

Dabai Planting Material and Propagation Technique

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Introduction

Dabai, scientifically known as *Canarium odontophyllum* Miq., is one of the popular indigenous fruit in Sarawak. It belongs to the Burseraceae family which consists of 75 species well distributed throughout tropical Africa, Asia, and the Pacific island. Dabai is believed to be naturally found only in Sarawak with main production areas in Sibuh, Sarikei, Kapit and Limbang Divisions.

The fruit of dabai is oval in shape with black shiny skin and yellow flesh. It has a unique aroma, smooth texture and has a creamy taste like avocado. It is rich in protein, fat, carbohydrates and minerals (sodium, calcium and iron). The fruit can be eaten after soaking them in hot water for 5-10 minutes to soften the mesocarp. It is eaten raw or seasoned with sugar, salt, pepper or sauce.

The Research Division of Department of Agriculture Sarawak has done field evaluation of numerous selections of dabai obtained from different regions in Sarawak since the late 1980's. This varietal selection work has resulted in the selection of two superior clones, namely Laja and Lulong which are highly recommended for commercial planting. Cross section of the fruit shows that seed of Laja is triangular with concave sides while the seed of Lulong is more rounded or convex on its sides.

Growth of these clones is vigorous and they begin to bear fruits five years after planting. The initial yield is about 10 kg per tree and can gradually increase to 80-100 kg per tree when the tree reaches 10 years and above. 'Laja' and 'Lulong' have excellent eating quality. Both clones have bright yellow flesh and taste creamy with slightly sour tinge. Besides Laja and Lulong, commercial nursery operators have also come up with other superior clones such as Song, Kapit, Intermediate, Egg Yolk, Tarat, Red Dabai and Pulau Keladi.



Dabai fruit



Clone Laja



Clone Lulong

Dabai Trees

Dabai trees are androdioecious, meaning they give rise to either male or hermaphrodite trees (bearing flowers with both male and female parts). Only hermaphrodite trees bear fruit, this means that planting from seeds which is commonly practised by farmers can give rise to male trees which do not produce fruits. These male trees can only be confirmed from their flowers, when they come into flowering after 8-10 years. Once the male trees can be identified, most farmers will remove them and only maintain the hermaphrodite trees. Therefore, to overcome this uncertainty on the plant sex, farmers usually plant two or more seedlings at one point and retain only the hermaphrodite plants. Due to this reason, vegetative propagation of hermaphrodite trees via budding is recommended. Budded hermaphrodite trees come into bearing earlier at about 5 years of growth. On the other hand, hermaphrodite trees grown from seeds will take about 6 to 8 years to flower and set fruit.



Dabai tree

Preparation of Planting Material

Dabai is propagated vegetatively via the budding method. This budding can be done in the nursery or in the field. In the former case, rootstock seedlings are planted in polybags (size: 15cm x 23cm) for about a year and then transferred to bigger polybags (size: 30.5cm x 38cm) for about another two years before they reach a suitable size (stem diameter of 2-3 cm) for budding. In the latter case, one year old seedlings are field planted at 10m x 10m spacing and budded once they reach the right size. At the time of budding, leaves of these plants should be fully expanded and in a mature state.

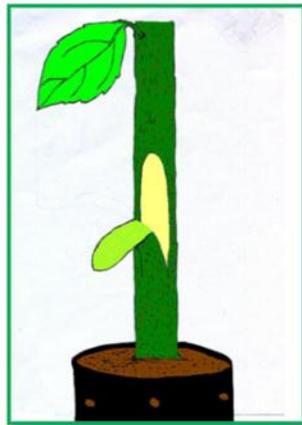
Selection of budwoods from parent plant

Budwoods should be taken from healthy trees of recommended clones or known superior trees. Mature branches of 4 to 6 cm diameter size with mature leaves on them are preferred. The buds on these branches are more prominent and the bud patches are easily peeled off to expose the pale brown to brownish budeyes. About 10 to 15 budeyes may be obtained from a metre long of these budwoods. Once collected, these budwoods should be kept cool and moist and used soonest.

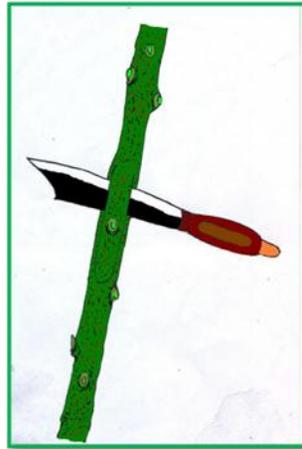


A successfully budded tree in the field

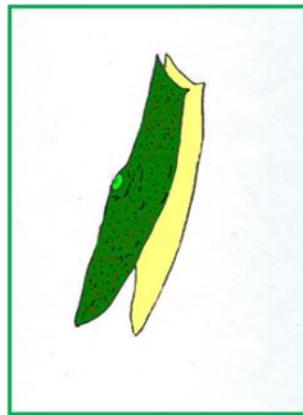
Propagation of Dabai by Patch Budding Technique



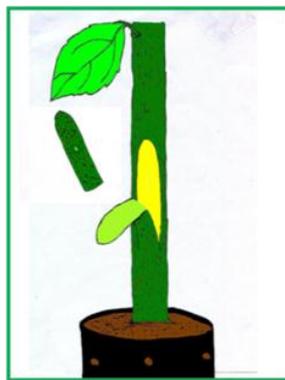
1. On the rootstock plant, make parallel vertical cut of about 1 cm apart from each other and about 2.5cm in length, 8-10cm above soil level. Join the two cuts at the top and peel the cut bark back.



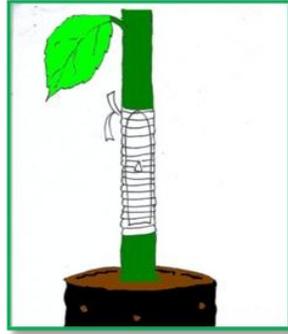
2. The bud eye must be taken from healthy dabai tree. From the budwood, make corresponding cuts as the rootstock plant and peel the budpatch containing the bud eye carefully to prevent damage.



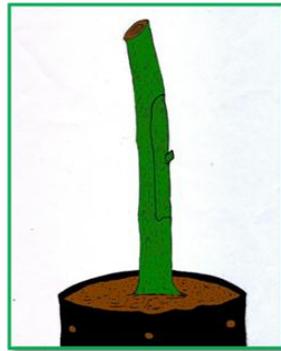
3. Remove woody part from the budpatch.



4. Insert the bud patch on the cut bark of the rootstock plant.



5. Hold on the bark and tie it gently but firmly with a piece of polythene strip.



6. After 3 weeks, remove polythene strip and gently scrap on budpatch to check on its status. If budpatch remains green, it means budtake has taken place. The subsequent bud break may range from 5 to 30 percentages of budded plants over a few months period, depending on prevailing ground conditions.