



MSU Extension: Helping Michigan residents cope with lead exposure

Our work in Flint did not begin when elevated lead levels were discovered in the city's water supply. MSU Extension has been serving the needs of the people of Flint and other communities throughout the state for more than 100 years. We are committed to addressing the current challenges in Flint, and will remain in the community for years to come doing what we do best: helping residents identify and solve problems.

We are passionate about helping Flint come through this crisis. That's why we joined the Pediatric Public Health Initiative that is led by Dr. Mona Hannah-Attisha. This partnership with Hurley Children's Hospital and the MSU College of Human Medicine helps ensure that we're working together to provide necessary interventions.

Since October 2015 we have provided more than 13,000 Flint families with nutrition education focused on reducing the effects of lead exposure. We anticipate reaching another 25,000 Flint families with lead-related nutrition education within the next few months.

- We partner with Hurley Children's Hospital to offer cooking demonstrations at the Flint Farmers Market using recipes that are high in iron, calcium and vitamin C—all of which combine to fight lead absorption.

- We help families learn how to purchase and prepare healthy foods through the USDA Supplemental Nutrition Assistance Program (SNAP).
- We use social media, especially Facebook, to push out key nutrition information and help link people to more in-depth resources.
- We're partnering with local schools to do Smarter Lunchroom assessments. If you have kids, you know that dictating good nutrition often fails. The Smarter Lunchroom program uses behavioral insights to nudge students toward making healthier food choices.

In January we asked Deanna East, a longtime MSU Extension leader, to work in Flint on a fulltime basis. She identifies opportunities to help with local issues so we can deploy appropriate resources immediately.

In addition, we have 15 education professionals in our Genesee County office, and many more who deliver programming in Flint on a regular basis. This isn't just a job for them. Flint isn't just another community they hear about on the evening news. This is THEIR community. They have a deep commitment to the people there.

Examples of other work we have done in Flint to help residents deal with this crisis follow.

- We created a dedicated section on our website, www.msue.msu.edu/lead, to aggregate resources that residents can refer to when combatting lead exposure.
- MSU Extension staff members have modified our Master Gardener training classes to include information about how to continue to grow healthy foods in soils with suspected lead contamination.
- We're also continuing our long-standing relationship with Edible Flint, a group that supports Flint residents who want to grow their own food. In fact, on March 1, our staff members are taking part in a neighborhood engagement hub to talk about what the Flint water crisis means for gardeners.

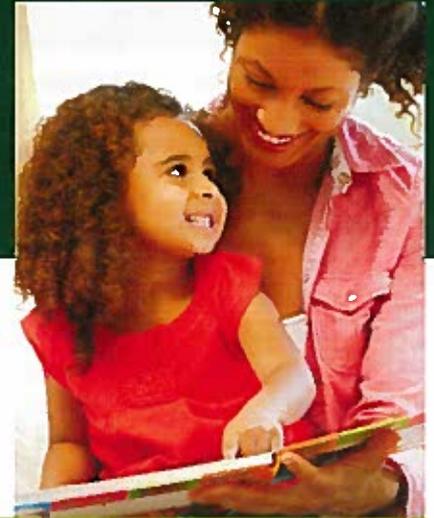
MSU Extension is proud of our educational role, and we're also proud of our ability to bring together the right group of people to address important emerging issues. For example, thanks to the wonderful generosity of the Michigan Milk Producers Association, Kroger, and the Food Bank of Eastern Michigan, we were able to get 12,000 gallons of milk to people who desperately need added calcium in their diet. We're also working with other food-producing organizations throughout Michigan to determine how we can work together to make a difference. Our educators have even modified the great

programming they have done for years to ensure that Flint residents have the support they need. For example:

- Members of a 4-H dog club that meets in north Flint are concerned about the effects of lead exposure on animals. So we're gathering information to help them identify and lessen the risks of lead poisoning in pets. The same is happening at our 4-H rabbit and cavy (guinea pigs) community meetings.
- Our 4-H staff members have had a strong partnership with Eisenhower Elementary School since 2014. Recently our staff members have expanded their presentations to talk about how good nutrition is key to reducing the risk of lead exposure. They also shared some simple recipes that are high in iron, calcium and vitamin C.
- Our early childhood educators have developed information about combatting the effects of lead through learning and play.

As mentioned earlier, MSU Extension has a long legacy of working with communities throughout the state to solve complex problems. We've been in Flint for more than 100 years. We were here long before Flint was in the national spotlight, and we'll be here long after the cameras go away. We can't stop the damage that has been done. But we can help this community rebound.

