

Status, distribution and epidemiology of rice diseases in Jabalpur region

■ V. V. KAPSE, M.S. BHALE AND M. J. JOGI

SUMMARY

Status and distribution of diseases was determined in 9 major rice growing areas of the State during *Kharif* 2008. Presence of blast (*Magnaporthea grisea*), brown spot (*Drechlera oryzae* = *Helminthosporium* sp.), bacterial leaf blight (*Xanthomonas campestris* pv. *oryzae*), false smut, bunt, and sheath blight was recorded in various proportions. The incidence of disease was observed in 22 rice varieties, 7 hybrids, 14 A lines and 13 new plant type (NPT) developed at JNKVV, Jabalpur. Overall the incidence of the disease was up to 29 per cent. Rice blast was recorded at Waraseoni, Balaghat district. Bacterial disease were not wide spread, however, the sheath blight was predominant. Disease initiation and its corresponding meteorological data reveal that disease by *Rhizoctonia solani* was initiated during 3rd week of September when temperature ranged from 19.9 to 33.2°C with humidity 72.0 to 88 per cent and 13.9 mm rainfall. Maximum disease was noticed up to 4th week of October with average incidence 19 per cent and corresponding temperature was 25°C and relative humidity 67 per cent.

Key Words : Rice, Hybrid, Disease, Meteorology factors, Disease incidence, Epidemiology, Status

How to cite this article : Kapse, V.V., Bhale, M.S. and Jogi, M.J. (2012). Status, distribution and epidemiology of rice diseases in Jabalpur region. *Internat. J. Plant Sci.*, 7 (1) : 185-189.

Article chronicle : Received : 07.09.2011; Sent for revision : 01.10.2011; Accepted : 31.12.2011

Rice (*Oryza sativa* L.) being a staple food crop of India, play significant role in the food security system. The crop is an important integral part of Indian dietary and staple food of more than 60 per cent. Rice is primarily a high energy and high calories food crop that contains about 6-7 per cent protein and 2.25 per cent fat. It occupies a pivotal place in the global food and live hood security. The crop cultivated in an area of 44.62 m ha with annual production of 93.08 mt with productivity of 2.0 t / ha that contributes 44.0 per cent of total food grain production (Koutu and Rao, 2008; Mishra *et al.*, 2005).

The largest rice exporting countries are Thailand (26%

of world exports), Vietnam (15 %) and the United States (11%) while the largest three importers are Indonesia (14%), Bangladesh (4%) and Brazil (3%). China and India remains the top two largest producers of rice in the world (Rice/Wikipedia).

Hybrid rice offers an opportunity to increase rice yields and thereby ensure a steady supply of food (Koutu and Rao, 2008; Virmani and Kumar, 2004) as per projection made for 2025. Hybrid rice is genealogy of rice produced by cross breeding of different kind of rice. It offers a considerable yield advantage over improved varieties. Use of hybrid rice production technology can provide an additional yield of rice up to 1.0 ton per ha over the conventional varieties (Mishra and Rao, 2002). In India, hybrid rice cultivation is becoming more popular in Andhra Pradesh Karnataka, Tamil Nadu, Punjab, Haryana, West Uttar Pradesh and West Bengal (Aldas, 2003).

Epidemiology is the major tool for the study of the development of diseases in a population under a particular set of environment (Neergard, 1997; Singh, 2004). Disease developments, especially for the target disease of the present

MEMBERS OF THE RESEARCH FORUM

Author to be contacted :

V. V. KAPSE, Department of Plant Pathology, Anand Niketan College of Agriculture, Anandwan, Warora, CHANDRAPUR (M.S.) INDIA
E-mail: Vijay.kapse1@gmail.com

Address of the co-authors:

M. S. BHALE AND M. J. JOGI, Department of Plant Pathology, Anand Niketan College of Agriculture, Anandwan, Warora, CHANDRAPUR (M.S.) INDIA