

Consumer Horticulture Benefits for Businesses, Workplaces, and Employees



Horticulture and plants can benefit businesses, improve workplaces and employee quality of life

- Businesses profit when landscapes attract customers to stores
- Landscapes and green roofs impact rental rates
- Trees increase perception of shopping areas and willingness to pay
- Plants in workplaces and nature views can improve satisfaction and productivity in the workplace

Consumer Horticulture is the cultivation, use, and enjoyment of plants, gardens, landscapes and related horticultural items to the benefit of individuals, communities, and the environment. These activities rely on the understanding and application of the art and science of horticulture. Consumer horticulture doesn't just impact our lives in terms of our homes, families, and communities. It also intersects with business and industry both in terms of the overall economy as well as the workplace environment that can improve the economic bottom line as well as the health and well-being of employees. In this publication we will focus on ways plants enhance the attractiveness of businesses and how their placement in the workplace may increase the productivity and wellbeing of employees.

Business Benefits of Consumer Horticulture

It may be simple to see horticulture as a commercial enterprise that grows and sells live products¹⁰ (the green industry) or more specifically the spending on do-it-yourself garden plants and products⁸. Often, this is the way horticulture is generally viewed in university and business institutions. However, the power of horticulture is not just in the sale of plants, but rather the connection of people with those plants. This point of intersection is where consumer horticulture resides.

- *Landscapes can attract visitors to retail stores*
- *Landscapes can impact retail or restaurant prices*
- *Trees can increase perception of shopping areas and consumer willingness to pay*



Horticulture consumers impact our economy and individual businesses in many ways that go beyond direct sales. The business of growing, designing, installing and maintaining residential landscapes can be connected to the end consumer. Thus, the design and management of lawns and landscaping for retail and commercial business sites attract the consumer, which can benefit the business profits.

Whether to directly attract consumers, enhance aesthetics to attract future clients, or recruit future employees, the business-service aspect of the commercial horticulture and landscape sector revolves around the consumer. Customers are known to form opinions about retail businesses based on external visual factors, so it is not surprising that landscaping and the aesthetics of the property can attract visitors and impact the prices at retail sites like restaurants⁶.

Streetscape trees, especially those with full canopies, can increase the perception and quality rating of shopping areas²². Interestingly, the quality of streetscapes in city centers could be used to gain competitive advantages over larger discount stores. Willingness to pay for a variety of products was over 9% higher in retail areas with high quality tree coverage, and shoppers were willing to travel further²³.

In terms of real estate, consider that environmentally designed buildings, with plant components, such as Leadership in Energy and Environmental Design (LEED) certified buildings, have been found to have 8% higher occupancy rates⁷. In New York, apartment buildings with green roofs had 16% higher rent rates¹¹. Landscape had a positive effect on rental rates similar to the 3-6% seen in residential areas, but the quality and maturity of the landscape was an important component¹⁵.

Environmentally, there are a range of benefits of incorporating horticulture and green infrastructure. The benefits can sometimes extend to utility bills or tax credits as municipalities provide reward to businesses that help reduce stormwater management and other city costs⁴. Greening of commercial properties can also reduce energy demands and resulting cooling costs¹. While initial costs of these green infrastructure amenities are often higher, the cost over the entire life-cycle can be lower due to longer lifespan or reduced maintenance costs⁴.

- *Green roofs can increase rent potential*
- *Landscapes can increase rental rates*
- *Green infrastructure can reduce energy costs*



Workplace and Employee Benefits of Consumer Horticulture

Horticulture is increasingly recognizing the value of health, well-being, and quality of life value for consumers as a cornerstone of their businesses and sustainability⁹. There are many such human values for plants and horticulture in the workplace that benefit both businesses and individual employees. These have been described at different levels including well-being of the worker, the environment of the workplace and the image and efficiency or competitive power of the entire workplace²¹.

