

Think Green



Live Green

Incorporating Live Plants into Interior Spaces



Why Plants?

People spend an average of 90% of their time indoors. Indoor air quality presents its own challenges since it is generally more polluted than outdoor air quality. The World Health Organization states that 2.4 million people die each year from causes directly attributed to air pollution. Indoor Air Quality (IAQ) refers to the quality of interior air that could affect health and comfort of building occupants.



For those who seek a clean, healthy environment, plants are an essential element for work and home.

- By naturally reducing our ecological footprint, indoor plants are a key element to seeking the “green” ideals of good health and sustainability.
- Plants improve indoor air quality by helping to remove chemicals such as formaldehyde and carbon monoxide. Plants act as the lungs of an indoor environment.
- Plants thrive on carbon dioxide and convert it into oxygen. The increase in oxygen allows humans to be more focused, creative, attentive, happier and most important healthier.

- In business settings, plants have been shown to increase productivity, occupancy and retention rates and lower absenteeism. In hotel settings, rooms with garden views are often the first to be reserved and command premium pricing.





Interior Plants Have Many Benefits

Concerns over our ecological footprint and green building practices are moving more mainstream and indoor plants naturally help filter air impurities making them perfect for all interior spaces. There's no better time than now to breathe in nature and think green.

Dr. Oz, known as America's Doctor and co-author of *You: The Owner's Manual*, appears regularly on Oprah. During an appearance in November 2007, he recommended the use of interior plants — specifically philodendrons, golden pothos and spider plants — as ideal plants known for their toxin-filtering abilities.

Not only do plants add to the aesthetic appearance of a room or area, recent research shows that just 3 average floor-standing plants or 6 standard table-top plants significantly improve the air quality in an average-sized office. In work settings, industry experts often recommend a plant be placed within each person's breathing zone.

Dr. Wolverton, a retired NASA scientist and author of *How to Grow Fresh Air*, published a study nearly 25 years ago putting houseplants on the map as air purifiers. In November 2002, Dr. Wolverton confirmed the results of further researchers and added "there is now sufficient evidence to support the concept of using interior plants to provide good IAQ."

Top Picks

While plants remove carbon dioxide from the air and replace it with oxygen, certain plants are top picks for removing commonly found indoor contaminants.

BENZENE BASED TOXINS

Source of Toxins

Detergents, Inks and Dyes, Plastics, Rubber Products, Petroleum Products, Synthetic Fibers, Tobacco Smoke



Plants Associated with the Removal of Toxins

Spathiphyllum (Peace Lily), Dracaena spp., Gerbera (Gerber Daisy), Hedera spp. (Ivy), Chrysanthemum (mum), Aglaonema (Chinese Evergreen)

FORMALDEHYDE BASED TOXINS

Source of Toxins

Carpeting, Cleaners, Foam Insulation, Furniture, Paper Products, Plywood and Particle Board



Plants Associated with the Removal of Toxins

Ficus spp. (Weeping Fig), Philodendron spp., Chlorophytum (Spider Plant), Sansevieria (Snake Plant), Chamaedorea (Bamboo Palm), Hedera spp. (Ivy), Epipremnum (Golden Pothos)

TRICHLOROETHYLENE TOXINS

Source of Toxins

Adhesives, Dry cleaning, Inks and Dyes, Lacquers and Paints, Paper Products, Varnishes



Plants Associated with the Removal of Toxins

Dracaena spp., Gerbera (Gerber Daisy), Spathiphyllum (Peace Lily), Chrysanthemum (mum)

The Human-Centered Quotient

A 2007 study by The Center for Health Design examined the role nature plays in the healthcare environment. Citing research by Ulrich, it states the use of plants and natural elements reduces stress, supports pain management and promotes an overall sense of well-being.

- Workers in plant-friendly environments miss fewer days of work and experience less job stress.
- Plants help reduce the level of many common indoor air-borne impurities or volatile organic compounds (VOCs). These toxins are a common cause of sick building syndrome.

- Plants enhance creative problem-solving skills among men and women.
- When plants are present, employees are more satisfied with their jobs and reported fewer ailments.
- Plants help reduce noise levels, decrease temperature and lower humidity.
- A view of plants increases positive feelings and reduces stress, fear and anger.

The Bottom Line

- The organization Partners for Livable Places found plants are the fastest, most cost-effective agents for changing negative perceptions of an area and improving psychosocial health.
- Based on averages from the US Census Bureau and facility/building raw data, plants offer \$14.51 return on investment per 100 sq/ft each month. Plants deliver a profit!

What Professionals are Saying

“As green buildings become more and more mainstream, live plants are essential in keeping true-to-the-nature of the green concept.”

“Adding plants to an interior setting is a natural way to provide a relaxed setting for our hotel guests while creating a healthy environment.”

“Interior plants are a solid return on investment and a MUST for any corporation concerned with sustainable ‘green building’ solutions.”





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