

We investigated the effect of neem plant (*Azadirachta indica*) products on maize grain consumption and body weights of *Lemniscomys striatus*, *Mastomys natalensis* and *Arvicanthis niloticus* live trapped in a Kenyan sub-humid grassland. The rodents were fed on oven dried crushed maize grains (mean wt=0.04 more or less 0.003 g each, n=300) either plain, adulterated with neem derivative or with powder from leaf or fruit. Consumption over a five-day period and body weights (pre- and post-treatment) were recorded. Leaf derivative lowered consumption by 50.3 per cent, 51 per cent and 59.8 per cent and the powder by 13.4 per cent, 12.4 per cent and 25.1 per cent, respectively, by *L. striatus*, *M. natalensis* and *A. niloticus*. Neem fruit derivative and powder, respectively, depressed consumption for *L. striatus* (54.4 per cent and 22.6 per cent), *M. natalensis* (49.3 per cent and 25.1 per cent) and *A. niloticus* (60.4 per cent and 27.7 per cent). Post treatment body weights for all species were reduced by 9.3 per cent (leaf ) and 12.6 per cent (fruit derivative) with a respective mortality rate of 7 per cent and 20 per cent. Our study showed that neem products significantly ( $P$  less than 0.001) lowered maize grain consumption in the three pests with the derivative being more effective than the powder ( $p$  less than 0.05). In the provision of effective repellent properties, formulation was more important than plant parts alone. *Azadirachta* products, due to their repellent effects, have potential in dry maize seed protection and may form a useful component in the development of an integrated pest management (IPM) strategy for rodents in Africa.