



# Family and Consumer Sciences Extension

## *Indoor Air Quality Education 2005: Exposure to Environmental Contaminants in the Home*

### **Learning for Life**

The University of Georgia Cooperative Extension

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### ***The Problem***

- Many Georgians are exposed to contaminants within their home and near environment which can negatively impact their health, and thereby their quality of life. Of primary concern are polluted drinking water, poor air quality and toxic chemicals and/or gases such as lead, radon and asbestos.
- Scientific evidence has indicated the air people breathe in their homes could be more polluted with toxins than outdoor air. This is quite significant if one realizes that people spend 90% of their time indoors, particularly older adults and children.
- Sources of indoor air pollution, which are common in a typical home, are: household products and chemicals (volatile compounds), carbon monoxide, formaldehyde, dust (allergens), mold and mildew, asbestos, radon gas, lead poisoning, and tobacco smoke.
- According to the United States Environmental Protection Agency, indoor air quality problems in schools are responsible for triggering asthma related problems such as children's absenteeism and visits to the emergency room.
- According to the Centers for Disease Control and Prevention (CDC), asthma affects 14-15 million Americans, including almost 5 million children.
- Each year 21,000 people die from radon-related lung cancer in the U.S.
- According to the 2005 Georgia *County Guide*, chronic respiratory diseases caused 3,241 deaths in Georgia accounting for 4.9% of deaths in 2003.

### ***Research-based Solutions***

- Pollutant identification through various tests helps families single out pollutants, which create immediate adverse health symptoms.
- Source control helps prevent indoor air pollution by not allowing the source of pollution in the first place.
- Mitigation measures serve to remove the pollutants in the home.

### ***Extension's Role***

- Create an awareness of the availability of pollutant identification devices, source control practices and mitigation measures.
- Provide healthy indoor air classes/educational information for consumers through research-based solutions.

### ***Extension's Contribution to Solving the Problem***

- *Indoor Air Quality Extension* programs reached 8,518 Georgians and provided over 3,180 hours of education in 2005. This includes 3,075 contact hours of radon education provided to 8,084 Georgians.
- University of Georgia Extension distributed 4,027 radon test kits among the Georgians who live in counties where radon is a serious health issue.
- Extension used mass media to educate thousands of Georgians on indoor air quality. For example, four *Indoor Air Quality* articles were circulated to over 90,000 readers; 34 exhibits reached nearly 14,500 viewers; fifty-seven radio spots were broadcast to over 190,000 listening audience; six newspaper columns went to a circulation of over 133,000 readers; and seven television programs were targeted to a viewing audience of 300,000.

## ***Impact on Georgians***

- Almost all the participants in the *Radon Education* program said it was helpful to understand the significance of testing radon for indoor air quality.
- The comparison of pre and post-test data confirmed that Georgians who participated in the *Radon Education* program significantly improved their indoor air quality knowledge and learned how to prevent radon contamination in near environment. Of the participants, 96% improved their knowledge about radon and indoor air quality. At the end of the *Radon Education* program most of the participants planned to take safety measures for preventing radon hazards in their near environment. For example, 84% planned to tell their families and friends about radon gas and its health effects; 79% planned to test their homes for radon; and 67% planned to seal radon entry points into the home and contact a certified radon mitigator if elevated radon levels are found their homes.
- Of the Georgians who received radon test kits, 1,375 tested their homes for radon and 108 found higher radon levels (above 4.0pCi/L) and fixed the problem by mitigating their homes.
- Nearly 97% percent of the contractors, builders, and realtors who participated in the *Lead Based Paint Pre-Renovation Rule Education* program said it was helpful for them to prevent the potential hazards of lead based paints. The comparison of pre and post-test data confirmed that the participants significantly improved their knowledge about lead related rules and preventing hazards. Most of participants planned to adopt recommended practices to prevent lead related hazards. For example, 94% planned to tell people living in homes built prior to 1978 about the potential lead related health hazards; 94% planned to talk to other contractors and inspectors about the Lead-based Paint Pre-renovation Rule and how it affects them; and 94% planned to distribute the pamphlet "*Protect Your Family From Lead in Your Home*" to housing residents before renovations begin.
- All the participants in the *Indoor Air Quality and Asthma* education program said it was helpful for them to learn about the significance of improving indoor air quality for preventing asthma. The participants improved their indoor air quality and asthma knowledge. At the end of the program, most of the participants said that they plan to follow recommended indoor air quality practices to control asthma. For example, 79% planned to tell their families about the problems caused by mold, bugs and rot; 72% planned to inspect their homes for mold and bug problems; 84% planned never to use a pesticide inside their homes unless it is labeled for safe use indoors; and 100% planned to use the Integrated Pest Management approach to control household pests and minimize the use of insecticides.

## ***Economic Impact on Georgians***

- **The University of Georgia Cooperative Extension radon education program helped Georgians save an estimated value of \$6.3 million by preventing potential lung cancer among 108 people.**

## ***Contact***

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