

# Molecular and agronomic characterization of *Trichoderma* spp natives of northeastern Mexico

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## Abstract

*Trichoderma* sp is a fungus often used in agricultural activities, because it acts as an antagonist of several species of plant pathogenic fungi. In this study four strains of *Trichoderma* sp was isolated from the northeastern Mexico, which were identified by sequencing the ITS 1. We also evaluated its ability antagonistic against phytopathogenic fungi *Macrophomina phaseolina* and *Fusarium oxysporum* this fungi are reported affecting severely maize, sorghum and beans crops in northeastern Mexico. The identification was made according to the degree of consistency with reported sequences and the data show that the isolates belong to the species *T. hammatum* (HK701), *T. koningiopsis* (HK702), *T. asperellum* (HK703) and *Trichoderma* sp (HK704). Antagonism tests showed that the isolated, HK701, HK703 and HK704 inhibited the growth by competition to *M phaseolina* and *F. oxysporum*, while the HK702 has the ability to hyperparasites these pathogens. Finally was evaluated in maize (Pioneer 30P49®) We measured the dry weight and biomass production. The results show that at intermediate concentrations have the greatest increase in plant height and dry height of root and foliage.

**Key words:** biological control, antagonism, biofertilizers, *Zea maiz*, *Sorghum bicolor*