B-111: Antibiotic resistant mutants of Rhizobia as marked strains for use with certain N_2-fixing trees

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In order to obtain marked rhizobial strains for studies with dinitrogen fixing trees endemic to Sri Lanka, antibiotic resistance was utilised. Two *Rhizobium* strains (KULGP and IFS- BM3) were marked with streptomycin and rifampicin respectively (200 μg antibiotic ml^{-1}). The resistant isolates KULGP^{str} and IFS-BM3^{rif} were obtained and compared with their parental strains.

The colony type of the mutants was not different from the wild types. In the basal medium, the growth rate of IFS-BM3^{rif} had a longer lag phase than the wild type, but during the exponential and stationary phases, the differences were not statistically significant. The growth rate on the medium with antibiotics was significantly lower than on the basal medium. The initial growth of KULGP^{str} was not significantly different from the wild type, the mutant grew at the later stages.

There was no statistically significant difference in the survival on AB containing medium upto 6 generations of KULGP^{str} grown on normal YMA.

Both the mutants and their wild types on YMA bromothymol blue (BRYMA), showed alkali production. On the peptone glucose agar medium, the growth was poor, on the ketolactose medium no yellow Cu_2O rings were visible and no growth on 2% NaCl medium was observed. These tests confirmed that the mutants belong to the Rhizobium group. Two antibiotic marked strains were thus obtained and they did not differ significantly in their main characteristics from the wild types.