

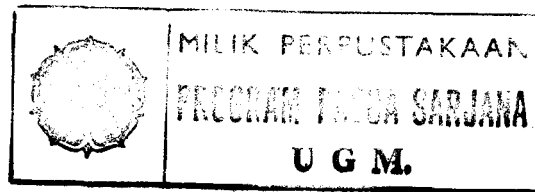
INTISARI

Peranan pemanfaatan kompos bioaktif tandan kosong kelapa sawit (*Elaeis guineensis* Jack) dalam upaya konservasi. Penelitian ini dilakukan pada tanggal 17 Oktober – 25 Januari 2001 di Desa Damit, di lokasi Kebun Tajati PT. Perkebunan Nusantara XIII Kabupaten Pasir Kalimantan Timur dengan tujuan penelitian untuk mengkaji peranan pemanfaatan kompos bioaktif tandan kosong kelapa sawit dalam upaya konservasi, aplikasi kompos bioaktif TKKS 50 kg/pohon, 75 kg/pohon, 100 kg/pohon, pada umur kompos 10 bulan dan 15 bulan.

Metode yang digunakan adalah dengan mengambil sampel tanah untuk diketahui pengaruh kompos bioaktif TKKS terhadap sifat tanah (permeabilitas, bahan organik, pori total, tekstur), pengukuran laju infiltrasi, serta kemampuan menyimpan air dengan mengambil contoh profil tanah. Pengukuran curah hujan dilakukan pada setiap kejadian hujan selama 100 hari (49 hari kejadian hujan yang diperoleh). Serta dengan membuat rancangan faktorial dalam Rancangan Acak Kelompok Lengkap (RAKL), untuk mengukur aliran permukaan. Faktor utama umur yaitu umur kompos 10 bulan (U10) dan umur kompos 15 bulan (U15). Faktor kedua adalah dosis, Kompos bioaktif tandan kosong kelapa sawit ditaburkan sekitar pohon, Dosis 50 kg/pohon (D50), dosis 75 kg/pohon (D75), dosis 100 kg/pohon (D100), dan tanpa perlakuan (kontrol). Sampel diambil dari air aliran permukaan dan mengukur debit (Q) liter/detik air aliran permukaan dan diuji di laboratorium.

Hasil penelitian ini menunjukkan hasil terhadap sifat permeabilitas tanah meningkat sebanyak 2,3 kali, bahan organik sebanyak 1,3 kali, butiran pasir 1,3 kali kompos 10 bulan lebih baik daripada 15 bulan. Menaikkan laju infiltrasi 0.4 cm/menit pada umur kompos 10 bulan lebih baik dari umur kompos 15 bulan hanya 0.3 cm/menit. Kemampuan menyimpan air pada umur kompos 15 bulan sebanyak 198 mm, dan umur kompos 10 bulan sebanyak 188 mm. Aliran permukaan pada umur kompos 10 bulan turun sebanyak 1.25 persen, dan pada umur kompos 15 bulan turun sebanyak 0.75 persen. Kualitas air aliran permukaan parameter pH, Nitrat ($\text{NO}_3\text{-N}$), Posfat (PO_4), Sulfat (SO_4), masih memenuhi studi kelayakan baku mutu air golongan B, sedangkan amonia bebas ($\text{NH}_3\text{-N}$) ditemukan tinggi sehingga tidak layak untuk memenuhi baku mutu golongan B. Untuk itu perlu dilakukan pengelolaan air dan penelitian lebih cermat pada faktor penyebab lainnya.

Kata Kunci: Kompos Bioaktif TKKS, Aliran Permukaan, Kualitas Air Aliran Permukaan, Konservasi.



ABSTRACT

The roles of using bioactive manure of the palm oil (*Elaeis guineensis jack*) in the conservation efforts. The research was conducted from October 17 th, 2000 up to January 25 th, 2001 at Tajati plantation of nusantara XIII plantation corporation located in Damit, Pasir Regency, East Kalimantan . The objectives of the research are to study the roles of using bioactive manure palm oil bunch in the conservation effort. The application of the bioactive manure of palm oil bunch is 50 kg/tree, 75 kg/tree, and 100 kg/tree at the age 10 and 15 months.

The methods used were taking the sample of soil to detect the effects of bioactive manure of palm oil bunch on soil characters (permeability, organic materials, total pore and texture), the measurement of infiltration rates and water preserve capability by taking samples of soil profile. The measurement of rainfall was done in each rainfall event for a 100 days (49 days of rainfall event was obtained), and by making Factorial Design through the Randomized Complete Block Design (RCBD) using age and dosage to measure the surface run off. The primary factor was is age, i.e.10 months (U10) and 15 months (U15). The second factor was is dosage, which consisted of bioactive manure of palm oil bunch sowed directly, as dosage of 50 kg /tree (D50), dosage of 75 kg/tree (D75), dosage of 100 kg/ tree (D100), and untreated dosage (uncontrolled). The samples were taken from the surface run off water and measuring the discharge of surface run off (Q) liter/seconds and tested in the laboratories.

The result of this research shows that the permeability increases 2.3 times, organic materials increases 1.3 times, sand increases 1.3 times. The manure at the age of 10 months, is better than that at the age of 15 months. It increases the infiltration rates by 0.4 cm/minute. The manure at the age 10 months is better than at the age of 15 months i.e only 0.3 cm/minute. The water preserve capability of the manure at the age of 15 months is 198 mm, for and at the age of 10 months is 188 mm. The surface run off water at the age of 10 months decreases by 1.25 %, and at the age of 15 months decreases by 0.75 %. The quality of the surface run off parameters pH, Nitrate (NO₃-N), Phosphate (PO₄), Sulfate (SO₄), still conforms to the standard quality of class B water, whereas free ammonia (NH₃-N) is high so that it does not conform to the standard quality of class B. Therefore, it is necessary to carry out water management and to conduct further research on the other causal factors.

Key words : Bioactive manure, Surface run off, Water quality of run off, Conservation

