

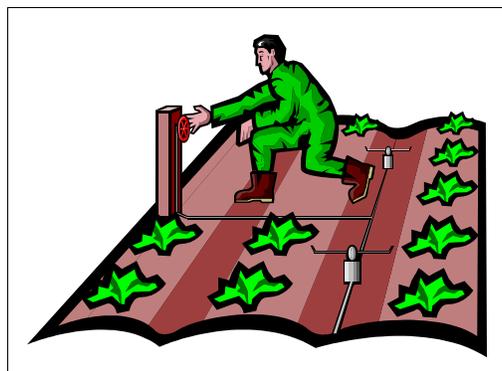
GROWING AND EATING FRUITS AND VEGETABLES IN THE NEWHALL NEIGHBORHOOD OF HAMDEN

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Many people have asked whether it is safe to grow and eat fruits and vegetables from gardens in their yards. This fact sheet will provide information so you can enjoy growing and eating your fruits and vegetables safely. By taking a few simple precautions, you can reduce your chances of being exposed to contaminants in the soil and you can still enjoy your homegrown produce.

Many of the homes in the Newhall neighborhood in Hamden were built on top of a landfill that was used for disposal of domestic and industrial waste during the 1930s, 1940s and 1950s. Three chemicals have been found at elevated levels in surface soil in some yards in the neighborhood. They are arsenic, lead and polycyclic aromatic hydrocarbons (PAHs).



There is some background information about each of these three chemicals at the end of this fact sheet.

We believe it is likely that the most contaminated yards in the neighborhood have been identified and cleaned. If you have questions about sampling and cleanup activities in the neighborhood, you should call CT DEP at the phone number listed on page 4 of this fact sheet.

What does it mean to be exposed?

To be exposed to chemicals in soil, you need to come into contact with soil that is contaminated and the chemicals need to get into your body. Exposure to chemicals in soil can occur in the following ways.

- **Eating:** You can be exposed by eating in two ways:
 - ⇒ putting fingers in your mouth that have soil on them, or
 - ⇒ eating food grown in contaminated soil that has not been completely washed or that has absorbed chemicals from the soil.
- **Breathing** soil dust
- **Skin contact:** Some chemicals can be absorbed through the skin. This is an unlikely type of exposure because the chemicals found in the Newhall neighborhood are poorly absorbed through the skin.

Preparing Your Garden

Growing fruits and vegetables in raised beds with new topsoil is the best way to prevent exposure to chemicals in the soil. If you cannot use raised beds, adding organic material such as compost or new topsoil to your garden will enrich your soil. This will also dilute the amount of contaminants in the soil and will reduce your chances of exposure. Also, plants tend to absorb less chemicals if the soil is close to neutral pH (6.5-7.0) and has adequate levels of nutrients.



- ⇒ Adding a balanced commercial fertilizer to your garden soil can help maintain correct levels of nutrients.
- ⇒ If your soil is too acidic (low pH), adding lime will bring the pH up to the neutral range.

How do I know if my soil has the correct level of nutrients and pH?

The Connecticut Agricultural Experiment Station will do fertility and pH tests on your garden soil for free. Based on your test results, they will recommend what to add to your soil. For more information, contact the CT Agricultural Experiment Station, 123 Huntington Street, New Haven, 203-974-8521.

Can I have the soil in my garden or my homegrown produce tested for contaminants?

Additional soil sampling in the neighborhood will take place in the near future. If you are interested in having testing done sooner, there are private labs that will test soils or homegrown produce for a charge. These labs can be found in your local yellow pages under “environmental laboratories.” You may also call the Quinnipiac Valley Health District at 203-248-4528 to learn how you can have your garden soil tested for free.

Selecting Which Crops to Grow



The best crops to plant are *fruiting* crops such as tomatoes, squash, peppers, okra, cucumbers, peas, beans and corn. These plants take up (accumulate into parts of the plant) very little, if any, contaminants in the parts we eat.

