

Title Insect population dynamics and grain damage in small-farm stores in Zimbabwe, with particular reference to *Sitotroga cerealella* (Olivier) (Lepidoptera: Gelechiidae).

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Abstract

S. cerealella is an important pest of stored grains, whose biology has been well-researched, but little is known about its population dynamics under field conditions. This study examined the importance of the moth in relation to other storage insect pests on maize and sorghum under smallholder conditions in Binga and Harare, Zimbabwe during 1998-2000. On sorghum heads, *S. cerealella* and *Rhyzopertha dominica* were dominant, but *Sitophilus* spp. were dominant on both maize and sorghum grain bulks. The insects themselves and associated grain damage were mostly confined to the top 30 cm of such bulks. An exception was *R. dominica*, which occurred in large numbers at lower grain levels. The implications of these findings are discussed with reference to reduced pesticide use through more-targeted grain treatment in tropical small-farm stores.