

Smelling Good Enough to Kill! Plant Essential Oils and their Insecticidal Activity

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Bean beetles, in the genus *Callosobruchus*, are agricultural pests in tropical and subtropical regions of Africa and Asia. Organophosphate insecticides such as malaoxon have been used to control insect pests such as bean beetles. There is increased interest in using natural insecticides to replace chemicals such as malaoxon because of increasing levels of insecticide resistance in different insect pests as well as concerns about the effects of these chemicals on human health and unintended effects on non-target organisms. Essential oils from aromatic plant species contain varying combinations of different compounds. Due to their different compositions, essential oils from some plant species may act as more potent insecticides than essential oils from other plant species. In this lab exercise, students studied the effectiveness of essential oils from different aromatic plants as natural insecticides against the bean beetle *Callosobruchus maculatus*. In the process, the students carried out a literature search, designed and carried out the experiment, analyzed their data, and presented their findings. Given the paucity of published data on the insecticidal effects of plant essential oils on bean beetles, the research carried by the students generated novel data.

Keywords: Bean beetles (*Callosobruchus*), natural insecticides, plant essential oils

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