KY-A-Syst for the Home
Environmental Stewardship for Homeowners

Lead in and around the Home

Teaching Guide

Introduction:

You cannot see, taste, or smell lead, yet it is almost impossible to avoid some exposure to it. It has been used for many purposes – ceramics, ammunition, solder, paint, coins, water pipes, and as a gasoline additive. Lead lasts forever in the environment because it never breaks down into a harmless substance. Lead poisoning is a serious, preventable health problem. It is especially dangerous to children, with an estimated one in nine American children having elevated blood-lead levels. Most children do not show symptoms, and a blood test is the only way to detect the problem.

Lead poisoning in children can cause learning and behavioral problems, slow mental development, and damage the nervous system. Adults can suffer high blood pressure and reproductive system damage.

The most common source of lead in the home is lead-based paint. Lead has been banned from house paint since 1978, but many homes were built before then. The highest lead levels are found in pre-1950 paint. The lead in the paint can contaminate household dust.

Lead may also appear in your drinking water. It can enter your water through lead pipes and lead soldered joints in copper plumbing. Brass faucets and pump components may also contain lead. You can find out whether your water contains lead by having it tested. Lead concentrations in your water can be reduced. Whenever your water has not been used for more than four hours, let the cold water run for a minute or two before using it. Water that is soft or acidic will dissolve lead from pipes and fittings more easily than water that is not. Hot water also is more likely to dissolve lead, so cold tap water should always be used for cooking and drinking.

Exterior paint can also contain lead, especially paint on windows, doors and exterior walls. This paint can flake and cause contamination to the soils around the edge of your home. The only way to detect this problem is to do a soil sample.

Focus on Children:

The long-term effects of lead in a child can be severe. They include learning disabilities, decreased growth, hyperactivity, impaired hearing, and even brain damage. These effects can be decreased if caught early. You can't tell if a child has lead poisoning unless you have a blood test done. A child who gets enough iron and calcium will absorb less lead, so it is important to know the lead levels in your child. If your child has higher than normal lead levels, try to locate the source of exposure.

Children are more susceptible to lead poisoning because they are more likely to swallow or breathe lead contaminated dust. Children like to play in dust or dirt, and often put their fingers in their mouths. It is important to make sure children wash their hands before eating, and that you wash bottles, pacifiers and toys often.

Lesson Purpose and Objectives:

Purpose: This lesson is designed to assist people in protecting their families from lead poisoning.

Objectives: This lesson guide contains a lot of information on how to determine if your family is at high risk for lead exposure and what to do about it. It may be difficult to cover all the material in one session. Therefore, you are encouraged to select a program based on the type of audience you are serving and their needs. It is best to select and focus on *only two or three* of the following objectives:

Understand why lead poisoning is a serious health threat.

Become knowledgeable about possible lead sources in the home.

Understand the importance of knowing when your home was built and whether it contains lead paint.

Explore the reasons it is a good idea to have your water tested for lead and to know whether the water is either acidic or soft.

Learn the importance of knowing what kind of paint, pipes, and solder have been used in your home.

Understand the value of having the soil around the edge of your house tested for lead.

Other (Please list in the space below):

Suggested Resources & Materials:

The following items are available for your use in teaching this lesson. Select and use resources according to your program focus and needs. County agents should request these items in advance.

Publications & Fact Sheets

ENRI Fact Sheets – camera-ready copies available through the ENRI web site at http://www.ca.uky.edu

- *Lead – Should I Be Worried About it in My Water?* ENRI-207
  (Basic information. Low reading level.)
- *Lead in Drinking Water (mini-lesson)* ENRI-212

Environmental Protection Agency publications – web versions of the following publication are available at http://www.epa.gov/lead/leadpbed.htm; print copies may be requested by calling the National Lead Information Center at (800) 424-LEAD (5323).

- *Lead in Your Home: A Parent's Reference Guide* (available in English & Spanish)
- *Protect Your Family From Lead in Your Home*
- *Reducing Lead Hazards When Remodeling Your Home*
  (available in English & Spanish)
- *Testing Your Home for Lead Paint, Dust and Soil*
- *Lead Poisoning and Your Children* (available in English & Spanish)

Videos (Available through the Ag. Communications video library.)

- *Environmental Safety: What Every Parent Should Know* (VEI-1337)
- *The Dangers of Lead Based Paint* (VHD-0918)
- *Sesame Street Lead Away* (VGN-1280) (targeted to young children)

Other: (Please specify below.)

Suggested Teaching Techniques and Activities:

Select only those activities that will help you teach the lesson. Limit selection according to your program focus, audience, and length of lesson.

➢ Use the transparencies to give an overview of lead management issues and strategies. Encourage discussion as you present the information.

Suggested Teaching Techniques and Activities: (cont'd.)

- Have the participants read the Ky-A-Syst for the Home publication *Lead in and around the Home*. Ask them to go back through the publication and answer the questions in the boxes. Suggest participants record all B and C responses and list changes they plan to make from information in the publication or from other sources. They can do this on the Action Checklist on Page 4. Encourage them to set target dates for taking action. Suggest that they review the checklist from time to time to see if any responses have changed.

- Invite someone from the local Health Department to come and talk about the dangers of lead. Ask the speaker to talk about identifying lead sources in the home, including testing your water for lead. Ask the audience how many have had their water tested, or their children's blood tested. Discuss lead programs through the Department of Public Health. Health Department officials can also share information about testing children's blood lead levels.

- Provide a copy of the "Lead in Drinking Water" mini-lesson to each person. Have them complete the risk assessment on the first page. Encourage those with high risk to have blood tests on their children.

- Show the video *The Dangers of Lead Based Paint*. Ask the audience how many live in homes built before 1980. Discuss with the audience the need to have soil around the edges of the house tested if they have small children and live in older homes.

- If presenting to small children or parents of small children, show the video *Sesame Street Lead Away*. Talk to the audience about ways to prevent lead poisoning. With young children, review the information in the song.

- Other: (Please specify below.)

Suggested Evaluation Techniques:

Select the technique(s) best suited to the information you would like to obtain from your audience. Immediate evaluation will provide reaction to the presenter and program materials. Delayed evaluation will give a better indication of changed behavior and attitudes.

- At the close of the program, ask each participant to name *one* thing they learned from the lesson.

- At the end of the program, ask each participant to list something they will go home and do as a result of the lesson. Have them write the item on a piece of paper with their name and the date of the lesson. Save the papers and several weeks/months later survey the group to see it they actually did it.

Suggested Evaluation Techniques: (cont'd.)

- Hand out a copy of the *Help Us Serve You Better* evaluation form. Ask participants to complete the form and leave it in a specific place as they leave.

- Return to the group several weeks later and ask them to fill out the Follow-up Feedback Form and collect them as they leave. If you cannot return to the group in person, contact a representative number of the participants by phone and collect the data requested on the Follow-Up Feedback Form from each.

- Other: (Please specify below.)

Reporting Impacts *(Information for County Extension Agents):*
Use the following priority indicators and program accomplishment (PAC) codes when reporting impacts as a result of this program. Information taken from the FY01 PAC and priority indicators lists.

PAC Code 610 - Indicator:
- Number of individuals adopting practices that insure safe water.

PAC Code 430 – Indicator:
- Number of individuals implementing personal health protection practices appropriates for their life cycle stage.

PAC Code 450 – Indicator:
- Number of joint programs with non-CES organizations that focus on comprehensive health maintenance.

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