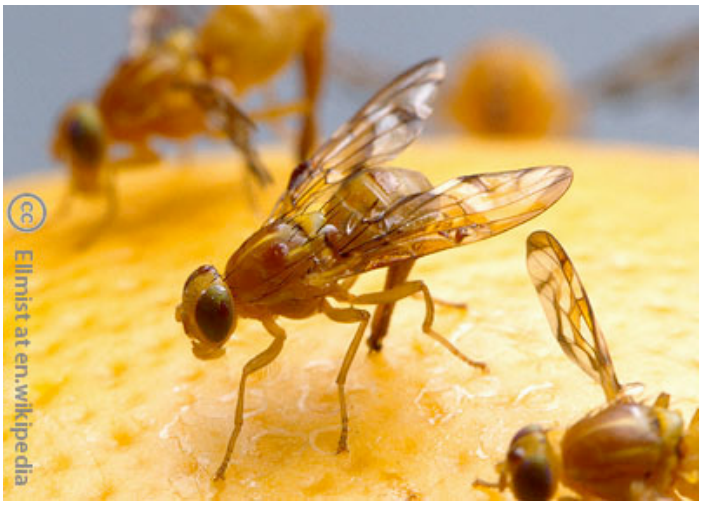
news for a changing world



Fruit Flies Sniff Out New Insect Repellents

By following the "nose" of fruit flies, scientists are on the trail of new insect sprays that can reduce the spread of disease and damage to crops. That's because they've now learned how the genes used to detect smells work, opening new ideas for insect control. Researchers can target these genes in other insects to create chemicals that make crops and people "invisible" to insects. Without the ability to smell correctly, the insects are not likely to attack a person or plant, as is the case with mosquitoes whose ability to smell is affected by the active ingredient in insect repellents, DEET.

According to one researcher, "One of the fundamental questions is, 'how does a cell choose which genes it should turn on and which genes it should turn off?' By studying this question in fruit flies, we hope to learn about … more effective odor-based insect repellents."

The scientists studied special genes in the fruit fly. These genes give flies the ability to detect different scents. Information found in DNA in front of these genes tell the fly to turn on the genes in specific cells of the fly antennae.

"The sense of smell is an Achilles heel for many insects," said one scientist, "and the more we learn about odor receptors the easier it will be to interfere with them to battle insect-borne disease and crop devastation." Many researchers believe that this study is a step forward in doing that by identifying the process that results in the … expression of 'smell genes'.

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