

# Efficacy of Fungicides and Bioagents Against *Colletotrichum gloeosporioides* Causing Blight In *Piper longum*

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## SUMMARY

Among chemicals, mancozeb + carbendazim (0.2%) was found most effective in inhibiting 96.26 per cent growth of *Colletotrichum gloeosporioides* followed by carbendazim (0.1%) 68.34 per cent, mancozeb (0.25%) 67.51 per cent and copper oxychloride (0.3%) 64.88 per cent. Among the bioagents, *Trichoderma viride* was found effective with 70.42 per cent growth inhibition. In field experiment, spraying of mancozeb + carbendazim (0.2%) was found effective with 33.38 per cent disease control followed by carbendazim (0.1%), copper oxychloride (0.3%) and *Trichoderma viride* ( $6 \times 10^7$  CFU/ml) 30.95, 30.10 and 28.46 per cent disease control.

## Key words :

Fungicides,  
Bioagents,  
*Colletotrichum gloeosporioides*,  
*Piper longum*.

Long pepper or Pimpri is the unripe spike of *Piper longum* L. which is native of Indo-Malaya region. In India, it is grown on small scattered pockets mainly in Assam, Khasi hills, lower hills of West Bengal, Eastern Ghats in Kerala, Karnataka and Tamil Nadu (Anonymous, 1969). It has also been reported from Andhra Pradesh and Andaman and Nicobar Island. In Akola-Amravati region, farmers are cultivating a particular race of *Piper longum* L. In India, Pimpri is widely used in Ayurvedic and Unani systems of medicine. The whole spike which consists of minute fruits embedded in a fleshy rachis is used as medicine. It is picked before fully ripe and then dried. The green spike to dry spike ratio is 10:1.5. Besides fruits, the roots and thicker parts of stem are cut and dried and used as an important drug 'Piplamul' which contains Piperine, Piplartine, Triacotone, Dihydromasterol etc.

(Anonymous, 1969).

## MATERIALS AND METHODS

### *Efficacy of fungicides by poisoned food technique:*

Poisoned food technique was used to evaluate the above mentioned fungicides *in vitro* against *Colletotrichum gloeosporioides*. The inoculated plants were incubated at room temperature for five days.

The colony diameter of the fungal pathogen on medium was recorded and per cent inhibition in each treatment was calculated (Vincent, 1927) by using the following formula.

$$I = \frac{C - T}{C} \times 100$$

where,

I = Growth inhibition percentage

C = Growth of the fungus in control plates

### *In vitro* the efficacy of following fungicides and bioagents against *Colletotrichum gloeosporioides* were tasted

Sr. No.	Chemical name	Trade name	Concentration (%)
<b>Chemicals</b>			
1.	Mancozeb	Indofil M-45	0.25
2.	Tridemorph	Calixin	0.10
3.	Copper oxychloride	Blitox	0.30
4.	Carbendazim	Bavistin	0.10
5.	Mancozeb + Carbendazim	Companion	0.20
6.	Control		
<b>Bioagents</b>			
1.	<i>Trichoderma viride</i>	-	-
2.	<i>Trichoderma harzianum</i>	-	-
3.	<i>Pseudomonas fluorescens</i>	-	-
4.	Control	-	-

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