



Lead and Arsenic in Soil at Old Fruit Orchards

Frequently Asked Questions





Who should be concerned about Lead and Arsenic in Soil?

If you live on, own, or are considering buying or selling property that was formerly a fruit orchard, this fact sheet contains information that you should know about. Lead arsenate pesticides were used to control insects in orchards from the 1890s to the 1960s and research has shown that the lead and arsenic remain in the soil long after the pesticide was used. Health concerns associated with lead and arsenic in former orchard soil are from long-term exposure via inhalation and ingestion.

How do I know if my property was an orchard in the past?

If you are not sure whether your property was an orchard prior to 1960, you can look at historic aerial photographs. Your county Land Conservation Department (called Soil and Water Conservation Department in some counties) likely has aerial photos from the early 1940s and later. Orchard trees appear as dots in a regular grid pattern. Maps of orchard locations in Door County are available from the *Door County Soil and Water Conservation Department at (920)-746-2214*.

Does this mean there is lead and arsenic in the soil on my property?

There will always be some lead and arsenic in the soil because they are naturally occurring elements. The amount of naturally occurring lead and arsenic in the soil varies from region to region and this is called the “background level”. However, in areas where lead arsenate pesticides were used, there are generally higher lead and arsenic concentrations. The concentrations at these sites depend on many factors like how long the property was an orchard prior to the 1960s, how much lead arsenate pesticide was used (generally, more was used on apple than cherry orchards), whether it was handled or spilled on the property, the soil type (affects leaching potential), and whether surface soil has been moved or disrupted during past development or construction on the property.

How can lead and arsenic in the soil affect my health?

The concentrations of lead and arsenic in soil at former orchards are typically not high enough to cause immediate negative health effects. There are possible health consequences associated with long-term exposure to lead and arsenic, but simple steps can be taken to minimize contact with contaminated soil. Long-term exposure to lead can affect brain and nervous system development in children. Exposure to high lead levels can adversely affect the nervous system and kidneys of adults and children. Long-term exposure to arsenic can cause several kinds of cancer. Because exposures occur through ingestion or inhalation of soil contaminated with lead and arsenic, it is important to minimize contact with the soil by following the simple measures listed in this brochure. For more information on health impacts visit the *Wisconsin Department of Health Services (DHS)* website at www.dhs.wi.gov and use a *keyword search for “lead arsenate”* or call DHS at *(608) 266-1120*.

How can I minimize exposure to lead and arsenic in the soil?

You can minimize your exposure by using the following practices to reduce contact with the soil.

- ☞ Keep good grass and vegetative cover on lawns. Do not leave bare soil exposed.
- ☞ Wash hands and face after gardening and landscaping activities and before eating.
- ☞ Wash garden vegetables well if garden soil is suspected or known to contain lead and arsenic. Uptake of lead and arsenic in the vegetables themselves is less of a concern than the actual soil particles sticking to the vegetables.
- ☞ Consider using raised-bed gardens with soil from a non-contaminated source.
- ☞ Keep toys, pacifiers and other things that children are likely to put in their mouths clean.
- ☞ Discourage children from playing in the soil in the yard. Instead use a sandbox with sand from a known safe source.
- ☞ Avoid tracking soil into the home.



Should I sample my soil for lead and arsenic?

Soil sampling on your property is optional. Minimizing contact with soil using the measures listed above is the most important step you can take. You can sample your soil if you want to know the concentrations of lead and arsenic that may be present. Target your sampling to include locations where you have more frequent contact with the soil such as vegetable gardens, flowerbeds and children's play areas. If you choose to sample your soil, DATCP has developed a soil sampling guidance document that is available at:

http://datcp.wi.gov/Environment/Water_Quality/Lead_Arsenate/Tech_Information/index.aspx

Can lead and arsenic affect my drinking water?

In some areas of Wisconsin, elevated levels of arsenic occur naturally in the groundwater due to geologic conditions. If you obtain water from a public water supply, it is likely that your water is already being tested for lead and arsenic. If your water comes from a private well located within or near a former orchard, you can consider having your water tested for lead and arsenic. Lead and arsenic binds to surface soils and are not expected to migrate to drinking water in most areas, but testing your water is the only way to know if your water contains lead or arsenic. The *Wisconsin State Laboratory of Hygiene (800-442-4618)*, the *UW-Stevens Point Water and Environmental Laboratory (715-346-3209)* or some private labs can analyze for lead and arsenic in water.

How does this affect my property value?

The effect of the lead or arsenic contamination on property values will likely depend on the level of contamination and the availability of uncontaminated properties in your area. Your realtor is the best source to ask about the economic consequences of historic lead arsenate use in your area.

What about notifying future property owners?

Under Wisconsin Statutes Chapter 709 "Disclosure by owners of residential real estate," you must notify a buyer of any property defects when you attempt to sell your property. This includes knowledge that the property was formerly an orchard during the historic period of lead arsenate use and that it may be affected by lead and arsenic. The buyer may choose to sample the soil before the purchase. A disclosure form has been developed that can be used for properties located on pre-1960 orchards. This form is available at the *DATCP Lead Arsenate website* *http://datcp.wi.gov/uploads/Environment/pdf/lead_arsenic_addendum.pdf* or through your realtor. Likewise, if you are buying a property on a former orchard, the current owner should inform you if they have knowledge that the property was a former orchard and should provide you with any test results they have obtained.

Where can I find additional information?

For more information and links on lead arsenate visit the Department of Agriculture, Trade, and Consumer Protection's (DATCP) website at <http://datcp.wi.gov> and use a keyword search for "lead arsenate".



Wisconsin Department of Agriculture, Trade and Consumer Protection
2811 Agriculture Drive ☎ P.O. Box 8911 ☎ Madison, WI 53708-8911
(608) 224-4500 ☎ <http://datcp.wi.gov>

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