

Occurrence of Minor Insect Pests of Paddy in Tungabhadra Project Area of Karnataka

Over 1400 insect species attack standing and stored rice in the world (Grist and Lever, 1969). While Kalode and Pasalu (1986) reported that over 100 species of insect pests attack the rice crop at various stages of its growth. According to Pathak and Dhaliwal (1981) these pests account for losses of 24 per cent while, Cramer (1967) reported it to be 35 per cent.

Of the several insect species recorded as pests about 20 have major significance in different rice growing regions of India. With the increasing numbers of new rice genetic material being offered to rice farmers for cultivation and adoption of new and improved agricultural and plant protection practices, the pests status of certain rice-associated insects is expected to change. Stem borers, which were major pests of rice have been replaced by the rice brown plant hopper, *Nilaparvata lugens*(Stal) (Nasu, 1964; Dyck and Thomas, 1979). White backed plant hoppers are emerging as serious pests in several areas. Rice gall midge also became major pest causing tremendous rice yield loss (Reddy, 1967). The leaf folder (Dorge *et al.*, 1971), caseworm (Banarjee, 1956; Joseph, 1969; Pathak, 1975) and ear head cutting caterpillar, *Mythimna separata* (Wlk.) are also becoming more serious than what they were a decade ago. Hence, an attempt was made to know the present status of minor insect pests of paddy and their seasonal incidence in Tungabhadra project area.

Field surveys carried out during kharif 2001 for the insect pest status in different locations of Tungabhadra project area *viz.*, Raichur, Manvi, Sindhanur, Sirguppa and Gangavati, revealed that a total of 12 insect pests were found feeding on paddy crop. Out of these, brown plant hopper, white backed plant hopper followed by leaf folder in isolated patches were

recorded as major pests of this crop. Whereas, paddy horned caterpillar, Skipper, Stem borer, thrips, green leafhopper, hispa, grasshopper and caseworm were recorded as minor pests.

Survey indicated (Table 1) that the leaf damage by paddy thrips (4 per cent) was confined to nursery stage of the crop during the month of July and got eliminated completely after transplanting.

The rice stem borer appeared from first fortnight of October in all the locations. The yellow stem borer infestation ranged from 0.86 to 1.22 per cent dead hearts during vegetative stage (October) and 1.84 per cent white ears at harvest (December). Among the sucking pests the population of green leafhoppers was found throughout the crop growth with slight increase during first fortnight of November (1.38/hill) but the pest population was below ETL (5.00/hill) in all the locations of Tungabhadra project.

Among the defoliators, infestations due to rice skipper was observed from October to first fortnight of November and thereafter the pest disappeared. Highest skipper population (0.36/hill) was recorded in the second fortnight of October. Paddy horned caterpillar, *Melanitis leda ismene* was active at the tillering stage of the crop (*i.e.*, during the month of November) and declined with the advancement in the crop stage. Larval population of paddy horned caterpillar was maximum (1.98/hill) in the second fortnight of November. These findings on the occurrence of the pest are in conformity with the findings of Subhash Chander (1998). Stray populations of case worm moths, Grasshopper and hispa were also observed but no clear trends were discernible due to low populations.

Table 1. Population of minor insect pests in Tungabhadra Project Area during kharif, 2001

Sampling periods month	Thrips damage (%)	YSB (%)	GLH/hill	Skipper larvae/hill	Melanitis larvae/hill
July	4.00 (2.00-7.00)	0.00 (0.00)	0.50 (0.00-2.00)	0.00 (0.00)	0.00 (0.00)
August	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
September	0.00 (0.00)	0.00 (0.00)	0.41 (0.00-2.00)	0.12 (0.00-0.20)	0.00 (0.00)
October I FN	0.00 (0.00)	0.86 (0.00-2.00)	0.86 (0.00-2.50)	0.22 (0.00-.30)	0.00 (0.00)
October II FN	0.00 (0.00)	1.22 (0.50-3.00)	1.28 (0.00-3.00)	0.36 (0.00-0.50)	0.00 (0.00)
November I FN	0.00 (0.00)	0.00 (0.00)	1.38 (0.00-3.00)	0.20 (0.00-0.30)	0.54 (0.00-1.00)
November II FN	0.00 (0.00)	0.00 (0.00)	1.31 (0.00-2.50)	0.00 (0.00)	1.98 (0.00-3.00)
December I FN	0.00 (0.00)	1.84 (1.00-3.00)	0.32 (0.00-0.50)	0.00 (0.00)	1.40 (0.00-2.00)

(Figure in the parenthesis indicates range of infestation in different locations of TBP area)

Mean of 50 hills in two fields of five locations FN: Fornight, YSB: Yellow stem borer, GLH: Green leaf hopper

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