

Reducing Arsenic Exposure

Home Gardening Reference

Arsenic is an element found naturally in the environment. It can also be found as a result of human activities, such as mining. Chronic exposure to arsenic is linked to an increased risk of developing cancer and other diseases. Risk for developing these diseases depends on how long, how often, and how much someone is exposed to, in addition to genetics and lifestyle.

People are primarily exposed to arsenic by ingesting it. Potential sources of exposure from home gardening include high levels of arsenic in private well water or the unintentional ingestion of soil with arsenic. Evidence shows that water and soil are much greater potential sources of arsenic exposure than home grown produce.



Therefore, the most important actions you can take as a home gardener to reduce your exposure to arsenic are to test drinking water that comes from a private well and to test your soil. Consider also testing for lead, another metal that can be found in water and soil. Ingesting it poses risks to health, particularly for children.

Arsenic mostly accumulates in the roots, stems, and leaves of plants. Root vegetables such as carrots and potatoes tend to contain more arsenic than fruits such as tomatoes or eggplants. The *Asteraceae* and *Brassicaceae* families of plants are exceptions to this general rule. Evidence shows that plants in these families accumulate more arsenic than others. Examples of plants in these families include cabbage, lettuce, kale, broccoli, and cauliflower.

Accumulate More Arsenic



Cabbages, lettuces, root vegetables

Accumulate Less Arsenic



Fruits such as squash, tomatoes, peppers

To reduce arsenic exposure from home grown produce, you can grow root vegetables or plants in the *Asteraceae* and *Brassicaceae* families in raised beds with commercially purchased soil or simply vary the sources of these foods in your diet.



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Soil can be ingested via the surfaces of food, one's hands, and household dust. Below are some simple practices to prevent unintentionally consuming arsenic found in soil and dust.

Protective Practices



Wash your hands when you are finished gardening, before moving on to doing anything else. Use a nail brush to remove soil from under your nails.



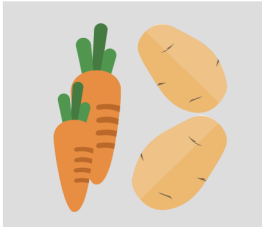
Wash garden produce thoroughly. Scrub gently with hands or a produce brush under running water.



Designate shoes and gloves that you wear only in the garden. Keep them outside at all times.



Store all garden tools outside. Do not share tools between the kitchen and the garden.



Peel root vegetables grown in home garden soil. Discard the peels in the trash. Do not compost the peels.

References and Links for More Information

University of Arizona Superfund Research Program, *Gardenroots Project*
superfund.arizona.edu/projects/community-engaged-research/gardenroots/results

University of Arizona Cooperative Extension, *Laboratories Conducting Soil Testing*
extension.arizona.edu/gardening Search: AZ1111

Arizona Department of Health Services, *Well Water Quality - Test Your Well*
azdhs.gov Search: well water quality



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