# PRESENT FARMERS PRACTICES FOR COMBATING MAJOR INSECT PESTS OF JUTE AND DEVELOPMENT OF AN IPM PACKAGE BY UTILIZING BIO-CONTROL AGENTS AND NEEM PRODUCTS IN THREE INTENSIVE JUTE GROWING AREAS IN BANGLADESH

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## Extended Summary

Two experiments were conducted which include a socio-technical survey during March to August 2011 with the aim at fine tuning of farmers' practices (FPs) into a more effective integrated practice for managing insect pests of jute. The survey comprising regular inspection of jute plots of a total of 30 jute growers for collection of technical and socio-economic data revealed a total of 5 farmers' practices (FPs) comprising chemicals plus other components. The study revealed that the use of insecticides dominated in the FPs. Based on survey findings, the subsequent on-station experiment was conducted. On-station efficacy evaluation of 5 selected treatments, two neem products and a biological control agent. In Faridpur district, the highest sample farmers (33.00%) practicing $FP_1$ whereas the lowest sample farmers (6.67%) practicing $FP_5$. In Manikgong district, the highest sample farmers (40.00%) practicing $FP_1$ followed whereas the lowest sample farmers (6.67%) practicing $FP_4$. On the other hand, in Jamalpur, the highest sample farmers (10.49%) practicing $FP_1$ whereas the lowest sample farmers (8.13%) practicing $FP_4$. The incidence of jute hairy caterpillar, Jute semilooper, Jute weevil and Jute mite were observed lowest in the combinations of different management components in FP5. So, the farmer practices FP5 have positive effectiveness in controlling insect pests of jute among the sample districts. Instead of such pests attack the highest yield was found in Jamalpur district and lowest was recorded from Faridpur. After 24 hours of treatment application in consideration of % mortality of jute hairy caterpillar, Semilooper, Jute weevil and Jute mite over control the highest mortality (92.26%, 89.06%, 87.99% and 61.90% respectively) which was recorded for $T_6$ treatment *Trichogramma evanescense* @ 0.5 gm/6m$^2$ + Neem oil 5 ml/L of water at 7 days interval. On the other hand, after 24 hours of treatment application the lowest % of mortality among the above insect pests of jute over control was recorded from $T_5$ *Trichogramma evanescense* @ 0.5 gm/6m$^2$ at 7 days interval. The similar trends were found after 48 and 72 hours of treatment application in consideration of % mortality over control among the insect pests of jute. The highest benefit cost ratio (3.34) was estimated for $T_5$ treatment and the lowest (2.81) benefit cost ration for $T_6$ treatment under the trial. The highest BCR was found in the treatment $T_1$ may be due to the minimum infestation cost compared to the other treatment components and highest yield.

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