

## **Short Communication**

### **Chemicals Control of Curvularia Leaf Spot of Indian Bean**

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Indian bean [*Dolichos lablab* (L.) Roxb] is commonly known as Field bean, Sem, Hyacinth bean, Butter bean, Kideny bean, Egyptian and Lubia bean. It is primarily grown for green pods. The curvularia leaf spot was found severely during the period between September to March in Indian bean. This disease affected most of the improved varieties of beans. Curvularia leaf spot caused by *Curvularialunata* is one of the most important disease. Captan (0.20%), Indofil M- 45 (0.20%), Karathane (0.20%), Bavistin(0.10%), Blue copper (0.15%), Vitavax (0.20%), Benlaten (0.10%), Agrimycin -100(0.10%) and Chlorothalonil(0.20%) were used in for testing. Required quantity of each fungicides was thoroughly mixed with 100 ml well sterilized Potato Dextrose Agar medium contained in 150 ml flask. This medium mixed with fungicides was poured in petridishes and allowed to solidify. Each treatment was replicated three times. One set of control was kept. Equal pieces of the fungal growth were cut by the cork borer and inoculated in each petridishes at the center. These inoculated petridishes

were incubated at the room temperature (25 – 28°C) and 10 days after the incubation, the fungal growth was recorded petridishes. The percent inhibition over control was calculated.

In order to find out a suitable control of the disease, efficacy of fungicides was tested during 2013-14 and 2014-15. For evaluation nine fungicides were used on 1month old plant. The first fungicidal spraying was started after appearance of the disease and repeated at an interval of 10 days with third subsequent spray. The control plots were sprayed with water only. The intensity of disease was measured by randomly selecting 100 leaves from each plot after 10 days of the least spray and the disease intensity was calculated.

The results presented in indicate that all the fungicides were significantly superior over control in inhibiting the growth of the pathogen *In-Vitro* Captan (0.20%) and Indofil M-45(0.20%) were most effective fungicides, which show the hundred percent of inhibition over control. These were also statistically at par with each others. Next best fungicides was

Karathane and Bavistin, which showed 11.51 mm and 16.07 mm fungal growth and 87.21% and 82.14% inhibition over control. The Blue copper, Vitavax, Benlate and Agrimycin-100, showed the 73.55%,

70.54%, 66.07% and 62.97% inhibition over control, respectively. Chlorothalonil was least effective fungicides. Such results were also reported earlier<sup>[1,2]</sup>.

**Table 1 Inhibitory effect of different fungicides on the growth of *Curvularialunata* In – *Vitro* at 28± 1°C after 10 days.**

S.NO	Fungicides	Doses	Average diameter of fungal growth(mm)	Percentage inhibition over control
1	Captan	0.20	00.00	100.00
2	Indofilm - 45	0.20	00.00	100.00
3	Karathane	0.20	11.51	87.21
4	Bavistin	0.10	16.07	82.14
5	Blue copper	0.15	23.80	73.55
6	Vitavax	0.20	26.51	70.54
7	Benlate	0.10	30.53	66.07
8	Agrimycin-100	0.10	33.32	62.97
9	Chlorothalonil	0.20	43.85	51.27
10	Control		90.00	
<b>C.D. at 5% level</b>			<b>2.88</b>	

**Table 2 Effect of spray fungicides on disease intensity and yield by *Curvularialunata* under field condition.**

S.No	Fungicides	Dose%	Disease incidence		Mean	Yield		Mean
			2013-14	2014-15		2013-14	2014-15	
1.	Captan	0.20	9.43 (17.87)*	9.98 (18.36)*	9.70	77.00 (61.34)*	76.50 (61.00)*	76.75
2.	Indofil M-45	0.20	9.91 (18.38)*	10.45 (18.86)*	10.18	75.00 (60.00)*	74.33 (59.56)*	74.66
3.	Karathane	0.20	12.40 (20.62)*	13.85 (21.85)*	13.13	73.60 (59.08)*	72.33 (58.26)*	72.96
4.	Bavistin	0.10	24.06 (29.36)*	25.35 (30.23)*	24.7	65.00 (53.73)*	64.60 (53.49)*	64.80
5.	Blue Copper	0.15	44.85 (42.05)*	45.98 (42.67)*	45.42	62.60 (52.30)*	62.80 (52.42)*	62.7
6.	Vitavax	0.20	46.20 (42.80)*	47.20 (43.39)*	46.7	60.30 (50.94)*	59.00 (50.18)*	59.65
7.	Benlate	0.10	50.08 (45.03)*	50.89 (45.49)*	50.53	58.60 (49.95)*	56.03 (48.62)*	57.45
8.	Agrimycin100	0.10	56.12 (48.52)*	57.27 (49.16)*	56.69	54.00 (47.29)*	55.30 (48.04)*	54.65
9.	Chlorothalonil	0.20	60.17 (50.85)*	61.23 (51.25)*	60.7	57.60 (45.92)*	53.30 (49.89)*	52.45
	Control	-	65.00 (53.73)*	66.00 (54.33)*	65.5	40.60 (39.85)*	39.30 (83.82)*	39.95
<b>CD @ 5%</b>			<b>1.95</b>	<b>2.05</b>		<b>2.15</b>	<b>2.62</b>	

\*Transferred values indicated in parenthesis.

Highest yield of 76.75 q/ha was obtained (Table 2) with Captan followed by Indofil M- 45(74.67) q/ha. The next effective fungicides were Karathan (0.20) and Bavistin (0.10) which showed 13.43 and 24.70 percent average disease incidence and yield 72.69q/ha and 64.8 q/ha, respectively significantly different from each other. The remaining fungicides Blue copper, Vitavax ,Benlate, and Agrimycine -100 showed 45.42, 46.7, 50.55 and 56.69

percent as disease incidence and yield 62.7q/ha, 59.69 q/ha,57.45q/ha and 54.65q/ha respectively. Chlorothalonil proved least effective fungicides which showed the 60.7% average disease incidence and mean yield52.45 q/ha.

Hence it is concluded that curvularia leaf spot of Indian bean can be successfully controlled by the spraying of Captan (0.20%) and Indofil M - 45(0.20%).

#### References

1. **Singh, R.K., Chandel S. and Sharma C. (2010).** Evaluation of fungicides against *Alternaria zinnia* on African marigold. *Annals of Plant Protection Sciences*, **18**: 270-272.
2. **Singh, D.C. and Prasad R.K. (1989).** Seed mycoflora of Fenugreek and its control. *Indian Phytopathology* **42**: 171-179.