

CHARACTERIZATION OF MESORHIZOBIUM SP. ISOLATED FROM ROOT NODULES OF CICER ARIETINUM

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ABSTRACT

This study was carried out to be investigate the effect of salt, pH, antibiotics, carbohydrate and fungicides on growth of *Mesorhizobium* isolates obtained from root nodules of chick pea plants from different sites of Dehradun. After morphological and biochemical test, 40 isolates were selected. Isolates were subjected to different (2%, 3%.....up to 8%) NaCl concentrations and found that all isolates grew up to 4% NaCl concentration, variation starts from 5% NaCl and salt tolerance ability was reduced with increasing salt concentration. All isolates grew at pH 4.0 to pH 8.5 and none of the isolates at pH 9.0. Ten carbohydrates were used for describing carbohydrate utilization pattern. Most of the isolates catabolize nine carbohydrates while only 47.5% showed resistance to dextrose. All of the isolates were showed sensitivity to Meropenem, Netillin, Ceftriaxone and Amikacin antibiotics. All isolates were tested for their tolerance to four fungicides. The effect of the fungicides on the isolates was variable, depending on the fungicide and isolate. Further studies are needed to study the genes involved in salt, pH, carbohydrates, fungicides, antibiotic resistance and the relationship between these genes and the symbiotic genes.

KEYWORDS: Antibiotics, Carbohydrate, Chick pea, Fungicides and *Mesorhizobium*.