

## The workplace oasis

### Boost productivity while reducing stress with interior plants

By Mary Jane Gilhooley

Office anxiety levels are high as our current economy and security uncertainties place added stress on American employees. According to research conducted by marketing research firms Integra Realty Resources, New York, NY, and Opinion Research Corp. Intl., Princeton, NJ, one out of eight employees calls in sick due to workplace stress.

No longer just a pretty face, plants are hard at work "de-stressing" American offices. Current research shows that plants decrease stress while enhancing productivity by as much as 12 percent. Whether it is a single plant on each desk or a lush common-area atrium, the calming psychological aspect of interior plants has never been so acutely necessary in the workplace environment.

#### Productivity research

The study *Impacts of Plants on People*, by Dr. Virginia Lohr, professor and horticulturalist, Washington State University, Pullman, WA, took place in a simulated office setting where a computer program induced stress and tested productivity by producing time-measured readings of participants' reactions to 100 different symbols. The researchers also measured blood pressure, emotional states and pulse rates during the experiment. The presence or absence of plants was the only variable in this experiment. When plants were present, Lohr positioned them so that a cluster was in the peripheral view of each subject sitting at a computer terminal, without interfering with the subject's activity. The results proved that participants who worked in the presence of plants were less stressed and as much as 12 percent more productive than those who worked in an environment without plants.

The outcome, which indicated an influence of

plants on decreasing blood pressure, is consistent with research conducted by Dr. Roger S. Ulrich, professor and environmental psychologist, Texas A&M University, College Station, TX; and Helen Russell, scientist, University of Surrey, West Sussex, England. After exploring human interactions with nature, they discovered that visual exposure to plant settings produced significant recovery from stress within five minutes.

#### Cleaning the air

Many traditional performance-based incentives implemented to enhance employee productivity impose added stress on employees to outperform one another. Therefore, plants' capability of raising productivity while lowering stress is extremely valuable. To attract and retain top employees, the workplace must include aspects of what inspires employees during their "off" time. Employee services providers can purchase plants as employee recognition gifts and educate employees about their health benefits in the home and office. Gallup polls indicate that two-thirds of the American workforce cite gardening as their favorite hobby. Perhaps this "green thumb" passion explains why humanizing the workplace with plants is a highly effective method of promoting employee satisfaction.

#### PLANT FACTS

Further research proves the bottom-line benefits of interior plants:

#### Lower operations and maintenance costs.

Plant transpiration releases moisture, creating a humidity level matching the recommended human comfort range of 30-60 percent. A study by the Associated Landscape Contractors of America, Herndon, VA, found that proper selection and placement of plant materials lowers heating and cooling costs by as much as 20 percent.

**Create a great place to work.** Studies out of Oxford Brookes University, Oxford, England, found that indoor plants positively enhance

perception and contribute to employees' well being. The same set of studies concluded that people perceive a building with interior landscaping as more upscale, more welcoming and more relaxed.

**Clean the air.** Sealed energy-efficient buildings have higher concentrations of toxic chemicals. According to Dr. Billy C. Wolverton, environmental researcher, John C. Stennis Space Center, MS, plants clean contaminated office air by absorbing pollutants into their leaves. He suggests that every employee have a plant on his or her desk.

**Reduce office noise.** Strategically-placed plants quiet an office. A small indoor hedge placed around a workspace reduces noise by five decibels. According to the Associated Landscape Contractors of America, landscape professionals are replacing cubicles with "tree walls" and other innovative plant groupings to reduce the "decibel distraction factor."

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# National HOTEL EXECUTIVE

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## Sea of Green: Using Interior Plants to Increase Profits

By Chris Rice

Sure, plants serve as great decorative elements in a hotel setting. But aside from aesthetics, is there any other justification for investing in the installation, care and maintenance of live interior plants? Various studies show that there is.

Research indicates that interior plants could actually help to boost occupancy rates while lowering operations and maintenance (O&M) costs. Given these findings, investing in interior plants may be a wise move for any hotel manager looking to boost profits.

### Calm Surroundings

It goes without saying that in the hospitality business, providing a soothing atmosphere is critical to ensuring high rates of occupancy. After all, whether they're staying for business or for pleasure, guests want to be able to unwind with a minimum of distractions.

If guests are going to return to a hotel for repeat stays, it is imperative that each visit leaves them

relaxed and rejuvenated. One of the easiest ways to provide guests with a tranquil and inviting atmosphere is to surround them with interior plants.

Several studies have proven that plants can reduce stress and enhance feelings of well-being. In one such study, conducted by Dr. Roger S. Ulrich of Texas A&M University, test subjects were shown slides that included nature scenes with water and vegetation, nature scenes with vegetation only, and urban scenes without vegetation. Test subjects had higher alpha brain wave amplitudes when viewing the slides with nature scenes than when viewing the slides with urban scenes.

In general, higher alpha brain wave amplitudes are associated with less physiological arousal and increased attentive relaxation, which indicate a positive state for humans. The same study found that slides with nature scenes held the attention of test subjects better than slides with urban scenes.

