

SOIL LEAD FACTS

DOUGLAS COUNTY HEALTH DEPARTMENT
CHILDHOOD LEAD POISONING PREVENTION PROGRAM

FALL 2011

Testing by the Douglas County Health Department and the EPA has found some soil lead levels in Douglas County to be elevated. These areas are most likely to be found near pre-1978 housing and near current or prior industrial sites. Elevated soil lead levels may require property or homeowners to take special steps to reduce the risk of exposure. The following guidelines are offered to those who live in areas that may have elevated soil lead levels and for people who grow produce in their gardens in these areas.

LEAD MUST HAVE A WAY TO GET INTO THE BODY FOR IT TO CAUSE DAMAGE

If soil contains lead, the biggest risk of exposure is through eating or swallowing contaminated dirt. Young children (2-3 years of age) are at the highest risk for this exposure route. Normal activities at this age include playing in dirt and putting their hands and other objects into their mouths. This increases the chances that children will ingest small amounts of lead on a regular basis. When a child repeatedly has exposure, the lead can accumulate in their body faster than their body can get rid of it, and may reach levels that can cause damage.

AREAS AROUND YOUR HOME WHERE YOU SHOULD BE CONCERNED

Play areas and gardening activities should not be located in these areas unless shown to be lead-safe:

- ① The soil around the house foundation (in pre-1978 housing) where lead paint chips and dust may be in the soil. If the house has been sandblasted or pressure washed, the contaminated area can extend out farther from the house.
- ① Soil areas around painted structures such as garages, sheds, and fences may have elevated lead levels.
- ① Soil areas close to heavily traveled roads or gas stations may have elevated levels from prior leaded-gasoline emissions or spilled gasoline.
- ① Soil areas close to past or present industrial sites.
- ① Soil areas near metal structures such as bridges and water towers that are often painted with lead paint.

SHORT TERM ACTIONS TO REDUCE SOIL LEAD HAZARDS

These actions – followed carefully – will help protect children. The actions must be maintained to insure that the contaminated soil remains covered and barriers remain intact.

Do not let children or pets play or have contact with lead contaminated bare soil.

- Children can get lead poisoning by ingesting lead dust on their hands, on toys, and on objects they put in their mouths. Some children may eat dirt.
- Pets can ingest lead-contaminated soil and become lead poisoned. They can also carry lead-contaminated soil on their fur. This soil can be tracked into the home or transferred to a child's hands.

Prevent access to lead-contaminated soil by children and pets.

- Put fencing or barriers around bare soil areas
- Cover bare soil with six inches of lead-free wood chips, mulch, soil, or sand

Put washable doormats or rugs at all entries to your home and wash the mats every week.

- Doormats and rugs will trap some lead-contaminated soil before it is tracked into the home
- Wash mats or rugs weekly to remove accumulated lead dust

Remove shoes before entering your home.

- Shoes can carry lead-contaminated soil into your home.
- Bare feet can also track in lead-contaminated soil, and should be washed before coming inside from outdoor play.

Clean all washable floors at least weekly with a household cleanser.

- Follow the label directions.
- Exchange the rinse water frequently.
- Pour dirty water down the drain or toilet. Do NOT pour on soil outdoors or on plants.
- Consider replacing carpeting with non-porous flooring, such as linoleum, tiles, or wood. Non-porous flooring can be cleaned better than carpeting, which traps lead dust.

Wash children's toys frequently with soap and water.

- Toys that are used outside should always be washed before they are brought into the home.
- Toys or objects that children put in their mouths should be washed every time they come in contact with soil.

Wash children's hands frequently, especially before activities where they often put their hands or fingers in their mouths.

- Meals and snacks – use extra caution during outdoor picnics
- Sleeping and naptime

GARDENING GUIDELINES

Soil Lead Levels < 400 ppm

- Discard old and outer leaves of vegetables. Peel root crops before eating. Do NOT compost these materials. Wash all vegetables with a 1% vinegar in water solution (1 to 2 oz. of vinegar in 1 gallon of water) or soapy water (taking care to rinse the soap off prior to consumption). There is more concern about lead contamination from the dirt on the exterior surfaces of unwashed produce than from the amount of lead absorbed by the plant itself.
- Locate gardens away from roads, driveways, old painted structures, potential lead sources, and old garbage dump sites. Lay out gardens to keep leafy greens and other hard-to-wash vegetables far from potential lead sources.
- Give planting preference to fruiting crops (tomatoes, peppers, squash, cucumbers, peas, beans, corn, etc.) rather than leafy vegetables such as lettuce and spinach or root crops such as carrots and radishes.
- Add organic matter to your soil, such as peat moss, compost, and manure. Organic compounds bind lead and make it less available to the plants. Suggested amounts: add three to four 4 cubic feet bales of peat moss to a 100 sq. foot garden plot.
- Maintain the soil pH above 6.5. It is hard for plants to uptake lead when the soil pH is above this level. Lead is also less available to plants when soil phosphorus levels are high.

Soil Lead Levels 400-1000 ppm - Follow the above practices and also:

- Avoid growing leafy vegetables and root crops in this soil. Grow these crops in raised beds or containers with lead free soil.
- Topsoil of this kind can be purchased from nurseries and garden stores.

Soil Lead Levels > 1000 ppm

- Do NOT garden in this soil
- Install raised beds or try container gardening

What about soil that has not been tested for lead?

- Assume the soil may have some lead contamination if it is in an area by housing built before 1978 or near past or present industrial sites. Use the above suggestions as a guide to reducing lead exposure.
- Consider having the soil tested for lead, especially if the buildings on the property were built prior to 1978, children under 7 years of age play in bare soil on the property, or you have a vegetable garden.

**For more information on soil lead contact:
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