



Plants "Clean" Air Inside Our Homes

Plants produce their own food through a process called photosynthesis, taking in carbon dioxide from the atmosphere and releasing oxygen. Photosynthesis "cleans" air by absorbing carbon dioxide and by taking in certain other pollutants, as well.

National Aeronautics and Space Administration (NASA) researchers lead by Dr. Bill Wolverton tested the effect of fifteen houseplants on three pollutants – benzene, formaldehyde and trichloroethylene – known to be present in spacecrafts, and also present in homes and office buildings. They are emitted from furnishings, office equipment and some building materials. NASA researchers discovered that certain houseplants could remove as much as 87 percent of indoor air pollutants within 24 hours.

Beginning with energy shortages the 1970s, insulation of offices and homes became better insulated to conserve energy and lower heating and cooling costs. The result was that indoor air could linger five hours or more allowing pollutants to accumulate. Indoor pollutants can harm humans with effects ranging from skin and eye irritations to headaches and allergies. Some pollutants may be carcinogenic. According to the NASA study, the plants listed below proved effective in removing certain indoor air pollutants.

Pollutant	Source	Plants that Remove Pollutant
Benzene	Inks, oils, paints, plastics, dyes, detergents, gasoline, pharmaceutical, tobacco smoke, synthetic fibers	English Ivy, Dracaena marginata, Janet Craig, Warneckeii, Chrysanthemum, Gerbera Daisy, Peace lily
Formaldehyde	Foam insulation, plywood, pressed-wood products, grocery bags, waxed paper, fire retardants, adhesive binders in floor coverings, cigarette smoke, natural gas	Azalea, Philodendron, Spider plant, Golden Pothos, Bamboo palm, Corn plant, Chrysanthemum, Mother-in-law's tongue
Trichloroethylene	Primarily used in the metal degreasing and dry cleaning industries; also in printing inks, paints, lacquers, varnishes, adhesives	Gerbera Daisy, Chrysanthemum, Peace lily, Warneckeii, Dracaena marginata

NASA researchers suggested that for the test plants to be effective "air cleaners" it is necessary to use one potted plant per 100 square feet of home or office space.

Adapted from an article by Laura Pottorff, Cooperative Extension agent, horticulture, plant pathology, and The Foliage For Clean Air Council and National Academy of Sciences.
<http://www.colostate.edu/Depts/CoopExt/4DMG/Plants/clean.htm>

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