Abstract

Screening of bacterial endophytes for biocontrol of southern blight in *Cannabis sativa* L.

Sustainable agricultural practices using microbial natural resources is a viable alternative to the use of chemical applications in crop production. Bacterial endophytes that inhabit plant internal tissue without causing harm to the host plants have potential application in promoting plant growth and in protecting plants against pathogens. Bacterial endophytes occupy the same ecological niche as pathogens and have the ability to compete for space and nutrients with pathogens while providing other plant health benefits. Hemp (Cannabis sativa) production in the southeastern US is faced with southern blight disease problem caused by *Sclerotium rolfsii* which reduce plant yield. This research focuses on screening bacterial endophytes for their ability to suppress growth of *Sclerotium rolfsii* in invitro dual culture experiments as the initial stage for identifying endophytes that have potential in southern blight disease management. Endophytes which inhibit the growth of the southern blight pathogen in vitro will be further screened against diverse pathogens and evaluated for efficacy in greenhouse and field environments.

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