

Screening of Stored Maize (*Zea mays* L.) Varieties Grain for Tolerance Against Maize Weevil, *Sitophilus zeamais* (Motsch.)

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Abstract

Insect pests cause major damage to stored maize grain thereby reducing its weight, quality and germination vigour. Five open pollinated maize varieties (ZM401, ZM309, ZM521, ZM421 and Hickory King) and one hybrid maize variety (SC709) were evaluated for tolerance and their effects on progeny development against the maize weevil, *Sitophilus zeamais* (Motsch.). The experiment was laid in a randomised complete block design, with 6 treatments replicated 5 times. 100g maize grain was infested with 100 three week old unsexed pure culture adult weevils in 750 ml jars. After 14 days oviposition period, adult weevils were sieved out and parent weevil mortality determined. After a further 45 days, number of weevils emerged, percentage grain weight loss and number of damaged kernels were determined. Percentage kernel germination was determined through a germination test after 45 days of weevil attack. There were significant differences ($p < 0.05$) in number of parent weevil mortality, number of weevils emerged, grain weight loss, kernel damaged and germination percentage among varieties. ZM421 and ZM521 varieties showed potential to *S. zeamais* progeny suppression and tolerance as evidenced by high parent weevil mortality, low weevil emergence, less grain weight loss, low grain damage and high germination percentage.