

Title Entomopathogenic fungi for the control of invertebrate pests in storage structures.
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Abstract

Prospects are reviewed for the use of entomopathogenic fungi to control invertebrate pests of stored food on a commercial scale. A new four-year project, funded by the UK government and industry, has been set up to examine the use of entomopathogenic fungi as a means of reducing organophosphate pesticide and methyl bromide usage for the control of invertebrate pests of stored food. The project will assess the effectiveness of using naturally occurring entomopathogenic fungi for controlling residual infestations in storage structures in farms and mills. Samples from UK storage premises have been collected. Fungal isolates from these samples have been identified, established in laboratory culture and prepared for testing by CABI Bioscience. These new isolates, together with some additional UK isolates from the CABI Bioscience culture collection, have been tested in a "high-challenge" primary screen against representative stored-food pests: the saw-toothed grain beetle (*Oryzaephilus surinamensis*), the Mediterranean flour moth (*Ephesia kuehniella*), the black domestic psocid (*Lepinotus patruelis*) and the flour mite (*Acarus siro*). Preliminary results have been encouraging, and have indicated levels of activity that could lead to the development of a practical mycopesticide for use against stored food pests. Some isolates of *Beauveria bassiana* have resulted in 100% mortality in some species within 7 days of initial contact.