

## CHARACTERIZATION OF RHIZOBIA FROM ROOT NODULE AND RHIZOSPHERE OF *LABLAB PURPUREUS* AND *VIGNA SINENSIS* IN BANGLADESH

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### ABSTRACT

Nitrogen fixation resulting from mutual symbiosis of rhizobia and cultivated legume plants is therefore critical to food security as it directly affects agricultural production. Biological Nitrogen Fixation (BNF) can be an important factor in sustainable agriculture. The isolation and identification of different slow growing and fast growing rhizobial strains from the nodules of two leguminous plant species. Symbiotic nitrogen fixing Rhizobium spp. was isolated from (*Lablab purpureus* and *Vigna sinensis*). Nodules samples were collected from plants growing in different Districts of Bangladesh and the Glucose-Peptone Agar (GPA), Congo red, Yeast Mannitol Agar (YMA) containing 2% NaCl were employed to make presumptive decisions on the recognition and classification of the isolated bacterial strains. All the isolates were found with poor absorption of dye Congo red and little or no growth on the media of GPA and without altering the pH. Almost all of the isolates exhibit growth on 2% NaCl, poor growth on GPA, thus confirming the rhizobia. After biochemical tests like catalase test and citrate utilization test isolates were confirmed as Rhizobia. The presence of rhizobia on root nodules of leguminous Plant. Not only the leguminous Plant but also the rhizosphere contains rhizobia which help in soil fertilization

**KEYWORDS:** Root Nodules, Leguminous Plant, Rhizobia, Symbiosis, Bangladesh