MANAGEMENT OF *SCLEROTIUM ROLFSII*, BASE WILT PATHOGEN IN BLACK PEPPER *UNDER IN VITRO CONDITIONS*

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Introduction

Base wilt disease caused by *Sclerotium rolfsii* is a serious disease of black pepper and causes considerable loss in nursery. For an ecofriendly integrated disease management programme experiments were carried out at Pepper Research Station, Panniyur, Kannur, Kerala Agricultural University during 2019 to evaluate the efficiency of bio control agents *Trichoderma viride, Pseudomonas fluorescens,* chemical fungicides and botanicals against *Sclerotium rolfsii* in black pepper (*Piper nigrum*) by *in vitro* studies.

• Results

•*Trichoderma viride* could inhibit 51.1 per cent of pathogen and the nature of parasitism was cessation of growth at the line of contact.

• *Pseudomonas fluorescens* could inhibit 59.27 per cent of pathogen

•Both volatile and non volatile substances of *Tricoderma* and *Pseudomonas* have major role in inhibiting and there by managing the pathogen.

• Hexaconazole is the best chemical fungicide to control *S. roilsii* with 100 per cent inhibition in all the three concentrations followed by Mancozeb 79 per cent.

• The first botanical of KAU, Ready To Use Neem oil garlic soap, RAKSHA, had antifungal action and produced 100 per cent inhibition at 2% concentration.

Antagonistic action of *Trichoderma* on *Sclerotium rolfsii*

Antagonistic action of *Pseudomonas* on *Sclerotium rolfsii*

Materials and Methods

In vitro screening of the antagonistic efficacy of *Trichoderma viride* and *Pseudomonas fluorescens* against *Sclerotium rolfsii* by dual culture

Effect of volatile and non volatile compounds of *Trichoderma viride* on *Sclerotium rolfsii* under *in vitro* conditions

Effect of volatile and non-volatile (culture filtrate) compounds from *P. fluorescens* on the radial growth of *S. rolfsii*

In vitro evaluation of chemical fungicides and botanicals against *Sclerotium rolfsii*

In vitro evaluation on the inhibition of mycelial growth of *Sclerotium rolfsii*

Chemical Fungicides /Botanical	Concentrations	Inhibition of mycelial growth of *Sclerotium rolfsii* (%)*		
		C1	C2	C3
Copper Hydroxide 53.80% w/w	(0.1,0.2,0.3%)	0 (0.95)	0 (0.95)	0 (0.95)
Mancozeb 75% W.P	(0.1,0.2,0.3%)	2.63 (9.33)	18.42 (21.46)	28.95 (32.55)
Carbendazim 50% WP	(0.05, 0.1,0.2%)	5.92 (11.88)	0 (0.95)	36.84 (36.94)
Hexaconazole 5% EC	(0.1,0.2,0.3%)	100 (89.85)	100 (89.85)	100 (89.85)
Copper Oxychloride 50% W.P	(0.1,0.2,0.3%)	0 (0.95)	0 (0.95)	0 (0.95)
Ready To Use Neem oil- Garlic-Soap	(0.3,0.6, 1%)	0 (0.955)	0 (0.95)	100 (89.85)
CD (0.05)		6.87	12.9	8.21

*Mean of three value ** Values in parenthesis are arc sin transformed values C- Concentration

References

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THEME-CROP IMPROVEMENT