

**LAJU DEKOMPOSISI SERESAH DAUN
PADA SUKSESI SEKUNDER DENGAN TIGA FISIOGNOMI
DI HUTAN WANAGAMA 1, GUNUNG KIDUL,
YOGYAKARTA**

INTISARI

Hutan Wanagama 1 merupakan hutan suksesi sekunder. Hutan tersebut memiliki berbagai jenis vegetasi yang membentuk fisiognomi yang berbeda. Beraneka jenis vegetasi akan menghasilkan seresah yang kemudian terdekomposisi menjadi bahan organik. Masing-masing fisiognomi mempunyai laju dekomposisi yang berbeda karena faktor lingkungan dan kandungan senyawa kimia yang terkandung pada seresah. Penelitian ini bertujuan untuk mengetahui laju dekomposisi seresah daun campuran pada beberapa kondisi fisiognomi.

Plot pengamatan terbagi atas 24 kotak masing-masing 20x20 cm pada 3 fisiognomi dengan 3 ulangan di tiap fisiognomi. Setelah penempatan seresah pada plot, sampel seresah diambil setiap 2 minggu selama 4 bulan untuk mengetahui indeks dekomposisi seresah. Seresah dipisahkan menurut tingkat dekomposisinya lalu dioven hingga berat kering konstan. Seresah daun segar dianalisis kandungan C dan N untuk diketahui nilai C/N ratio awal.

Hasil penelitian menunjukkan laju dekomposisi seresah total di semua fisiognomi sangat lambat. Indeks dekomposisi seresah pada fisiognomi awal 0,0008, fisiognomi tengah 0,0011 dan fisiognomi lanjut 0,0009. Dari data tersebut diketahui bahwa laju dekomposisi seresah total tercepat terjadi pada fisiognomi tengah. Hal itu disebabkan vegetasi penyusunnya sebagian besar terisi oleh tumbuhan bawah yang seresahnya mudah terdekomposisi. Kerapatan yang tinggi menciptakan kelembaban yang sesuai bagi mikroorganisme turut membantu laju dekomposisi pada fisiognomi ini. Sedangkan fisiognomi awal memiliki laju dekomposisi paling lambat karena didominasi *Swietenia mahagoni*. Kandungan flavonoida, lapisan lilin serta ketebalan daun pada jenis menyebabkan dekomposisi berjalan lambat. Seresah fisiognomi lanjut memiliki C/N ratio 68,56 sehingga lebih mudah terdekomposisi. Dominasi *Melaleuca leucadendron* yang mengandung seniol menyebabkan proses dekomposisi berjalan lambat.

Kata kunci: Laju dekomposisi, seresah, fisiognomi awal, fisiognomi tengah, fisiognomi lanjut, suksesi sekunder.

**LEAF LITTER DECOMPOSITION RATE
AT SECONDARY SUCCESSION WITH
THREE PHYSIOGNOMIES IN WANAGAMA 1 FOREST,
GUNUNG KIDUL, YOGYAKARTA**

ABSTRACT

Wanagama 1 forest is a secondary succession forest. This forest has many kinds of vegetation which forms different characteristics of physiognomy. Various vegetation produce litter that after decomposition process become organic matters. Each physiognomy has different decomposition rate because of the environmental factors and chemical contents of the litter. This experiment aimed to estimate the decomposition rate of mixed leaf litter at different condition of physiognomy.

Observation plots that were divided into 24 squares sized 20x20 cm were established in 3 physiognomies, each was made 3 replications. Following establishment sample of litter was collected every 2 weeks in 4 months to measure litter decomposition index. The litter was separated based on its decomposition level then dried in an oven until constant dry weight was achieved. C and N content of leaf litter was analyzed to measure initial C/N ratio.

Result of this experiment indicated that decomposition rate of litter in all physiognomies was very slow. Decomposition index in early physiognomy was 0,0008, middle physiognomy was 0,0011 and late physiognomy was 0,0009. The data also showed that the fastest decomposition rate of the litter occurred in the middle physiognomy. It was caused by vegetation in the middle physiognomy that mostly composed of under storey vegetation which produced easily decomposable litter. High density created suitable moisture for microorganisms also increased decomposition rate in this physiognomy. Early physiognomy had the slowest decomposition rate because it was dominated by *Swietenia mahagoni* with contained flavonoida, candle layer and had thick leaves. The litter of late physiognomy had C/N ratio 68,56 those the litter was easy to decomposed. Domination of *Melaleuca leucadendron* caused slow decomposition process due to its ceniol content.

Key words: Decomposition rate, litter, early physiognomy, middle physiognomy, late physiognomy, secondary succession.