FIGHT LEAD EFFECTS WITH LEARNING & PLAY



Positive early childhood experiences can help limit the effects of lead on kids and improve their behaviors and readiness for school. Preschool and supportive homes are important because early education, having fun and spending time with caring adults help kids succeed! Three ways you can help your child:

1. Talk with your child's doctor about potential lead exposure and have blood lead levels checked.
2. Enroll your child in an early childhood program such as Head Start or Great Start Readiness.
3. Read with your child every day!



LEAD FACTS

Lead isn't good for anyone's health and is especially bad for small children. Keep your family lead safe by avoiding contact with it. If you live in the city of Flint, or get water from the city's water system, be sure to use an NSF-certified filter for drinking, cooking and mixing baby formula. Make sure to change the filter cartridge by the date printed on the package. Remember that you and your children can also be exposed to lead from old paint, dust, dirt, pottery, make-up, toys and some home remedies. If you have any concerns about lead or your child's development, talk with your doctor.

LEAD-FIGHTING ACTIVITIES

READING

Read out loud to your child every day! If 30 minutes of daily reading begins at birth, kids go to kindergarten with more than 900 hours of "brain food" to feed their school success! Build a love for reading by:

- Visiting your local library and helping your child choose new and fun books.
- Finding books on topics they enjoy.
- Showing your child all the ways we use words and language in our lives.
- Reading books, magazines or newspapers at home in front of your child.
- Singing, listening to music, and teaching chants and rhymes.

BUILDING SOCIAL SKILLS

Learning is social! When kids are friendly and can listen and follow directions, they're more likely to do well in school, even when there are challenges. Help develop these important skills by:

- Giving your child time to play with other kids.

- Teaching your child how to express feelings when he or she doesn't like something or has a problem.
- Helping your child solve problems and calm down when angry.
- Working with your child on listening and following directions.

LEARNING EXCITEMENT

Children who are excited about school tend to do better! There are many ways to build your child's curiosity and love of learning, including:

- Asking questions like "why does that work?" or "what could happen next?" to expand his or her interest in the world.
- Engaging your child in science and math activities.
- Letting your child choose his or her own play and learning.
- Noticing when your child tries hard, regardless of the result.

LEAD RESOURCES

- Genesee County Health Department Lead Program: www.gchd.us/; phone: 810-257-3833
- Michigan Department of Environmental Quality (DEQ): www.michigan.gov/flintwater
- Michigan Department of Health and Human Services (DHHS) Childhood Lead Poisoning Prevention Program: www.michigan.gov/lead; phone: 888-322-4453
- MSU Extension Fight Lead Exposure website: www.msue.msu.edu/lead
- U.S. Centers for Disease Control and Prevention (CDC): www.cdc.gov/nceh/lead/
- U.S. Environmental Protection Agency (EPA): www.epa.gov/lead

WHERE TO GET HELP

Early Childhood Resources in Genesee County

- **Flint Community Schools (FCS)** – FCS provides quality early childhood education programs and comprehensive services to support children and their families. These include the Early Head Start and Head Start Great Start Readiness/Pre-K programs. To learn about enrolling 4-year-olds in the Great Start Readiness Program, call 810-767-6113. To learn about enrolling 3- and 4-year-olds in Head Start, call 810-591-5437. To learn about early education development delay programs, call 810-767-6113.
- **Genesee County Community Action Resource Department (GCCARD) Head Start** – Head Start is a federally-funded early childhood program for 3- and 4-year-olds. GCCARD's Head Start programs use play-based curriculum to help prepare kids for school. For information call 810-235-5613. (Note: Also provides free water filters.) Call 810-789-3746 or 810-232-2185.
- **Genesee Intermediate School District (GISD) Special Education Programs** – GISD early childhood programs and services support all Genesee County schools by providing special education programs and services to children from birth through age 7. The GISD Early-On program provides screening for potential developmental delays and early childhood special education classrooms. Call 810-591-4883 for details.

Early Childhood Resources

These organizations provide information, activities and resources to support early childhood development.

- **MSU Extension** (http://msuc.anr.msu.edu/topic/info/early_childhood_development) – Offers resources like Family Book Sheets that support literacy development.
- **eXtension Child Care** (http://articles.extension.org/child_care) – Access free hands-on activities and

searchable lists of fingerplays, songs and rhymes.

