

## STUDI REPRODUKSI BIOLOGI JATI (*Tectona grandis* Linn.f.) DI KEBUN BENIH KLON PADANGAN

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### INTISARI

Kebutuhan kayu Jati (*Tectona grandis* Linn.f.) yang semakin meningkat dari waktu ke waktu mendorong kebutuhan benih jati dalam kuantitas yang tinggi dan harus diimbangi dengan kualitas yang bagus, sehingga diperlukan studi tentang reproduksi biologi sehingga diperoleh informasi yang tepat dalam menunjang upaya mendapatkan benih jati dalam kuantitas dan kualitas yang tinggi.

Studi reproduksi biologi dan fenotip jati dilakukan terhadap 15 pohon, dimana 5 pohon penyerbukan terkendali nomor klon A, 5 pohon penyerbukan terbuka nomor klon A, dan 5 pohon penyerbukan terbuka nomor klon bebas. Masing-masing pohon diamati 3 malai yang dibedakan 3 posisi dalam orde I yaitu posisi 2 (ujung), posisi 4 (tengah), dan posisi 6 (ujung) kemudian dilakukan pengamatan dan perhitungan terdapat jumlah bunga dan buah yang mengalami aborsi dari Bulan Februari sampai Juni 2004.

Hasil penelitian menunjukkan bahwa tidak terjadi perbedaan laju aborsi antara penyerbukan terkendali klon A, penyerbukan terbuka klon A, dan penyerbukan terbuka klon bebas. Laju aborsi tiap bulan yang didapatkan yaitu 2,79% (posisi 2), 2,42% (posisi 4), dan 2,47% (posisi 6). Aborsi yang cukup tinggi terjadi dalam perkembangan buah muda menjadi buah masak, diduga disebabkan oleh keadaan kandung embrio tidak normal, embrio dan endosperma berhenti tumbuh, tanah terlalu kering atau terlalu basah, tanah terlalu kurus, serangan hama dan penyakit, dan pengaruh jumlah buah serta biji. Penyerbukan dan pembuahan dimulai Pertengahan Bulan Januari-Mei, perkembangan buah dan biji Bulan Maret-Agustus, benih berkecambah diduga dimulai beberapa hari setelah terjadi pembuahan, dan waktu buah dan biji masak diduga dimulai awal Bulan Juni. Uji viabilitas yang dilakukan pada Bulan Mei yaitu 28%, dan Bulan Juni meningkat menjadi 42%. Dari pengamatan fenotip pohon yang dilakukan hanya variabel tinggi pohon yang mampu mempengaruhi besarnya produksi buah dan biji pada jati.

Kata kunci : Jati (*Tectona grandis* Linn.f), Kebun Benih, Aborsi

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## A STUDY OF REPRODUCTIVE BIOLOGY OF TEAK (*Tectona grandis* Linn.f.) IN THE PADANGAN CLONAL SEED ORCHARD

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### ABSTRACT

The increasing of teak wood requisites from time to time have influenced the requisites of high quantity of teak wood, it has to be balanced by high quality. Therefore, informative study of reproductive biology of teak tree including its phenotype is needed in order to support the effort in getting a high quality and quantity of teak seed.

A study of reproductive biology has been done toward 15 trees, in which 5 controlled-pollination trees were clone A, 5 opened-pollination trees were clone A, and 5 opened-pollination trees were free of clone. The tree has observed respectively in 3 panicles which have divided in 3 position, namely order 1 which consists of position 2 (tip), position 4 (middle), and position 6 (pole), afterwards it has been done an observation and calculation to the number of aborted flower and fruit during February until June 2004.

This research indicated that there were no differences of abortion between controlled pollination of clone A, opened pollination of clone A and opened pollination of free clone. Monthly abortion rates were 2.79% (position 2), 2.42% (position 4) and 2.47 (position 6). A high abortion has happened in the growth of unripe fruit to be the ripe one, this is estimated because of abnormal embryo sac condition, embryo and endosperm were stopped growing, the soil was too dry and too wet, unfertile soil, pest and disease attacking, and the influence of the number of fruit and seed. The pollination and fertilization have started from the middle of January to May, for fruit and seed growth it has started from March to August, the seed germinated several days after the fertilization and time for fruit and seed to be ripe was estimated during the beginning of June. The viability test that has been done on May was 28%, this number was increasing to 42% on June. From the observation of tree's phenotype it is known that only the height of tree variable could influence the quantity of fruit teak and seed product.

Key words : Teak tree (*Tectona grandis* Linn.f.), seed orchard and abortion

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