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Effect of bioagents and chemicals for the management of aerial blight and dry root rot of blackgram incited by *Rhizoctonia bataticola*

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ABSTRACT

Blackgram (*Vigna mungo* L.) is an important pulse crop grown throughout India. A new disease of blackgram *i.e.* aerial blight and dry root rot caused by *Rhizoctonia bataticola* is primarily a soil inhabitant. An attempt was made to manage the disease with biocontrol agents and fungicides. Among the biocontrol agents tested against *Rhizoctonia bataticola*, *Pseudomonas fluorescens* (DAPG^{+ve})-RP46 was found more effective as compared to other bio-control agents and inhibited maximum mycelia growth (68.95%) of *R. bataticola* followed by *T. harzianum* (Th-R) (61.85%) and *T. viride* (Tv-R) (61.11%) under *in vitro* condition. Fungicides like contact, systemic and combi products were also tested against the aforementioned pathogen. Among five contact fungicides captan, propineb and zineb recorded cent per cent inhibition (100%) of mycelial growth at all the concentrations (*i.e.*, 0.1, 0.2 and 0.3%) among seven systemic fungicides and combi fungicides tested, benomyl, carbendazim, hexaconazole, thiophanate methyl and tridemefon showed 100 per cent mycelia inhibition and also in carbendazim 12% + mancozeb 63%, cymoxanil 8%+ mancozeb 64%, captan70% + hexaconazole 5 %, tricyclozole 18% + mancozeb 62% and mancozeb (64 %) + metalaxyl (4 %) showed cent per cent (100%) inhibition at all the concentrations (0.05, 0.10 and 0.2%), respectively. The maximum vigour index of 2652.83 was recorded in *Pseudomonas fluorescens* (+DAPG)- RP46 treated blackgram seeds followed by 2042.00 and 1997.80 vigour index in *Trichoderma harzianum*-II(R) and *T. viride*-II(R) and poor vigour index of 1258.00 was observed in untreated control.

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