



## Evaluation of Various Fungicides as a Seed Dresser against *Colletotrichum Gloeosporioides*

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**Abstract:** Eight different fungicides were tested as a seed dressers against *Colletotrichum gloeosporioides* in pot condition. Among all the fungicides, significantly superior germination was obtained when seeds were treated with Thiram (90.0 %) followed by Captan (85.0%), Aureofungin (85.0%), Captafol (82.0%), Tricyclazole (81.0%) and Carbendazim (80.0%). The lower pre emergence mortality was recorded in Thiram (10.0%) followed by Captan and Aureofungin (15.0%) while highest pre emergence seedling mortality was recorded with Mancozeb and MEMC (24.0%). Lowest total seedling mortality (13.0%) was observed with Thiram followed by Captan, Carbandezim which was at par with Aureofungin, Trycyclozole and Captafol while highest seedling mortality (32.0%) was recorded in Mencozeb.

**Keywords:** Evaluation, Fungicides, Seed dresser, colletotrichum.

### INTRODUCTION

Chilli (*Capsicum annum* L.) is one of the important spice crops preferred by both vegetarian and non-vegetarian mass to increase the palatability and taste in cooked food and vegetables. Chilli has many medicinal properties such as paste is used as a rubefacient and a local stimulant for tonsils in tonsillitis. Its extensively grown in South Gujarat region. It was affected by many fungal, bacterial and viral diseases but occurrence of the dieback and fruit rot (*Colletotrichum gloeosporioides* Penz and Sacc.) disease in chilli was observed in serious proportion inflecting heavy losses in South Gujarat. Infected seeds are the primary source of diseases

development in nursery and field. Prevention is better than cure base on that seed treatment is best option to manage these disease in nursery stage. Present investigation is carried out to evaluation of eight various fungicides as a seed treatment against *Colletotrichum gloeosporioides*. This investigation were supported by Grower and Bansal [1] recorded that maximum die back, anthracnose or ripe fruit rot disease control was recorded in Thiram, Bisdithane and Brassicol applied as seed dresser.

Chakravati and Anil Kumar [2] revealed that the best control of seed borne infection of chillies was obtained in seeds soaked for in 12 hr. in thiram @0.2 % followed by Difoltan and Captan. Siddiqui at el. [3] reported the best control of *C. dematium* in

capsicum was obtained with seed treatment with Thiram @ 0.2%. Sindhan et al [4] revealed that seed treatment with benomyl, carbendazim or agrosan GN @ 0.2 % increase seed germination and reduced the incidence of *C. capsici* on plan of Capsici Cv, Bull Nose.

Kumar and Mahmood [5] recorded that good germination of chilli seeds was achieved with Thiram followed by Difoltan, Brassicol, Captan and Bavistin while best control of *C. capsici* with aureofungin followed by Thiram, Captan, Carbendazim and Difoltan. Perane and Joi [6] revealed that Thiram (0.25%) gave best control of seed born infection of fruit rot and die back pathogen *C. capsici* in *Capsicum frutescens* followed by Carbendazim (Bavistin @0.25%). Hegde et al [7] observed that least percent seedling mortality of Chilli seeds was recorded in Captan (10.13%) and Thiram (12.34%).

## MATERIALS AND METHODS

Chilli seeds were treated with different seed dressing agents. The fungicides used were MEMC, Copper oxychlorides, carbendazim, Captan, Ceresan, Mencozeb, Tricyclozole@2 gm/kg seed and Aureofungin (100mg/ml). these were sown in earthen pots containing sterilized garden soil, each pot contains 20 seeds and 5 pots were used for each treatment, controls were maintained for evaluating the efficacy of seed dressing for positive control, while soil was artificially inoculated with *C. gloeosporioides*, pre emergence mortality and germination percentage were recorded after 10 days and total seedling mortality was recorded after 30 days of sowing.

## RESULTS AND DISCUSSION

Eight different fungicides were tested as a seed dressers in pot condition. Germination per cent, pre-