- **eXtension Parenting** (<http://articles.extension.org/parenting>) – Support for parents of children of all ages. Sign up for a free parenting newsletter with helpful tips, suggestions and ideas.
- **PBS Parents** (<http://www.pbs.org/parents/>) – Useful parenting tips, activities and resources for children.

Activities for Kids in Flint

- **Flint Children's Museum** (<http://thefcm.org/>) – Hands-on exhibits and learning for children ages 2 to 10.
- **Sloan Museum** (<http://sloanlongway.org/Sloan-Museum>) – Explore local history, autos and hands-on science.
- **Longway Planetarium** (<http://sloanlongway.org/longway-planetarium>) – Explore the sky and stars!
- **Crossroads Village and Huckleberry Railroad** (<http://www.geneseecountyparks.org/CRVDefault.asp>) – Explore a 1900s village and ride an authentic railroad.
- **Genesee County Parks** (<http://www.geneseecountyparks.org/>) – Check out options for outdoor fun in Genesee County.

Additional Genesee County Resources

211

- Connects Genesee County residents to community resources including

food, transportation, education, health care, and sources of water filters and replacement cartridges.

- Locally funded by United Way Genesee Count
- Phone: 211; web: www.211.org/

Flint Water Department

- Offers free water testing.
- Phone: 810-787-6537

Genesee County Health Department

- Offers information on lead, water and filter pick up sites, lead screening, hearing and vision screening, and immunizations.
- Phone: 810-257-3612

Michigan State University Extension

- Offers free early childhood and nutrition education classes, soil testing for lead and much more.
- Phone: 810-244-8500

WIC (Women, Infants & Children)

The WIC program supplies extra food for low-income pregnant or breastfeeding mothers, infants and children up to age 5 who are at nutritional risk. To apply for WIC, call 800-262-4784 (toll-free) or 810-237-4537.

WIC-Project Fresh

If you receive WIC benefits, you can receive Project Fresh coupons to buy locally grown fruits and veggies! This program runs from June 1 through Oct. 31 each year. Contact Genesee County WIC at 810-237-4537 or MSU Extension at 810-244-8500 for details.

Sources

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Acknowledgments

Produced by ANR Communications for MSU Extension (msuc.anr.msu.edu).

Created in collaboration with the Pediatric Public Health Initiative.

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Don't guess - soil test! Get your Home Lawn and Garden Soil Test kit today

Rebecca Finneran, Michigan State University Extension

Plant scientists know that lawn and garden plants require 18 nutrients for healthy, productive growth. Your lawn and garden "soil environment" is a reservoir that houses these nutrients, providing the platform for plant roots to acquire them. Understanding each individual plant's needs and the type of soil you have is the first step in properly managing soil fertility.

Often our lawn and garden soils are rich and productive, needing little or no enhancements. Others may be poor soils or depleted, needing to be replenished. Approaching plant care without conducting a baseline soil test may put gardeners at the risk of over fertilization. This not only can have negative effects on plant growth and create an imbalance in the soil environment, but can also lead to pollution of local water resources.

Michigan State University Extension provides an easy-to-use [soil test kit](#) that can be purchased online from the [MSU Extension Bookstore](#) (www.bookstore.msue.msu.edu) or from your [local county MSU Extension office](#).

The **Home Lawn and Garden Soil Test Mailer** can be used to process any type of home soil sample, such as lawn, vegetable garden, tree, shrub, flower, and tree or small fruit. Based on your soil test results, you will receive a custom fertilization program to meet the needs of your plants and safeguard the environment. The cost of this mailer is \$25 plus shipping and handling fees. This mailer may also be available for pick-up at your local MSU Extension county office.

Why should I soil test?

- **Know your soil.** Soil testing is an important diagnostic tool to evaluate nutrient imbalances and understand plant growth.
- **Understand.** The most important reason to soil

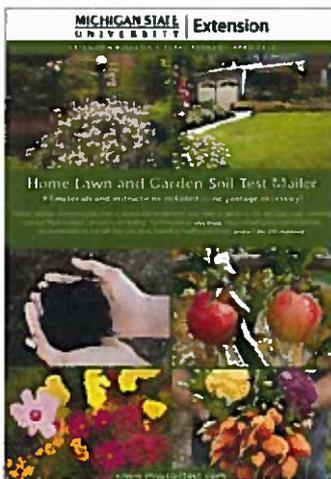


test is to have a basis for intelligent application of fertilizer and lime.

