



APPLETREE



2024 Nashua Sustainability Fair and Community Garden soilSHOP Results

Thank you for participating in the NHDES spring 2024 soilSHOP events. This document provides information on the limitations of the soil screening results, how to interpret your results and gardening practice and plant choice recommendations based on arsenic and lead risk category levels. Arsenic and lead screening results are reported by your Sample ID #.

Please contact: Robert Thistle, Ph.D. (Robert.Thistle@des.nh.gov), with any questions about your results.

Limitations of Soil Screening Results

The screening method used during the soilSHOP event may be less accurate compared to laboratory testing for arsenic and lead in soil. This soil screening method does not provide information about the source or sources of arsenic or lead in your soil and the results will not likely be representative of the soil for the entire property where the samples were collected. Soil samples were screened for arsenic and lead only. In a small number of cases, samples were run in duplicate for quality assurance. To be most protective of human health, the higher screening value is listed in these instances. There is a possibility that other contaminants may be present in your soil. You may seek further laboratory testing to confirm your arsenic and lead screening results and to have your soil tested for additional parameters.

Interpreting Your Soil Screening Results

Arsenic is a naturally occurring metal-like element that can be found in the soil from both natural and human-related sources. Garden-related arsenic exposure is generally a minor source of a person's total arsenic exposure. Small amounts of arsenic can move from the soil into the fruits, leaves and seeds of garden plants (e.g. tomato, pepper, squash, leafy greens). Gardeners can also be exposed to arsenic by ingesting or inhaling soil particles, handling contaminated soil or touching CCA-treated wood.

Lead is also a metal that can naturally be found in the environment but exists at higher levels due to human activity. Past use of lead paint and leaded gasoline are major sources of lead in urban settings. Garden-related lead exposure is generally low. Plants do not take up much lead from contaminated soil, but for those that do, herbs, root vegetables and leafy greens tend to accumulate more than others. Gardeners can also be exposed to lead by ingesting or inhaling soil particles or handling contaminated soil.

Soil arsenic and lead screening results are reported by the risk categories shown on the next page. They are classified as low risk, potential risk or high risk based on the arsenic and lead concentrations found in your soil sample. Concentrations are reported in parts per million by weight (milligrams lead/arsenic per kilogram soil). Each risk category provides corresponding recommendations for gardening practices and plant choices to help you reduce or limit your exposure to arsenic and lead in the garden.

*Please note that as of January 2024, the U.S. Environmental Protection Agency (EPA) lowered the screening level for lead in soil at residential properties from 400 parts per million (ppm) to 200 ppm to strengthen protection of public health.

Table 1. 2024 Arsenic and Lead Screening Results Recommendations.


































Risk Guidance Category	Arsenic Result	Lead Result	Gardening Practice Recommendations:	Plant Choice Recommendations:
 Low	≤11 ppm	0-99 ppm	<ul style="list-style-type: none"> No specific corrective action needed. Continue good gardening and housekeeping practices: wash hands, produce and clothes normally. 	<ul style="list-style-type: none"> No restrictions of crop types.
 Potential	12-16 ppm	100-199 ppm	<ul style="list-style-type: none"> Relocate garden to lower risk areas. Increase use of soil amendments (e.g., compost, clean fill), barriers (e.g., mulch) and other replacement measures up to and including raised beds and containers. Aim for a neutral soil pH (around pH 7). Remove CCA treated wood from garden areas. Wear gloves and use tools to reduce soil contact and ingestion. Remove soiled/dusty shoes and other clothing before entering the home. 	<ul style="list-style-type: none"> Decrease planting of root vegetables or relocate root crop planting to lower risk areas. Increase use of soil amendments and barriers to reduce soil deposition onto leafy vegetables. Increase planting of fruiting vegetables, vegetables that grow on vines and fruit trees.
 High	>16 ppm	≥200 ppm	<ul style="list-style-type: none"> Use the good gardening and housekeeping practices listed above. Strongly consider using raised beds, soil containers and soil replacement (i.e., excavate contaminated soil and replace with soil containing low lead concentrations). Restrict child access to established safe areas only and do not allow children to garden in contaminated soil. 	<ul style="list-style-type: none"> Do not grow root vegetables in this soil. Create a raised bed. Do not use CCA treated wood. Choose untreated woods like cedar, black cherry or oak or other non-leaching materials. Or create areas with replacement soil to ensure that roots do not reach contaminated soil that is left in place.

Table 2. 2024 Arsenic and Lead Risk Guidance Category by Sample ID #.

Sample ID #	Arsenic Risk Guidance Category	Lead Risk Guidance Category	Sample ID #	Arsenic Risk Guidance Category	Lead Risk Guidance Category
1			7		
2			8		
3			9		
4			10		
5			11		
6			12		

Sample ID #	Arsenic Risk Guidance Category	Lead Risk Guidance Category
13		
14		
15		
16		
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76		
78	