

## The Aroma of Food Affects Fruit Fly Lifespan

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[摘要] 1 February 2007. *Drosophila* on a calorie-restricted diet typically live longer than average, but new research published in the 2 February 2007 issue of *Science* says that even the smell of food can offset that result and reduce the flies' lifespan.

[关键词] flies' lifespan; *Drosophila*; Or83b gene

1 February 2007. *Drosophila* on a calorie-restricted diet typically live longer than average, but new research published in the 2 February 2007 issue of *Science* says that even the smell of food can offset that result and reduce the flies' lifespan. The study expands on past research that has shown that most animals, including rodents and probably primates, live longer on diets in which calories are severely restricted. The authors put two strains of fruit fly *Drosophila* on a calorie-restricted diet, then exposed them to the scent of yeast, one of the primary components of its food. Because of the calorie-restricted diet, the assumption was that the flies should have lived longer than flies on a normal diet. But Sergiy Libert, a researcher at the Huffington Center on Aging at the Baylor College of Medicine, and colleagues found that flies exposed to the smell of yeast had a lifespan 6% to 18% shorter than calorie-restricted flies not exposed to the smell of yeast. To corroborate the life-shortening odor link in flies on severely restricted diets, researchers tested flies that were missing the Or83b gene—a key to a strong sense of smell—and found that flies that could not smell their food lived longer. In addition, they determined that mutation in the Or83b gene can affect metabolism and stress resistance. The study also found no relationship between scent and longevity in fully-fed flies, suggesting that the yeast was not a toxin that shortens lifespan. The authors hypothesize that "olfaction (smell) affects adult physiology and aging in *Drosophila* possibly through perceived availability of nutritional resources."

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