Incidence of Anthracnose on different varieties of grapes in Jobner, Rajasthan (India)

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Grape orchards have been expanding rapidly in Rajasthan State in past five years. In orchards of Udaipur, Shri Ganga Nagar and Jaipur, anthracnose incited by *Gloeosporium ampelophagum* (*de* Bary) Eacc. was found to be severe. In vineyard of College of Agriculture, Jobner, different varieties of grapes behaved differently in respect of susceptibility. The present investigation was, therefore, undertaken to know varietal reaction in grape to anthracnose disease.

Incidence on each variety was assessed by randomly selecting and marking four individual young shoots of each vine. Four replicates, each consisting of one vine were studied for each variety. On each marked shoot, one hundred leaves and the side shoots were observed at 10 days interval, from 1st August to 29th September, 1968 and 1969.

Infection index of each variety determined by formulating recognizable grade of infection and calculating by the formula given below, is shown in table 1.

Grade of infection	*Description*
'*' (Healthy)	Twigs completely healthy, with no trace of infection on any part.
'1' (25 per cent)	Twigs show slight infection. About 25 per cent of leaf area covered by spots. Petioles free from infection.
'2' (50 per cent)	Infection moderate, nearly 50 per cent of the leaf area covered by spots. Petioles showing a few spots.
'3' (75 per cent)	Nearly 75 per cent of the leaf area covered by spots. Petioles and twigs bearing numerous sunken spots.

Grade of infection	*Description*
'4' (100 per cent)	Whole leaf lamina covered by several coalescing and perforated spots. Leaves pale green and drying. The petioles and twigs heavily spotted becoming yellowish or drying.

$$\text{Infection index} = \frac{\text{Class ratings} \times \text{Class frequency} \times 100}{\text{Total no. of leaves} \times \text{Maximum rating of each variety}}$$ only

TALBE 1.—Infection index of athracnose in different varieties of grapes

Variety	*Infection index*	
	1968	*1969*
Anabe shahi	9 50	15 0
Beauty seedless	25 0	30 0
Bharat early	Nil	Nil
Black prince	10 0	15 0
Bhokri	55 75	60 0
Black muscate	—	17 50
Banglore purple	30 0	40 0
Fakri	70 0	75 0
Gulabi	11 25	15 0
Hussaini	Ni.	Nil
Hur	65 50	70 0
Khandari	67 25	70 0
Munaca	60 0	70 0
Selection 7	62 25	65 0
Selection 64	62 25	70 0
Sahibi	10 0	10 0
Thompson seedless	25 0	30 0
White muscate	4 0	5 0
Parlet	10 0	15 0

From the results in above table, it is seen that while varieties, Bharat-early and Hussaini remained completely free from infection, maximum infection was recorded in Fakri and minimum in White Muscate. Varieties Bhokri, Khandari, Selection 94 and Fakri were also found to be highly susceptible at Gwalior by Tripathi and Bhartaria, 1968. Anabe-shahi and and Black Muscate recorded to be highly susceptible at Gwalior and Coimbatore by Randhawa and Singh, 1958, showed infection index lower than 25 under Jobner conditions.

Varieties Bharat-early and Hussaini showing resistance to anthracnose deserve attention in grape improvement programme in Rajasthan.

RESEARCH NOTE

1. RANDHAWA, G. S. and J. P. SINGH, 1958. Varietal diversity and improvement of grape. *Indian Journ. Hort.* 15 : (3 and 4), 220-227.

2. TRIPATHI, S. N. and A. M. BHARTARIA, 1968, Studies on the resistance to anthracnose disease, (*Gloeosporium empelophagum*) of grape varieties in Northern India. *Tha Allahabad Farmer.* XIII : 275-278.