



HEALTHIER FUTURES *for our* FAMILIES



It's in the Air!

TEACHING GUIDE

From this lesson, participants will:

- Have a better understanding of the effects of biological contaminants on the health of household members
- Have a better understanding of the source of indoor air contamination by biological contaminants.
- Understand how to reduce biological contamination in the home.

Planning the Lesson

- Read through the background information presented in this teaching guide.
- Review the EPA publications about indoor air cleaners (see references) because there may be questions about the use of air cleaners. A copy of those can be obtained by calling the extension housing specialist at KSU. *Consumer Reports* magazine printed an evaluation of air cleaners in the October 1992 issue and a short update in the March 1996 edition.
- Review the other references listed in preparation for the lesson.
- Obtain the video *Controlling Mold Growth in the Home* through your local county extension office if you plan to use it.
- Ask an allergist in the community or a doctor known for treating allergies to be part of the program. He/she can talk about health symptoms and recommended treatments.
- Have a pencil to record the answers and comments to the questions in this lesson.

The Lesson

To start the participants' thinking about biological contamination and cleaning, ask the first five questions on the back of the fact sheet.

Here are some facts about allergies:

- Hay fever is an allergic reaction to pollen, dust mites, animal dander, and mold.
- More than 20 million Americans have hay fever.
- Allergies to cats or dogs occur in about 15 percent of the population.
- The percentage of children with asthma is increasing.
- Allergies and asthma are often linked.
- Asthma is potentially life-threatening.

Sources of Biological Pollutants

Refer the participants to their handout to look at the diagram of the house with the sources of biological pollutants.

Important points are:

- Biological contaminants can be found throughout the home.
- They are responsible for allergic reactions and can trigger asthmatic reactions.
- High humidity and excess moisture contribute to high levels of biological contamination.

Reducing Biological Contaminants



“More than 20 million Americans have hay fever.”

Refer to the section of the handout about cleaning techniques to reduce the level of biological contaminants in the home.

Important points are:

- Vacuum cleaning can result in high levels of airborne contaminants. Wet cleaning, where appropriate, reduces levels of particulates without causing them to become airborne.
- Vacuum cleaners that use high-efficiency filters and central vacuum systems reduce the level of air contamination during cleaning. Frequent vacuuming is essential to lower levels of pet dander and dust mites in carpeting and soft furnishings.
- Cleaning with a disinfectant is essential on appliances that have standing water and on surfaces where there is contaminant growth.
- Washing bedding in hot water—130 degrees or hotter—is necessary to reduce levels of dust mites in bedding.
- If pets in the home cause allergic reactions in the household members, frequent bathing of the pets and frequent washing of the pets' bedding may reduce the level of allergens in the home.
- Air cleaners should be used only if airborne contamination levels cannot be lowered using other techniques.
- Duct cleaning may not be effective in reducing airborne contamination.

Other techniques to lower the level of allergens are:

- Lower humidity levels and eliminate water leaks in the home.
- Use exhaust fans in the bathroom and kitchen.
- Replace carpeting and other soft furnishings with hard surfaces.
- Use plastic covers on mattresses and pillows.
- Remove pets from the home if they cause allergic reactions.

An additional activity

- Obtain the video *Controlling Mold Growth in the Home*. Call the local county extension office to make arrangements for using it.
- Have the participants watch the video.

References

- Residential Air Cleaners*. Environmental Protection Agency, Indoor Air Facts No. 7.
- Residential Air-Cleaning Devices: A Summary of Available Information*. Environmental Protection Agency.
- Use and Care of Home Humidifiers*. Environmental Protection Agency, Indoor Air Facts No. 8.
- Fine Particle Pollution: Residential Air Quality*. Kansas Cooperative Extension Service, NCR-393.
- Controlling Mold Growth in the Home*. Kansas Cooperative Extension Service, MF 2141.
- Controlling Mold Growth in the Home* video. Kansas Cooperative Extension Service.

Prepared by Marilyn Bode, Extension Housing Specialist, and Patty Annis, Assistant Professor, Department of Clothing, Textiles, and Interior Design, Kansas State University.

Developed in consultation with the Kansas Association for Family and Community Education Educational Committee.