

Title           Alternative fumigants for the control of stored-product insects.  
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#### **Abstract**

Methyl bromide and phosphine are the most widely used fumigants for controlling pest infestation in grain, dry food products and quarantine insects in cut flowers. Some stored-product insects have developed resistance to phosphine and, with the proposed phase out of methyl bromide in the near future, there is an urgent need to search for suitable alternatives. This study reported here evaluated the potential of methyl iodide (CH<sub>3</sub>I), carbon disulfide (CS<sub>2</sub>), benzaldehyde (C<sub>7</sub>H<sub>6</sub>O), and several isothiocyanates against the main stored-product insects. The toxicity of the various fumigants was assessed against adults, pupae and larvae of six major stored-product insects. We report on the isolation and fumigant activity of several isothiocyanates from Cruciferae seeds. One of these, isolated from *Eruca sativa*, was partially identified as alkyl-thio-alkyl-isothiocyanate.