Kartika Wahyu Candra Dewi. Prediksi Kehilangan Unsur Hara Akibat Erosi Tanah Di Perkebunan Teh (*Camellia sinensis* L.) PT. Tambi Tanjungsari Wonosobo. Dibimbing oleh Partoyo dan Didi Saidi.

ABSTRAK

Tujuan penelitian ini adalah memprediksi besarnya erosi dan memetakan prediksi kehilangan unsur hara N, P, K akibat erosi. Penelitian dilakukan berdasarkan peta satuan lahan, dari *overlay* peta penggunaan lahan, peta jenis tanah, peta kemiringan lereng dan blok tanaman teh (meliputi tanaman belum menghasilkan, tanaman menghasilkan dan *replanting*). Prediksi besarnya erosi dilakukan dengan persamaan USLE. Prediksi kehilangan unsur hara N, P, K dihitung dengan mengalikan kadar hara N, P, K contoh tanah asli dan prediksi besarnya erosi yang terjadi. Pemetaan dilakukan dengan bantuan *software ArcView*. Parameter yang diamati meliputi curah hujan, faktor erodibilitas (K) berupa tekstur, bahan organik, struktur, dan permeabilitas, faktor tanaman (C), faktor tindakan konservasi tanah (P), panjang dan kemiringan lereng (LS) serta kadar hara N, P, K dalam tanah. Hasil penelitian menunjukkan bahwa prediksi erosi paling tinggi terjadi pada lahan kosong/*replanting* (SPL 1) sebesar 166,75 ton/ha/th, sedangkan yang terendah pada lahan tanaman menghasilkan, kemiringan lereng agak miring (SPL 5) sebesar 61,53 ton/ha/th. Prediksi kehilangan hara berturut-turut dari yang terbesar adalah N-total, yaitu 479,8 kg/ha/th, N-tersedia 57,6 kg/ha/th, K-tersedia sebesar 40,3 kg/ha/th, dan P-tersedia sebesar 1,6 kg/ha/th.

Kata Kunci : Erosi, USLE, Kehilangan Hara N, P, K

Kartika Wahyu Candra Dewi. Prediction of Nutrient Loss Due to the Soil Erosion at Tea (*Camellia sinensis* L.) Plantation PT. Tambi Tanjungsari Wonosobo. Advisor commitee : Partoyo and Didi Saidi.

ABSTRACT

The objectives of this study are to predict the amount of soil erosion and to map nutrients loss due to the soil erosion. The study was done based on land unit map, resulted from the overlay of land use map, soil type map, slope map and blocks of the tea plantation (including pre-productive plant, productive plant and replanting blocks). Calculation using formula USLE was applied to predict the amount of soil erosion. Nutrient loss prediction of Nitrogen (N), Phosporus (P) and Potassium (K) were calculated by multiplying the nutrient (N, P, K) content of soil samples with the predicted amount of soil erosion. Mapping was done by using ArcView software. The observed parameters included rainfall; erodibility factors (K) consist of texture, organic matter, structure, and permeability; crop factor (C); soil conservation measures factor (P); length and slope (LS) and the content of N, P, K in the soil samples. The results showed that the highest predicted erosion amount was occured in bare land/replanting (SPL 1) by 166.75 tons/ha/yr, while the lowest one was in productive plant block with slightly sloped (SPL 5) by 61.53 tons/ha/yr. Prediction of nutrient loss respectively from the biggest is N-total 479.8 kg/ha/yr, N-available 57.6 kg/ha/yr, K-available 40.3 kg/ha/yr, and P-available 1.6 kg/ha/yr.

Keywords: Erosion, USLE, Loss Nutrients of N, P, K