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Assessing the Seed Yield of Some Varieties of Sesame (Sesami indicum) Under Disease Condition (Cercospora Leaf Spot) Caused by (Cercospora sesami, Zimm) and Identifying Disease Resistant Varieties

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Abstract : Cercospora leaf spot (Cercospora sesami. Zimm) has been identified as one of the most prevalent diseases, posing serious constraints to sesame production in producing areas. Two sets of experiments were carried out. The first and second experiments were conducted in the Modibbo Adama University of Technology Yola at the Crop Production and Horticulture and Plant Science Departments, respectively. The field experiment was carried out using a Randomized Complete Block Design and was replicated three times on a plot size of 4m x 5m with four sesame varieties and three Mancob-M fungicide levels (0g, 2g and 4g) to give a total of Twelve treatments. The laboratory experiment involved the isolation of the pathogens from diseased leaves with symptoms of Cercospora leaf spot, which was identified as Cercospora sesami. Data collected were subjected to analysis of variance for a randomized complete block design using SAS (1999) statistical package. The treatment means that are significantly different were separated using the Least Significant Difference at P=0.05. The result revealed that 4g Mancob M recorded the lowest mean value for disease incidence and severity at 8WAS, which was 90.30% and 35.60%, respectively, while the control (0g) recorded the highest mean value for disease incidence and severity at 90.30% and 59.80% respectively. Ex-Sudan recorded the lowest value of 720 kg/ha, while NCRIBEN 03 recorded the highest yield of 834 kg/ha-¹. For the concentrations, 2g recorded a higher yield of 843 kg/ha-¹ followed by 0g, which recorded 765 kg/ha-¹. Conclusively, Cercospora leaf spot of sesame was found to be prevalent. E8 has a higher resistance to the disease, while NCRIBEN 03 tends to be more susceptible. It is therefore recommended that further trials should be carried out using different varieties in different locations.

Keywords : disease, evaluation, prevalence, treatment, resistance
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