Physiological and Morphological changes in Chenopodeacea family with the interaction of Arbuscular Mycorrhizal Fungi and PGPR.

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The influence of Arbuscular mycorrhizal Fungi (AMF) on the populations of general taxonomic and functional groups of naturally-occurring rhizosphere bacteria on Chenopodiaceae family plants. The significance of changes in microbial populations activities due to AMF were observed. In addition, plant growth and soil fertility were studied in inoculated nonsterile soil inoculated with a plant growth-promoting Rhizobacterium (PGPR) isolate of *Pseudomonas aeruginosa*.Migula and indigenous Arbuscular mycorrhizal fungi. Although inoculation with either PGPR or AMF alone increased plant growth after 12 weeks, significant increase in root dry weight, compared to uninoculated controls, was observed when either PGPR or AMF were present. Shoot dry weight of plants inoculated with both PGPR and AMF was inoculated but there was a significantly greater increasment is their Wet and dry weight ,Root and Shoot length, and yield of the plant when both PGPR and AMF were present. Concentrations of N,P,K,Fe, Cu, Al, Zn, Co and Ni were considerably greater in the shoots and roots of plants inoculated with both PGPR and AMF than in plants inoculated with either PGPR or AMF alone. All over Possible mechanisms for these interactions were observed in AMF inoculated cultivars when compared to PGPR.

Key words: Arbuscular mycorrhizal Fungi, Chenopodiaceae family, PGPR, *Pseudomonas aeruginosa*.Migula, Wet and dry weight Root and Shoot length, yield, N,P,K,Fe, Cu, Al, Zn,Co,Ni.