- **pH.** Testing allows homeowners to adjust soil pH to the optimum range (6.0-7.0), which makes nutrients more available for plant growth.
- **Protection of our environment.** Avoid contaminants that can enter our surface and ground waters by over-application of phosphorous or nitrogen fertilizers.
- **Cost savings.** Why apply what you don't need? Soil test results provide information about the soil's ability to supply nutrients to plants for adequate growth and are the basis of deciding how much lime and fertilizer are needed.

What will I find out from my soil sample?

Home Lawn and Garden Soil Test Mailer results will determine your soil type, pH, level of organic matter and provide you with a reading for



nutrients including phosphorus, potassium, calcium and magnesium. The results will also provide a recommendation for nitrogen and will determine how much lime should be applied based upon the type of plant you specify.

How long before I receive my test results?

You should receive test results in about two weeks. The lab analysis takes three to five working days from the time samples are received. Remember, MSU recommendations are in pounds of nutrient needed, not pounds of fertilizer to be applied!

Your results will also include an area calculator that helps you determine how many square feet you need to apply fertilizer.

How do I take a soil sample?

- Determine which one lawn or garden area you would like to test. Don't combine these soils.
- Using a spade or trowel, collect 10 random soil samples from the area



Mary Wilson

and place in a clean pail.

- Each sample should be a slice of soil as deep as the plant roots go (3 to 4 inches deep for lawn; 7 inches deep for gardens and all other plants).
- Remove plant debris, roots and thatch from the sample.
- Combine the 10 random samples in the pail, mix thoroughly and remove approximately

1 cup of mixed soil. If the soil is wet, spread it on paper and allow it to air dry overnight before filling the sample bag. Do not use artificial heat as it will skew test results.

- Fill the re-closable plastic bag included in the Soil Test Mailer with your dry soil and seal carefully.
- Place bag inside the white, postage-paid envelope and put in your mailbox for pick up.

For more information on a wide variety of **smart gardening** articles, or to find out about smart gardening classes and events, visit www.migarden.msu.edu.

Published January 2013

For more information, visit www.msue.msu.edu. To contact an expert in your area, visit expert.msue.msu.edu or call 888-678-3464.

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FIGHT LEAD WITH NUTRITION

The foods we prepare and serve to our families can help limit the effects of our kids' exposure to lead! Three steps you can take in choosing and preparing food can make a difference:

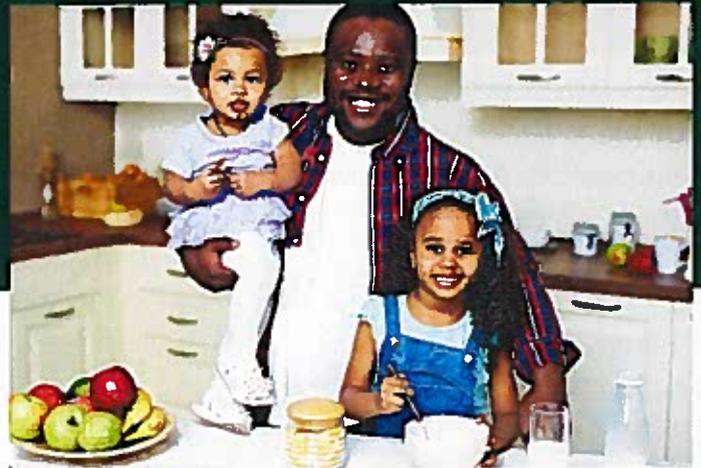
1. When preparing food, be sure to wash and cook it with filtered water.
2. Serve your kids small, healthy snacks between meals.
3. Serve foods that are high in a few really important nutrients: iron, calcium and vitamin C!



LEAD FACTS

Lead isn't good for anyone's health and is especially bad for small children. Keep your family lead-safe by avoiding contact with it. If you live in the city of Flint, or get water from the city's water system, be sure to use an NSF-certified filter for drinking, cooking and mixing baby formula. Make sure to change the filter cartridge by the date printed on the package. Remember that you and your children can also be exposed to lead from old paint, dust, dirt, pottery, make-up, toys and some home remedies.

If you have any concerns about lead or your child's diet, talk with your doctor.



