



Research Article

Reaction of certain local rice varieties against *Orseolia oryzae* under rainfed ecosystem

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ABSTRACT

Field screening of eighty one rice varieties (including one susceptible check) was carried out against gall midge during *Kharif* 2009-2010 at the Agricultural Research Station, Sirsi, (Uttar Kannada) under rainfed ecosystem. Varieties were evaluated based on the standard evaluation scale of 0-9. Per cent silver shoot varied between 0.00 (highly resistant) to 19.3 (susceptible) per cent and 0.00 (highly resistant) to 25.32 per cent (susceptible) at 30 and 50 days after transplanting (DAT). Out of 81 varieties, eight proved to be highly resistant (0 % SS), forty eight varieties reacted as moderately resistant (1-5% SS), twenty three varieties reacted as moderately susceptible (6-10% SS) and none of the varieties was found to be resistant (<1% SS) and highly susceptible (>25% SS) at 30 DAT. Similarly eight proved highly resistant (0 % SS), eight rice varieties reacted moderately resistant (1-5% SS), forty two varieties showed moderately susceptible (6-10% SS), twenty three varieties reacted susceptible (11-25% SS) and none of the varieties was found to be resistant (<1% SS) and highly susceptible (>25% SS) at 50 DAT.

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INTRODUCTION

Rice (*Oryza sativa* L.) is grown in many regions across India. India is the second leading producer of rice in the entire world. Rice is grown in 117 countries, being a staple food of 2.7 billion people in Asia alone. The major insect pests including gall midge, leaf folder, white backed plant hopper (WBPH), ear head bug and yellow stem borer act as production constraint in rainfed rice ecosystem. Among these, rice gall midge, *Orseolia oryzae* (Wood-Mason) damages the crop during early stage and it is considered as second major pest of rice in India, based on its relative importance. It has become one of the most serious pests of high yielding varieties in recent years in few states of India. The symptom produced by gall midge is popularly known as 'silver shoot' or 'onion shoot' or 'anekombu'. The high degree of susceptibility to gall midge has become a limiting factor in further spread of Jaya variety in endemic areas. Heavy rains in the area during *Kharif* season also make the use of insecticides very difficult. The growers are also not able to afford the high cost of granular insecticides which are effective against this pest. The use of gall midge

resistant varieties therefore, appears to be the most effective way of reducing the gall midge damage and increasing rice production. Gall midge infestation starts building up at 30 days after transplanting (DAT) and rice varieties show differential degree of infestation. A number of workers have screened rice germplasms against gall midge populations through which several important sources of resistance have been identified. Hence, the present study was undertaken, to evaluate 81 rice varieties for their resistance against gall midge.

MATERIALS AND METHODS

The investigation was taken under field condition at the Agricultural Research Station, Sirsi, Uttar Kannada district of Karnataka, during *Kharif* season of 2009-2010. Eighty one rice genotypes were obtained from Directorate of Rice Research (DRR), Rajendranagar, Hyderabad. At ARS, these local varieties were screened against gall midge in comparison with susceptible check Jaya which is cultivated on large area in Karnataka. Test entries were transplanted in the main field at 21 days after sowing and each entry was planted with two