

Smart Stuff

with Twig Walkingstick



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AND DEVELOPMENT CENTER

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Notes: Sources included "Plant Production and Emission of Volatile Organic Compounds, *BioScience*, June 1997; "Lawn Clippings May Help Make Smog," <http://www.abc.net.au/science/news/stories/s1252461.htm>; Environment Canada (VOCs), <http://www.ec.gc.ca/nopp/voc/en/bkg.cfm>; and "Prevention and/or Recovery Effects by Green Odor(s) on Fatigue and Green-odor-responsible Brain Regions as Revealed by PET" (the study on human effects by Japanese scientists) in *Chemical Senses*, 2005. Also check out <http://www.chm.bris.ac.uk/motm/hexenal/hexenal.htm>.

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Q. Dear Twig: Why does cut grass smell like it does?

A. Because of chemicals called **volatile organic compounds**, or VOCs. In particular, because of a VOC that goes by a cool-to-say name.

Scientists say **cis-3-hexenal** ("sis-three-HEK-suh-nuhl") gives just-mowed grass its fresh, "green" smell.

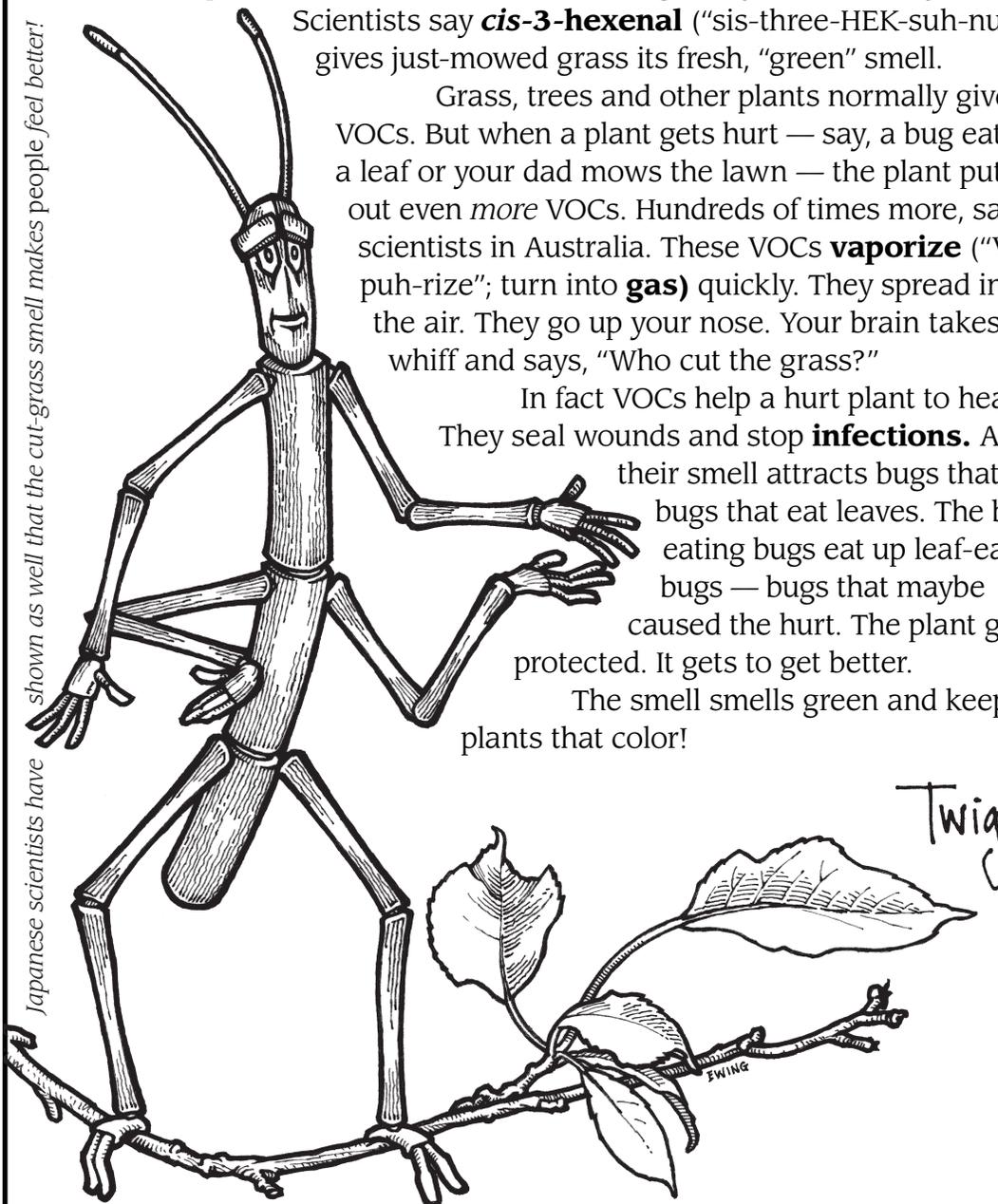
Grass, trees and other plants normally give off VOCs. But when a plant gets hurt — say, a bug eats a leaf or your dad mows the lawn — the plant puts out even *more* VOCs. Hundreds of times more, say scientists in Australia. These VOCs **vaporize** ("VAY-puh-rize"; turn into **gas**) quickly. They spread in the air. They go up your nose. Your brain takes a whiff and says, "Who cut the grass?"

In fact VOCs help a hurt plant to heal.

They seal wounds and stop **infections**. And their smell attracts bugs that eat bugs that eat leaves. The bug-eating bugs eat up leaf-eating bugs — bugs that maybe caused the hurt. The plant gets protected. It gets to get better.

The smell smells green and keeps plants that color!

Japanese scientists have shown as well that the cut-grass smell makes people feel better!



From your scientific friends at The Ohio State University — specifically, the Ohio Agricultural Research and Development Center (www.oardc.ohio-state.edu) and OSU Extension (extension.osu.edu).