In another study conducted by Dr. Virginia Lohr and Caroline H. Pearson-Mims (Departments of Horticulture and Landscape

Architecture at Washington State University), simply viewing trees was shown to have a positive effect on test subjects' moods. In the study, the general mood of test subjects was evaluated as they viewed computer graphics showing urban scenes without trees and urban scenes with single, different shapes of trees. Participants exhibited more positive emotions such as happiness, friendliness and assertiveness, and less negative emotions such as sadness, fear and annoyance, when viewing urban scenes with trees. Overall, this study showed that trees have a calming effect on people and can contribute to general well-being.

### Peace and Quiet

In addition to their calming effects, interior plants have been shown to reduce noise levels in interior spaces.

In a study carried out by Peter Costa at South Bank University (London, England), plants were shown to absorb background noise inside buildings, resulting in a more comfortable environment for the buildings' occupants. Peace lilies, sweetheart plants, Madagascan dragon trees and weeping figs were all proven to

have noise-reducing properties in the study.

The study also offered tips for maximizing the noise-reducing properties of interior plants, such as using bigger planters with more plants, using several arrangements rather than planting in a concentrated location, and placing plants near edges and corners in order to intercept sound reflected from walls more easily.

The calming and noise-reducing effects of plants may explain why so many of us are drawn toward the outdoors when we plan our vacations and getaways. Whether it's hiking through the woods or skiing down a mountain, time spent in a natural setting can do wonders when we need to relax.

#### **Putting Plants to the Test**

Hotels such as Opryland in Nashville, Tenn. are capitalizing on plants' soothing, quieting properties. The hotel features two huge, six-story, semi-tropical indoor gardens covering 3.5 acres, with footpaths and walkways that enable guests to wander past fountains, waterfalls and many varieties of foliage.

Rooms overlooking Opryland's interior gardens are always the first to be reserved by repeat guests. These rooms command a price of at least \$30 more than rooms without garden views, which helps to support the theory that plants may help to boost hotel profits.<sup>1</sup>

Facilities outside the hospitality industry are also benefiting from the calming effects of interior plants.

Hannibal Regional Hospital, an acute care facility located in Hannibal, Mo., had interior plants installed in its mall lobby area. The goal behind the installation was to provide a comfortable, relaxing environment for both patients and employees of the hospital.

A large rest area with seating now contains 11 double adonida palm trees, some of which are more than 12 feet in height. Golden pothos, bromeliads and other plantings have also been installed around the bases of the palms.

According to Carol Jaco, Senior Vice President of Patient Care for Hannibal Regional Hospital, the plant installation has been a huge success. "We recognize that the environment in which care is provided can significantly influence the healing process," says Jaco. "The plants in Hannibal Regional Hospital's mall contribute to the therapeutic milieu for both patients and their families."

Many visitors and employees of the hospital have never seen such large indoor plant material, and often express disbelief that the large palms are real. "Patients and families really react to these plants, and many have remarked that the combination of plants and extensive light fosters a sense of hope and comfort," says Jaco. "Our plantings bring a sense of calming energy to the open and spacious architecture of the hospital. We believe that the appealing green space is an important overall contributor to individual and family well-being for all who turn to us for care."

#### **Less Money Spent**

Plants can not only create a more relaxing, inviting environment to help boost occupancy levels, but they may be able to cut down on energy usage for lower O&M costs as well. According to the International Society of Arboriculture (Champaign, Ill.), the net cooling effect of one young, healthy tree is equivalent to ten room-size air conditioners operating 20 hours a day. And according to literature from the Associated Landscape Contractors of America (ALCA) of Herndon, Va., proper selection and placement of plant materials can lower heating and cooling costs by as much as 20%.

These statistics have become an important tool for today's environmentally efficient corporate designers and facility managers such as U.S. Energy Systems Inc. of White Plains, NY. This growing energy company is enthusiastically endorsing the use of indoor plants. "Interior plants are a solid return on investment and a must for any corporation concerned with sustainable, 'green building' solutions," says Susan Odiseos, V.P. of Corporate Communications for U.S. Energy Systems.

#### **Care and Maintenance**

For maximum benefit, the larger the plant installation the better. However, larger installations will require more constant attention in order to remain healthy.

Maintenance of large plant installations is best left to professionals. Many hotel staffs are spread so thin in today's tight economy that they

are unable to apply professional standards to their property. As a result, appearance and property value can begin to suffer. By outsourcing interior landscaping services, key hotel staff and management are able to focus more completely on tasks specific to company goals and profits.

### **A Valuable Design Choice**

Interior plantscaping can more than pay for itself by creating a calm, quiet atmosphere conducive to repeat guests. And if plants can help to reduce energy costs for lower O&M expenses, they'll make a very welcome addition to any hotel setting. To learn more about using interior plants to boost hotel profits, visit [www.plantsatwork.org](http://www.plantsatwork.org).

<sup>1</sup>From a case study performed by Michael R. Evans, former Associate Professor of Hotel, Restaurant and Institutional Management at VA Polytechnic Institute and State University. Edited by Diane Relf, taken from the Symposium: The Role of Horticulture in Human Well-Being and Social Development (Timber Press, Portland, OR 1992).