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EVALUATION OF RESISTANCE AND SUSCEPTIBILITY OF FOUR DIFFERENT VARIETIES OF CAULIFLOWER PLANTS TO *ALTERNARIA BRASSICÆ* INFECTION

Alternaria brassicæ (Berk.) Sacc., the incitant of blight disease of cauliflower *(Brassica oleracea* var *botrytis* L.*)* is very widespread in West Bengal and causes heavy economical losses every year. The pathogen is not host-specific but specific to cruciferæ. The quantum of infection is determined by the number of lesions as well as their sizes. In the initial stage numerous dark circular spots with concentric zoned areas are present on the leaf. In the advanced stage these spots coalesce and covered major portions of the leaf giving the blight symptoms.

In the present investigation attempts have been made to evaluate the host-parasite interactions of four different varieties of cauliflower plants to *A. brassicæ* infection.

In course of the present study the following varieties of cauliflower were used : Snowball and Late Banaras Varieties (M/s. Suttons & Sons Pvt. Ltd., Calcutta) and BOB 3208 and BOB 4209 varieties from W.B.S. Dept. of Agriculture, Calcutta.

A virulent isolate of *A. brassicæ* was used in the study. A single spore culture of this pathogen was isolated from the infected cauliflower leaves collected from the Agricultural Farm, Calcutta University at Baruipur. Stock culture of this isolate was maintained on *potato-dextrose-agar* at 15°C.

The seedlings were raised in earthenware pots containing sundried field soil which was sterilised with one percent formaldehyde solution. Seeds were previously treated with agrosan. Seedlings (30 days old) were inoculated artificially with suspension of conidia of *A. brassicæ*. A variety with an average infection score of not more than '3' is considered resistant only when not more than 10 percent of the plants of the variety received the score '4'. A variety with score exceeding the above limit is considered to be as susceptible.

The leaf infection was scored according to the following score chart given below :—

Score '1'=1 to 3 undeveloped spots
'2'=4 to 15 ,, ,,
'3'=above ,, ,,
'4'=1 to 3 developed ,,
'5'=4 to 15 ,, ,,
'6'=above ,, ,,

In this present investigation, a variety with an average infection score were calculated when not more than 10 percent of the plants of this variety receive the score of higher degree and the results were presented in Table 1.

Table No. 1. *Data (mean) showing the average infection score of four varieties of cauliflower plants*[a].

Variety	Average Score	Remarks
Snowball	5.46 ± 0.14 (57)	Susceptible
Late Banaras	5.76 ± 0.12 (60)	Susceptible
BOB 3208	1.06 ± 0.10 (2)	Resistant
BOB 4209	1.18 ± 0.12 (3)	Resistant

[a] Cauliflower plants were artificially infected with *Alternaria brassicæ* after 30 days of growth. The infection scores were taken after 10 days following inoculation. The number in bracket is the percent of plant receiving the score '4'. Each value represents an average of 5 × 10 separate determinations ± S.E.M.

The data in Table 1 indicate that the varieties BOB 3208 and BOB 4209 are resistant and Snowball and Late Banaras are susceptible to the attack of *A. brassicæ* on the basis of their reaction under artificial inoculation after 30 days of growth. The results obviously indicate varietal difference of the host in response to infection. Further research works are in progress to substantiate this in a biochemical level.

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