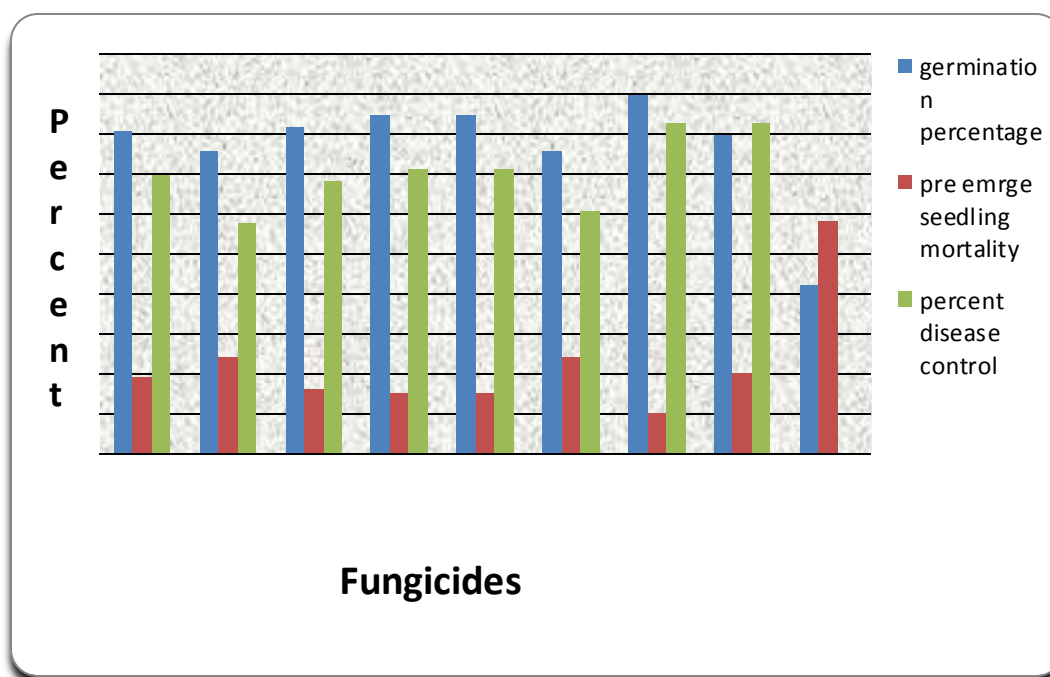
emergence mortality and total seedling mortality were recorded. The results are present in table 1 and figure 1.

The results revealed that germination percentage increased in fungicides treated seeds considerably over control. Among all the fungicides, significantly superior germination was obtained when seeds were treated with thiram (90.0%) followed by captan (85.0%), aureofungin (85.0%), captafol (82.0%), tricyclazole (81.0%) and carbendazim (80.0%). The lower pre emergence mortality was recorded in thiram (10.0%) followed by captan and aureofungin (15.0%) while highest pre emergence seedling mortality was recorded with mencozeb and MEMC (24.0%) lowest total seedling mortality (13.0%) was observed with thiram followed by captan, carbendazim which was at par with aureofungin, tricyclozole and captafol while highest seedling mortality (32.0%) was recorded in mencozeb.

Among fungicides the maximum percent disease control was obtained with thiram (82.98%) followed by captan and carbendazim (71.05%), tricyclozole and aureofungin (69.73%). Kumar and Mahmood [5] reported good germination was achieved of chilli seeds with thiram followed by difoltan, brassicol, captan and Bavistin while best control of *C. capsici* with aureofungin followed by Thiram, captan and Bavistin. Maximum control was achieved when chilli were treated with thiram. The present result was similar with Grover and Bansal [1], Chakravati and Anil Kumar [2] and Perane and Joi [6] for *C. gloeosporioides*. Hegde et al [7] observed that least per cent seedling mortality of chilli seeds was recorded in captan (10.13%) and thiram (12.34%). Sindhan et al [4] reported that treatment with benomyl, carbendazim or agrosan@0.2 % increase seed germination and reduced the incidence of *C. capsici* in capsicum.

**Table 1:** Effect of various seed dresser fungicides on germination seedling mortality and per cent diseased control

Sr. no	Fungicides	Germination percentage	Seedling mortality (%)		Percent disease control
			Pre emergence	Total seedling	
1	Tricyclazole	81	19	23	69.73
2	Mencozeb	76	24	32	57.89
3	Captafol	82	16	24	68.42
4	Captan	85	15	22	71.05
5	Aureofungin	85	15	22	71.05
6	MEMC	76	24	30	60.52
7	Thiram	90	10	13	82.98
8	Cabendazim	80	20	22	82.98
9	Control	42	58	76	
	S.E.M $\pm$	1.08	1.02	0.57	
	C.D at 5%	3.16	2.96	3.32	
	C.V.	2.45	7.89	6.71	

**Fig. 1:** Effect of various seed dresser fungicides on germination seedling mortality and per cent diseased control

From the result it can be concluded thiram, captan, tricyclozole, aureofungin and carbendazim were best fungicides against *C. gloeosporioides* as seed dressers. The result of which are in complete agreement with earlier workers.

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