Potential of Beneficial Insects in Pest Control of Storage Buildings and Processing Units

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Abstract

In a three-year project, a practical approach for the control of stored-product pest insects in storage buildings and processing units was developed using the laboratory-mass-reared parasitoids and predators Trichogramma evanescens, Habrobracon hebetor, and Anisopteromalus calandrae. T. evanescens and H. hebetor are mainly applied against Plodia interpunctella, but also against Ephestia kuehniella, E. elutella, and E. cautella in mills, silos, and bakeries, as well as in storage buildings with big bags. A. calandrae was mainly applied against Stegobium paniceum in processing units. The evaluation of the pest development within the storage units was carried out by a comprehensive insect trap survey, and a comparison was drawn to previous years in which conventional pest controls were still used. After the first year of experiences, a positive conclusion can be drawn. Four out of eight trials did not need any additional chemical treatments, and three further trials needed only local chemical treatments based on water formulated compounds. However, limitations regarding the successful introduction of beneficial insects, such as insufficient cleaning or construction deficits became obvious.

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