

Syracuse's community gardens are tainted with lead and arsenic
by Delen Goldberg / The Post-Standard , Syracuse, NY
May 6, 2009



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Mable Wilson and her grandson, Jaheal Smith, 9, clear bushes along the fence at the West Newell Street community garden. Six Syracuse community gardens have elevated levels of lead, and all but the Avery Avenue garden had too much arsenic.

Worried about lead?

If you have questions about lead or are worried about lead in your garden, call the [Onondaga County Health Department's Lead Poisoning Control Program](#) at 435-3271 for advice and information.

Syracuse, NY -- A dedicated band of gardeners have been tilling Syracuse's soil as a way of building community and providing fresh fruits and vegetables to their families. But the plots they have been eating from and others they have been working to develop are contaminated with toxic metals.

In at least some cases, Syracuse city workers were likely the ones who laid down the polluted dirt.

A recent study of six local community gardens by scientists at the [State University College of Environmental Science and Forestry](#) showed that all but one of the plots contained elevated levels of lead, according to preliminary results. Samples from one garden in development -- the Isabella Street Community Garden -- exceeded health standards set by the federal Environmental Protection Agency.

Soil tests for Syracuse community gardens

View [Soil tests for Syracuse community gardens](#) in a larger map

The normal level of lead in soil is between 40 and 50 parts per million. The Syracuse gardens have lead levels that range from 46 to 820 parts per million.

Moreover, arsenic levels in all of the plots except for one were off the charts, said ESF professor Venera Jouraeva, who led the study.

Jouraeva said the results need to be confirmed through additional tests. She said more information should be available next week.

The EPA generally warns against planting in soil with arsenic readings above 0.4 parts per million. Measures in all of the Syracuse community gardens except for the Avery Avenue garden landed between 8 and 17 parts per million.

"Avery was the only one suitable for gardening," Jouraeva said.



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Raised garden boxes are the start of a community garden on Isabella Street in Syracuse. The Church of the Assumption, which faces North Salina Street, is visible in the background.

Why be concerned?

Lead: Lead poisoning can cause irreversible brain damage in infants and toddlers and lead to reduced attention spans, hyperactivity and problems in school. Pregnant women can pass lead

onto their fetuses. Lead in the soil is especially a problem for growing root vegetables and leafy greens. You can also pick up lead by inhaling contaminated dirt.

Arsenic: You can die by ingesting very high levels of arsenic. Exposure to lower levels can cause vomiting, abnormal heart rhythm and damage to blood vessels. Ingesting arsenic can increase the risk of skin cancer and cancers of the liver, bladder and lungs, studies show.

The news has unsettled local gardeners. While most of the plots tested are gardens just now being developed, sites such as the West Newell Street garden have fed people for a decade.

"The people who have gone out of their way to supplement their diet with healthy food, now they're faced with food that's contaminated," said Jessi Lyons, an ESF student and member of [Syracuse Grows](#), a local group dedicated to promoting and supporting community gardens.

Jouraeva and the gardeners say people can still plant foods in the contaminated plots if they take precautions. Most of the sites need only minor adjustments, such as bringing in new top soil and planting crops in raised beds.

High levels of lead at the Isabella Street garden require more extreme mitigation, but that, too, is under way.

"I think that contaminants in the soil when gardening can always be a concern," said Inga Back, program coordinator for the Onondaga County Health Department's Lead Poisoning Control Program. "But if you put a liner down and the plants don't have access to the soil underneath, and you put clean soil in, it should be fine."

The findings worry Mable Wilson, founder of the West Newell Street Community Garden.

"We've been eating here for 10 years," she said.

Many of the community gardens sit on the city's North and South sides, where grocery stores are scarce, buses are infrequent and most residents can't afford to buy organic produce. Community members say they started growing food as a safe and affordable alternative. The gardens have also helped bring people together and develop a stronger sense of community.

