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MANAGEMENT OF MAIZE WEEVILS *SITOPHYWS ZEAMAIS*
TRADITIONAL METHODS ON STORED MAIZE GRAINS

BY

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ABSTRACT

The protectant materials evaluated against *Sitophilus zeamais* in maize grain attack included cow dung ashes, goat dung ashes, *Combretum imherbe* ashes maize cob ashes and eucalyptus leaves. The specific objectives of the study were; to determine the effectiveness of locally available protectants to control maize weevil in stored maize grain and to evaluate germination after five months of maize weevil infestation under seven treatments. A survey was done prior to the evaluation for identification of the commonly used traditional methods by the farmers in Umguza district. Two maize varieties Pannar 53 and SC 513 were infested with 28 *Sitophilus zeamais* adults and then subjected to seven different management methods including control without any protectant and a stand commercial pesticide. The number of emergent holes and number of weevils were counted on all samples under each treatment replicated thrice after five months of infestation. A top paper germinability test was done and weight loss percentage were calculated to assess the level of weevil damage. The results were analysed using GenStat software. There was highly significant differences (P<0.001) among the treatment methods. Actellic a positive control was more effective than the other management methods. There was a significant difference (p<0.001) in the number of insects produced from the seven treatment methods. Eucalyptus leaves had the highest insect fertility (119.7) and cow dung ashes had the least (32). The control treatment with no protectant had the greatest mean number of emergent holes (43) compared to cow dung ashes (1.67) which was the most effective followed by goat dung ashes (3). Actellic the positive control on both varieties had mean holes of (0.6). The results showed that grain percent weight loss varied from 0.1 - 15 % of Pannar and 0.1 - 20,5% of SC 513. There was a significant difference (p<0.001) in the methods used and varieties in germination percentage. Pannar 53 had a high percentage of germination compared to SC 513. As the insects damaged the grain and produced more emergent holes, there was a significant negative decline in germination percentage. However, the study showed that no traditional management techniques was effective for all the resistance parameters.
across the board. Future research is recommended for standardisation of locally available material.