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## The Power of Plants

**T**oday's office buildings are constructed with operational efficiency in mind. Unfortunately, efficiency can lead to the reduction of the comfort and health of the building's inhabitants. This is due to poor noise levels, lighting, ergonomic stressors, job-related psychosocial stressors, and indoor air quality.

The International Facility Management Association (IFMA) conducted a survey to determine the top 10 complaints among office workers. No. 1 and No. 2 were "too hot" and "too cold," respectively. No. 6 was "poor indoor air quality." "Too much noise" was No. 10.

### ◆ What power do plants possess to create a better indoor environment?

According to studies, plants can create a calmer environment, reduce stress, and improve productivity.



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Plants can even reduce the noise levels in an office. By placing a small indoor hedge around a workspace, noise can be reduced by about 5 decibels. Plants are also used in green building design to increase operational efficiency. A professionally installed interior landscape can improve operational efficiency by regulating humidity levels and cooling the air. According to the U.S. Department of Agriculture, plants can decrease air temperature in offices by 10 degrees.

Sick-Building Syndrome has become a real problem for energy-efficient buildings.

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The National Aeronautics and Space Administration reports that the syndrome is widespread in sealed energy-efficient buildings. Reduced exchange of outdoor air for indoor air causes higher concentrations of toxic chemicals in indoor environments. Green building designers have become concerned about indoor air quality. According to reports from Bio-Safe Inc. (New Braunfels, Texas), energy-efficient, sealed office structures are often 10 times more polluted than the air outside.

Research has shown that rooms with plants can contain 50 percent to 60 percent less airborne molds and bacteria than rooms without plants. For almost 20 years, Dr. Billy C. Wolverton, and his aids in the Environmental Research Laboratory of John C. Stennis Space Center (Picayune, Miss.), have conducted research employing natural

biological processes for air purification. "We've found that plants can suck these chemicals out of the air," says Dr. Wolverton. "After some study, we've unraveled the mystery of how plants can act as the lungs and kidneys of these buildings." Plants can clean the office air in two ways. They absorb pollutants into their leaves and send out the toxins to their roots. In their roots the toxins are changed into food for the plant. Plants also release water vapors that create a pumping action that draws dirty air to the roots. The dirty air is once again changed into food for the plant.

Plants not only enhance the decor of your office, but also they can make your workplace a better place to be. By using the power of plants, you can make your workplace healthier, more comfortable and more energy efficient.