SHORT COMMUNICATION

EVALUATION OF FUNGI TOXICANTS AGAINST POWDERY (*ERYSIPHE POLYGONY* DC) DISEASE IN CORIANDER (*CORIANDRUM SATIVUM* L.) AT GWALIOR DIVISION

Rajendra Kashyap[1], P.K. Bhagat[2] and G.P. Painkra[2]*

[1.] Indira Gandhi Krishi Vishwavidyalaya, Krishi Vigyan Kendra, Balrampur, Chhattisgarh, India
[2.] Indira Gandhi Krishi Vishwavidyalaya, Rajmohini Devi College of Agriculture and Research Station, Ambikapur, Distt- Surguja (C.G.) India 497001
Email: gppainkrarmd@gmail.com

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Abstract: Five fungicides viz. wettable sulphar, carbendazim, difenoconazole, mancozeb and saaf were tested against powdery mildew (*E. poligoni*) of coriander. The minimum intensity of the diease was recorded in the treatment sulfex (19.86 per cent) followed by score 25.83 per cent, bavistin 29.72 per cent, saaf 31.67 per cent and mancozeb 39.30 per cent.

Keywords: Coriander, Fungi toxicants, Powdery mildew

INTRODUCTION

The coriander (*Coriandrum sativum* L.) is an important spice crop of India and its seeds (Fruits) and leaves are extensively used. Since very old time. Coriander is being used as a natural additives in cooking added to food in order to improve its appearance, flavor, texture as well as appetite.

It is an aromatic annual herb of 1-2 ft. height having diploid chromosome (2n=22) belonging to the family umbelliferae. The coriander crop is grown for its aromatic and fragrant leaves and fruits. The pleasant aroma is due to an essential element called at d- Linalol or coriandral. The essential oil content ranges from 0.1 to 1.3 percent in dry seeds. Besides essential oil, the seeds of coriander contain 18-21 percent fatty oils which are used in the cosmetic industries. The dried ground fruits used as condiment and are invariably a major constituent of curry powder employed for flavoring curries, soups, and sauces and in confectionery .

The coriander is a native of the Mediterranean region and is extensively grown in different countries such as India, USSR. Mexico, Poland, Hungary, U.S.A. India is the largest producer in the world. It alone accounts an area of 11, 3382 hectares with an annual production of about 37571 metric tons. The major coriander growing states are Rajasthan, Madhya Pradesh, Andhra Pradesh, Gujrat and Tamil Nadu, In Madhya Pradesh Several coriander cultivars are grown but the common ones are UD-1, CS-2, UD-2, UD-373 UD-436, CS-4, CS-208, G-5365 and R C R-41. Madhya Pradesh alone account an area of 37147 hectares with the average production of 9374 metric tons in 2002-2003. In M.P., coriander is grown in Gwalior, Guna, Indore and Mandsor districts.

The coriander crop suffers from different diseases which is one of the limiting factors in its production. Mukherji and basin (1986) listed twenty fungal pathogens and bacterium causing different diseases. Out of these some common fungal diseases are tem gal (*Protomyces macrosporus*), powdery mildew (*Erysiphe polygoni* DC), wilt (*Fusarium oxysporum f.sp. coriandrii*), stem rot (*Rhizoctonia* spp.) and blight (*Alternaria* spp.). Out of these powdery mildew is a very destructive disease and cause losses by deteriorating the quality of the seed and reducing the yield . It is observed that once the parasite establishes itself in the field it takes quits a heavy toll from year to year.

MATERIAL AND METHOD

The present investigations were undertaken at the research farm, College of Agriculture, Gwalior (M.P.) during 2003-04 of powdery mildew of coriander to examine the influence the five fungicides. Sulfex (Wettable sulphur), Bavistin (Carbendazim) score (Difenoconazole) Dithan M 45 (Mancozeb) and Saaf (Carbendazin + Mancozeb) were evaluated for their efficacy @ 0.1, 0.3, 0.1, 0.2 and 0.2 per cent respectively. The fungicides spraying were done thrice at the interval of 10 days starting from 60 days after sowing. The design was randomized block design (RBD) replicated four times, 6 treatments, keeping plot size 2x1.5 m and maintained the distance row to row and plant to plant 25x10 cm. and the varieties were selected susceptible local. Seed rate was @12kg ha^{-1} and date of sowing 25-11-2002. The harvesting time was 15-03-2003.

*Corresponding Author

RESULT AND DISCUSSION

Evaluation of fungi toxicants agaist powdery mildew of coriander

Five fungicides viz. wettable sulphar, carbendazim, difenoconazole, mancozeb and saaf were tested against powdery mildew (*E. poligoni*) of coriander. The minimum intensity of the diease was recorded in the treatment sulfex (19.86 per cent) followed by score 25.83 per cent, bavistin 29.72 per cent, saaf 31.67 per cent and mancozeb 39.30 per cent.

All the tested fungicides were found significantly superior over control (75.83 per cent) in respect of disease control and yield enhancement. The sulfex was found significantly superior over all treatments in respect of disease control. Score was also significantly superior over Saaf and mancozeb in respect of disease control but was at par in respect of yield enhancement. Similar result has been reported by Srivastava *et al.* (1971), Keshwal *et al*. (1979) and Raju *et al.* (1982).

Table 1. Evaluation of fungi toxicants agaist powdery mildew of coriander

S.No.	Treatments	Concentration (%)	Average PDI	Yield (q/ha)	% increase in yield over control
T_1	Sulfex (Wettable sulphur)	0.3	9.86 (26.38)**	8.75	48.3
T_2	Bavistin (Carbendazim)	0.1	29.72(32.95)**	7.60	28.8
T_3	Score (Difenoconazle)	0.1	25.83(30.41)**	8.17	38.5
T_4	Dithan M-45 (Mancozeb)	0.2	39.30(38.79)**	7.40	25.4
T_5	Saaf (Carbendazim 12% + Mancozeb 63%)	0.2	31.67(34.23)**	7.70	30.5
T_6	Control	-	75.83(60.62)	5.90	-
	SEM ±	1.79		0.57	
	CD (at 5%)	3.83		1.28	
	CD (at 1%)	5.30		1.80	

The treatments in parenthesis are common name of the respective fungicides.
Data in parenthesis are angular transformed values on which the statistical analysis is based.
** Significant at 1 %

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