

Performance of okra in relation to yellow vein mosaic virus in different seasons

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SUMMARY

Forty-one okra genotypes were evaluated in *Kharif*, *Rabi* and summer season against yellow vein mosaic virus. Among 41 genotypes evaluated 18 genotypes in *Kharif*, 35 genotypes in *Rabi* and all forty-one genotypes were found to be highly resistant during summer. 7 cultivars in *Kharif* and 2 in *Rabi* showed resistant reaction. 6 cultivars in *Kharif* and 3 in *Rabi* found to be moderately resistant. Moderately susceptible reaction was shown by 4 cultivars in *Kharif* and only 1 cultivar in *Rabi* season. 4 cultivars shown susceptible reaction in *Kharif* while none was found to be susceptible in *Rabi* season. Local long and Pusa sawani (check) found to be highly susceptible in *Kharif* season. None was found to be highly susceptible in *Rabi* season. There was no record of disease incidence in summer season that might be due to non-availability of vectors and environmental conditions, prevailed during summer season.

Key words : Okra, Evaluation, YVMV

Okra [*Abelmoschus esculentus* (L.) Moench] known as Bhindi is an important vegetable crop of India and other sub-tropical and tropical countries of the world. This crop is attacked by a number of diseases and Yellow Vein Mosaic Virus is the most serious and infects all plant parts including fruits. This virus has been reported to cause up to 94 per cent loss in yield (Sastry and Singh, 1974; Singh, 1985). No any economical control measure, except resistant varieties is known to manage this “Yellow plague” of okra. The spread of the disease depends upon the environmental conditions, crop characteristics and vector population (Singh, 1990; Sharma *et al.*, 1987). Since, there is a Variable reaction of virus to different okra genotypes under different agro climatic conditions, so it was considered imperative to assess the different varieties and lines under different seasons to find out durable resistant genotypes against this disease.

MATERIALS AND METHODS

The present investigation was conducted during *Kharif*, *Rabi* season of 2007-08 and summer season of 2008-09 at the Experimental Farm, Department of Genetics and Plant Breeding, Marathwada Agricultural University, Parbhani. 41 okra cultivars including different lines of Parbhani kranti cultivar having different sources with two checks were evaluated in three different seasons.

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The experiment was laid out in randomized block design with three replications. Each entry was sown accommodating 15 plants in 3 rows per replication of 4.2 m length at 60x30 cm spacing. Infected rows of pusa sawani, which is highly susceptible to YVMV were grown around the plot. The recommended cultural practices were followed to raise a successful crop. The crop was observed for the incidence of YVMV disease at 15 days interval commencing from 15th to 90th days after sowing. The disease incidence was recorded on the basis of the visual symptoms on the crop. The visual symptoms observed were vein and veinlet chlorosis, chlorotic spots appearing regularly in the interveinal region, thickened leaves etc.

The overall disease reaction was assigned according to a co-efficient of infection (Table 1). Co-efficient of infection (CI) was calculated by multiplying the per cent of disease intensity (PDI) by the response value assigned to each severity grade.

Table 1 : Scale for classifying disease reaction against yellow vein mosaic virus

Appearance of YVMV symptoms	Symptom	Response value	CI	Reaction
Absent	0	0	0-4	HR
<25% leaves (mild)	1	0.25	4.1-9.0	R
25-50% leaves	2	0.50	9.1-19	MR
51-75% leaves	3	0.75	19.1-39	MS
75-90% leaves	4	1.00	39.1-69	S
>90% leaves	5	1.00	69.1-100	HS

CI = Co-efficient of infection, HR = Highly resistant, R = Resistant
MR = Moderately resistant, MS= Moderately susceptible, S= Susceptible HS = Highly susceptible