B-88: Effect of selected rice varieties and of some selected botanicals on the development and behaviour of rice weevil *Sitophilus oryzae*

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Destruction of rice by rice weevil has reduced the supply of grains in the market. An experiment was conducted to study the effect of rice varieties, *viz* Suthuheenati, Pachchaipperumal, H_4 $BG_{11\text{-}11}$, BG_{300}, $BG_{94\text{-}1}$, $BG_{34\text{-}8}$, $BG_{34\text{-}6}$, $BG_{276\text{-}5}$ and $BG_{379\text{-}2}$ and botanicals, *viz*: Lakada bud, citrus peel and neem leaf on *Sitophilus oryzae*.

In method 1, 5 g grains of 2 different varieties were kept in each side of an olfactometer and 10 newly emerged adults were allowed in the middle tube. Thus, all possible combinations of the 10 varieties were tested. After 24 h the number of insects that had arrived in each side of the olfactometer were counted. In method 2, 10 newly emerged adults were introduced into each 370 cc bottle containing 5 g of each variety. After 26 days, the number of emerged adults were counted from the grains. All samples were disinfected to 50°C for 4 h in an oven.

This study showed that degree of preference varied remarkably ($P<0.01$) within the rice varieties. $BG_{11\text{-}11}$ was less preferred to *S. oryzae* followed by BG_{300} $BG_{94\text{-}1}$ and $BG_{379\text{-}2}$ and the most preferred variety was found to be Suthuheenati.

The variety Suthuheenati was used to study the affinity of *S. oryzae* on different types of rice namely, brown, broken, parboiled and rough rice. It was observed that brown and broken rice were most preferred by *S. oryzae*, significant at $P<0.05$. The number of adults that emerged from rough rice was nil.

As broken rice was most attacked by *S. oryzae*, further study was conducted with broken rice of Suthuheenati to determine the efficacy of botanicals on *S. oryzae* and 5 g of broken rice treated with each of the botanicals at the rate of 5% (wt/wt) were used. The result showed that the pest population was significantly ($P < 0.01$) reduced by all botanicals; however, neem leaf appears to be more effective than the other botanicals in this study.