

Influence of rearing food substrate on food preference of rice weevil *Sitophilus oryzae* L. (Coleoptera, Curculionidae)

M.G.V. Wickremesinghe, C.N.L. Bogahawatta*, H.C.E. Wegiriya & N. Fathima

Department of Zoology, Faculty of Science, University of Ruhuna

Correspondence: cnlb@zoo.ruh.ac.lk

Stored rice in Sri Lanka does suffer large losses from insect pest damage in each year. Among the insect pests, *Sitophilus oryzae* is the most destructive stored rice pest in Sri Lanka. The food preference of rice weevil *S. oryzae* was evaluated in the laboratory to assess the damage on four different types of rice available in the market namely, "Sudu kakulu", "Rathu kakulu", "Samba" and "Nadu". A culture of *S. oryzae* was maintained on Rathu kakulu".

In the first experiment, one rice type was given (no choice) and the second experiment, two rice types were used to select the preferred rice type giving the choice. One day after emergence, one pair of male and female was introduced into a vial containing 100 undamaged grains of each rice type and each type was replicated six times. Four days after introduction of *S. oryzae*, number of damaged grains in each tested rice type was recorded until the death of adult *S. oryzae*.

It was evident that among the four tested rice types, Rathu kakulu", had the highest significant damage ($P < 0.05$) compared to other tested cultivars. The other three rice cultivars Sudu kakulu", "Samba" and "Nadu" had significantly reduced damage of *S. oryzae*.

Food preference of *S. oryzae* was also investigated using *S. oryzae* emerged from "Rathu kakulu". Pair of *S. oryzae* was introduced into a mixture of rice grain which contain fifty Rathu kakulu" seeds and fifty seeds of one of the other three types of rice i.e. Sudu kakulu", "Samba" and "Nadu. This experiment was replicated six times. Number of infested grains and number of dead adults in each rice type were recorded. Results also revealed that Rathu kakulu", had highest significant damage () of *S. oryzae* compared to other tested types, when given a choice ($P < 0.05$). Results of the both experiments had shown that *S. oryzae* preferred to damage the rice cultivar, on which they had emerged whether the choice was given or not.