

RESEARCH ARTICLE

# Deterioration of rice grain quality due to rice earhead bug, (*Leptocorisa acuta*) Thunb. in Tripura

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## ABSTRACT

Rice earhead bug, *Leptocorisa acuta* Thunberg (Hemiptera: Alydidae) is found in almost all the countries where rice crop is grown. It, however, becomes more prevalent in rainfed wetland or upland rice. In Tripura, rice earhead bug (REB) is one of the major pests of rice crop leading to considerable field losses. Experiments were conducted in the field to evaluate the efficacy of some insecticides against REB, *L. acuta*. The results in field evaluation showed that all the insecticides are having significantly reduced pest population. The mortality percentage of *L. acuta* caused by different insecticides ranged from 74.01 to 97.03%. Among all the treatments tested, Quinolphos 25 EC gave the highest mortality (97.03%) as compared to untreated control (5.48%).

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## INTRODUCTION

Rice is the staple food of more than 60 per cent of the world's population especially for the people in South-East Asia. Among the rice growing countries, India has the largest area under rice crop and ranks second in production next to China. It occupies about 23.3 per cent of gross cropped area of the country and plays a vital role in the national food grain supply. Rice alone contributes 43 per cent of total food grain production and 46 per cent of total cereal production of the country. The average rice productivity in India was 3049.60 kg/ha (2004), which is 23.83 per cent below the world's average productivity of 4003.80 kg/ha during the same year. It is infested by many pests in which one of the enemy is rice earhead bug.

Rice earhead bug, *Leptocorisa acuta* Thunberg (Hemiptera: Alydidae) is found in almost of countries where rice crop is grown such as India, Bangladesh, Bhutan, Burma, Indonesia, Cambodia, Laos, Malaysia, Nepal, Pakistan, Philippines, Thailand, South of China, Japan, Korea and Vietnam. Rice earhead bug (REB) is more prevalent in rainfed wetland or upland rice.

Loss due to ear head bug in Tamil Nadu has been recorded 152.67 tones Shanmugam *et al.*, 2006). Both adults and nymphs do the damage. The nymphs start feeding 3 to 4 hours after hatching. They feed on the leaf sap near the tip/ on milky sap in developing spikelets at milky stage. Sucking of the milky sap causes ill-filled/ partial filled and chaffy grains. Serious infestation can reduce the yield by 50 per cent. Appearance of numerous brownish spots at the feeding sites / shrivelling of grains. In the case of heavy infestation, the whole earhead may become devoid of mature grains. Its presence in the field is made out by its strong smell. In Tripura, rice earhead bug (REB) is one of the major pests of rice crop leading to considerable field losses. Intensity and type of damage caused by REB depend on stage of rice crop, population density of the pest and ecological conditions. Both nymphs and adults are destructive to the crop, even though the damage by nymphs is more severe. Nymphs prefer grains at milky stage for feeding. They feed by the insertion of proboscis at points where glumes meet. During the process, the bug secretes a proteinaceous stylet sheath to form a feeding canal for its sucking mouthparts. Removal of stored assimilates from developing grain may result in either unfilled