- *Plants in work areas and nature views can reduce anxiety*
- *Plants in indoor work environments can increase mood and air quality*
- *Plants in the workplace can improve ratings of supervisors and coworkers*



Workplaces that provide employees more opportunities to contact nature and plants, both outdoor and indoor, exhibited lower measures of total stress and higher general health, suggesting that purposeful inclusion of or access to horticultural plants could be an important component of workplace health initiatives¹⁴, along with the larger concepts of ecological design in businesses and workspaces¹⁶.

Ornamental plants have been integrated into workplaces for decades with many documented benefits¹⁹, but we still have much to learn about their impact²¹. Anxiety reduction can also be a benefit of both indoor plants and nature views³, along with possible reductions in sick leave when indoor plants were present². Improved mood and air quality can result from plants in indoor environments^{12,25}, although gender and other factors may be related to mood impacts²⁰. Plants in the workplace have likewise been shown to improve the quality of life ratings of employees. Employees with office plants even rated their supervisors and co-workers higher than those without⁵.

The relationship of people and plants in the workplace ranges from creating a comfortable, personal space and improving the climate to a means to cope with boredom or fatigue. There are opportunities for enhancing creativity in the office or the overall workplace²¹. Plants in the workplace support an increase in productivity, and can benefit creative tasks over rote tasks²⁰. A 12% increase in computer task speed as well as lower blood pressure was seen in windowless computer labs when interior plants were included¹⁷. Even in modern workplaces where lean practices are used and efficiency is paramount, the inclusion of plants is beneficial for satisfaction as well as productivity¹⁸.

While there are many potential benefits from plants being integrated in the workplace, accessing nature or viewing it from the office are both important. Views of less groomed areas with native grasses can actually be better for employees than highly groomed sights¹³. Trees, both their size and number, were one of the highest factors related to satisfaction with outdoor settings around a place of work, and even the sight of paths can be important to workers¹³. Being able to easily see these outdoor features was a large factor in satisfaction as well. Half of the employees were actually willing to assist in managing the nature around their work¹³. Research continues, but it is clear that plants are much more than just aesthetically pleasing and are valued for their appearance as well as their ecological and environmental contributions.

In conclusion, there is increasing evidence that incorporating plants into the retail environment influences the appeal of a particular business and may affect the customer's willingness to spend time in those areas. Plants in the workplace or views to exterior plantscapes or nature can increase worker productivity while decreasing elements of stress.



This publication was written to educate residents about the beneficial roles of Consumer Horticulture. It was collaboratively developed by the Consumer Horticulture Extension, Research, and Education Coordinating Committee (SCC-85) organized through the Southern Association of Agricultural Experiment Station Directors. SCC-85 includes members from Auburn Univ., Clemson Univ., Univ. of Kentucky, Univ. of Georgia, Univ. of Hawaii, Louisiana State Univ., The Ohio State Univ., Univ. of Minnesota, Mississippi State Univ., Univ. of Nebraska, North Carolina State Univ., Univ. of Tennessee, and Virginia Tech. SCC-85 also operates as the NICH Academic/Government Council and serves to connect the academic horticulture community to NICH.

Writing and Design Team

Natalie Bumgarner, University of Tennessee
Rick Durham, University of Kentucky

Katie Walberg, Graphics, University of Tennessee

Other Publications in this Series:



Consumer Horticulture: Connecting People and Plants



Our Environment



Businesses, Jobs and Workplaces



Schools and Communities



Housing and Residential Areas



Ourselves and Our Families



Growing a healthy world through plants, gardens, and landscapes.
consumerhort.org

The National Initiative for Consumer Horticulture (NICH) is a consortium of industry leaders who are promoting the benefits and value of horticulture. NICH brings together academia, government, industry, and nonprofits to cultivate the growth and development of a healthy world through landscapes, gardens and plants – indoors and out. The Mission of NICH is to grow a healthy world through plants, gardens, and landscapes.