Gardeners from West Newell Street had planned to donate some of their harvest to the food pantry at the Plymouth Congregational United Church of Christ. But that can't happen now that lead and arsenic has been uncovered in the soil.

"We can't give the food pantry the food," Wilson said. "We're taking a chance on ourselves."

Back said people shouldn't worry if they ate in the past from gardens with high readings. Lead stays in the body only a short time, she said, so "if you had an exposure five years ago and that's it ... it would be gone from your blood."

Still, all children ages 1 and 2 should be tested for lead, Back said.

In fact, it's a state requirement. Children facing ongoing lead risks should be tested until age 6.

Wilson said her grandchildren are periodically tested for lead because years ago, as toddlers, they lived in an apartment building where they were exposed to lead. The family moved before Wilson started gardening, but the grandchildren have eaten from the West Newell Street garden in the years since.

"They have no lead in their systems," Wilson said.

Jouraeva said it's common for urban soil to be contaminated, and other parts of the city test even higher.

The lead in the gardens likely came from several sources, researchers said.



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A sage plant grows in the West Newell Street Community Garden against the backdrop of an abandoned house.

Fuel manufacturers used lead as a gasoline additive until 1986, so some of the lead probably found its way into the gardens as runoff from nearby roads.

Most of the plots once contained homes, so chips of paint with lead easily could have entered the ground and contaminated it, scientists said.

A third possible source is the city of Syracuse itself. Syracuse Parks Commissioner Pat Driscoll said workers truck in topsoil to re-grade sites, such as the community gardens, where homes have been demolished. The topsoil is typically of a low quality because it's considered a temporary solution, Driscoll said.

"That could certainly be the cause of it," Driscoll said. "The soil that is used may have particles of lead in it."

The topsoil comes from yard waste and debris that city workers collect, Driscoll said. Because it's makeup is unknown, it should not be used to grow food, he said.

"Planting a garden, whether it's fruits and vegetables or flowers, is certainly a lot different than putting in topsoil to fill a hole," Driscoll said. "If there are going to be fruits and vegetables, you want the greatest quality soil. The topsoil that's put in is definitely a Band-Aid, not a solution."

"That makes me angry," Wilson said. "We're doing a lot of work for nothing if they are bringing in soil with lead."

Lead in soil can make people sick if they inhale dirt while digging, swallow dust that clings to their hands or eat foods grown in polluted ground. Root vegetables and leafy greens are most susceptible.

Lead poisoning can cause irreversible brain damage in infants and toddlers. Symptoms include reduced attention spans, hyperactivity and problems in school. Children exposed to lead face high risk of brain damage and developmental disabilities. Pregnant women can pass lead to their fetuses.

"There's really no safe level of lead in our bodies," Back said.

Arsenic can be even more harmful. Ingesting very high levels of arsenic can result in death, according to the U.S. Department of Health and Human Services. Exposure to lower levels can cause vomiting, abnormal heart rhythm and damage to blood vessels. Several studies have shown that ingesting arsenic can increase the risk of skin cancer and cancers of the liver, bladder and lungs.

Jouraeva suspects the arsenic made its way into the soil from pressure-treated wood and pesticides used on the properties.

The Avery Avenue garden is much cleaner because it always was an empty lot and never had a house on it, Jouraeva said.

Community members are trying to figure out what they can do to keep gardening and keep themselves and their children safe. Each garden is taking a slightly different remediation approach, Wilson said.

Most have installed raised planting beds and shipped in new soil to prevent their crops from taking root in the polluted soil.

At the Isabella Street Community Garden, workers laid down bed liners and brought in wood chips to cover the ground around the plant beds.

Wilson said that the West Newell Street Garden will be off-limits to children under 6, and children under the age of 2 won't be fed the food grown there.

That saddens Wilson, she said, but she'd rather be safe than sorry.

"It feels like environmental discrimination," Wilson said. "This is our community. You are tearing it down. At least put down good soil."

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