

## THE RELATION BETWEEN SOME GRAIN CHARACTERS AND INSECT INFESTATION IN STORED RICE

Variations in the susceptibility of paddy grains to attack by the **Angoumois** grain moth *Sitotroga cerealella* Oliv. have been attributed to various factors. Ramiah (1937) found the glutinous varieties and those with the golden-brown glumes more susceptible than **others**. Israel and **Vedamoorthi** (1958) observed the finegrained scented varieties with higher moisture content as more susceptible than **the coarse** grained **varieties**. Abraham and Nait (1966) could not find fineness of the grain as a factor deciding relative susceptibility when moisture content was kept equal.

The influence, if any, of three grain characters viz , fineness, husk thickness and protein content of the endosperm on the susceptibility to infestation by the insect was ascertained, the results of which are presented in this note.

Grains of nine paddy strains viz. Basumathy, **ADT 27**, **PTB 10**, **IR 8**, Tainan **3**, **PTB 27**, Navara, **Taichung** Native 1, and **PTB 7** with  $14.05 \pm 0.28$  per cent moisture contents were used in these studies. They were exposed to infestation by *S. cerealella* as reported earlier (Abraham and **Nair** 1966). Thickness of the husk was measured by a dial micrometer and protein contents were ascertained by Kjeldahl's method.

Table 1 gives the correlations between three grain characters and degree of insect infestation. It may be seen that none of the correlations are significant.

Table 1

Correlation between grain characters and insect damage of paddy grains

| Character association | r (Correlation coefficient) |
|-----------------------|-----------------------------|
| <b>r X1 y</b>         | 0.4255                      |
| r X2 y                | 0.1009                      |
| r X3 y                | 0.5332                      |

**X1** = Fineness (Length/Breadth ratio)

**X2** = Husk thickness

**X3** = Protein content

**y** = Mean percentage damage

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