

Research Note :

Effect of Anthracnose on Fruit, Seed Development and Seeding Characters of Chilli

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Anthrachnose of chilli due to *Colletotrichum capsici* causes heavy losses in production (Mishra, 1988; Patil 1993), is one of the constraints in successful cultivation of the crop. Besides poor pod bearing, the shrinkage of fruits and death of seedlings have been often reported (Grover and Bansal, 1970 and Mehrotra, 1995). However, quantification of effect of anthracnose on affected fruit and seed weight and seeding characters are rarely available. Attempt has been made in present study to quantify the effect of this disease on fruit and seed development and seeding characters of chilli.

number of seeds and seedlings infected with *C. capsici*, root and shoot length (average of 5 seedlings) and fresh weight of seedlings was record. Vigor index was calculated by following formula :

$$\text{Vigour index} = [\text{Root length (cm)} + \text{shoot length (cm)}] \times \text{germination (\%)}$$

Results (Table 1) indicate that anthracnose had adverse effect in development of fruits and seeds. Dry weights of fruits and seeds of chilli were 58.97 and 53.84% higher than infected fruits and seeds from infected fruits,

Table 1 : Effect of anthracnose on fruit and seed weight and seeding characters of chilli (var. X -235)

Sr. No.	Parameters	From healthy fruits	From infected fruits	Per cent increase over infected fruits
1.	Weight of 100 dry fruits (g)	42.020	17.240	+ 58.97
2.	Weight of 100 seeds	4.309	1.989	+ 53.84
3.	Germination (%)	80.000	38.000	+ 52.50
4.	Mean root length (cm)	4.620	1.790	+ 61.25
5.	Mean shoot length (cm)	4.450	1.820	+ 59.10
6.	Mean fresh weight (g)	8.750	2.760	+ 68.45
7.	Vigour index	782.400	140.600	+ 80.02

Key words :

Anthracnose, Chilli, *Colletotrichum capsici*

For this study, one hundred apparently healthy and similar number of anthracnose infected ripen fruits from chilli (var. X-235) were collected. Also seeds from these two types of fruits were collected. For collecting infected fruits and seeds from infected fruits, mature fruits showing more than 50% of rotting were only considered. Fruits and seeds were dried in hot sun before weighing. Lots of four hundred seeds from infected fruits and similar number of seeds from apparently healthy seeds were tested by rolled towel method to find out the effect of *C. capsici* on germination and seeding characters. For that fifty seeds per rolled towel paper were placed at equi-distance. These were incubated at 28±0°C up to 10 days.

At the end of incubation period, observations on number of seeds germinated,

respectively. It was also observed that seed germination and seedling characters were also adversely affected due to infection of anthracnose. Seed germination, root length, shoot length, fresh weight of seedlings and vigour index were 52.50%, 61.25%, 59.10%, 68.45% and 782.40% higher, respectively in seeds harvested from healthy fruits than infected fruits. Grover and Bansal (1970) and Jindal *et al.* (1994) have reported reduction in seed germination and root, shoot length and vigour of seedlings due to infection of *C. capsici*. Present study also supports observations made by these workers. The

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