

Intisari

Perubahan penggunaan lahan dapat mengubah tutupan vegetasi yang berdampak pada perubahan sifat fisik tanahnya, karena setiap vegetasi memiliki sistem perakaran yang berbeda. Penelitian ini berjudul “Infiltrasi Tanah pada Berbagai Tipe Penggunaan Lahan dan Kemiringan Lahan di Jati, Bener, Purworejo”. Penelitian ini bertujuan untuk mengetahui dan menganalisis nilai kapasitas dan laju infiltrasi pada setiap kemiringan lereng dan penggunaan lahan yang berbeda dan pengaruh karakteristik sifat fisik tanah terhadap kapasitas infiltrasi serta variasi tutupan lahan dan kemiringan lereng berbeda pada laju dan kapasitas infiltrasi di Desa Jati. Penentuan lokasi pengambilan sampel tanah dan pengukuran infiltrasi berdasarkan pada peta satuan penggunaan lahan (*purposive sampling*) yang didasarkan pada pertimbangan perbedaan kemiringan lereng dan penggunaan lahan. Penelitian ini dilakukan dengan pengambilan 12 titik sampel tanah berdasarkan satuan peta lahan (SPL) hasil tumpang susun (*overlay*) peta penggunaan lahan, dan peta kemiringan lereng yang telah dibuat. Kelas kemiringan lereng terdiri dari 4 aras yaitu sangat landai, landai, agak curam, dan curam. Kemudian penggunaan lahan yang digunakan yaitu sawah, kebun campur, tegalan, dan hutan. Infiltrasi dilakukan menggunakan *single ring infiltrometer* pada bidang olah atau teras. Pengamatan infiltrasi dilakukan selama 1 menit (5 kali), 3 menit (5 kali), 5 menit (5 kali) pada setiap titik sampel. Hasil penelitian menunjukkan terdapat perbedaan karakteristik sifat fisik pada setiap kemiringan lereng dan penggunaan lahannya yang memberikan pengaruh nyata terhadap nilai kapasitas infiltrasi.

Hasil pengamatan dihitung kapasitas infiltrasi dengan metode Horton. Nilai kapasitas infiltrasi tertinggi pada penggunaan lahan sawah yaitu sebesar 244,51 mm, tegalan sebesar 149,58 mm, kebun sebesar 123,75 mm, dan hutan sebesar 99,01 mm.

Kata kunci: Karakteristik fisik tanah, kapasitas infiltrasi, kemiringan lereng, penggunaan lahan

Abstract

Changes in land use can change vegetation cover which has an impact on changing the physical properties of the soil, because each vegetation has a different root system. This study entitled "Soil Infiltration On Various Land Use Types and Slopes in Jati, Bener, Purworejo". This study aims to determine and analyze the capacity values and infiltration rates on different slopes and land use and the effect of soil physical characteristics on infiltration capacity as well as land cover variations and different slopes on infiltration rates and capacities in Jati Village. Determination of the location of soil sampling and infiltration measurements based on a map of land use units (purposive sampling) which is based on consideration of differences in slope and land use. This research was conducted by taking 12 soil sample points based on the land map unit (SPL) resulting from the overlay of land use maps, and slope maps that have been mad. The slope class consists of 4 levels, namely very gentle, sloping, slightly steep, and steep. Then the land uses used are rice fields, mixed gardens, dry fields, and forests. Infiltration is carried out using a single ring infiltrometer in the field or terrace. Infiltration observations were made for 1 minute (5 times), 3 minutes (5 times), 5 minutes (5 times) at each sample point. The results showed that there were differences in the physical characteristics of each slope and land use which had a significant effect on the value of infiltration capacity. The results of observations were calculated infiltration capacity by Horton's method. The value of the highest infiltration capacity in the use of paddy fields is 244.51 mm, moor is 149.58 mm, garden is 123.75 mm, and forest is 99.01 mm.

Keywords: Soil physical characteristics, infiltration capacity, slope, land use