

Title Volatile activity of plant essential oils against stored-product beetle pests.
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Abstract

The insecticidal effects of a group of plant essential oils (caraway, coriander (*Coriandrum sativum*), sweet basil (*Ocimum basilicum*) and garland chrysanthemum) were studied against the damaging legume and cereal storage pests *Callosobruchus maculatus* and *Sitophilus granarius*. Volatile toxicity was recorded by setting up a bioassay, with experimental units of 0.5 litres, which took into account the pest, the mode of oil application (vapours only, avoiding direct contact) and the stored product. Caraway oil was the most effective, causing 100 and 60% mortality in *C. maculatus* at 10 micro l and 1 micro l respectively, while 25 micro l was needed to kill 68% of *S. granarius* adults. Other oils, such as coriander (10 micro l) and sweet basil (25 micro l), showed activity only against the bruchid. The practical use of such plant derivatives for stored product protection is discussed.