

UJI KEMAMPUAN TANAMAN VETIVER
(*Chrysopogon zizanioides* (L.) Roberty)
SEBAGAI FITOREMEDIATOR PADA PROSES
BIOREMEDIASI TANAH TERKONTAMINASI PHC
(*Petroleum Hydrocarbon*)

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ABSTRAK

Penelitian ini bertujuan untuk mengamati pengaruh penggunaan tanaman Vetiver (*Chrysopogon zizanioides*) terhadap penurunan nilai TPH, jumlah populasi bakteri serta pertumbuhan tanaman pada proses bioremediasi selama 3 bulan. Media terdiri dari campuran tanah dan pasir dengan perbandingan 2:3. *Crude oil* diambil dari industri rakyat pengeboran minyak bumi di Bojonegoro, Jawa Timur. Rancangan penelitian yang digunakan adalah Rancangan Acak Lengkap (RAL) berpola faktorial yang terdiri dari 2 faktor. Faktor 1: Konsentrasi *crude oil* yang terdiri dari 4 taraf: M0:0%, M1:1%, M3:3%, dan M10:10%. Faktor 2: Penggunaan Vetiver (*C. zizanioides*) yang terdiri dari 2 taraf: V0: tanpa menggunakan Vetiver dan V1: menggunakan Vetiver, diperoleh 8 kombinasi perlakuan, masing-masing diulang 3 kali. Hasil penelitian menunjukkan pemanfaatan Vetiver (*C. zizanioides*) meningkatkan jumlah populasi bakteri dan penurunan nilai TPH (*Total Petroleum Hydrocarbon*). Namun semakin banyak *crude oil* yang ditambahkan maka pertumbuhan *C. zizanioides* semakin rendah.

Kata kunci : Bioremediasi, *Chrysopogon zizanioides*, *crude oil*, TPH (*Total Petroleum Hydrocarbon*).

THE ABILITY OF VETIVER
(*Chrysopogon zizanioides* (L.) Roberty)
AS PHYTOREMEDIATOR IN BIOREMEDIATION
PROCESS OF PHC (PETROLEUM HYDROCARBON)
CONTAMINATED SOIL

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Abstract

The research aims to investigate the effect of Vetiver (Chrysopogon zizanioides) to the decreasing of TPH concentration, the population of bacteria, and C. zizanioides growth in bioremediation process. All parameters were tested both on PHC (Petroleum Hydrocarbon) contaminated soil, C. zizanioides planted or not planted after 3 months of observation. Media consists of a mixture Soil and Sand with ratio 2 Crude oil was taken from small scale crude oil drilling industry in Bojonegoro, East Java. The experimental design is factorial randomized complete design consists of 2 factors. Factor 1 is crude oil concentration, it consists of 4 levels; M0:0%, M1:1%, M3:3%, and M10:10%. Factor 2 is C. zizanioides, it consists of 2 levels; V0: without Vetiver plant and V1: using Vetiver plant. There are 8 combination: each treatment is repeated 3 times. Then the results showed that C. zizanioides plant affected the decreasing of TPH concentration, the bacteria population and the C. zizanioides plant growth. However the increasing of TPH concentration affected the C. zizanioides plant growth.

Keywords: *Bioremediation, Chrysopogon zizanioides, Crude oil, TPH (Total Petroleum Hydrocarbon).*