



KAMARAJ IAS ACADEMY
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Drosophila Melanogaster & Reproductive Aging

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News Context: Researchers have used the fruit fly (*Drosophila*) to identify 291 genes that regulate Diapause—a state of "suspended animation" or dormancy that protects fertility during stress.

- **Why Fruit Flies?** Over 60% of human disease-causing genes have a functional match in *Drosophila*.
- **The Discovery:** The study found that the **Olfactory System** (sense of smell) is the "master switch" for reproductive recovery. If the fly cannot sense the "smell of spring" (favorable conditions), it fails to resume egg production.
- **Medical Potential:** Understanding how these flies "pause" and "restart" their reproductive systems offers clues for treating human **Infertility** and delaying ovarian aging.

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