Comparative Evaluation of Five Traditional Methods to Reduce Storage Pest Damage of Mung Bean (*Vigna radiata*)

Bandara D.M.T.S. and Jayasinghe W.H.*
Department of Agricultural Biology,
Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

We evaluated five traditional methods commonly-used in Sri Lanka to minimize losses due to storage pest attacks of mung bean. These methods have become popular at present due to high cost and unavailability of chemical pesticides and potential health risks. Mung bean grains were mixed with wood ash, dried neem (*Azadirachta indica*) leaves, dried lime (*Citrus aurantiifolia*) leaves, a mixture of dried neem and lime leaves and dried lantana *(Lantana camara*) flowers. These experimental units (i.e. plastic boxes with grains mixed with the treatments and control) were kept at room temperature and allowed natural infestation. Species identification, number of adult pests, seeds with holes and seeds with eggs, living adults, pupae and larvae were counted at thirty-day intervals over a storage period of two months. *Callosobruchus chinensis* was reported as the major storage pest of mung bean. In the untreated control, a higher number of grains were damaged by *C. chinensis*. Pest population was suppressed significantly (P=0.001) in dried neem leaf treatment compared to other treatments. Number of seeds with holes and the seeds with eggs were reduced significantly in neem treated-mung bean samples (P=0.003 and P=0.000, respectively). There was no significant effect by any treatment on living larvae and pupae inside the seeds (P=0.327). The lowest yield loss was recorded in neem-treated samples (12.92%) during the storage period of two months. Therefore, mixing grains with dried neem leaves was identified as the best postharvest treatment for short duration storage (two months) of mung bean at household level.

Keywords: *Callasobruchus chinensis,* Storage pests, Traditional methods

*whj@gari.pdn.ac.lk