

Exploitation of the potential for nitrogen fixing trees, soil improvement and multipurpose use, requires a good knowledge of their nodulation capabilities and agrosilvicultural manipulation. Nitrogen Fixation in some nodulated species can be maximized by inoculation with effective *Rhizobium* strains. This study reports the occurrence of nodulation of selected nitrogen fixing trees in Kenya in four ecological zones. Nodulation status of indigenous and introduced tree species investigated are presented against a background of soil pH and *Rhizobium* characteristics. Most of the nodulated species belonged to the family Mimosaceae and a few to Papilionaceae. No species of the Caesalpiniaceae was nodulated. The pH of soils from where nodules were collected ranged from 5.8 - 7.5. The growth rate of rhizobia isolated from these tree legumes varied from slow to fast growth. These legume trees provide a wide range of uses such as ornamental, timber, fuel, land reclamation, windbreaks, tannin production and food. This survey showed that most of the fast growing species are nodulated therefore more research on their biological nitrogen fixation potential is needed as well as the genetic diversity of associated rhizobia.