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The sturdy teak

The Forest Research Institute of Malaysia is taking measures to ensure the sustainability of the highly prized teak.

By FIONA HO

THROUGH much of recorded history, teak wood has been relied upon and trusted for its durability and strength. Its golden brown lustre, decorative grain and water resistant properties have made it one of the most sought-after hardwoods.

A tropical hardwood tree species, teak or *Tectona grandis* is native to South and South-East Asia, mainly India, Indonesia, Malaysia and Burma. However, the hardwood has since been naturalised and cultivated in many countries, including those in Africa and Caribbean.

The usage of teak dates back as early as seventh century Siam (now Thailand), where it was used to construct and decorate royal residences, religious buildings and trade ships. Its sturdy reputation later spread to other cultures in the Middle Ages and it was considered a prized material for marine construction because of its buoyancy, and its anti-fungal as well as moisture-resistant properties.

Because of its ability to withstand the wear and tear brought about by harsh weather conditions, teak also proves to be an ideal material in the manufacture of outdoor furniture. In building interiors, it is used in doors, window frames and sculptures.

The status of teak throughout the world as one of the best-quality hardwoods has never wavered through the ages, but because of its rarity and limited supply, its consumption has raised a number of environmental concerns, including the disappearance of old-growth teak.

In addressing those problems, the Forest Research Institute of Malaysia (Frim) is taking the reins to ensure the conservation and sustainability of the species through breeding programmes at its research station in Mata Ayer, Perlis.

Frim promotes sustainable management and optimal use of forest resources in

Malaysia by generating knowledge and technology through research, development and application in tropical forestry, established the Mata Ayer station in 1974 for teak plantation research.

The station now covers 455ha and hosts 71 varieties of teak derived from the best selection of trees from Malaysia, Thailand, Indonesia, India, Papua New Guinea and Trinidad. The breeding initiation began in 1994.

While timber cut from old teak trees was once believed to be more durable and harder than plantation grown teak, recent studies have shown that the latter matches the old-growth teak in terms of erosion rate, shape stability, warping and cracking during processing, though it is more susceptible to colour change from ultra-violet exposure.

The Mata Ayer field centre has a nursery capable of producing 100,000 seedlings per year. Besides teak, the seedlings raised at the nursery also include those of the *Hopea* and *sentang* trees. The nursery also raises seedlings for landscaping purposes and has a green house for carrying out research on vegetative propagation.

Frim currently provides and sells teak seedlings as well as collect seeds from potential "mother trees" with good traits to ensure

they have a collection of good planting materials. In that, Mata Ayer station coordinator Dr Mohd Zaki Abdullah says the variants of teak there have demonstrated a faster growth rate and are in better forms compared to their wild counterparts.

According to Zaki, the main objective of the breeding programme is to produce improved planting materials. These "clones" will be tested in the field and the best ones will be introduced to planters. It is, hence, imperative to determine the best clones for large-scale

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plantations.

At present, Thailand and Indonesia are the biggest exporters of teak wood products in the region. Demand for teak has yet to pick up in the wood industry here, but Frim is optimistic of the potential, citing the species' faster growth rate compared to other local hardwood species such as *meranti* and *cengal* as a plausible appeal.

Currently, it is estimated that there are about 2,500ha of teak plantations in the country, mainly in Sabah and Sarawak. Frim continues its ongoing endeavours in promoting teak through conferences, technology talk with industry players, as well as meetings with planters.

Recently, the Mata Ayer station received a certificate for having the largest teak clone collection in Malaysia from the Malaysian Book of Records. It was also recently launched as an eco-tourist centre. Targeted primarily at schoolchildren and nature lovers, the centre has a number of outdoor facilities like a camping site that can accommodate up to 100 persons, a dining area, bathrooms, a 100m-

long canopy walkway at 7m above ground level, a teak gallery, a five-room guesthouse, a log cabin and two hostels that can accommodate up to 24 guests.

Taking a stroll on the canopy walk proved to be a mildly daunting experience as this writer struggled not to lose her balance. But the apprehension soon turned into fascination as I floated above an emerald harbour, the warm sun in my face.

Besides teak, the station is also home to research plots of mahogany, the African mahogany and bamboo. It also has a multi-species plot that includes the *meranti*, *yemane*, *sentang*, *keruing*, *nyatoh* and *sungkai* trees.

The development of breeding programmes in Malaysia is a burgeoning area, especially in the case of teak. Its fate depends very much on economies and market demands, as well as the objective of plantation establishments but by developing new means to propagate proper management and sustainability of the species, we can help prevent the prized hardwood from being forced into extinction.



Ongoing breeding programmes ensure that only the best varieties of teak are cultivated at the research station.

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The research station also functions as a tourist attraction, with facilities such as a canopy walkway which brings visitors up to the tree tops.

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Towering tree: Established in 1974, the Mata Ayer research station now houses some 71 varieties of teak.