

Intisari

Gliricidia sepium adalah tanaman tahunan yang masuk kedalam klasifikasi tanaman leguminosa pohon. Tanaman ini dilaporkan dapat bersimbiosis dengan bakteri pembintil akar, tetapi masih belum diketahui terkait keragaman bakteri pembintil akar yang terdapat pada rhizosfer tanaman *G. sepium*. Penelitian ini bertujuan untuk mendapat isolat bakteri pembintil akar dari rhizosfer tanaman *G. sepium* dan mengetahui keragamannya berdasarkan karakter fenotipik. Metode yang dilakukan dalam penelitian ini yaitu dengan menggunakan tiga tanaman legum (siratro (*Macroptilium atropurpureum*), buncis (*Phaseolus vulgaris*), dan *Vigna* sp.) sebagai tanaman perangkap untuk mendapatkan bintil akar. Isolat bakteri pembintil akar yang diperoleh dikarakterisasi berdasarkan sifat fenotipik melalui uji morfologi dan fisiologi. Hasil isolasi diperoleh 2 isolat dari bintil akar tanaman siratro dan 11 isolat dari bintil akar tanaman *Vigna* sp. Dari pengujian karakter fenotipik diperoleh 8 isolat yang termasuk dalam kelompok *Agrobacterium* dan 5 isolat termasuk dalam kelompok rhizobia yaitu V5, V6, V7, V9, dan S2. Kelima isolat terpilih memiliki keragaman dengan koefisien antara 0,28-0,88. Rhizosfer *G. Sepium* diketahui tidak dapat menjadi lingkungan hidup berbagai jenis bakteri pembintil akar.

Kata kunci: rhizosfer *Gliricidia sepium*, *Macroptilium atropurpureum*, *Phaseolus vulgaris*, *Vigna* sp., rhizobia, tanaman legum

ABSTRACT

Gliricidia sepium is a perennial crop classified as a leguminous tree plant. This plant has been reported to develop symbiotic association with legume-nodulating bacteria. However, is currently unknown the diversity of legume-nodulating bacteria in the rhizosphere of *G. sepium*. The aim of this study was to obtain isolates of legume-nodulating bacteria from *G. sepium* rhizosphere and to understand its diversity based on phenotypic characters. In this study, three legume plants (siratro (*Macroptilium atropurpureum*), common bean (*Phaseolus vulgaris*), and *Vigna* sp.) were used as trapping plants to obtain the root nodule bacteria. Isolates of legume-nodulating bacteria were subsequently characterised based on phenotypic appearance by using morphological and physiological tests. Following isolation, two isolates were obtained from siratro root nodules and 11 isolates were obtained from *Vigna* sp. root nodules. Based on 3-ketolactose tests it was known that 8 isolates belong to genus *Agrobacterium* and 5 isolates belong to genus rhizobia, that is V5, V6, V7, V9, and S2 isolates. Five selected isolates demonstrated diversity with coefficients between 0.28-0.88. It was also observed that *G. sepium* rhizosphere did not provide the suitable environment for diverse types of legume-nodulating bacteria.

Keywords: *Gliricidia sepium* rhizosphere, *Macroptilium atropurpureum*, *Phaseolus vulgaris*, *Vigna* sp., rhizobia, legume plant