

IDENTIFIKASI POLA SEBARAN DIAMETER TERHADAP PRODUKSI GETAH PINUS DENGAN FUNGSI KEPEKATAN WEIBULL BERPARAMETER TIGA DI KPH KEDU SELATAN

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INTISARI

Distribusi diameter dapat memberikan informasi terkait struktur tegakan dalam pengelolaan hutan, menggambarkan pohon-pohon dalam suatu tegakan, dan menentukan strategi pengaturan hasil hutan. Penelitian ini bertujuan untuk mengetahui pola sebaran dan mengidentifikasi keterkaitan antara sebaran diameter dengan produksi getah.

Penelitian ini dilakukan pada tegakan pinus di KPH Kedu Selatan. Pengambilan sampel dilakukan dengan metode *purposive sampling* dengan 64 plot sebagai sampel. Selanjutnya dilakukan parameterisasi Weibull dengan metode momen. Validasi parameterisasi parameter dengan uji Kolmogorof-Smirnov. Analisis regresi digunakan untuk memetakan hubungan struktur tegakan dan produktifitas getah.

Kecocokan fungsi Weibull berparameter tiga sebagai model sebaran diameter tegakan pinus dan korelasi antara parameter Weibull dengan model tegakan terbukti secara signifikan. Hasil penelitian menunjukkan bahwa pemodelan analisis regresi $\beta = 0,139 + 0,017 (\text{umur}) + 0,002 (\text{kbd}) + 0,216 (\text{bonita}) - 0,0001 (\text{altitude})$ $R^2 = 0,161$, $\gamma = -8,858 + 0,395 (\text{umur}) + 0,395 (\text{kbd}) + 2,111 (\text{bonita}) - 0,0005 (\text{altitude})$ $R^2 = 0,216$, dan $\mu = 21,057 + 0,318 (\text{umur}) - 0,025 (\text{kbd}) - 0,466 (\text{bonita}) + 0,003 (\text{altitude})$ $R^2 = 0,441$ signifikan. Sedangkan model persamaan produksi getah menunjukkan hubungan yang tidak dapat dimodelkan.

Kata kunci : sebaran diameter, Weibull, Kolmogorof-Smirniiov, analisis regresi

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**IDENTIFICATION OF DIAMETER DISTRIBUTION PATTERN FOR
THE GUM PINE PRODUCTION ON THREE PARAMETERIZED
WEIBULL DENSITY FUNCTION
IN KPH KEDU SELATAN**

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ABSTRACT

The distribution of diameter provide relevant information for the stand structure in forest management, describing the trees in the stand, and determining the yield regulation strategy. This research aims to identify the distribution their relation gum resin production.

The research was conducted on pine stand in KPH Kedu Selatan. Samples were obtained by using the purposive sampling method with 64 sample plots. The Weibull parameterization was determined by the Moment Method and the parameterization validation of the parameters was done by using the Kolmogorof-Smirnov Test. Regression analysis was used to identify the relationship between the stand structure and the pine resin productivity.

The suitability of Three Parameterized Weibull Function as a model of pine plantation's diameter distribution and the correlation between the Weibull parameter with the stand model is significantly proved. The results showed that the model for pine resin distribution are $\beta = 0.139 + 0.017 (\text{age}) + 0.002 (\text{N/Ha}) + 0.216 (\text{bonita}) - 0.0001 (\text{altitude})$ with $R^2 = 0.161$, $\gamma = -8.858 + 0.395 (\text{age}) + 0.395 (\text{N/Ha}) + 2.111 (\text{bonita}) - 0.0005 (\text{altitude})$ with $R^2 = 0.216$, and $\mu = 21.057 + 0.318 (\text{age}) - 0.025 (\text{N/Ha}) - 0.466 (\text{bonita}) + 0.003 (\text{altitude})$ with $R^2 = 0.441$ are significant. While the pine resin production equation model showed the relationship between distribution of diameter and pine resin can not be modeled statistically.

Key words: diameter distribution, Weibull, Kolmogorof-Smirnirov, regression analysis

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