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## Poster Session 2 – Future Rodent Control Technologies

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### **107 Evaluation on repellent effects of extracts from castor (*Ricinus communis* L.) for protecting maize seeds against multimammate rat (*Mastomys natalensis* Smith, 1834)**

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A fractionation method was used to extract compounds from *Ricinus communis* L. seed using ethanol, hexane, dichloromethane and ethyl acetate solvents. Identification of bio-actives in each extract was done using thin layer chromatography. The extracts were then formulated into oil and powder forms and their repellent effects evaluated with *Mastomys natalensis* at Rodent Control Centre, Morogoro Tanzania. Each extract was dressed at concentrations of 20, 30 and 50 g/kg (for powder) and 20, 30 and 50 ml/kg of maize seed. Treated maize (200 seeds) was subjected in crucible to individually caged *Mastomys natalensis* in no choice experiments with five replications. Observations were made for four consecutive days where number of damaged maize seeds was daily recorded. Results revealed that there was significant difference between treatments (<0.00001) with lower damage observed in ethanol (CR) and dichloromethane (D) extracts. Regarding concentrations effects and form, 20 ml of CR-oil and 20 g of D-powder had significantly lower maize seed damage. Therefore, this study recommends the use of CR-oil and D-powder at level 20 g and ml, respectively, for dressing 1 kg of maize seeds before sowing to protect against *Mastomys natalensis* damage at germination stage. However, bioassay study was suggested to investigate whether the products have an effect on maize seed germination.