

## PLANT YOUR OFFICE

(adapted from Paul Battle)

Using House Plants to Improve Indoor Air Quality. The rapid rise of environmental sensitivities, allergies, and asthma in our society is the direct result of our immune systems being under siege from toxins in our food, water, and air supply. We often mistakenly view the indoor environment as being a safe haven from outdoor air pollution during the summer Air Quality Advisories, when we are advised to stay indoors. Research from the US Environmental Protection Agency (EPA) shows that the opposite can be true; that indoor air is often ten times worse than outdoor air.

Statistics also show that we are spending more of our time indoors than ever before, up to 90 percent. The combination of building materials made with synthetic composites and the energy efficient measures of tightening our homes has contributed to our living in an indoor chemical soup. Sick home syndrome has been in the news recently, with programs on mold in homes and schools.

Plants have the ability to remove these chemical toxins from the air while providing many other benefits to the indoor air, and they cost a fraction of the mechanical filters. Some of the best plants for purifying the air are: the Areca Palm, the Golden Pothos, the Ficus, the Rubber Plant, English Ivy and the ever popular Spider Plant.

NASA researchers are designing self contained filter systems for space stations using plants to remove the environmental toxins. Living machines are aquatic plant systems in a series of tanks that take raw sewage at the beginning and produce pure potable drinking water at the discharge end. Living walls of plants and moving water have been designed into office buildings as central air purifiers, with the cleaned air circulated throughout the building.

The benefits of these systems can be achieved at home with the use of house plants. Plants remove toxins from the air by absorbing the pollutants through microscopic openings in the leaves called stomata. The toxins are transported to the root zone where root microbes biodegrade the pollutants into structures that can be used as a source of food for the microbes and the plant. A plant can take formaldehyde from offgassing carpet underlays or press board wood products and turn it into a food for itself. Plants also transpire moisture into the air. Dry air, typical of the indoor environment during winter, irritates sensitive membranes in the nose and throat, increasing susceptibility to assaults by airborne chemicals, viruses, mold spores, dust and allergens.

People who have environmental sensitivities are often concerned about the possibility of molds growing in the soil. Research has shown that microbial levels are actually lower in a room filled with plants and high humidity than in a room with no plants and a lower humidity. This is due to the plants' ability to release phytochemicals that suppress the mold spores and bacteria. For people with environmental sensitivities who are concerned about molds, it is possible to grow plants hydroponically without soils. Companies that sell the hydroponic systems are listed in the Yellow Pages.

Eco-Friendly House Plants by B.C. Wolverton is a recommended resource for anyone who would like to learn the mechanics of how plants can filter the air in an indoor environment. The book lists the top 50 plants that remove chemicals from the air, their disease resistance, and ease of growth and maintenance.

