

Title Effect of NeemAzal and other neem products on mortality, fecundity and frass activity of the larger grain borer *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae) infesting maize.

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Abstract

Two NeemAzal products from Trifolio GmbH, Germany, and neem oil and neem seed cake powder of the Kenyan neem tree were tested for their efficacy against the storage pest *P. truncatus* in the laboratory at (a) low, (b) medium and (c) high rates, containing approximately 1.5, 3 and 6 mg azadirachtin A/kg maize, respectively. The maize samples were stored in 250 ml glass jars at 30 deg C and 70% relative humidity. After one month of storage, NeemAzal PC KG 01 (0.1% azadirachtin A) at all the tested rates and neem seed oil at high rates caused more than 80% mortality compared with 4% in the control. The two compounds also reduced weight loss to less than 20% of the loss in the control. Neem oil at high rates resulted in the highest mortality after 24 h. Most of the mortality caused by the NeemAzal PC KG 01 at all rates occurred within 7 days of treatment. Insect population increase was completely inhibited by rates of more than 7.5 ml/kg (approx. 22.5 mg azadirachtin A/kg maize) of neem oil and 3 mg azadirachtin A/kg maize of NeemAzal PC KG 01, while the lower dosage levels of neem oil also resulted in significantly fewer progeny compared with the untreated control. Neem oil caused larval mortality in their early developmental stages within the grains. These results are discussed in relation to the existing widely varied reports on the same subject.