

EFFECT OF CARBOHYDRATES ON THE GROWTH OF *FUSARIUM OXYSPORUM F.SP.CAPSICI* CAUSING CHILLI WILT

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Abstract: - In the present investigations, effect of carbohydrates viz., Various carbon sources like sucrose, glucose, dextrose, amylose and lactose against *Fusarium oxysporum f.sp.capsici* causing chilli wilt (*Capsicum annum*) were studied. The results of experiment revealed that among the sugars used, Amylose most effectively restricts the mycelial growth of *Fusarium oxysporum f. sp. capsici* followed by Lactose, Glucose, Dextrose and sucrose respectively.

I. INTRODUCTION

Chilli (*Capsicum annum* L.) belongs to the family Solanaceae. *C. annum* is one of the most common crops cultivated worldwide (Tong and Bosland ; 1999) New Mexico considered as native of chilli and Guatemala is its secondary origin. Chilli cultivating states in India are Uttar Pradesh, Maharashtra, Karnataka, Bihar, Tamil Nadu, Gujarat and Himachal Pradesh. Chilli is an important group of vegetables commercially grown as condiment; is essential for all Indian dishes. Chilli contains numerous chemicals including fatty oils, carotenoids, steam volatile oils, vitamins, proteins, capsaicinoids, fibers, and mineral elements. Such useful plant is attacked by many diseases caused by fungi among them; Chilli Wilt caused by *F. oxysporum f.sp.capsici* is very serious. *Aspergillus flavus* resistant to eleven fungicides was different in several physiological aspects noted by Gangawane and Saler (1981).

Growth and nutrition of *Alternaria* pathogenic to snapbeans. Sadd, S. And Hagedorn, D.J. (1970) The present paper deals with the micronutrient requirements of *F. oxysporum f.sp. capsici* (Black L.L. and Rivelli .V.1991) causing Chilli Wilt.

II. MATERIALS AND METHODS

The Czapek-Dox agar medium containing sucrose 30.0gm; sodium nitrate 2.0gm; magnesium sulphate 0.5gm; potassium chloride 0.5gm; iron sulphate 0.01gm; di-potassium hydrogen phosphate 1.0gm; agar-agar 15.0gm. In addition to these, Carbohydrates (sucrose, glucose, dextrose, amylose and lactose) were added in the Czapek-Dox agar medium at 3% and was employed for the growth of *F. oxysporum f.sp.capsici*. The petriplates containing above mentioned media and inoculated with benomyl sensitive and resistant isolates of *F. oxysporum f.sp.capsici* causing Chilli wilt were grown at temperature 28°C and incubation period of 8 days.

These conditions were found optimum for the growth of these fungi in preliminary experiments.

Linear growth of the isolates was measured on each day.

Table 1. Effect of different micronutrients on the radial growth (mm) of benomyl sensitive isolate of *Fusarium oxysporum f.sp.capsici* on Czapek Dox agar medium.

Sugars (3%)	Sensitive							
	Days and growth in mm							
	1	2	3	4	5	6	7	8
Sucrose	13.33	27.33	33.66	50.33	59.00	71.00	81.66	89.33
Dextrose	11.00	18.33	26.00	33.00	43.00	54.66	65.00	75.66
Lactose	9.66	12.66	21.66	28.00	36.00	41.33	41.66	42.00

Amylose	7.33	9.00	10.66	12.66	15.00	15.00	15.00	15.00
Glucose	11.00	14.66	26.00	35.00	44.33	52.66	56.33	67.33

Table 2. Effect of different micronutrients on the radial growth (mm) of benomyl resistant isolate of *Fusarium oxysporum f.sp.capsici* on Czapek Dox agar medium.

Sugars (3%)	Resistant							
	Days and growth in mm							
	1	2	3	4	5	6	7	8
Sucrose	10.33	31.33	42.33	55.00	64.66	74.66	82.33	90.33
Dextrose	11.33	20.00	31.33	43.33	50.33	62.33	71.33	81.00
Lactose	9.00	15.66	26.00	33.33	42.66	49.33	51.33	53.00
Amylose	7.00	8.33	11.00	12.00	12.00	14.33	18.00	19.33
Glucose	9.66	15.66	20.00	28.33	33.33	42.00	47.66	58.00

III. RESULTS AND CONCLUSION

sucrose, glucose, dextrose, amylose and lactose were tested on the growth of benomyl sensitive and resistant isolates of *F. oxysporum f. sp. capsici* at the rate of 3%. Amylose most effectively restricts the mycelial growth of *Fusarium oxysporum f. sp. capsici* followed by Lactose, Glucose, Dextrose and Sucrose respectively. (Table.1 and 2)

IV. REFERENCES

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