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Stop And Smell The Flowers -- The Scent Really Can Soothe Stress

ScienceDaily (July 23, 2009) — Feeling stressed? Then try savoring the scent of lemon, mango, lavender, or other fragrant plants. Scientists in Japan are reporting the first scientific evidence that inhaling certain fragrances alter gene activity and blood chemistry in ways that can reduce stress levels.



Rich lavender field in Provence, France. Scientists in Japan are reporting the first scientific evidence that inhaling certain fragrances alter gene activity and blood chemistry in ways that can reduce stress levels. (Credit: iStockphoto/Andreas Karelias)

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In the new study, Akio Nakamura and colleagues note that people have inhaled the scent of certain plants since ancient times to help reduce stress, fight inflammation and depression, and induce sleep. Aromatherapy, the use of fragrant plant oils to improve mood and health, has become a popular form of alternative medicine today. And linalool is one of the most widely used substances to soothe away emotional stress. Until now, however, linalool's exact effects on the body have been a deep mystery.

The scientists exposed lab rats to stressful conditions while inhaling and not inhaling linalool. Linalool returned stress-elevated levels of neutrophils and lymphocytes — key parts of the immune system — to near-normal levels. Inhaling linalool also reduced the activity of more than 100 genes that go into overdrive in stressful situations. The findings could form the basis of new blood tests for identifying fragrances that can soothe stress, the researchers say.

Journal reference:

Nakamura et al. **Stress Repression in Restrained Rats by (R)-(-)-Linalool Inhalation and Gene Expression Profiling of Their Whole Blood Cells.** *Journal of Agricultural and Food Chemistry*, 2009; 57 (12): 5480 DOI: 10.1021/jf900420g

Adapted from materials provided by *American Chemical Society*, via *EurekaAlert!*, a service of AAAS.

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