Effect of Korra Residue, Microbial Consortia and Inorganic Fertilizers on Chickpea Yield and Glomalin Content

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ABSTRACT

A field experiment was conducted on clay soils of Agricultural Research Station, Amaravathi, Guntur during *rabi* 2017-18 and 2018-19 to find out the influence of crop residues on glomalin content ,fungal population and percent water stable aggregates in soil on chickpea under rainfed agro-climatic condition of Krishna zone. The korra crop residue was incorporated in soil 45 days before sowing of chickpea either alone or in combination with microbial consortia and starter dose of N and P fertilizers as decomposition accelerators. Glomalin content and percent water stable aggregates assayed in soil at different crop growth stages of chickpea were significantly increased by the application of crop residue along with microbial consortia. Among the treatments, the highest glomalin content and percent water stable aggregates were recorded with the treatment $T_{7,}$ which received crop residue @1.5 t ha^{-1} + Microbial consortium@2 kg t^{-1}+ urea 3 kg t^{-1} + SSP 15 kg t^{-1} of residue incorporated to chickpea. There is a significant positive correlation between glomalin content, fungal population and aggregate stability. The dry matter accumulation at different stages and grain yield of chickpea were significantly influenced by the treatments. the highest dry matter accumulation and grain yield were recorded with 100 per cent RDF(20:50:0:40) and was at par with the treatment $T_{7,}$ which received crop residue @1.5 t ha^{-1} + Microbial consortium@2 kg t^{-1}+ urea 3 kg t^{-1} + SSP 15 kg t^{-1} of residue incorporated to chickpea during both the years of the experimentation.

Key words: *Crop residue, Dry matter, Fungal population, Glomalin content and Microbial consortium*