



**Wanda Wastewatcher Revisited**

**The Air You Breathe - Part 2**

**by Judy Prochko, E.Q. Committee**

**When we think of air quality and the causes of air pollution, motor vehicle emissions immediately come to mind. And, indeed, motor vehicles are the major source of outdoor air pollution. But, did you know that EPA studies show that indoor air is sometimes two to five times more polluted than outside air?**

**There are several causes: After the energy crisis of the mid-seventies, many homeowners tightened up their homes to increase energy conservation and save money. This not only reduced the infiltration of fresh outside air but trapped polluted air inside. Another culprit was the replacement of solid wood in furniture and building materials with pressed wood and fiberboard. These contain chemicals, mainly formaldehyde-based resins, which emit trace levels of organic chemicals over time. In addition, many products used inside the home such as hairspray, air fresheners, aerosols, insecticides, and cleaners add to the chemical stew, thus compounding the problem.**

**The best way to improve the air quality within your home is to avoid hazardous household products wherever possible. A list of some of the more serious offenders and their alternatives are listed below:**

<b>Product</b>	<b>Hazardous Ingredients</b>	<b>Potential Health Effects</b>	<b>Suggested Alternative</b>
Air Fresheners	Cresol Phenol Formaldehyde	IR, SEN, L, K, LU*	Open window; Use exhaust fan; Simmer cloves; Open box of baking soda or soak a cotton ball in vanilla extract & place in saucer.
Floor and Furniture Polish	Diethylene glycol Petroleum distillates Nitrobenzene Mineral spirits	D CAN, D R, CAR, L CAN, D	1 part lemon oil to 2 parts olive or vegetable oil; Vegetable oil soap.
Glass Cleaners	Ammonia Naphthalene	COR, IR CAN, IR	Wash windows with 1/4 to 1/2 cup white vinegar to 1 quart warm water, rub dry with newspaper.
Mothballs	Naphthalene Paradichlorobenzene	CAN, IR L, K, N, CAN	Cedar chips; Newspapers; Lavender; Flowers or other aromatic herbs and spices.
Rug and Upholstery Cleaners	Naphthalene Perchloroethylene Oxalic acid Diethylene glycol	CAN, IR K, D, R, N, CAN K, COR D	Baking soda or cornstarch on rug, then vacuum.

\* Key: CAN=cancer, CAR=cardiopulmonary injury, COR=corrosive, D=developmental toxicity (birth defects, fetal toxicity), IR=irritant, K=kidney toxicity, L=liver toxicity, LU=lung effects, N=neurotoxicity (nerve poison), R=reproductive toxicity (sterility, decreased fertility).

**You will notice that the chemical perchloroethylene, which is present in rug and upholstery cleaners, is extremely hazardous. Another major source is in the freshly dry-cleaned clothing that you bring home. Reduce this hazard by removing the plastic bag and hanging the clothing outside to allow the chemical to evaporate. This chemical is also found in paints, solvents, and cleansers.**

**Aerosol containers are used to disperse a wide array of liquids including deodorants, paints, dessert toppings, and household cleaners. Although CFCs (chlorofluorocarbons) are no longer used as the gaseous propellant, they have been replaced with propellants that are still hazardous and should be avoided. Choose hand-operated pump sprays instead or other alternatives such as stick or roll-on deodorant, etc.**

**In all honesty, some of these alternatives may not work as well as the product containing hazardous chemicals, but it really is a matter of priorities: What is more important to you?**

**Another EPA study found that exposure to pesticides was higher indoors than outdoors. Elevated levels were not due to recent use of the pesticide indoors, so it was deduced that the source was either from contaminated soil that was tracked inside or improper storage of pesticides indoors. Be sure to check directions on stored pesticide containers. As always, the best defense against exposure to these chemicals is to avoid purchasing them in the first place. If the pest problem is impossible to live with, try non-toxic alternatives first. Some of them work quite well; for example, an annual dusting of boric acid into baseboard crevices has kept my home ant-free for years.**

**Other major indoor air pollutants come from breathing gasoline vapors, which may leak into the house from an attached garage, and tobacco smoke, both passive and active. The hazardous ingredient in tobacco smoke is benzene, which increases one's chances of developing lung cancer. When combined with radon, the most hazardous of indoor pollutants, tobacco smoke becomes an even greater health threat.**

**When you have eliminated or ameliorated as many of the sources of pollution as possible, there is one more line of defense that you can initiate: houseplants...yes, houseplants! Research undertaken by NASA to purify the air in spacecraft found that common houseplants were very efficient in removing some of the most common indoor air pollutants including formaldehyde, benzene, and trichloroethylene. It is believed that the microbes living on the plants roots provide the mechanism for purifying the air. Carbon dioxide along with other pollutants are absorbed through the leaf pores and passed down into the soil via the microbes. The soil acts as a "sink" or sponge for the pollutants. Purified air is then released into the air in the form of oxygen. The plant species that most dramatically reduced levels of pollution were golden pothos, nelly's, spider plant, snake plant, aloe, philodendron, etc. A rough rule of thumb is to use one plant per 100 square feet. So, deck your home with live green plants and you will greatly improve the quality of the air you breathe...ahhhh!**