LEAD-FIGHTING NUTRIENTS

CALCIUM

Calcium keeps your bones strong and the lead out! Calcium-rich foods include:

- Milk and milk products, like cheese and yogurt
- Green leafy vegetables, such as spinach, kale, and collard greens
- Calcium-enriched orange juice
- Tofu
- Canned salmon and sardines (both with the bones in)

VITAMIN C

Vitamin C works with iron to keep too much lead from getting into your body. Sources of vitamin C include:

- Citrus fruits, like oranges and grapefruit and their juices
- Tomatoes and tomato juice
- Peppers
- Other fruits like kiwi, strawberries and melons

IRON

Iron keeps too much lead from getting into your body. Foods rich in iron include:

- Lean red meats, fish (tuna and salmon) and chicken
- Green leafy vegetables, such as spinach, kale and collard greens
- Iron-fortified: cereal, bread and pasta
- Dried fruit, such as raisins and prunes
- Beans



LEAD RESOURCES

- Genesee County Health Department Lead Program: www.gchd.us; phone: 810-257-3833
- Michigan Department of Environmental Quality (DEQ): www.mi.gov/FlintWater
- Michigan Department of Health and Human Services (DHHS) Childhood Lead Poisoning Prevention Program: www.michigan.gov/lead; phone: 888-322-4453
- U.S. Centers for Disease Control and Prevention (CDC): www.cdc.gov/nceh/lead
- U.S. Environmental Protection Agency (EPA): www.epa.gov/lead

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WHERE TO GET HELP

Food Assistance in Genesee County

Commodities Food Program

This supplemental food program is designed to help low-income people aged 60 and up. Food is provided once a month. Call 810-789-3746 or 810-232-2185 for details..

Double Up Food Bucks (DUFb)

The DUFb program matches your SNAP benefits when you buy Michigan-grown fruits and vegetables. For example, if you buy \$10 worth of Michigan produce, you'll get an extra \$10 to buy more fruits and veggies! You can use this program at:

- Flint Farmer's Market, 300 East 1st Street, Flint, phone 810-232-1399, open year round
- Offered at limited times during the year at Landmark Food Centers (two locations) 206 West Pierson Road, Flint, phone 810-789-7311, OR 4644 Fenton Road, Flint, phone 810-238-2972, call to check dates and hours for both locations.

The Emergency Food Assistance Program (TEFAP)

TEFAP provides healthy foods to qualified families and individuals once every 3 months. Call GCCARD at 810-789-3746 or 810-232-2185 for details.

Food Bank of Eastern Michigan

The Food Bank of Eastern Michigan can connect you with food assistance programs. Call 810-239-4441 for details.

Supplemental Nutrition Assistance Program (SNAP)

The SNAP program (formerly called *food stamps*) provides low-income residents with money to purchase food, including:

- Fruits and vegetables
- Breads and cereals
- Dairy, meat, fish and poultry

You're also allowed to buy seeds and food-producing plants with your SNAP benefits to grow your own food. Apply for SNAP at www.mibridges.michigan.gov or call the Genesee County Department of Health and Human Services (DHHS) at 810-760-2200.

WIC (Women, Infants & Children)

The WIC program supplies extra food for low-income pregnant or breastfeeding mothers, infants and children up to 5 years old who are at nutritional risk. Foods provided through WIC include:

- Infant formula and iron-fortified cereals
- Fruits and vegetables rich in iron, calcium and vitamin C
- Whole grain bread and cereals
- Eggs, milk and cheese

To apply for WIC, call 800-262-4784 (toll-free) or 810-237-4537.

WIC-Project Fresh

If you receive WIC benefits, you're eligible to receive Project Fresh coupons to buy locally grown fruits and veggies! This program runs from June 1 through October 31 each year.

For more information contact Genesee County WIC at 810-237-4537 or MSU Extension at 810-244-8500.

Additional Genesee County Resources

211

- Service connects Genesee County residents to community resources including food, transportation, education and health care
- Connects residents to sources of water filters and replacement cartridges
- Locally funded by United Way Genesee County.
- Phone 211
- Web: www.211.org

Flint Water Department

- Offers free water testing
- Phone 810-787-6537
- Pick up your test kit at 1101 S. Saginaw St.

Genesee County Community Action Resource Department (GCCARD)

- Offers free water filters
- Phone 810-789-3746 or 810-232-2185

Michigan State University Extension

- Offers free nutrition education classes
- Soil testing for lead
- Phone 810-244-8500

Sources

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Acknowledgments

These materials were partially funded by the United States Department of Agriculture (USDA) Supplemental Nutrition Assistance Program Education (SNAP-Ed) by way of Michigan State University Extension, and also partially by Hurley Children's Hospital. Produced by ANR Communications for MSU Extension (<http://msue.anr.msu.edu/>).

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Created in collaboration with the Pediatric Public Health Initiative.

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