Healing City Soils Sampling Guide

Urban soils can sometimes contain heavy metal contamination from a variety of possible sources. Contaminated soils can be a concern for urban food growers and gardeners as heavy metals may be taken up into or onto our veggies and fruits. We would like to gather data to both support your growing and gathering needs as well as to gain a better understanding of the geographic extent of soil contamination across the CRD. Please note that our program only tests for eight heavy metals: **Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, and Zinc.**

To accomplish this, we ask participants to collect two soil samples as described below:

#1 GARDENING AND GROWING AREA SAMPLE: Collect the first soil sample from the area where you are growing or gathering food.

#2 COMPARISON AREA SAMPLE: Collect the second soil sample **from a nearby area that has "native soil," or soil that has been undisturbed and/or not mixed with fill and/or store-bought soil.**

This sample helps us better understand the distribution and potential sources of heavy metals in soil as native soil may have different contamination sources than non-native or store-bought soil.

Follow the sampling instructions below (steps 1-16) to collect your soil samples and use the sampling sheets at the end of this document to describe the areas from which you are collecting the samples. **Fill out one sampling sheet for each soil sample**.

If your garden space serves multiple people (e.g., a community garden), or is otherwise covering a very large area, we can increase the number of samples on a case-by-case basis. If you have any questions, please contact healingcitysoils@compost.bc.ca or call the hotline at 250-386-9676

Instructions:

You will be collecting composite samples from two areas: 1) your gardening and growing area and 2) a comparison area. Composite samples are made with soil from areas that have the same history (e.g. garden beds built at the same time), material source (e.g. same store-bought soil), use (e.g. veggie garden bed), and exposure (e.g. proximity to a building). Composite samples provide a generalized result to help with understanding the **average metal concentrations** in a distinct area such as a garden bed.

If you have any questions about the sampling protocol, require more guidance on how or where to collect your soil samples, or have any other questions, please email healingcitysoils@compost.bc.ca. We are more than happy to help!

Supplies Needed:

- Trowel
- Ziploc bags (2)
- Sharpie marker & pen
- Clean bucket/container for mixing
- Soil Sampling Observation Sheets (pages 5-6 of this document)

#1 Gardening & Growing Area Sample Collection

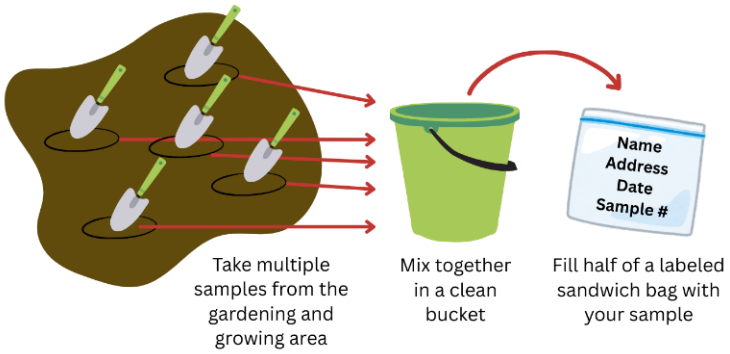
STEP 1: IMPORTANT: Clean your trowel or digging implement with soap and water before you begin. This helps to avoid contaminating your sample with soil from another location.

STEP 2: Clear away any surface debris (grass, leaves, twigs, etc.) from the corner of an area **where you are planning to grow or gather food**.

STEP 3: Using your clean trowel, dig a hole that is 15 cm deep (approximately the length of a standard pen), which is about the depth where plant roots would grow.

STEP 4: Take a fistful of soil from the bottom of this hole and put it into the clean bucket.

STEP 5: Repeat steps 2 through 4 four more times in the three other corners of where you are planning to grow or gather food as well as in the middle of the area where you are planning to grow or gather food.



STEP 6: Mix the five fistfuls of soil you have in your clean bucket. Fill one half of an empty and clean sandwich bag with this soil.

STEP 7: With clear handwriting, label the bag with:

- Your Name (First and Last)
- Address
- Sample Collection Date
- #1 Gardening and Growing Area Sample

#2 Comparison Area Sample Collection

STEP 8: To avoid cross-contamination, clean your trowel or digging implement with soap and water before digging into the next sample area. Also clean your mixing bucket. (You want to avoid contaminating your second sample with soil from your first sample.)