Root crops (such as carrots, beets and potatoes) can take up arsenic and lead from the soil. Most of the contamination can be removed by peeling the skin off root vegetables before eating. Even after peeling, a small amount of the chemicals will remain in the flesh of the root vegetable. If you peel these vegetables - and grow and eat less of these type of vegetables - you will have less chance of being exposed to lead and arsenic in the soil.

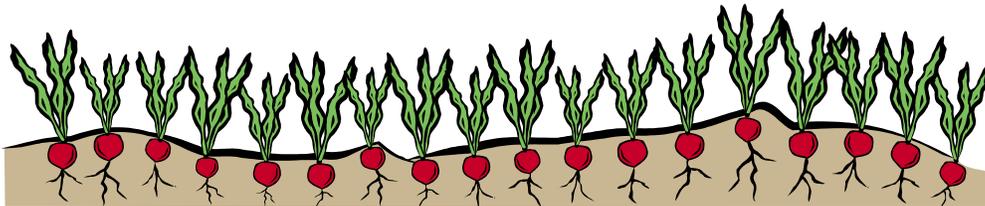
Leafy greens (such as lettuce, spinach, beet greens and herbs) can take up lead from the dust or soil that settles on leaf surfaces. If you grow less leafy greens crops, you will have less chance of being exposed to lead in the soil.



Key Tip: It is better to grow more fruiting crops such as tomatoes, squash and beans; and fewer root (potatoes, beets, etc.) and leafy green (lettuce, spinach, etc.) crops.

Working in Your Garden

- Avoid eating and drinking while working in your garden because you could swallow soil and dust that gets on your hands and food.
- Wash your hands and work clothes to remove dust and dirt after gardening.
- Take off your shoes at the door to avoid tracking a lot of soil into your home.



Preparing Fruits and Vegetables

Contaminated dust or soil can settle on to the surfaces of the plant. Following these guidelines will prevent or reduce your exposure to contaminants.

- Wash all homegrown produce before eating it. Use a 1% vinegar solution, soapy water or a commercial vegetable-cleaning product. Washing produce is a good idea whether it is homegrown or comes from a market.
- Soak leafy greens in cool water and rinse thoroughly before cooking. This is especially important for greens that grow low to the ground, such as collard greens, spinach or lettuce.
- Scrub root vegetables with a clean brush to remove dirt. Peel root vegetables such as carrots, turnips or potatoes before eating. The skin of root vegetables often contains more contaminants than the flesh.
- Wash the edible portion of fruiting crops such as tomatoes, squash or peppers before eating to remove any soil adhered to the outside skin or peel.

Contaminant Summary Chart

| Chemical | Health Concerns | Effect on Vegetables |
|----------------|--|--|
| Lead | Lead can affect a child's mental and physical growth. Lead is not believed to cause cancer in people. | Lead in soil can be absorbed into root crops and leafy greens. Lead in dust or soil can settle on surfaces of the plant. |
| Arsenic | Long-term exposure to <u>high</u> levels of arsenic can irritate and darken the skin, and increase the risk of skin, bladder, kidney, liver and lung cancer. | Arsenic in soil can be absorbed into root crops. Arsenic in dust or soil can settle on surfaces of the plant. |
| PAHs | Some people who had long-term exposures to <u>high</u> levels of certain PAHs developed skin and lung cancer. | PAHs are not easily absorbed into plants. PAHs in dust or soil can settle on leaf surfaces. |

I already ate produce from my garden without following this advice. Will I get sick?

If you have already eaten homegrown produce and did not follow the advice in this fact sheet, the health risks are still very low. You would need to have many years of exposure to high levels of lead, arsenic and PAHs before health effects would become more likely. In addition, the levels of lead, arsenic and PAHs in the soil in your neighborhood are not high enough to present any immediate health concerns.

For More Information, Please Contact:

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Leslie Balch, Director
 Quinnipiack Valley Health District
 203-248-4528

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