

# Studies of *Moringa Oleifera* Leaf Extracts on Linear Growth of *Colletotrichum Capsici* Causing Spot of Turmeric

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**Abstract:** *The linear growth of Colletotrichum capsici was studied on leaf spot of turmeric. Therefore a vitro study was conducted to controlled to growth of the fungus Colletotrichum capsici. The leaf extracts of Moringa oleifera of different conc. was tested against Colletotrichum capsici viz 1.0, 1.5, 2.0, 2.5, 3.0, 3.5. The linear growth deceases as the higher conc. & incubation period. The maximum inhibition was at 3.0% conc. & complete in inhibition was at 3.5% conc.*

**Keywords:** *Moringa oleifera, Leaf extract, Colletotrichum capsici, Turmeric*

## I. INTRODUCTION

Turmeric (*Curcuma longa L.*) is a important spice crop and medicinal herb. It is commonly used in Asian food. The area under cultivation is about 99200 hectares with annual production of 167500 tonnes. It is chiefly grow in in India, Pakistan, China, Indo-China, Peru and Sri Lanka. The different varieties of turmeric are as Alleppey, Armoor, Chintamani, Duggirala, Kasturi, Krishana, Lokhandi, Rajapuri, Salem, Tekurpeta red and Waigaon (Indiresht et.al. 1990). The rhizome contains considerable amount of starch and small quantity of an alkaloid. (Ghosh and Govind 1982). There is variation in morphology, rhizome and quality characters in different varieties of turmeric (Philip 1978, Philip et. Al. 1980). The rhizome is the main commercial, cosmetic, medicinal, edible part of the plant. The quality of dry turmeric was found to be excellent with average curcumin content and volatile oil. It contains curcumin, mentanil yellow, lead chromate etc. (Murthy and Subrahmanyam 1982)

The effect of *Moringa oleifera* plants extract was studied against *Colletotrichum capsici* by a food poisoning technique (Onkar et. Al., 1993) The antifungal activities of plant extract is due to presence of an alkaloids, tannins, quinones, cumarin's. phenolic phytotoxins. (Datar 1999). Such a compounds and economically important crop gets affected by various fungal diseases and the present investigation gives guide lines for management of leaf spot of turmeric caused by *Colletotrichum capsici*.

## Material and methods:

The healthy leaves of *Moringa oleifera* were collected and washed with distilled water for three times. The leaves were then crushed by using 10% alcohol with the help of mortar and pestle. The extract was filtered by using muslin cloth. The plant extract was added in 100 ml of 10% alcohol, the required concentration of plant extract was obtained by adding 1.0, 1.5, 2.0, 2.5, 3.0, 3.5 ml of extract in 100 ml of warm media. The Czapek-dox agar media was poured in sterilized petriplates. The plates were inoculated 5 mm disc of *Colletotrichum capsici* in the center of medium. The linear growth was measure in mm. (Biswas et. al., 1995)

## Results:

The effect of leaf extracts of *Moringa oleifera* on linear growth of *Colletotrichum capsici* was observed. It was observed that with increase in the concentration of *Moringa oleifera* increase in the linear growth of *Colletotrichum capsici*. In control linear growth was 75 mm on 8<sup>th</sup> day of incubation. The linear growth decreases as the higher concentration and



incubation period. At 1.0% concentration the mycelia growth on 8<sup>th</sup> day was 44.00 and 1.5 o/o concentration 23.00 mm growth on 8th day incubation. The maximum inhibition was 8.00 mm at 3.0% and there was a complete inhibition of growth of *Colletotrichum capsici* 3.5%.

**Table 1:-Studies of *Moringa oleifera* leaf extracts on linear growth of *Colletotrichum capsici* causing lead spot of Turmeric.**

Conc. %	Linear growth (mm)							
	Incubation period (Days)							
	1	2	3	4	5	6	7	8
1.0	12.00	15.00	20.00	26.00	30.00	35.00	39.00	44.00
1.5	8.66	12.33	15.00	18.66	21.00	24.00	26.33	23.00
2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00
2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
3.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00
3.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Control	14.00	18.33	24.66	30.00	38.00	48.66	61.00	75.00
S.E.+	2.69	3.95	4.95	6.80	7.90	9.10	10.20	13.00

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