Faculty of Agricultural Sciences

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EVALUATION OF ASH BASED MATERIALS AS PROTECTANTS AGAINST MAIZE WEEVILS *SITOPHILUS ZEAMAYS* ON STORED MAIZE GRAIN

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ABSTRACT

Food security in Zimbabwe is threatened by poor post-harvest handling practices by the many small scale farmers who are rapidly replacing the commercial farmers who had been the major food producers until then. The greatest threat comes from destruction of harvested crops by pests in poorly built granaries with no pesticide to control the pests. The only cheap option for small scale farmers is to resort to old ways of pest control such as use of wood ash. The aim of this study was to evaluate the efficacy of natural available ash based protectants to control *S. zeamais* in stored maize grains. Shumba superdust treatment had 100% decrease in insect population followed by Aloe ash treatment which had 92% decrease in insect population. The wood ash treatments had very low decrease in insect population with umphafa wood ash treatment at 55% decrease and icithamuzi at 66% increase in insect population. This shows that Aloe ash and Shumba Super Dust are the most effective in killing *S. zeamais* followed by elephant dung ash. Maize grains treated with umphafa wood ash indicated high weight loss, while maize grains treated with Aloe ash and Shumba super dust had low weight loss. There was substantial evidence that Aloe ash is potential an effective material in controlling *S. zeamais*. In general whilst there is a measure of validity in the claim that wood ash controls pests, this research has shown that the aloe ash has very high efficacy in controlling maize weevils.