Sifat Kimia Kayu Jati Unggul Nusantara (*Tectona grandis Linn.f*) Umur 8 Tahun

Oleh:

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INTISARI

Jati Unggul Nusantara (JUN) (*Tectona grandis linn. f*) adalah salah satu jenis pengembangan kayu jati yang memiliki keunggulan seperti pertumbuhan yang lebih cepat dan memiliki perakaran tunggang majemuk yang kokoh. Namun pemanfaatan kayu jati oleh masyarakat hanya terbatas pada kayunya saja, sementara pada bagian lain kurang diminati. Untuk meningkatkan penggunaan kayunya dibutuhkan informasi sifat dasarnya seperti kimia kayu. Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan bagian pohon terhadap komponen kimia pada kayu JUN.

Penelitian ini menggunakan sampel kayu JUN umur 8 tahun (3 pohon) yang terbagi menjadi bagian batang, cabang, serta ranting dan dipisahkan antara bagian teras dan gubalnya. Sampel tersebut kemudian dibuat serbuk dengan ukuran 40-60 mesh untuk dilakukan pengujian sifat kimia kadar ekstraktif etanol-toluena, ekstraktif air panas, kadar holoselulosa, kadar α-selulosa, kadar lignin, kadar abu dan silika, serta nilai pH. Hasil penelitian di analisis menggunakan rancangan acak lengkap (*Completely Randomized Design)* dengan one-way ANOVA.

Kisaran nilai kimia dari kayu JUN umur 8 tahun yang diperoleh adalah kadar holoselulosa, α-selulosa, lignin 63,12-71,27%: 41,88-49,10%; 26,46-29,85% secara berturutan. Ekstraktif etanol-toluena, ekstraktif air panas 3,01-7,58%; 1,85-3,09% secara berturutan. Kadar abu, kadar silika 0,48-0,82%; 0,13-0,37%; dan nilai pH 5,89-7,51 secara berturutan. Perbedaan gubal dan teras secara nyata hanya diamati pada kadar lignin di bagian tengah, kadar ekstraktif etanol-toluena dan kadar silika di bagian pangkal, dan nilai pH di bagian pangkal dan tengah. Secara umum, selain kadar holoselulosa dan α-selulosa pada ranting dan cabang tidak menunjukkan perbedaan nyata dengan batang utama. Dari hasil uji lanjut bagian pohon memberikan pengaruh nyata terhadap kadar holoselulosa, α-selulosa, kadar lignin, kadar ekstraktif etanol-toluena, kadar abu, dan nilai pH. Perbedaan bagian pohon tidak memberikan pengaruh nyata terhadap kadar ekstraktif terlarut air panas.

Kata kunci : *JUN, gubal, cepat tumbuh, kimia kayu*

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Chemical Characteristics on the 8-Years-old Jati Unggul Nusantara (JUN) (*Tectona grandis Linn.f*)

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ABSTRACT

Jati Unggul Nusantara (JUN) (Tectona grandis linn. *f*) is one type of teak wood development to have advantages such as faster growth and has a solid multiple roots. However, the utilization of teak wood by the community is only limited to stemwood, while in other parts it is less utilized. To increase the utilization of wood, information on the basic properties such as chemical characteristics of the wood is necessary. This study aims to determine the effect of different tree parts on the chemical components of JUN wood.

The wood sample of 8 years old trees 3 replications which were divided into trunks, branches, and twigs, these parts were separated between the heartwood and sapwood. Then the sample was turned into powder with a size of 40-60 mesh in order to be tested for chemical properties i.e etanol-toluena extractive content, hot-water extractive content, holocellulose content, α-cellulose content, lignin content, ash and silica content, and pH value. The results itself were analyzed using a completely randomized design with one-way ANOVA.

The results showed that holocellulose content, α-cellulose content, lignin content were 63,12-71,27%; 41,88-49,10%; 26,46-29,85% respectively; etanol-toluena extractive; hot-water extractive were 3,01-7,58%; 1,85-3,09% respectively. Ash content, silica content were 0,48-0,82%; 0,13-0,37%; and pH values from 5,89 to 7,51, respectively. The significant difference between sapwood and heartwood was only observed in the lignin content in the middle part, whereas ethanol-toluene extractive content and the silica content were observed at the base part, and the pH value were found at the base and the middle parts. In general, apart from the contents of holocellulose and alfacellulose on twigs and branches, there was no significant difference with the main stem. From the results of post-hoc tests on the tree parts had a significant effect on the contents of holocellulose, alfacellulose, lignin, etanol-toluena extractive content, ash content, and pH values. The effect of differences in tree parts did not have a significant effect on the hot water extractive content.

Keyword: *JUN, sapwood, fast growing, wood chemical*

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