

# Pear pest's chemical 'come hither' identified

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Pear psylla is a cicada-like pest with a vexing tendency to develop resistance to insecticides. But now, a new weapon could be in the works.

Agricultural Research Service (ARS) and University of California-Riverside (UCR) scientists have jointly identified a key component of the female psylla's chemical sex attractant, or [pheromone](#), which could set the stage for luring amorous males to their doom.

Entomologists Christelle Guédot, Dave Horton and Peter Landolt at the ARS Yakima Agricultural Research Laboratory in Wapato, Wash., discovered the compound, 13 methyl heptacosane (13-MeC27), in collaboration with Jocelyn Millar, a professor of entomology at UCR's College of Natural and Agricultural Sciences.

Besides luring male psylla onto sticky traps, the compound's discovery could give rise to lures for either monitoring the pest or disrupting its mating. Both approaches could diminish the reliance on insecticides--saving growers money, sparing beneficial insects, and forestalling the pest's development of insecticide resistance.

Pear psylla's most damaging stage is the nymph. The flat, red-eyed nymphal stage causes reductions in fruit quality as its honeydew drips onto and marks developing fruit. Heavy infestations cause premature leaf fall and loss of yield.

Researchers performed chemical analyses and behavioral assays to isolate and then identify the volatile chemicals extracted from female

pear psylla that were most attractive to males. The team's studies showed that 13-MeC27 was the most attractive of several chemicals evaluated. Laboratory assays were then done which confirmed that the attractiveness of the compound to males was equivalent to male response to females. Experiments in pear orchards confirmed that the compound is attractive to males and can be used to bait traps to capture [pear](#) psylla.

Under a patent application filed in September 2009 by ARS on behalf of the U.S. Department of Agriculture (USDA), the scientists intend to combine 13-MeC27 with other attractants to produce blends for use in pheromone dispensers, bait stations or traps.

The team published its findings in the *Journal of Chemical Ecology*.

Provided by United States Department of Agriculture

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