

Utilization of actinomycetes having broad-spectrum of plant growth promoting and biocontrol traits in chickpea, sorghum and rice

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Abstract

Plant pathogens such as *Sclerotium rolfsii* (causes collar rot), *Fusarium oxysporum* (causes wilt) and *Macrophomina phaseolina* (causes charcoal rot/dry root rot) have a broad host range, affecting several agriculturally important crops including chickpea, pigeon pea, groundnut and sorghum, which are grown under rainfed conditions, leading to significant yield losses. Due to the broad host range of these fungal pathogens, it has become very difficult for the farmers to grow these crops profitably. Hence, there is a need to have broad-spectrum plant growth-promoting (PGP) and biocontrol organisms for use in different cropping systems for the control of multiple diseases in a single crop and there by the crop productivity can be enhanced in the dry-land agriculture. The main objective of the present study was to identify and evaluate broad spectrum PGP and biocontrol agents and their metabolites with multiple actions against different pathogens so that one biological treatment controls more than one problem apart from promotion of plant growth in chickpea, sorghum and rice.

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