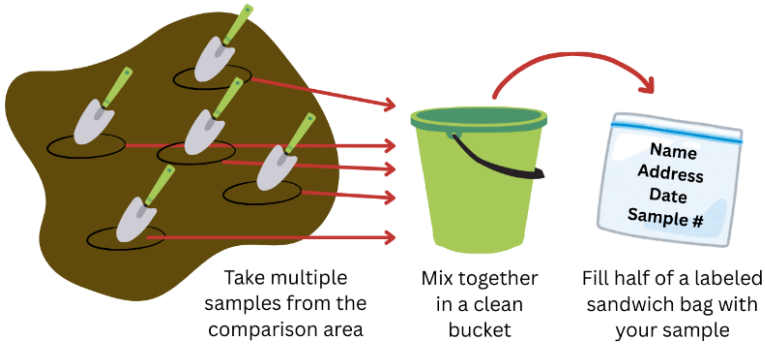
STEP 9: Clear away any surface debris (grass, leaves, twigs, etc.) from the corner of a nearby location **where you know there is "native soil."[1] Native soil is soil that has been undisturbed and/or not mixed with fill or store-bought soil.**

1 Alternatively, if you suspect there is a contamination "hotspot" near your gardening and growing area, you can collect a sample directly from that area instead of an area where there is native soil. Some examples of hotspots are directly next to an older painted wood structure suspected to have leaded paint, the site of a former garbage burning pile, a small depression that collects road water runoff, and drip zones where soil is visibly discoloured compared to the surrounding area.

STEP 10: Using your clean trowel, dig a hole that is 15 cm deep (approximately the length of a standard pen), which is about the depth where plant roots would grow.

STEP 11: Take a fistful of soil from the bottom of this hole and put it into the clean bucket.

STEP 12: Repeat steps 9-11 four more times in the three other corners of the nearby area where you know there is “native soil” as well as in the middle of the area with native soil.



STEP 13: Mix the five fistfuls of soil you have in your clean bucket. Fill one half of an empty and clean sandwich bag with this soil.

STEP 14: With clear handwriting, label the bag with:

- Your Name (First and Last)
- Address
- Sample Collection Date
- #2 Comparison Area Sample

Sample Submission

Step 15: After following these steps, you should have:

- Two small, sealable plastic bags that are labeled and contain soil samples from two different locations on your property (one “Gardening and Growing Area” soil sample and one "Comparison Area” soil sample).

- Two sampling observation sheets that correspond to the different soil samples.

Step 16: Mail or drop off your soil samples and observation sheets at the Compost Education Centre (1216 North Park Street) during open office hours (Wednesday to Saturday from 10 am to 4 pm) by **September 30, 2026.** The first 50 people to drop off their soil samples will receive their soil test results in the fall of 2026. Additional samples will be stored for testing in 2027.

Soil Sampling Observation Sheet – #1 Gardening and Growing Area Sample		
Your name:	**Your email address:**	
Sample location address:	**Sample collection date:**	
Site Conditions		
Describe sample area (e.g., garden bed beside front door, backyard lawn 5 m from shed – please specify):	**Proximity to house/building** (in metres):	**Year of house construction** (if applicable):
Previous land use, or any potential sources of heavy metals or other contaminants, if known (e.g., agriculture, industrial (laundromat, petrochemical, train tracks, etc.), storage of automotive equipment, storage of chemicals, military use, quarry use, landfill, garbage burnt in backyard, nearby mechanic shop or gas station, other – please specify):		
Other observations – **note anything that you think may influence soil** (e.g., nearby industries, proximity to highway, slope, use of compost, treated lumber nearby, septic field, source of fill soil, use of fertilizer, etc.):		
Soil Conditions		
Soil cover (e.g., grass, leaves, pine needles, mulch, other):	**Other** (e.g., presence of worms/bugs, gravel/cobbles/boulders, garbage):	

Soil Sampling Observation Sheet – #2 Comparison Area Sample		
Your name:	**Your email address:**	
Sample location address:	**Sample collection date:**	
Site Conditions		
Describe sample area (e.g., garden bed beside front door, backyard lawn 5 m from shed – please specify):	**Proximity to house/building** (in metres):	**Year of house construction** (if applicable):
Previous land use, or any potential sources of heavy metals or other contaminants, if known (e.g., agriculture, industrial (laundromat, petrochemical, train tracks, etc.), storage of automotive equipment, storage of chemicals, military use, quarry use, landfill, garbage burnt in backyard, nearby mechanic shop or gas station, other – please specify):		
Other observations – **note anything that you think may influence soil** (e.g., nearby industries, proximity to highway, slope, use of compost, treated lumber nearby, septic field, source of fill soil, use of fertilizer, etc.):		
Soil Conditions		
Soil cover (e.g., grass, leaves, pine needles, mulch, other):	**Other** (e.g., presence of worms/bugs, gravel/cobbles/boulders, garbage):	