References

1. Balogun, A. A., T.E. Morakinyo, and O.B. Adegun, 2014. Effect of tree-shading on energy demand of two similar buildings. *Energy and Buildings*. 81:305-315.
2. Bringslimark, T., T. Hartig, and G.G. Patil. 2007. Psychological Benefits of Indoor Plants in Workplaces: Putting Experimental Results into Context. *HortScience* 42:581-587.
3. Chang, C.Y., and P.K. Chen. 2005. Human response to window views and indoor plants in the workplace. *HortScience* 40:1354-1359.
4. Clements, J., A. St. Juliana, P. Davis, and L. Levine, 2013. The green edge: How commercial property investment in green infrastructure creates value. *Natural Resources Defense Council R:12-11-C*.
5. Dravigne, A., T.M. Waliczek, R.D. Lineberger, and J.M. Zajicek. 2008. Plants and window views of green spaces on employee perceptions of job satisfaction. *HortScience* 43: 183-187.
6. Freybote, J., L. Simon, and L. Beirelsbacher, 2016. Understanding the contribution of curb appeal to retail real estate values. *J. Property Research* 33:147-161.
7. Fuerst, F., and P. McAllister. 2009. An investigation of the effect of eco-labeling on office occupancy rates. *JOSRE* 1:49-64.
8. Garden Research.com. 2018. Your 'typical' gardener is younger these days- and has a LOT of questions! 11 Nov. 2018. < <https://gardenresearch.com/>>
9. Hall, C. and M. Dickson, 2011. Economic, environmental, and health/well-being benefits associated with green industry products and services: A review. *J. Environ. Hort.* 29:96-103.
10. Hodges, A. W., C.R. hall, M.A. Palma, and H. Khachatryan. 2015. Economic contributions of the green industry in the United States in 2013. *HortTechnology* 25:805-814.
11. Ichihara, K., and J.P. Cohen. 2011. New York City property values: What is the impact of green roofs on rental pricing? *Letters Spatial Res. Sciences* 4:21-30.
12. Jumeno D., and H. Matsumoto. 2016. The effects of indoor foliage plans on perceived air quality, mood, attention, and productivity. *J. Civil Engineering Architect. Res.* 3:1359-1370.
13. Kaplan, R. 2007. Employee's reactions to nearby nature at their workplace: The wild and the tame. *Landscape urban Planning* 82:17-24.
14. Largo-Wight, E., W.W. Chen, V. Dodd, and R. Weiler. 2011. Healthy workplace: The effects of nature contact at work on employee stress and health. *Public Health Reports* 126:124-130.
15. Laverne, R. J. and K. Winson-Geideman. 2003. The influence of trees and landscaping on rental rates at office buildings. *J. Arboriculture* 29: 281-290.
16. Lerner, A. and M. Stopka 2016. The financial benefits of biophilic design in the workplace: A review and summary of current research. <https://static1.squarespace.com/static/57f3ed6844024312971e4e46/t/58c8366346c3c4c3d67038a8/1489516133393/Financial+Benefits+of+Designing+with+Nature_web.pdf>
17. Lohr, V.I., C.H. Pearson-Mims, and G.K. Goodwin. 1996. Interior plants may improve worker productivity and reduce stress in a windowless environment. *J. Environ. Hort.* 14:97-100.
18. Nieuwenhuis, M., et al. 2014. The relative benefits of green versus lean office space: Three field experiments. *J. Exper. Psychology. Applied* 20:199-214.
19. Pearson-Mims, C.H. and V.I. Lohr. 2000. Reported impacts of interior plantscaping in office environments in the United States. *HortTechnology* 10:82-86.
20. Shibata, S., and N. Suzuki. 2004. Effects of an indoor plant on creative task performance and mood. *Scandinavian J. Psychol.* 45:373-381.
21. Thomsen, J. D., H.K.H. Sonderstrup-Andersen, and R. Miller. 2011. People-plant relationships in an office workplace: Perceived benefits for the workplace and employees. *HortScience* 46:744-752.
22. Wolf, K. L. 2005. Trees in the small city retail business district: Comparing resident and visitor perceptions. *J. Forestry* 103: 390-395.
23. Wolf, K. L. 2004. Trees and business district preferences: a case study of Athens, Georgia, U.S. *J. Arboriculture* 30: 336-346.