

## **PREFERENSI MAKAN RAYAP KAYU KERING (*Cryptotermes cynocephalus* Light) PADA EMPAT JENIS BAMBU**

### **INTISARI**

Bambu merupakan bahan bangunan yang telah mendapat tempat di masyarakat Indonesia, terutama di pedesaan karena memiliki beragam sifat yang memenuhi syarat bagi berbagai kebutuhan hidup. Sayangnya bambu mudah diserang oleh kumbang bubuk dan rayap termasuk rayap kayu kering *Cryptotermes cynocephalus* Light. Rayap kayu kering mempunyai kesukaan memilih (preferensi) sebagai respon terhadap rangsangan yang ada pada sumber pakannya baik kayu maupun bambu.

Penelitian ini bertujuan untuk mengetahui preferensi makan rayap kayu kering pada empat jenis bambu yaitu bambu Ampel *Bambusa vulgaris* Schrader ex Wendland, bambu Apus *Gigantochloa apus* (J.A. & J.H. Schultest) Kurz, bambu Hitam *Gigantochloa atroviolacea* Widjaja dan bambu Surat *Gigantochloa robusta* Kurz dari sifat fisik dan kimianya.

Penelitian dilaksanakan di Fakultas Kehutanan UNWIM dan PAU Pangan dan Gizi UGM, tanggal 1 Juli sampai dengan 28 November 1999. Rancangan percobaan yang digunakan adalah RAL Faktorial dengan 2 faktor, yaitu jenis bambu dengan 4 taraf yaitu ampel, apus, hitam dan surat dan posisi bagian bambu dengan 3 taraf yaitu pangkal, tengah dan ujung. Jumlah ulangan sebanyak 3 kali.

Hasil penelitian menunjukkan bahwa preferensi makan rayap kayu kering dipengaruhi oleh kandungan kimia jenis bambunya, tetapi pengaruh ini dapat dibuktikan pada uji preferensi dengan pilihan (pilihan ganda) diantara 4 jenis bambu. Pada uji preferensi dengan 1 jenis bambu (preferensi makan tunggal) tanpa kesempatan memilih kandungan kimia tidak berpengaruh. Kehilangan berat sebagai indikator preferensi makan tunggal rayap kayu kering ditunjukkan oleh pengurangan berat rata-rata secara berurutan pada bambu hitam, apus, ampel dan surat sebesar 12,741%, 11,098%, 10,814% dan 10,467%. Pengurangan berat menurut posisinya dalam batang tercatat terbesar pada bagian tengah bambu hitam sebesar 14,553% dan yang terkecil adalah pada pangkal bambu ampel sebesar 7,920%. Aroma khas kandungan gula rupanya merupakan feromon yang memacu respon rayap kayu kering mencari sumber pakannya. Pada uji preferensi makan ganda kadar ekstraktifnya yang rendah dan kandungan gula, protein, dan alfaselulosa yang tinggi ternyata disukai oleh rayap kayu kering. Kehilangan berat bambu apus, surat, hitam dan ampel berturut-turut sebesar 4,774%, 3,634%, 2,630% dan 1,744% dengan kandungan alfaselulosanya masing-masing 46,365%, 44,223%, 41,082% dan 40,392%, kandungan gulanya sebesar 1,989%, 1,800%, 1,538% dan 1,370%, kandungan proteinnya sebesar 2,528%, 2,488%, 2,412% dan 1,793%, sedangkan kandungan ekstraktifnya sebesar 3,040%, 3,097%, 3,203% dan 3,140%.

Pada posisi bagian bambu yang sangat nyata kehilangan beratnya adalah bagian ujung apus, tengah apus, tengah surat dan ujung bambu hitam masing-masing sebesar 8,187%, 5,068%, 4,814%, 4,673%, pada kandungan alfaselulosanya masing-masing sebesar 46,433%, 45,456%, 43,717%, dan 44,715%, pada kandungan gulanya masing-masing sebesar 1,970%, 1,917%, 1,910% dan 1,620%, pada kandungan proteinnya masing-masing sebesar 2,710%, 2,493%, 2,473% dan 1,620%, pada kandungan ekstraktifnya masing-masing sebesar 2,917%, 3,460%, 3,180% dan 3,233%.

## THE DIET PREFERENCE OF DRYWOOD TERMITE (*Cryptotermes cynocephalus* Light) ON FOUR BAMBOO SPECIES

### ABSTRACT

Bamboo has been popular for building materials among Indonesian, especially in the rural community, due to its properties for various living needs. Unfortunately it is susceptible to powder post beetle and termite, including drywood termite *Cryptotermes cynocephalus* Light. This termite has its diet preference as response to the stimulus produced by the woody loss.

The objective of this study was to find out the diet preference of the drywood termite on four bamboo species *Bambusa vulgaris* Schrader ex Wendland, *Gigantochloa apus* (J.A. & J.H. Schultest) Kurz, *Gigantochloa atroviolacea* Widjaja, *Gigantochloa robusta* Kurz, through their physical and chemical properties.

The study was conducted during 5 months from July 1 to November 28, 1999 at the Faculty of Forestry Winaya Mukti University, Bandung and Food & Nutrition Laboratory of Inter University Centre, Gadjah Mada University, Yogyakarta. The design of the research was factorial CRD, 2 factors i.e the four bamboo species and its position along the culms, bottom, middle and the top portion of the culm. Three replication were applied.

The result showed that diet preference of the drywood termite was influenced by the chemical contents of the bamboo, but this finding could only be assessed through selective test among the 4 species of the bamboos. In Individual bamboo test (single diet preference), the chemical content of the bamboo did not influenced significantly. Weight loss as the indicator of the diet preference of the drywood termites showed by the % age decrease of weight respectively on *G. atroviolacea* 12.741%, *G. apus* 11.098%, *B. vulgaris* 10.814% and *G. robusta* 10.467%. Weight loss in this selective test according to the position along the culm showed the greatest decreased was on the middle part of *G. atroviolacea* (14.553%) and the smallest was on the bottom of *B. vulgaris* (7.920%). The sugar aroma seemed to be the pheromone stimulated the response of the drywood termite to find out the diet. On the selective test results showed low extractive content but the high contents of sugar, protein, and alfacellulose were seemingly the most attractive substances to drywood termite. This conclusion was supported by the weight loss of respective data on *G. apus* (4.774%), *G. robusta* (3.634%), *G. atroviolacea* (2.630%) and *B. vulgaris*, (1.744%), with their respective alfacellulose contents of 46.364%, 44.223%, 41.082% and 40.392%. The respective sugar contents were 1,989%, 1,800%, 1,538% and 1,370%, while their respective contents of protein were 2,528%, 2,488%, 2,412% and 1,793%, with their respective contents of extractive of 3,040%, 3,097%, 3,203% and 3,140%. Weight loss according to the position along the culms were significantly showed by the top portion of *G. apus* (8,187%), the middle portion *G. apus* (5,068%), the middle portion of *G. robusta* (4,814%) and the top orion of *G. atroviolacea* (4.673%) on their alfacellulose contents of 46.433%, 45.456%, 43.717% and 44.715%, their respective contents of sugar of 1,970%, 1,917%, 1,910% and 1,620%, their respective extractive contents of 2,917%, 3,460%, 3,180% and 3,233% their respective protein contents of 2,710%, 2,493%, 2,473% and 1,620%.