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PRESS RELEASE

FOR IMMEDIATE RELEASE

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CAES Scientists Discovered Specific Attractants for Spotted Wing *Drosophila* (SWD), a Major Fruit Pest in Connecticut, the Nation, and worldwide

New Haven— Scientists at The Connecticut Agricultural Experiment Station (CAES) have discovered potent attractants that are specific for spotted wing *Drosophila* (SWD) (also known as *Drosophila suzukii*) and do not attract the non-SWD species. SWD, first detected in Connecticut in 2011, is a serious pest of soft-skinned fruits, including strawberries, raspberries, blueberries, blackberries, and grapes. CAES Scientists led by Dr. Hany Dweck, the head of the Chemical Ecology Laboratory, have now identified three specific attractants for SWD: phenylacetaldehyde, pyridine, and spermidine. Each of these odorants attracted SWD but did not attract any other *Drosophila* species, indicating their specificity to SWD.

According to Dr. Jason C. White, CAES Director, “The identification of these specific attractants may significantly advance the development of targeted traps for SWD and save millions of dollars in the fruit industry.”

“One of the main issues with current traps and lure technology for this species is their low specificity, which leads to the capture of large numbers of non-target *Drosophila* species”, said Dr. Hany Dweck. “This lack of specificity not only reduces the efficiency of the traps but also increases the time and labor required for SWD management, as non-target species must be sorted and discarded”.

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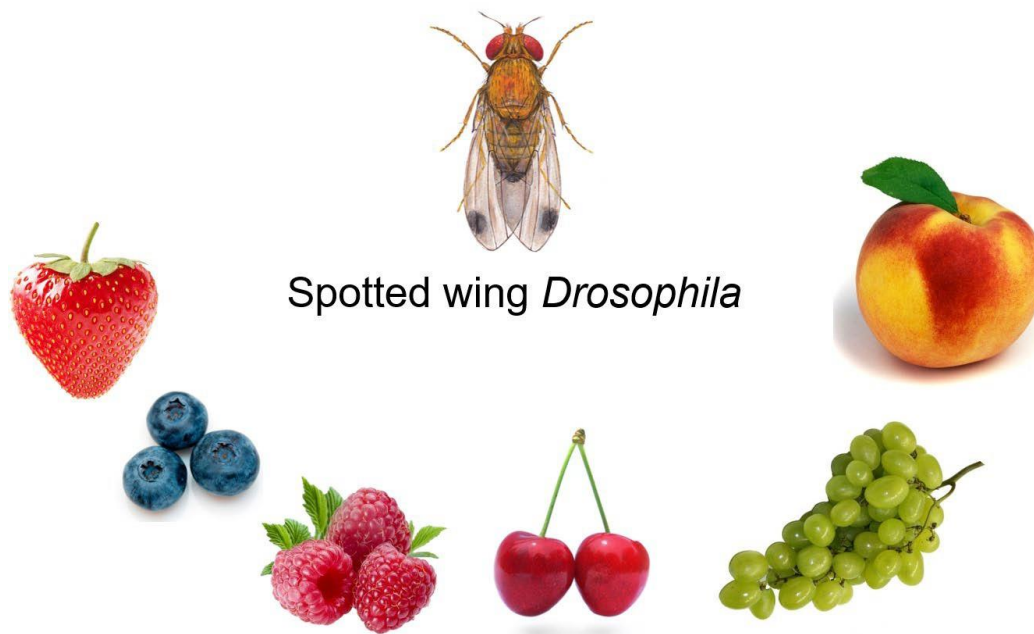
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Dr. Qi Xue, the first author of the study and a postdoctoral scientist in Dr. Dweck's laboratory, added "By incorporating phenylacetaldehyde, pyridine, and spermidine into trap designs, it is possible to create more effective and efficient traps that specifically attract SWD.

Mr. Kazi Sifat Hassan, shared first author on the study and a research assistant in the Chemical Ecology Laboratory, said "we also identified three repellents (1-octen-3-ol, 3-octanone, and ethyl benzoate) that can be integrated with the attract-kill strategy".

"This strategy lures the pest to the bait without touching the edible parts of the crop plants", Dr. Dweck added. "This dual strategy not only enhances the specificity of traps but also employs repellents to push SWD away from valuable crops." "By leveraging specific attractants to draw the pests into traps and repellents to keep them away from crops, this method maximizes efficiency and minimizes collateral damage to non-target species. "This innovative approach holds great promise for improving the management of SWD infestations, ultimately protecting crops more effectively and sustainably." "This study is now published in *BMC Biology*, an open access, peer-reviewed journal that publishes outstanding research in all areas of biology."

A major agricultural pest

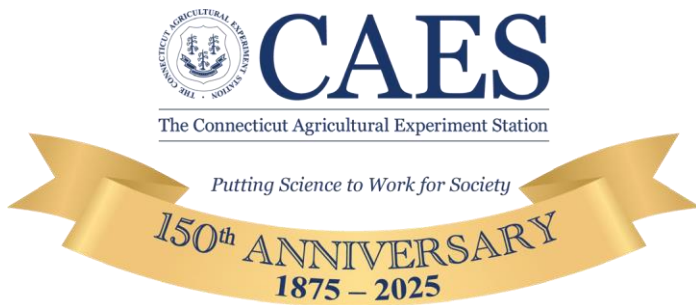


Spotted wing *Drosophila*

Figure Legend: Spotted Wing Drosophila and some of its host fruits.

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Journal Reference

Xue Q., Hasan K. S., Dweck O.*, Ebrahim, S. A. M.**, Dweck H. K. M. Functional Characterization and Evolution of Olfactory Responses in Coeloconic Sensilla of the global fruit pest *Drosophila suzukii*. *BMC Biology*. (2025) 23:50. <https://doi.org/10.1186/s12915-025-02151-9>

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