

1/1/2020

Houseplants Don't Help Air Quality

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In November, the Journal of Exposure Science & Environmental Epidemiology published an article called “Potted plants do not improve indoor air quality: A review and analysis of reported VOC removal efficiencies.”

This article is a review of previously published studies on how plants clean air, but this time, the authors converted all the results into something called “clean air delivery rates” or CADR. They concluded that you’d need 10 to 1,000 plants per square meter in a building to remove the same amount of VOC air pollutants as a normal building’s ventilation system does through air exchange.

Now, that doesn’t mean that plants don’t improve air quality, nor does it mean that prior research was wrong. But the groundbreaking research by NASA in 1989 and those that followed typically took place in a vacuum—that is, a vacuum chamber. It wasn’t the equivalent of your living room or office space. Simply put, according to their calculations, fresh air exchange is better at cleaning the air. But, yes, plants do clean the air. And the authors of the new study, Bryan E. Cummings and Michael S. Waring of Drexel University in Philadelphia, write that “Future experiments should shift the focus from potted plants’ (in)abilities to passively clean indoor air and instead investigate VOC uptake mechanisms, alternative biofiltration technologies, biophilic productivity and well-being benefits, or negative impacts of other plant-sourced emissions, which must be assessed by rigorous field work accounting for important indoor processes.”

How does this affect consumers? Well, if you look at the 2020 Houseplants Report, the air-purification power of houseplants was low on the list of what consumers look for in plants. So maybe they don’t care that much. But the bad news is that this research article is already making the rounds in places like Newsweek (“Your Houseplants Aren’t Actually Improving the Air Quality in Your Home”), and if you only read the headline, you might think that the green industry was touting misinformation about its products. You can counter that by being fully informed on this research and the limits of it. And don’t forget—there’s a ton of other research that backs up a multitude of other benefits of plants. **GP**