

Based on data obtained from field trials, spray of fresh water extracts of 1% rheum and common walnut and 3% cowslip twice during panicle emergence of treated varieties significantly reduced the incidence of LS as compared with untreated control in both successive seasons 2012 and 2013. The efficacy of emulsified neem seed oil as foliar application for reducing the infection with LS of sorghum was reported [2]. Several investigators had tested the same or different plants in controlling kernel smut of sorghum and they found a similar positive effect [30, 45, 42, 28, 38, 26]. Further studies are required to determine the mechanisms of control and the chemicals responsible for such activity and their properties.

Results of this study have provided essential information about the existing virulent races of *S. ehrenbergii* that attack the growing sorghum in Sohag regions of Upper Egypt. The research efforts on LS disease need to remain focused on monitoring and characterizing races of the pathogen. The maintenance of reference of isolates and their forms representing the various races of the *S. ehrenbergii* is critical to gaining a better understanding of host resistance to this important LS pathogen. From assessment tests for the susceptibility of certain sorghum genotypes to LS isolates, it can be concluded that the Egyptian cultivars Dorado, Shandawel 2 and American accessions PI 574555, PI 574560, PI 574580, PI 574598, and PI 574610 could be identified as potential sources of LS resistance. The present study has also identified rheum, common walnut and cowslip as effective botanical plants to control LS of sorghum. Therefore, in areas where LS infection is high, the relatively cheap, non-polluting and environmentally safe water extracts of these plants can be used effectively to reduce disease.

Acknowledgement

Authors are thankful to all members of experimental farm, faculty of agriculture, Sohag University for financial support to carry out the research work.

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