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EFFICACY OF CARBENDAZIM IN COMBATING CASTOR BLIGHT IN WESTERN MAHARASHTRA.

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ABSTRACT

There was variation in MIC of Carbendazim among the *Alternaria ricini* (Yoshii) Hansf. on the agar plates and Castor leaves. MIC on the agar plates ranged from 15 to 20%, while 1 to 4% on Castor leaves. Isolate AR-5 was sensitive. The resistant isolate AR-4 showed MIC 20% and 4%, *in vitro* and *in vivo* respectively.

Key words : MIC, Carbendazim, Castor blight.

Castor (*Ricinus communis*, L.) is an important oilseed crop grown all over the India. It is attacked by various pathogens such as *Alternaria ricini* (Yoshii.) Hansf., *Leveillula taurica* (Lev.) Arn., *Melampsora ricini* (Biv.) Pass., *Cercospora riciniella* Sacc. and Berlese. According to Cook (1987), the disease appears in the form of leaf spots on the Castor plant in the rainy season. This disease is managed by various systemic fungicides by the farmers. The aim of present study was to examine the efficacy of Carbendazim against *Alternaria ricini*, causing Castor blight.

Samples of Castor leaves showing blight symptoms were collected from Kolhapur, Pune, Sangali, Satara and Solapur districts of Western Maharashtra. From these samples, 5 isolates of *Alternaria ricini* were obtained. Minimum Inhibitory Concentration (MIC) of these isolates was determined by 'Food poisoning Test' *in vitro*. For *in vivo* studies fresh and healthy leaves of Castor plant were placed in glass bottle containing sterile distilled water. Mycelial suspension of *Alternaria ricini* isolates was inoculated on Castor leaves, 24 hrs. after the treatment of various concentrations of Carbendazim. Inoculated Castor leaves were covered with sterile polythene bags. The diameter of the lesion was measured

after 8 days. The percentage control efficacy (PCE) of each agrochemical was calculated.

There was variation in MIC of Carbendazim among the 5 isolates on both agar plates and Castor leaves. MIC on the agar plates ranged from 15 to 20%. While it was 1 to 4% on Castor leaves (Table1).

Table 1: MIC of Carbendazim against *ALternaria ricini* causing blight of Castor.

Isolate	MIC	
	agar plate	Castor leaves
AR-1	17.50	3.0
AR-2	16.00	1.4
AR-3	17.50	2.0
AR-4	20.00	4.0
AR-5	15.00	1.0

Chatta (2005) also obtained control of *Alternaria ricini* by using Carbendazim and other fungicides. He obtained maximum control of this disease by treating Castor plants with Mancozeb (0.2%). Table 2 shows, the efficacy of

Carbendazim in combating *Alternaria* blight of Castor. 1% Carbendazim gave nearly 98% PCE.

Table2: Percentage Control Efficacy of Carbendazim of *Alternaria ricini*. (in vivo and in vitro)

isolate	Conc.of Carbendazim <i>In vitro</i>	PCE % <i>In vitro</i>	Conc.of Carbendazim <i>In vivo</i>	PCE % <i>In vivo</i>
AR-1	17.50	91.25	3.0	94.79
AR-2	16.00	91.00	1.4	88.54
AR-3	17.50	100.00	2.0	96.87
AR-4	20.00	90.25	4.0	92.70
AR-5	15.00	100.00	1.0	97.91

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