

AM-38. THERMOTOLERANCE AND NITROGEN FIXING EFFICIENCY OF PIGEONPEA ROOT NODULE BACTERIA

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High temperature is a major factor limiting N_2 fixation in *Rhizobium*-legume symbiosis in tropical and subtropical regions. Selection of *Rhizobium* strains for temperature tolerance has been suggested as a means of overcoming the temperature stress. Therefore in the present study thermotolerance and N_2 fixing efficiency of different root nodule bacterial strains infecting pigeonpea was determined. Growth of 19 strains was observed at 30, 37, 42 and 45°C and efficiency of these strains was determined in leonard jars. The sand temperature in the jars ranged from 34 to 42°C. All the strains showed different optimum temperatures for growth. Few strains were able to grow well at 30, 37 and 42°C, where as others were able to grow even at 44°C. However no correction of thermotolerance of pigeonpea rhizobial strains to N_2 fixing efficiency (nodule number, nodule dry weight, ARA, plant biomass and plant nitrogen) in pigeonpea was observed.