INTISARI

Penggunaan bakteri tahan kromium berpotensi untuk meningkatkan biomassa dan serapan logam untuk fitoremediasi tanah tercemar kromium. Penelitian ini bertujuan untuk melihat pengaruh inokulasi bakteri tahan kromium, yaitu *Bacillus subtilis*, *Bacillus megaterium*, *Bacillus pumilus*, dan *Sphingobium* sp. dalam meningkatkan pertumbuhan dan serapan kromium pada tanaman rami (*Boehmeria nivea)*. Tanaman *Boehmeria nivea* diinokulasi dengan keempat jenis kultur bakteri lalu seminggu setelah inokulasi tanaman dipaparkan kromium dengan konsentrasi 0 ppm, 40 ppm, dan 60 ppm. Tanaman dipanen setelah berumur tiga bulan kemudian parameter pertumbuhannya diamati dari bobot kering tanaman setelah itu dianalisis kandungan kromiumnya menggunakan AAS (*Atomic Absorption Spectrophotometer*) lalu dihitung serapan kromiumnya. Hasil pengamatan menunjukkan bahwa inokulasi bakteri tahan kromium, yaitu *Sphingobium* sp dapat meningkatkan kandungan kromium pada tanaman rami (*Boehmeria nivea)*, akan tetapi seluruh pemberian inokulasi bakteri tahan kromium pada tanaman tidak dapat meningkatkan serapan kromium tanaman rami (*Boehmeria* nivea) secara signfikan.

Kata kunci : kromium, bakteri tahan kromium, *Boehmeria nivea*, fitoremediasi.

ABSTRACT

The use of chromium-resistant bacteria as bioremediation agents has the potential to increase biomass and metal uptake in plants used for phytoremediation of chromium-contaminated soil. This study was aimed at examining the contribution of chromium-resistant bacteria, namely *Bacillus subtilis*, *Bacillus megaterium*, *Bacillus pumilus*, and *Sphingobium* sp as inoculants for *Boehmeria nivea* plants in increasing plant growth and chromium uptake. *Boehmeria nivea* plants were inoculated with four species of bacteria followed by exposure to chromium at concentrations of 0 ppm, 40 ppm, and 60 ppm seven days after inoculation. The plants were harvested three month after planting followed by dry weight measurement and chromium concentration analysis using AAS (Atomic Absorption Spectrophotometer). The results showed that inoculation of chromium-resistant bacteria did not increase the dry weight of the plants grown under various concentrations of chromium. *Sphingobium* sp. however, was observed capable of increasing chromium content in *Boehmeria nivea* plants. The use of other chromium-resistant bacteria as inoculants did not increase chromium uptake by *Boehmeria nivea* plants significantly.

Keywords : chromium, chromium tolerant bacteria, *Boehmeria nivea*, phytoremediation