

Title Comparing insect captures in the "StorMax Insector" and other probe traps.
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Abstract

The "StorMax Insector" is a new, electronic device for detecting insects in stored grain. Naturally occurring arthropods captured using Insector prototypes were compared with those captured using Grain Guard pitfall traps (GGPT) and Storgard WB Probe II traps (WBII) in 5 small bins containing wheat. Trap location within the bin and the presence or absence of sunlight were also examined for their effect on the number of arthropods collected in the 3 trap types. The arthropods captured during the study consisted of 5 species of beetles, 2 parasitic Hymenoptera, a member of the Psocidae family, and mites. As expected, all arthropods were not captured in every bin during the 2-day sampling period in November when grain temperatures averaged 22.4 deg C. Total insects and mites captured were affected by trap type and trap location within the bins. Significantly more arthropods were captured in the Insector and WBII traps than in the GGPT traps. Traps located on the south sides of the bins captured more arthropods than traps located in the northern portions of the bins. Presence or absence of sunlight did not affect the total number of insects and mites collected in the traps. When comparing species, more *R. dominica* were captured in the WBII trap than in the other two trap types and more *A. advena* were captured in the Insector than in the GGPT trap. More *Rhyzopertha dominica* were captured in traps located in the southern part of the bin than in the northern portion. Traps in bins receiving sunlight had significantly more mites than bins with no sunlight. Just the opposite was true for *A. advena*. Knowing that trap type, trap location, and the presence or absence of sunlight can affect trap capture is important in interpreting species counts for developing a management strategy to control pests.