INTERNATIONAL JOURNAL OF PLANT PROTECTION
VOLUME 9 | ISSUE 1 | APRIL, 2016 | 183-186

● e ISSN-0976-6855 | Visit us : *www.researchjournal.co.in*

IJPP

RESEARCH PAPER

DOI : 10.15740/HAS/IJPP/9.1/183-186

# Effect of silicate solubilizing bacteria and fly ash on the incidence of stem borer (*Scirpophaga incertulas*) (Lepidoptera: Pyralidae) in rice

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ARITCLE INFO

**Received** : 15.01.2016
**Revised** : 25.02.2016
**Accepted** : 06.03.2016

KEY WORDS :
Rice, *Scirpophaga incertula*, SSB, Fly ash

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ABSTRACT

Field experiments were conducted to investigate the effect of graded levels of fly ash with silicate solubilizing bacteria (SSB) and FYM on the incidence of rice stem borer (*Scirpophaga incertulas*) (Lepidoptera: Pyralidae) in rice crop in low and high Si soils under Split Plot Design. The graded levels of fly ash incorporated in soil at five levels (0, 25, 50, 75 and 100 t/ha) one week before crop transplantation. The results of field experiment in low Si soil showed that fly ash had significant influence on the stem borer population over the control. On an average, with respect to borer incidence, higher dose of fly ash @ 100 t $ha^{-1}$ markedly decreased infestation (16.9 %) while, applications at 25 and 50 t $ha^{-1}$ permitted slightly more dead hearts incidence, but differed significantly from control. In main plot treatments, application of SSB + FYM recorded 16.1 per cent of stem borer incidence. Application of fly ash @ 100 t $ha^{-1}$ with SSB + FYM reported less per cent of dead hearts. In high Si soil, the effect of main treatments and interaction effect was non-significant. However, application of fly ash @ 100 t $ha^{-1}$ had significant effect with meagre pest incidence of 11.6 per cent. Besides application of SSB and SSB+FYM alone played a major role in maintaining ETL of stem borer. The present study implies that due to suppressive effects of Si and K present in fly ash the incidence of the rice stem borer mitigated at crop vegetative stage and the use of soil incorporation strategy can create an unfavourable condition for pests to survive.

**How to view point the article :** Pedda Ghouse Peera, S.K., Balasubramaniam, P. Raghavendra Reddy, M. and Chandramani, P. (2016). Effect of silicate solubilizing bacteria and fly ash on the incidence of stem borer (*Scirpophaga incertulas*) (Lepidoptera: Pyralidae) in rice. *Internat. J. Plant Protec.*, **9**(1) : 183-186.