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Fabric Softener Sheets Repel Gnats: Scientists Prove Bounce Sheets Fend Off Insect Pests

For years, gardeners have claimed that putting Bounce® fabric softener sheets in their pockets is an effective way to repel pests like mosquitoes and gnats. Any Internet search will uncover countless articles about the bug-repelling properties of Bounce®. Are these claims valid or simply folklore?

The authors of a new study say that until now, no quantitative data has existed to substantiate these claims, but their latest research has revealed a definitive answer: Bounce® sheets do indeed repel adult gnats.

In a report just published in HortScience, Kansas State University Department of Entomology professor Raymond Cloyd and colleagues discussed a series of five replicated experiments they conducted to ascertain whether Bounce® dryer sheets (Outdoor Fresh Scent™, Procter and Gamble) repel fungus gnat adults under laboratory conditions.

"In all five experiments, the mean proportion of fungus gnat adults collected in the sample compartments containing the dryer sheets were significantly fewer, ranging from 12% to 18% ,whereas the compartments without dryer sheets contained 33% to 48% of the fungus gnats released in the arena," said Cloyd. "This study is the first to demonstrate that Bounce® original brand fabric softener dryer sheets repel fungus gnat adults under laboratory conditions."

The research team also analyzed the volatile compounds in the dryer sheets using gas chromatography-mass spectrometry. One of the major volatile compounds detected in Bounce® was linalool, a colorless monoterpene alcohol used by cosmetic and perfume companies for its flower-like odor. Linalool -- present naturally in plants such as lavender, marjoram, and basil -- has been shown to be toxic to a number of different mites and insects. The experiments also indicated high levels of the volatile compound beta-citronellol, found in plants including rose geranium, citronella, and lemon balm, and known for its ability to repel mosquitoes.

The authors say there are still important issues that need to be resolved before Bounce® can be widely recommended, but note that in the future, "the use of dryer sheets may be an alternative strategy to deal with fungus gnat populations in greenhouses."

Raymond A. Cloyd. Bounce® Fabric Softener Dryer Sheets Repel Fungus Gnat, *Bradysia* sp. nr. *coprophila* (Diptera: Sciaridae), Adults. HortScience, 2010; 45: 1830-1833 [link]