

EFFICACY OF ABAMECTIN ON CONTROL OF INFESTATION BY *Sitophilus oryzae* (COLEOPTERA: CURCULIONIDAE) IN STORED RICE IN DIFFERENT PACKAGING MATERIALS

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Infestation of stored rice by *Sitophilus oryzae* (rice weevil) is evident, and the infestation level differs with the packaging material used in storage of rice. Application of insecticide outside the bag protects stored rice from invading insects. Abamectin is effective against certain insects in grain storage but its residual efficacy against *S. oryzae* when used on different packaging materials in storage of rice is unknown. Therefore, objective of this study was to evaluate the efficacy of abamectin-treated packaging materials against infestation of stored rice by *S. oryzae* during a four-month period. The experiment was a three-factor factorial, completely randomized design with four replicates. Polysack, polyethylene bags (PE) and plastic boxes were treated with 0, 1, 5 or 10 ppm of abamectin and 200 g of rice was added into each bag (150×220 mm)/box (127×127×50 mm), sealed, and then placed individually in a plastic bucket. To each bucket, 14-day-old, 100 adult *S. oryzae* were introduced to be outside the bag/box surface and closed using lids with vent holes. The progeny emerged, damaged kernels, seed germination and seed moisture level were determined at monthly interval for four months. The data were analysed using ANOVA of SAS using transformed data where necessary. Progeny emerged differed with packaging material, abamectin concentration and storage period. The lowest progeny emerged in the PE (112) with 35% damaged kernels treated with 10 ppm abamectin accompanied by the highest seed germination (68%) over four months. There were no significant differences in the moisture levels. This study concludes that polyethylene bags treated with abamectin is more effective than polysack bags or plastic boxes to store rice by controlling infestation of *S. oryzae*.

Keywords: Insecticide-treated bags, Progeny emergence, Reduced-risk insecticide, Rice weevil