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RESEARCH ARTICLE

Integrated management of collar rot of lentil caused by *Sclerotium rolfsii*

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ABSTRACT

In present *in-vitro* evaluation and assessment of different fungicides against *Sclerotium rolfsii* Sacc causing collar rot in one of the very valuable leguminouse crop lentil showed highly significant reduction in radial growth of pathogens in food poisoning techique in perti plates as compared to control. Out of all 10 tested fungicides at 2500 ppm concentration, four were showed 100 per cent suppression of pathoegen over the control while in rest others significant reduction in radial growth and size of sclerotia. In present resarch, objective was focused on to assess the potentiaity of fungicides against , *Sclerotium rolfsii* causing collar rot infecting lentil crop.

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INTRODUCTION

Several diseases are known to infect lentil (*Lens culinaris* Medik) during its growth stages. Among them, collar rot caused by *Sclerotium rolfsii* Sacc., is very common in all the major lentil growing areas (Butler and Bisby, 1931). The disease causes appreciable loss in yield due to which, area under this crop is consistently decreasing. For restoring the area production and productivity of lentil, it is necessary to reduce the loss caused by this disease. Therefore, some new seed dressing fungicides along with existing ones were tested in the present study to the manage the above disease *in-vitro* and results are reported in this investigation.

MATERIALS AND METHODS

Fungicidal test **:**

A virulent lentil isolate of *S. rolfsii* was used in the studies. Efficacy of different fungicides was tested under laboratory conditions following poison food technique. The required quantities of different fungicides *viz.,* Mancozeb-80 WP, Bis dimethylthiocarbamoyl (Thiram-80 WP), Carbendazim-75 WP, Mangenous ethylenebisdi -thiocarbamate (Dithane M-45), Sulphur dust, Methyl-2-benzimidole (Carbendazim-50 WP), Zinc dimethyldithiocarbamate (Zirum-80 WP), Steptrocycline, Thiophenate methyl and Blue copper-50 were incorporated into agar medium aseptically. So as to obtain required concentrations, 20ml of PDA containing fungicides was poured into Petri dishes. The Petri dishes were then inoculated by placing 5mm disc cut out from seven days old culture of *S. rolfsii* and incubated as 24±^{0}C till the radial growth of the colony touched the periphery in control, replicated three times. Growth inhibition per cent of the fungal colony was recorded and calculated by the following formula:

$$1 = \frac{(C - T)}{C} x100$$

where,

I=Per cent inhibition, C= radial growth in control, and