

#PlantsDoThat Inside! Where We Live



GREENING THE GREAT INDOORS

Having plants in our homes is an important component of creating a sustainable indoor ecology and healthy minds and bodies. Indoor plants lead to improved overall environmental quality.



Plants

increase

YOUR BRAIN ON NATURE

Indoor plants psychologically link us to nature.

BREATHE EASY



Indoor plants improve air quality by removing carbon dioxide. particulates, benzene and up to 90% of formaldehyde.

Plants in the room both stabilize and reduce CO, levels.

FAST FACTS

Each 1% addition of plants in a room results in a 6-7% decrease in formaldehyde.

Rooms with plants have fewer pollutants (like volatile organic compounds or VOCs).



FRIENDLY FLORA

BRING ON THE OM

Plants stimulate

physiological

psychological

relaxation

response.

both a

and

Houseplants supply beneficial bacteria and increase the microbial diversity in the indoor environment - benefitting human health

indoors.



ambient humidity in dry indoor environments. Plants are known to increase room humidity from 20% to a more comfortable 30% under bright

lighting conditions.

COMFORT IS KING

Infographic produced by National Initiative for Consumer Horticulture (NICH). Discover more about the power of plants in this series at ConsumerHort.org.

#PlantsDoThat Inside! Where We Live



AUTHORS

Hall, C., Thilmany, D., Mellard, S., Gray, J., Hamrick, D., Albin, C., Altman, K., Behe, B, Bumgarner, N., Calabro, J., Carson, J., Gordon, S., Gouge, D., Miller, M., Mostardi, S., Parker, P. and McBride, P. (2017). #PlantsDoThat Inside—Where We Live. National Initiative for Consumer Horticulture. Available from http://consumerhort.org.

REFERENCES

Aydogan, A. and L. D. Montoya (2011). "Formaldehyde removal by common indoor plant species and various growing media." Atmospheric Environment 45(16): 2675-2682.

Bringslimark, T., et al. (2009). "The psychological benefits of indoor plants: A critical review of the experimental literature." Journal of Environmental Psychology 29(4): 422-433.

Burchett, M., et al. (2010). "Greening the great indoors for human health and wellbeing." Sydney: Plants and Indoor Environmental Quality Group, Centre for Environmental Sustainability (CEnS).

Cetin, M. and H. Sevik (2016). "Measuring the Impact of Selected Plants on Indoor CO."

Claudio, L. (2011)."Planting healthier indoor air." Environmental Health Perspectives 119(10): 426-427.

Dela Cruz, M., et al. (2014). "Can ornamental potted plants remove volatile organic compounds from indoor air? — a review." Environmental Science and Pollution Research 21(24): 13909-13928.

Jumeno, D. and H. Matsumoto (2016). "The Effects of Indoor Foliage Plants on Perceived Air Quality, Mood, Attention, and Productivity." Journal of Civil Engineering and Architecture Research 3(4): 1359-1370. Kerschen, E. W., et al. (2016). "Evapotranspiration from Spider and Jade Plants Can Improve Relative Humidity in an Interior Environment." HortTechnology 26(6): 803-810.

Kim, H., et al. (2016). "Evaluation of Self-assessed Ocular Discomfort among Students in Classrooms According to Indoor Plant Intervention." HortTechnology 26(4) 386-393.

Kim, K. J., et al. (2009). "Determination of the efficiency of formaldehyde removal according to the percentage volume of pot plants occupying a room." Horticulture Science and Technology Park 27(2): 305-311.

Kim, K. J., et al. (2008). "Efficiency of volatile formaldehyde removal by indoor plants: contribution of aerial plant parts versus the root zone." Journal of the American Society for Horticultural Science 133(4): 521-526.

Liu, Y. J., et al. (2007). "Which ornamental plant species effectively remove benzene from indoor air?" Atmospheric Environment 41(3): 650-654.

Mahnert, A., et al. (2015). "Microbiome interplay: plants alter microbial abundance and diversity within the built environment." Frontiers in Microbiology 6(887).

Orwell, R. L., et al. (2004). "Removal of Benzene by the Indoor Plant/Substrate Microcosm and Implications for Air Quality." Water, Air, and Soil Pollution 157(1): 193-207.

Park, S. A., et al. (2016). "Foliage Plants Cause Physiological and Psychological Relaxation as Evidenced by Measurements of Prefrontal Cortex Activity and Profile of Mood States." HortScience 51(10): 1308-1312.

Pegas, P., et al. (2012). "Could houseplants improve indoor air quality in schools?" Journal of Toxicology and Environmental Health, Part A 75(22-23): 1371-1380.

CREDITS

Produced by the National Initiative for Consumer Horticulture (NICH).

Thank you to Dr. Charlie Hall, Ellison Endowed Chair in International Floriculture and Professor, and Sara Mellard, graduate student, Texas A&M University for providing the evidence base. Graphic developed by Jennifer Gray, AmericanHort and the Horticultural Research Institute. Committee members: Ken Altman, Altman Plants; Dr. Bridget Behe, Michigan State University; Dr. Natalie Bumgarner, University of Tennessee; Dr. Jill Calabro, AmericanHort; Janet B. Carson, University of Arkansas Cooperative Extension Service; Sylvia Gordon, Landscape by Sylvia Gordon; Danny Gouge; Willoway Nurseries; Dr. Charlie Hall, Texas A&M University; Debbie Hamrick (Committee Chair), NC Farm Bureau Federation; Dr. Marvin Miller, Ball Horticultural Co.; Steve Mostardi, Mostardi Nursery; Patrick Parker, Savatree; Dr. Dawn Thilmany McFadden, Colorado State University, and Penny McBride, Vertical Harvest.

MORE INFORMATION

- National Initiative for Consumer Horticulture, ConsumerHort.org
- Ellison Chair, Texas A&M, www.EllisonChair.TAMU.edu