## Group B03-ABS FUND
## Flowering and Fruiting Ecology of Ironwood (*Eusideroxylon zwageri* Teijsm. & Binn.)

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Bulian/ulin/belian/borneo ironwood (*Eusideroxylon zwageri* Teijsm. & Binn.), belongs to the family of Lauraceae. *E. zwageri* is one of the most important construction woods in Indonesia. The most valuable characteristic of *E. zwageri* is that it is not vulnerable to termites and other ubiquitous tropical wood-eating insects and fungi. The growth is slow in comparison to more tree species. In most tropical trees, flowering is episodic and seasonal peaks of flowering have been recorded for many tropical trees. The knowledge on flowering ecology of *E. zwageri* is limited or close to absent to the present. In fact, this information is very important for the management of regeneration of *E. zwageri*. The study on the flowering and fruiting ecology of *E. zwageri* had been conduted **t**o investigate the relationship between climatic and edaphic factors to flowering of *E. zwageri* and (2) to study the flowering and Fruiting phenology of *E. zwageri*. The study has been conducted in four locations namely (1) Durian Luncuk Conservation area; (2) Senami Forest; (3) Bungku and (4) Sridadi Village. Purposive sampling has been applied. The size of plot was one hectare in Durian Luncuk and one in Senami Forest. The mature trees inside the plot have been observed regularly once in two weeks. Two flowering trees grow in Bungku and Sridadi have observed regularly to obtain data on flowering and fruiting phenology. Growth rate and morphological characters of the shoot and the leaf were recorded also once in two weeks. The results show that the mean DBH of flowering trees in the Senami Forest was 20.14 cm while in the Durian Luncuk was 39.55 cm and the percentage of flowering trees in the Durian Luncuk is slightly higher (59.79%) compared to those in Senami Forest (51.90%). The inflorescence reached the maximum growth in eight weeks which can be explained by the equation of $Y= 0.112x^2 + 2.128x - 1.825$ ($R^2$ = 0.983). While the fruit length and diameter reached the maximum growth on 18 weeks after pollination which following the equation of $Y= 5.763\ln(x) - 1.83$ ($R^2$ = 0.95) and $Y= 2.544\ln(x) - 1.199$ ($R^2$ = 0.27) respectively. The fruit shedding was at 30 weeks after pollination. The leaf length and width reached maximum growth in eight weeks after initiation which following the equation of $Y= 0.368x^2 + 7.003x - 5.229$ ($R^2$ = 0.945) and $Y= 0.167x^2 + 3.213x - 2.926$ ($R^2$ = 0.950) respectively. There was no leaf shedding till 30 weeks of observation. Finally, the twig length development was following the linear equation of $Y= 2.433x - 4.096$ ($R^2$ = 0.947).

Keywords*: Eusideroxylon zwageri*, flowering, fruiting, phenology