

Medicinal potential of *Butea Monosperma* and *Calotropis procera* petals extract against prominent fungal diseases of wheat crop to improve yield for Sustainable Agriculture

Aroosa Azeem*, Tanveer Hussain and Aleza Moqaddus

Department of Botany, Mirpur University of Science and Technology (MUST), Mirpur-10250 (AJK), Pakistan
*aroosaazeem1998@gmail.com

The present study documented the dominant fungal diseases of wheat crop and their biological management by using petals extract of two medicinal plants ‘*Butea monosperma* and *Calotropis procera*’ for better production of wheat crop. Highest infection rate (57.14 %) was observed against *Fussarium graminearum* while minimum infection rate (20.8 %) was observed against *Blumeria graminis tritici* pathogen. The highest severity rate was recorded 80 % while the minimum severity rate was recorded as 40 %. The antifungal action of two plant’s petals crude extracts have been applied against the dominant identified fungal pathogens during lab and field experimental trials. The highest zone of inhibition was observed in methanolic extract of *Butea monosperma* petals against fungi *Alternaria triticina*. Similarly, the maximum zone of inhibition was observed in methanolic extract of *Calotropis procera* against fungi *Fussarium graminearum*. It was indicated that the treated wheat plants produced better yield than non-treated plants. It was observed that the *Calotropis procera* showed better management of fungal diseases than *Butea monosperma*. So, it was concluded that the *C. procera* petals are more efficient because they have rich chemical compositions. Therefore, these are very effective against selected fungal pathogens. The biomanagement of severely effected wheat diseases of fungal species through petals of two medicinal plants crude extracts increased the yield of wheat crop.

Keywords: Antifungal Potential; Sustainable Agriculture; Medicinal plant; *Butea monosperma*; *Calotropis procera*; Fungal Diseases