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Research Article

Management of cercospora leaf spot of sesame

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ABSTRACT

Sesame (*Sesamum indicum* L.) is an important oilseed crop. The crop suffers from many fungal, bacterial, viral and phytoplasma diseases in which the Cercospora leaf spot caused by *Cercospora sesami* infects all parts of the plant resulting into complete defoliation which leads to severe economic losses. The experiment was laid out during *Kharif* 2009 and 2010 using a susceptible variety DS-1 in a randomized block design with three replications at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad. The experiment results from *Kharif* 2009 revealed that Carbendazim @ 0.1 per cent and Quintal @ 0.1 per cent recorded lowest per cent disease index (PDI) of 48.45 and 44.41, respectively and were found at par with each other. The fungicidal spray of Quintal @0.1 per cent and carbendazim @ 0.1 per cent recorded highest yield of 470 kg/ha and 352 kg/ha, respectively. The experimental results from *Kharif* 2010 also revealed the same trend wherein, the fungicides, Carbendazim @0.1 per cent and Quintal @0.1 per cent recorded lowest per cent disease index of 54.00 and 49.00, respectively and were found promising in the management of Cercospora leaf spot of sesame. The pooled analysis of *Kharif* 2009 and 2010, the fungicides Carbendazim and Quintal were found on par with each other. However, the yield data revealed the significant difference between carbendazim (667 kg/ha) and Quintal (818 kg/ha).

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INTRODUCTION

Sesame (*Sesamum indicum* L.) is an important oilseed crop. The crop is cultivated both in tropical and subtropical regions. Among the sesame growing countries in the world, India ranks first in area. India is the largest exporter of sesame. Sesame is described as the "Queen of oilseeds" because of its high oil content (38-54%), protein (18-25%), calcium, phosphorus, oxalic acid and excellent qualities of the seedoil and meal (Prasad, 2002). Sesame oil also contains high level of unsaturated fatty acids which has a reducing effect on the plasma cholesterol (Banerjee and Kole, 2006).

The productivity of sesame is low due to its low harvest index, indeterminate growth habit, shattering, susceptibility to pests and diseases (Ashri, 1998). The crop suffers from fungal, bacterial, viral and phytoplasma diseases. Among the fungal diseases, Cercospora leaf spot caused by *Cercospora sesami* (Zimm.) is one of the most economically important diseases of sesame in almost all the production areas (Akpa *et al*., 1988; Poswal and Misari, 1989). The crop is affected by the pathogen at all stages of the growth (Schmutteerrer and Kranj, 1965; Bhowmick, 1987) and causes heavy economic losses (Vyas, 1981). Due to lack of resistant sources, the released varieties are highly susceptible to Cercospora leaf spot causing considerable yield losses. To combat the disease and maximize the production, there is an urgent need to manage the Cercospora leaf spot of sesame using chemicals.

MATERIALS AND METHODS

The experiment was conducted during *Kharif* 2009 and 2010 at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad. The variety DS-1 highly susceptible to Cercospora leaf spot of sesame was planted in a randomized block design of plot size 3 × 2.4m and replicated four times.

The fungicidal treatments were imposed immediately after appearance of the disease and subsequent sprays were given