STUDI PRODUKSI BIOMASSA DAN KEMAMPUAN TEGAKAN SENGON (*Paraserianthes falcataria (L.)* Nielsen) DI HUTAN RAKYAT DALAM MENGURANGI AKUMULASI CO_2 DI UDARA

INTISARI

Penelitian ini bertujuan untuk mengetahui potensi hutan rakyat sengon di Wonosobo dalam menghasilkan biomassa dan kemampuannya dalam mengurangi akumulasi CO_2 di udara.

Penelitian ini dilaksanakan melalui tiga tahapan : (1) observasi, meliputi pemilihan lahan milik, pemilihan sampel pohon : 9 pohon dengan variasi umur 4, 6, dan 9 tahun, (2) pelaksanaan lapangan, meliputi penebangan , pengambilan organ tanaman, penimbangan berat basah, dan pengukuran luas daun (3) analisis, meliputi analisis unsur karbon dan analisis pertumbuhan tanaman : NAR, CGR dan laju pertumbuhan tanaman tahunan.

Hasil penelitian menunjukan bahwa produksi biomassa masing-masing organ tanaman (akar, batang, cabang besar, cabang kecil, ranting dan daun) terhadap nilai D^2H terdapat hubungan korelasi yang sangat erat . Rata-rata produksi biomassa sengon umur 4, 6 dan 8 tahun adalah 94,13 kg/pohon, 253,59 kg/pohon dan 391,76 kg/pohon. Hasil analisis regresi menunjukan bahwa antara nilai LAI, NAR dan CGR terhadap nilai D^2H menunjukan hubungan yang sangat lemah. Hasil penelitian juga menunjukan bahwa nilai NAR umur 4-6 tahun lebih tinggi (4,039 mg. dm^{-2} .jam^{-1}) dibandingkan umur 6-8 tahun (3,6188 mg. dm^{-2} .jam^{-1}), demikian juga nilai CGR-nya (6592,64 kg. ha^{-1}. th^{-1} dan 5995,29 kg. ha^{-1}. th^{-1}). Potensi hutan rakyat dalam mengurangi akumulasi CO_2 diudara cukup besar, yaitu umur 4 tahun 8,4071ton. ha^{-1}. th^{-1} , umur 6 tahun 8,5350 ton. ha^{-1}. th^{-1} dan umur 8 tahun 9,6518 ton. ha^{-1}. th^{-1} .

Kata Kunci : Sengon, Produksi Biomassa, Penurunan CO_2

STUDY ON BIOMASS OF SENGON COMMUNITY FOREST AND ABILITY IN DECREASING ATMOSPHERIC CARBONDIOXIDE

ABSTRACT

The objective of this research was to study the ability of Wonosobo's Sengon Community Forest in producing biomass and in decreasing atmospheric carbondioxide.

This research has three phase, which is : (1) observation, consist of selecting private land, selecting three samples: 9 three, in 4, 6 and 9 years old three sample variation, (2) field implementation, which was cutting threes, take organ from plant, weighing wet weight and measuring the wide of leaf (3) analysis, consist of carbon element analysis and the growth of the threes per year.

The result of the research shows that the biomass production of each plant organ (root, stalk, big branch, small branch and leaf) to the D^2H value has strong relationship. The average weights of sengons biomass production in the age of 4, 6 and 8 years old are 94.13 kg, 253.59 kg and 391.76 kg. The regression result shows that between LAI, NAR and CGR to D^2H have weak relationship. The result of the research shows that NAR of three in the age of 4-8 years is higher (4.039 mg. dm^{-2}. $hours^{-1}$) than 6-8 years old (3.6188 mg.dm^{-2}. $hours^{-1}$), also the CGR (6592.64 kg. ha^{-1}. $years^{-1}$ and 5995.29 kg. ha^{-1}.$years^{-1}$). The ability of Sengon community forest in decreasing CO_2 in the air are big enough, which is the 4 years old is 8.4071 ton. ha^{-1}. $years^{-1}$, 6 years old are 8.5350 ton.ha^{-1}.$years^{-1}$ and 8 years old are 9.6518 ton.ha^{-1}.$years^{-1}$.

Key words : *Paraserianthes falcataria*, Biomass production, CO_2 decreasing.