

## EFFECT OF INDIGENOUS PLANT EXTRACTS ON *BIPOLARIS* *SOROKINIANA* AND SEEDLING GROWTH OF WHEAT

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### Extended Summary

Extracts of 33 plant species were evaluated *in vitro* against *Bipolaris sorokiniana*, the causal agent of leaf blight of wheat. The efficacy of the botanicals against *Bipolaris sorokiniana* was determined following poisoned food technique (Cup method, disk method). Seed treatments with botanicals were done by dipping the seeds in the botanical extracts for 1 hour. Seed germination and seed yielding *Bipolaris sorokiniana* of treated seeds were recorded. Germination and seedling vigor test were done following the Rolled Paper Towel method. Significantly the lowest radial mycelial growth of *Bipolaris sorokiniana* was recorded in kalijira extracts followed by ginger, turmeric and onion extracts. Garlic, neem, allamanda, noyantara, durba and arjun leaf extracts were also found promising in reducing the growth of the fungus in the laboratory. All the botanicals have strong effect to produce inhibition zone against *Bipolaris sorokiniana* in culture media. Among them mandar leaf extract produced the largest inhibition zone followed by mutha naglingam, debdaru and duranta extracts. The highest seed germination was recorded in seed treatment with onion and turmeric extracts. Considering percentage of seed yielding *Bipolaris sorokiniana* it has been found that all the plant extracts significantly reduced the incidence of the fungus. The lowest incidence of the fungus was found in seed treatment with extract of durba which was 93.71% deduction in incidence of the fungus over untreated control. Turmeric, onion, kalijira, allamanda, garlic, ginger, tulsi and eucalyptus extracts also resulted profound effect in suppression of seed yielding *Bipolaris sorokiniana*. The highest seed germination between the paper towels was recorded in turmeric and ginger extracts followed by naglingam, durba, garlic and onion extracts. Seed treatment with durba extract resulted significantly highest percentage of healthy seedlings followed by onion, bel, lemon, sojna, dhonia, naglingam and turmeric extract. The highest shoot length and vigor index was calculated under seed treatment with durba extract. The findings of the present study emphasized the possibility of using botanical extracts in controlling seed borne *Bipolaris sorokiniana* with increasing seedling growth of wheat.

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