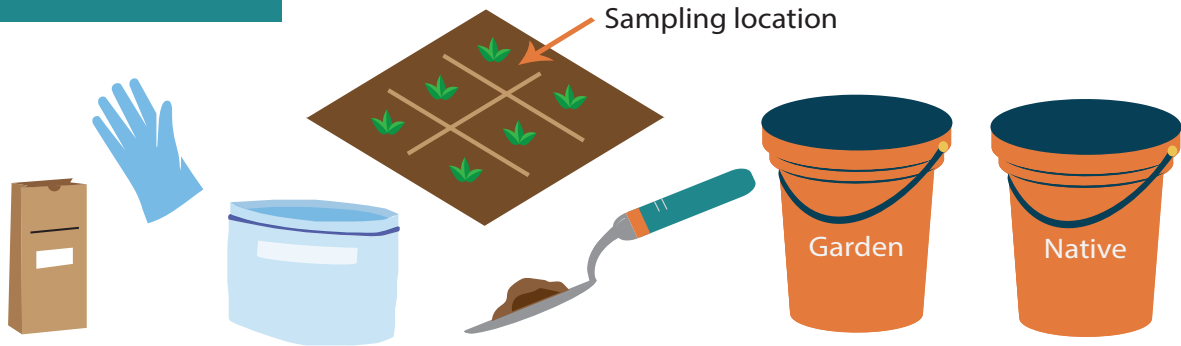
A. Collecting Samples from your Garden Soil

1. Select 6 spots to sample in your garden in a rough grid-like pattern.
2. Using the hand trowel provided, loosen the top 6 inches (the approximate length of the hand trowel blade) of each of the 6 soil spots.
3. At each of the 6 spots, take one full scoop of soil and place it into the 5-gallon bucket labeled "Garden".
4. Mix the six soil samples thoroughly inside the bucket. This process is called "sample bulking".
5. Fill 4 brown paper bag with the bulked soil sample to the line drawn on the outside of the bag.
6. Place each paper bag into its own 1-gallon Ziploc bag making sure that the label on the paper bag is clearly visible.
7. At each of the 6 spots, continue to take one full scoop of soil and place it into the "Garden" bucket until it is filled.
8. Mix the soil thoroughly inside the bucket, and seal the bucket with its lid.
9. Place the bagged samples and bucket in a refrigerator.

B. Collecting Samples from your Native (Unamended) Soil

1. Repeat steps 1-6 from above to now collect native, unamended soil samples using the 5-gallon bucket labeled "Native".
2. At each of the 6 new sampling spots, continue to take one full scoop of soil and place it into the "Native" bucket until it is filled.
3. Mix the soil thoroughly inside the bucket, and seal the bucket with its lid.
4. Place the bagged samples and bucket in a refrigerator.

You will need...



C. Collecting Water Samples

Collect water samples using the water source you use to irrigate your garden.

1. Turn on the water and allow the water to flow for 2-3 minutes. During this time, you may fill out the labels for the 2 empty sampling centrifuge tubes with all the information requested.
2. Slow the flow to a small trickle and carefully fill the 2 tubes until water overflows.
3. Once full, quickly cap each tube, seal, and place the label on each tube.
4. Standing in the place near your water source, remove the cap of the empty tube labeled "Field Blank".
5. Open the tube labeled "Nanopure".
6. Carefully pour the nanopure water into the "Field Blank" tube. Once full, quickly cap the tube, tightly seal, and turn the tube upside down to ensure that no leakage will occur.
7. Place the 3 water sample tubes into a 1-gallon Ziploc bag, seal, and store in a refrigerator (do NOT freeze).

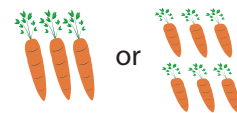


D. Collecting Vegetable Samples

We identified key vegetables to study listed in the box to the right.

1. Collect 3 samples (replicates) of carrot, lettuce, and you may choose between cabbage and kale, and also between mint and cilantro. Each sample should be of the size indicated in the box.
2. Open the sterile Whirl-pak bag by removing the plastic strip at the top, then pulling the white tabs apart from one another.
3. Place each sample in the Whirl-pak sterile bag.
4. Close the bag tightly by rolling the top all of the way down and thoroughly wrapping the wires around the top (like a coffee bag).
5. Fill out a label for each sample with the information requested and place it on each bag.
6. Promptly place the bags in a refrigerator.

Carrot



Lettuce



Cabbage or Kale



Mint or Cilantro

