

**DYNAMICS OF THE CROWN VOLUME, STANDING CLEAR BOLE
VOLUME AND CORRELATION BETWEEN OF THEM
ON TEAK'S PROGENY TEST AT KPH NGAWI**

Suci Dwi Jayanti¹
Ronggo Sadono²
Djoko Soeprijadi³

Abstract

Crown growth and tree stem volume have a close correlation. The research purposes are to obtain information correlation between crown volume and standing clear bole volume, and the change of crown volume and standing clear bole volume from 2008 to 2010.

Tree height, the radius of crown base, the maximum of crown radius, the length of shaded crown section, and the length of light crown section were used to constructed crown model for every seedlot. The crown models were used to calculate the real crown volume. Crown volume model was obtained by using regression analysis. Relationship between crown volume and standing clear bole volume was analyzed by correlation. The change of crown volume and standing clear bole was determined with sign test.

The crown model consisted of two sections, $R_s = 1,03 + 0,24h_s$ for shaded crown and $R_l = 1,44 \cdot h_l^d$ for light crown. Crown volume model was $CV = -93,185 + 17,111 (CL) + 1,724 (D)$ with Adjusted R^2 0,617 and SE 35,8743. The relationship between crown volume and standing clear bole volume was positively correlated with $r = 0,246$. There were 113 out of 146 seedlots increasing crown volume with average $34,3936 \text{ m}^3$ and the rest 33 seedlots decreasing with $26,2178 \text{ m}^3$. For standing clear bole volume were 110 seedlots increased with average $0,0269 \text{ m}^3$ and the rest 36 seedlots decreased with average $0,0192 \text{ m}^3$.

Keywords: crown volume, stem volume, correlation analysis, sign test

1. Student of Forest Management Department, Faculty of Forestry Gadjah Mada University

2. Lecture of Forest Management Department, Faculty of Forestry Gadjah Mada University

3. Lecture of Forest Management Department, Faculty of Forestry Gadjah Mada University

**DINAMIKA VOLUME TAJUK, VOLUME BATANG
BEBAS CABANG DAN HUBUNGAN ANTARA KEDUANYA
PADA UJI PROGENI JATI DI KPH NGAWI**

Suci Dwi Jayanti¹
Ronggo Sadono²
Djoko Soeprijadi³

INTISARI

Pertumbuhan tajuk dan batang pohon memiliki hubungan yang erat. Penelitian bertujuan untuk mengetahui hubungan antara volume tajuk dan volume batang bebas cabang, dan perubahan volume tajuk dan volume batang bebas cabang antara tahun 2008-2010

Data tinggi pohon, jari-jari tajuk awal, jari-jari tajuk maksimal, tinggi tajuk ternaungi dan tinggi tajuk terkena cahaya digunakan untuk membuat model tajuk tiap *seedlot*. Model tajuk tersebut digunakan untuk mencari volume aktual tajuk. Analisis regresi digunakan untuk mencari persamaan penduga volume tajuk. Hubungan antara volume tajuk dan volume batang bebas cabang dianalisis menggunakan Analisis korelasi. Perubahan volume tajuk dan volume

Model jati dibagi menjadi 2 bagian yaitu untuk tajuk ternaungi $R_s = 1,03 + 0,24hs$ dan tajuk terkena cahaya $R_l = 1,44*hl^d$. Model penduga volume tajuk jati adalah $Vol_{\text{tajuk}} = -93,185 + 17,111(CL) + 1,724(D)$ dengan Adjusted R^2 sebesar 0,617 dan SE sebesar 35,8743. Hubungan antara volume tajuk dan volume batang bebas cabang berkorelasi positif dengan r sebesar 0,246. Terdapat 113 *seedlot* dari 146 *seedlot* mengalami kenaikan volume tajuk dengan rata-rata kenaikan sebesar $34,3936 \text{ m}^3$ dan penurunan sebanyak 33 *seedlot* dengan rata-rata penurunan sebesar $26,2178 \text{ m}^3$. Sedangkan volume batang bebas cabang terdapat 110 *seedlot* mengalami kenaikan dengan rata-rata sebesar $0,0269 \text{ m}^3$ dan penurunan sebanyak 36 *seedlot* dengan rata-rata penurunan sebesar $0,0192 \text{ m}^3$.

Kata kunci : volume tajuk, volume batang, analisis korelasi, uji tanda

-
1. Mahasiswa Jurusan Manajemen Hutan, Fakultas Kehutanan, UGM Yogyakarta
 2. Dosen Jurusan Manajemen Hutan, Fakultas Kehutanan, UGM Yogyakarta
 3. Dosen Jurusan Manajemen Hutan, Fakultas Kehutanan, UGM Yogyakarta