

INCIDENCE OF STEM BORER AND LEAF FOLDER IN DIFFERENT RICE CULTIVATION SYSTEMS

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1. Rice (*Oryza sativa* L.), is the most consumed staple food worldwide and the rice pests are the major biotic constraints limiting rice production globally (Padmavathi *et al.*, 2017). Under delayed south west monsoon situations, nursery sowings are delayed and planting is done with aged seedlings. In these two conditions, the rice yields will be drastically reduced. An alternate system for getting higher yields under delayed situation is SRI or Slightly Modified System of Rice Intensification (SMSRI) or Direct Seeding with Drum Seeder (DSDS) as these are being adopted by the farmers. The micro climate prevailing in SMSRI and Direct seeded rice will be different to that of normal transplanting and the incidence of insect pests will also differ. Hence, the present investigation was taken up to study the incidence of stem borer and leaf folder apart from grain yield in different rice cultivation systems viz., SMSRI, DSDS and normal planting (with and without protection).

2.

A field experiment on the the incidence of stem borer and leaf folder in different rice cultivation systems viz., SMSRI, DSDS and normal planting was conducted at Regional Agricultural Research Station, Polasa, Jagtial during *kharif* season in a randomized block design with 6 treatments and 4 replications. The overall results of the experiment brought substantial amount of evidence that, in SMSRI ecosystem, some of the major insect pests viz., stem borer and leaf folder are less active. SMSRI discouraged significantly the activities of aquatic arthropods. Thicker stem, compact leaf sheath, high degree of silicon in the stem due to the powerful and flourishing root system are known for stem borer resistance in SMSRI rice (Reddy, 2005). Transplanting young seedlings, planting the seedling wider apart, keeping the soil well drained than continuously flooding through adopting of alternate wet and dry irrigation (AWDI), frequent use of mechanical hand weeder are the factors responsible for low pest incidence in SMSRI. Mohmmad and Khalid (2011) recorded higher number of white ears in direct seeding than transplanting. Direct seeding method creates closer spacing between plants, which may favor build up of certain pests.

Dead hearts were less in SMSRI with protection (1.91 %) followed by DSDS with protection (2.58 %). Similarly, the white ears recorded were low in SMSRI with protection (4.58 %) followed by DSDS with protection (6.49 %). The damage due to leaf folder was least in SMSRI

with protection(0.3 %) followed by DSDS with protection(0.8 %). Highest grain yields of 6372 kg/ha was recorded in SMSRI with protection followed by DSDS with protection (5796 kg/ha). Dead hearts and white ears due to stem borer in Normal planting with protection were 8.73% and 12.51% while they were 12.17% and 17.31% in Normal planting without protection. The damage due to leaf folder in Normal planting with protection and without protection was 2.5 % and 3.2% respectively. The grain yield in Normal planting with protection and without protection were 5418 and 4251 kg/ha respectively.