

NOTES

A NOTE ON THE OCCURENCE OF FLOWERING OF *GIGANTOCHLOA LIGULATA* (BULUH TUMPAT)

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Gigantochloa ligulata (buluh tumpat) is one of the commercial bamboo species found in Malaysia in natural forest. It is mostly found in the northern states of Peninsular Malaysia, such as Perlis, Kedah and Kelantan.

Flowering of *G. ligulata* is quite often seen in Malaysia. There is no study or observation recorded on the flowering of this species. In November 1989, flowering of one clump of this bamboo was observed at Kampung Perik, Kuala Nerang, Kedah.

The clump of *G. ligulata* was found to be flowering gregariously (Figure 1). It was observed that all culms in the clump were flowering. Most of the inflorescences produced viable seedlings. About 40 to 45 seedlings per inflorescence were collected. The flowering period was observed to last for six months from November to April. Later, the whole clump died.



Figure 1. Flowering of *G. ligulata* clump

At flowering, the age of the clump was four years old since it was planted. Most of other clumps of *G. ligulata* observed, even after four years, did not flower. According to Mathauda

(1952) and Dwivedi (1988), the flowering of the clump may be due to several factors such as site quality and climatic conditions.

At the time of observation, the state of Kedah was experiencing a drought season where the mean temperature was 32°C. This might have influenced the clump to flower gregariously. For those clumps that only flowered partially, their genetic character could have an additional influence.

It was also observed that within a range of 5 to 7 km, this was the only clump that flowered gregariously. Nevertheless, about 5 clumps of this bamboo species could be seen to flower partially.

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References

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A NOTE ON BRAZIL'S TROPICAL RAIN FORESTS UNDER NEW FOREST MANAGEMENT REGULATIONS

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The Brazilian forest code, which dates back to 1965, established in its Article 15 that all pristine forests of the Amazon basin could only be used under forest management plans. However, technical requirements for forest management were never specified.

But now the situation has changed. The Brazilian Institute for Environment and Renewable Natural Resources (IBAMA) has recently issued a landmark set of regulations for forest management in Amazonia. The regulations followed the suggestions of the workshop organized by INPA - National Research Institute of Amazonia, EMBRAPA - Brazilian Agricultural Research Organization, FCAP - Faculty of Agrarian Sciences of Para State, and IBAMA, held in Manaus, Amazonas, in June 1991. The German Agency for Technical Cooperation financed the meeting.

At present IBAMA will enforce those forest management regulations through an internal act, Instruction No. 80, gazetted in September 1991. These new regulations only permit logging in cases where a forest inventory demonstrates that the area is capable of sustainable timber production. In addition, the regulations are designed to discipline logging operations to minimize damage to the residual commercial trees. Extraction activities are to be planned and the volume extracted should be compatible with the principle of sustained yield (an average of 40 m³ ha⁻¹ is recommended). Silvicultural treatments such as climber cuttings and crown liberation thinnings at 10 y intervals are also