



Family and Consumer Sciences Extension

Indoor Air Quality Education 2006: Exposure to Environmental Contaminants in the Home

Learning for Life

The University of Georgia Cooperative Extension

The Problem

- Many Georgians are exposed to contaminants within their homes 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 19.8 million Americans, including more than five million children.
- Each year 21,000 people die from radon-related lung cancer in the U.S. (EPA)
- According to the 2007 Georgia County Guide, chronic respiratory diseases caused 3,124 deaths in Georgia accounting for 4.8% of deaths in 2004.

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 existing 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* educational programs reached 2,527 Georgians and provided over 2,391 hours of education in 2006. Over 13,000 additional individuals were reached with indoor air quality information via phone, office visits, site visits and other meetings.
- UGA Cooperative Extension distributed 3,690 radon test kits among Georgians who live in counties where radon poses serious health issues.
- Extension used mass media to educate thousands of Georgians on indoor air quality. For example, indoor air quality newspaper columns were circulated to over 151,450 readers; exhibits reached nearly

16,000 viewers; eight radio spots were broadcast to listening audiences of over 1 million; and six television programs were targeted to viewing audiences of over 1.6 million.

Impact on Georgians

- Almost 94% of the participants in the *Radon Education* program said it was helpful to understand the significance of testing for radon.
- The comparison of pre and post-test data indicated 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 environments. Of the participants, 95% 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, 80% planned to tell their families and friends about radon gas and its health effects; 78% planned to test their homes for radon; and 62% planned to contact a certified radon mitigator if elevated radon levels are found their homes.
- Of the Georgians who received radon test kits, 1,426 tested their homes for radon and 194 had elevated radon levels (4.0pCi/L or higher). Ninety-nine participants with elevated radon levels fixed the problem by mitigating their homes.
- The *Lead-Based Paint Pre-Renovation Rule Education* program reached contractors, realtors, and the general public through a series of outreach events in Fulton and Sumter counties which included home remodeling trade shows. Using informal discussion and program materials including the pamphlet, *Protect Your Family From Lead in Your Home*, consumers were educated regarding lead poisoning and lead-based paint legislation.
- Almost all of the child care providers who participated in the *Integrated Pest Management Education* program conducted in Muscogee County said it was helpful to understand the significance of managing pests for indoor air quality. The comparison of pre and post-test data confirmed that participants in the *Integrated Pest Management* program significantly improved their indoor air quality knowledge and learned how to use integrated pest management techniques. At the end of the program, most of the participants said that they plan to follow recommended practices to control pests. For example, 85 % indicated that they were more likely to develop a written integrated pest management plan, even if they hire a pest control company; 95% indicated that they are more likely to use integrated pest management techniques to control pest populations in their childcare facility, and 90% indicated that they were more likely to only hire pest control companies that use integrated pest management techniques to control pest populations.

Economic Impact on Georgians

- The University of Georgia Cooperative Extension radon education program helped Georgians save \$5.8 million by preventing potential radon-induced lung cancer among ninety-nine people.

Contact

Dr. Jorge Horacio Atilas, Associate Dean for Outreach and Associate Professor,
Dr. Pamela R. Turner, Assistant Professor/Extension Housing and Environmental Specialist,
Department of Housing and Consumer Economics, College of Family and Consumer Sciences,
jhatiles@uga.edu (706) 542-4860; prtturner@uga.edu, (706) 542-8860,
or contact your local Cooperative Extension Office

The University of Georgia and Ft. Valley State University
The U.S. Department of Agriculture and Counties of the State Cooperating. The Cooperative Extension Service offers educational programs, assistance, and materials to all people without regard to race, color, national origin, age, sex, or disability.
The University of Georgia is an equal opportunity/affirmative action institution.