

May 23rd 2023

Dear Sarah,

Thank you for submitting your garden soil samples to GardenSafe for screening.

This report contains the screening results from your garden samples. Use these screening results to guide your gardening and to inform decisions about whether further actions are required to protect your environmental health. The results provide a snapshot of the quality of your garden soil and the presence of common trace element contaminants, this information will help you make the best use of your garden, especially when it comes to growing veggies.

In the table below your screening results are compared against the Health Investigation Levels guideline for residential gardens with accessible soil (HIL A). If your results are above these guidelines, you may need to investigate further.

## Your Sample Screening Results

**Table 1. Results of your soil texture assessment**

Sample location	% Sand	% Silt	% Clay	Soil texture
veggie patch #1	50	26	24	Clay Loam
Veggie patch #2	49	30	21	Clay Loam
Pear arbour	58	26	16	Clay Loam

**Table 2. Results of your garden soil health indicator assessment**

Sample location	TOC (%)	P (mg/kg)	K (mg/kg)
veggie patch #1	4	2871	7778
Veggie patch #2	3	3276	9412
Pear arbour	3	2603	10710

TOC – soil organic carbon; P – total phosphorus, K – total potassium, mg/kg – milligrams per kilogram

### GardenSafe

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**Table 3. Results of your trace element assessment and the HIL A guideline for comparison (mg/kg)**

Sample location	As	Cd	Cr	Cu	Mn	Ni	Pb	Zn
veggie patch #1	BD	BD	BD	48	662	9	66	465
Veggie patch #2	9	BD	BD	47	551	18	61	541
Pear arbour	8	BD	BD	29	390	13	103	183
HIL A Guideline	100	20	100*	6000	3800	400	300	7400

As - arsenic; Cd - cadmium; Cr - chromium; Cu - copper; Mn - manganese; Ni - nickel; Pb - lead; Zn - zinc; BD - below detection; \*Guideline is for CrVI, result is for total Cr.

### What are garden soil quality indicators?

Soil is a complex mixture of minerals, organic matter, gas, water and living organisms. The composition of soil is naturally influenced by local geology, vegetation, and climate. Soil composition can also be altered by human activity, including agricultural practices, industrial processes and the addition of imported soil, fertiliser, and compost.

The proportion of sand, silt and clay determines the soil texture. Soil texture determines how well your soil drains water and retains nutrients. The percentage of soil organic carbon indicates how much organic matter (e.g., leaf litter, compost) is in your soil.

You can learn about ways to improve your garden soil for veggie growing and how soil quality indicators impact plant growth by [visiting our website](#). For example, for tomatoes, not enough phosphorus (P) can grow tall, leafy plants with limited fruit.

### What are trace elements?

[Trace elements](#) are substances that naturally occur in the environment in small quantities. Some elements are beneficial to human and plant health at low levels. Other trace elements can be harmful to human health at certain concentrations. You can learn more on how to interpret results and how to reduce harm from contamination by [visiting our website](#).

The guidelines in your results table show the maximum recommended contaminant concentration for different trace elements in soil. For residential garden soil with an accessible garden, HIL A is the most suitable value to compare your trace element screening results against.

Keep in mind that good gardening practices, like thoroughly washing veggies and your hands, mulching areas of exposed soil, and leaving your shoes at the door are simple measures that go a long way in reducing your exposure to contaminants.

**If your soil is:**

**Below the guideline** - Carry on gardening.

**Approaching the guideline** – Consider how you might reduce concentrations and your exposure to potential contaminants.

**Above the guideline** – Levels slightly above the HILs do not imply unacceptability or that a significant health risk is likely to be present. Exceeding a HIL means further investigation should be undertaken. If trace element concentrations in your garden soil are above the guideline value, then reasonably practicable strategies to remove or reduce potential exposure risks associated with soil contamination should be undertaken. Alternative approaches to growing your veggies should be implemented, such as using pots or raised beds with purchased soil.

If concentrations of contaminants are above guidelines, then [reasonably practicable](#) measures to remove or reduce the presence of, or your exposure to, that contaminant should be considered to reduce risk of adverse human or environmental health effects. You may have a [Duty to Manage](#) and remove or reduce potential exposure risks in order to meet your [General Environmental Duty](#).

**How should I use this report?**

Your samples were analysed at EPA Victoria's Centre for Applied Sciences soil laboratory. We used X-Ray fluorescence spectrometry and RemScan mid-infrared spectroscopy equipment. In a standard laboratory test, additional sample preparation and standardisation would occur, allowing greater reliability of results. It is advised that this assessment is interpreted as screening results due to these limitations.

This report is only one tool that helps us to better understand the quality of our soil. If you require more detailed analysis or investigation, you can [engage an environmental consultant](#) who may conduct a site investigation, collect samples and submit them to an [NATA accredited laboratory](#).

Kind regards,

The GardenSafe team - Citizen Science

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