

## INTISARI

Penelitian Infiltrasi di Bawah Tegakan Sengon, Kelapa, dan lahan terbuka dilakukan di Kebun Campur Desa Kuwaderan, DAS Kalibuthek, Magelang, Jawa Tengah. Penelitian dilakukan dengan mengumpulkan data curah hujan, *stemflow*, *throughfall*, intersepsi, kapasitas infiltrasi, dan sifat fisik tanah meliputi: bahan organik, porositas, pori makro, testur, kekerasan tanah, dan kelembaban awal pada tegakan kelapa, sengon dan lahan terbuka. Diperoleh *nett rain* (*stemflow* + *throughfall*) terbesar pada tegakan kelapa dengan arsitektur *corner* yakni sebesar 70,9 mm, diikuti sengon dengan arsitektur *troll* sebesar 31,8 mm, dan *nett rain* terendah yang merupakan nilai curah hujan pada kondisi terbuka yakni 26,2 mm. Jumlah *nett rain* yang sampai ke permukaan tanah kemudian mengalami infiltrasi untuk mengisi kapasitas infiltrasi tanah. Kapasitas infiltrasi dipengaruhi oleh sifat fisik tanah pada masing masing tegakan sehingga menghasilkan kapasitas infiltrasi pada tegakan kelapa, sengon, dan terbuka, masing masing 186,9mm; 278,5mm; dan 18,9 mm. Efektifitas infiltrasi tanah pada tegakan kelapa, sengon, dan terbuka dapat dihitung dengan membandingkan *nett rain* dengan kapasitas infiltrasi dikali 100%, sehingga diperoleh efektifitas tertinggi pada tegakan kelapa 38%, diikuti sengon 11% dan lahan terbuka -39%. Lahan terbuka memiliki efektifitas yang bernilai negatif sehingga berpotensi melimpaskan air ke permukaan tanah (*run off*).

Kata Kunci: *nett rain*, kapasitas infiltrasi, sengon, kelapa, terbuka

## ABSTRACT

The research of infiltration cappacity under Albizia (*Albizia chinensis*), Coconut (*Cocos nucifera*.L.), and barren land on Alfisols located at Agroforestry land use in Kuwaderan Village, Magelang Regency, Central Java. The experiment held done by collecting data from soil properties and rainfall aspects including: nett rain under albizia and coconut (stemflow + throughfall), while at the barren land nett rain equals to the rainfall, and interception under coconut, albizia, and barren land. Data of soil properties including organic matter, texture, porosity, pore distributions, initial moisture, soil hardness and infiltration cappacities under that three different conditions. The greatest amount of nett rain governed by coconut with 70,9 mm; followed by albizia with 31,8 mm; and the fewest amount on the barren land with only 18,9 mm. Nett rain then infiltrate into the soil to fulfill soil infiltration cappacity. Based on the field measurement, the greatest infiltration cappacity is under the albizia with 278,5 mm; then followed by coconut with 186,9 mm and the fewest cappacity happen on the barren land with only 18,9 mm. Percentage ratio between nett rain and infiltration cappacity under each condition can be used to predict infiltration effectiveness and run off potential. Coconut has the greatest infiltration effectivity by 38% , followed by albizia 11%, and the lowest effectivity on the barren land by -39% which means potential to generate run off.

Keywords : nett rain, infiltration cappacity, coconut, albizia, barren land