Article Side

We are What We Breathe

by Ed Ellis

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Recently, someone I know in Portland Oregon, emailed me about his involvement in perma- culture and he is interested in learning which plants are best, for cleaning the air inside his home. Since we spend the majority of our lives, in interior environments, shouldn't the air we breathe, be the cleanest possible? People are very conscious of the water they drink, look at the billion dollar bottled water and home filtration industry. We are buying more organic foods every year because people are concerned about what they ingest, and how their foods are produced. If we don't eat correctly, we get sick, seriously sick and we can see the results in our friends who are overweight, or who may have diabetes or other ailments brought on by improper eating. Since we spend 90% of our time indoors, why aren't we looking at the indoor air we breathe?

As far as outdoor air, it does get some attention, and legislation is passed to limit tail pipe pollution, and the pollution emitted by factories and power plants. Living in Los Angeles, we see a diminishing of the air pollution of 30 years ago, but we are shocked at times, flying into LAX, especially in the summer, and seeing such a thick blanket of fog laying over our beloved city. We have been accustomed to air pollution and we don't speak out as much as we should. Like many Americans, we feel disempowered from the political process and have realized that smog is a political football, and we feel unable to make much of a change. We hope that our politicians care enough about our welfare to enact legislation to clean our air.

Where we do have control over the air we breathe is in our homes. I would suggest where we work, but if you work in an office, and it is one of many in an office building, you are exchanging air with the whole building, and any difference you make in your suite, is compromised by the less clean air of the rest of the building. The EPA currently ranks indoor air pollution as a significant threat to human health.

What is indoor air pollution, and where does it come from? It has many sources, such as radon gas, being emitted from the earth below your home. It could be tobacco smoke, mold, pollen, carbon monoxide, formaldehyde, volatile organic compounds, fabric softeners, benzene, trichloroethylene, toluene, and many more. Many of those with chemical names, are emitted by building materials installed in our homes, such as carpets, cabinets, paneling, flooring, and all laminates. Anything made with synthetic compounds, or coated with one, can out-gas, meaning it will continue to emit toxins into our air, over months or years. In modern structures, where there is attention to insulation and sealing up structures, to conserve energy, we are finding a buildup of these pollutants. Your older drafty house may have less air pollution. What is also overlooked is the need for humidity to be between 35 and 65 percent, for optimum healthy indoor air. Air dries out in the winter, from heating systems. This low humidity contributes to respiratory problems.

We don't need to be told that our indoor air is polluted because many of us have experienced burning eyes, throat or respiratory irritations from entering fabric, furniture, or carpeting stores - we can smell the VOCs and formaldehyde that has out-gassed from their products. Often our exposure to these chemicals begins when as newborns, we are brought home from the hospital, and are placed in a room that was freshly painted, and has new furniture, carpet, blankets, pillows, toys, etc. These products and paints are emitting VOCs, formaldehydes, toluene and other pollutants. Perhaps these chemicals bring on early childhood allergies, and asthma.

A solution to the indoor pollution problem found in homes and offices, is the use of indoor plants. NASA has been researching this problem, knowing that in the space stations they are planning, clean air is paramount. They found that many common indoor houseplants and potted blooming

plants offer an ability to filter out these pollutants and provide needed oxygen.

This process of filtering pollutants from the air is as follows: Plants release water vapor from their leaves, which is called transpiration. As this vapor is released, it stimulates the movement of air and through temperature differences between the surrounding air, and the leaf surfaces, convection currents cause air flow, some of which is pulled down through the soil, to the root zone. In this area, pollutants are broken down, into a source of energy for the plant. Through stomata in the leaves (small openings), plants translocate the volatile chemicals down to the root zone, to

be broken down into harmless chemicals, by microorganisms.

This process of restoring healthy humidity, and filtering out indoor air contaminants can be accomplished by placing a variety of indoor house plants throughout your home or office.

If you will refer to my first blog at www.eeplants.com, you can learn how to install a wick watering system on each plant, insuring that each plant receives the proper amount of water. Locating each plant near a good light source is always best. Plants will languish in lower light levels, but it is not ideal, and their ability to filter air will be diminished.

These hard working plants in order of their ability to filter the air, are as follows (starting with the best). NASA recommends that 15 to 18 6" to 8" house plants are needed to restore good air quality to an 1800 square foot home.

Areca palm (Chrysalidocarpus lutescens) a beautiful palm that does not do well in the dry air of Los Angeles.

Lady palm (Rhapis excels) a somewhat expensive palm that is fairly easy to grow

Bamboo palm (chamaedorea seifrizii) a great palm for high or low light - watch out for mites.

Rubber plant (ficus robusta) an old time house plant, one of the many ficus plants

Dracaena deremensis "Janet Craig" truly, a great indoor plant that is the backbone of many installations in hotels, offices and homes.

English Ivy (Hedera helix) needs good light, and watch for spider mites

Pigmy date palm (Phoenix roebelenii) to maintain the shape, give it good light, watch for mites.

Ficus macleilandii "Alii" a beautiful tree, often braided.

Boston fern (nephrolepis exaltata) keep it moist, and it is best hung, to give ventilation to the leaves.

Peace lily (spathiphyllum) blooms most of the year. Cut the stamen off - it puts out a lot of pollen.

Corn plant (dracaena fragrans "massangeana" another work-house of the plant industry. Easy to grow.

Golden pothos (epipremnum aureum) keep trimming it back to get a nice full plant.

Florist's mum (chrysanthemum morifolium)

Gerbera daisy (gerbera jamesonii)

Arrowhead vine (syngonium podophyllum) keep trimming it

Dumb cane (dieffenbachia)

Snake plant (sansevieria trifasciata) great for lower light levels

Spider plant (chlorophytum comosum)

Chinese evergreen (aglaonema crispum) good for lower light levels

The above plants have the ability to filter out benzene, formaldehyde, trichloroethylene(TCE), toluene, octane, terpene, carbon monoxide, and restore goodhumidity levels to interior environments.

Remember to install the wick system on your plants, trim off dead leaves, and leaf tips, dust your plant's leaves, and give them as much light as possible, excluding direct sun light.

You can start out with small plants - even 4", and gradually transplant them into larger pots. Growing a new level of clean air in your indoor environment can be fun and relaxing!

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Ed Ellis - About Author:
Ed Ellis Plants - With 35 years in the a interior plants services industry, we understand your budget concerns. We can always work within your budget. Focus on your business and leave the plant maintenance to us.

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