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Field studies with insecticide treated packaging for the control of stored product insects

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Abstract

Food Security is an issue that will impact everyone by 2050 it is projected there will be a global crisis unless action is taken. The ZeroFly® Storage Bag is a new combination of key technologies developed to reduce post-harvest losses. It contains an insecticide, Deltamethrin that is incorporated within the polypropylene yarns woven into a storage bag. The level of insecticide residue found on grains stored for up to two years in ZeroFly® Storage Bag are below CODEX & EPA maximum residue levels. This technology can be combined with natural rodent repellent compounds and the multilayer hermetic liners, meaning these bags can adhere to and improve on currently accepted practices and requires limited behavior change for the user. Studies show that the ZeroFly® Storage Bag can effectively control key stored product insects. The presentation will explore the current scale-up efforts and strategies of distribution planned throughout Africa and Asia, this would also include an assessment of the broader impact of ensuring the most appropriate combinations of technologies reach the most vulnerable groups.

On-Farm Comparison of Different Postharvest Storage Technologies for effectiveness in pest management in a Maize Farming System of Tanzania Central Corridor

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Abstract

Seven methods for storing maize were compared with traditional practice of storing maize in polypropylene bags. Twenty farmers managed the experiment under their prevailing conditions for 30 weeks. Stored grain was assessed for damage every six weeks. The dominant storage insect pests identified were the Maize weevil (*Sitophilus zeamais*) and the Red flour beetle (*Tribolium castaneum*). There was no significant difference (F = 87.09; *P* < 0.0001) in insect control and grain damage between hermetic storage and fumigation with insecticides. However, the insecticide treated polypropylene yarn (ZeroFly®) did not control insect infestation of grain for the experimental period under farmers' management. Grain damage was significantly lower in hermetic storage and fumigated grain than ZeroFly® and polypropylene bags without fumigation. No significant difference in grain damage was found between airtight treatment alone and when combined with the use of