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National Agricultural Research Institute

DURIAN CLONES



**NARI TOKTOK
KER025E**

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THE INSTITUTE

The National Agricultural Research Institute (NARI) was established by an Act of National Parliament of Papua New Guinea in July 1996 as a publicly funded, statutory research organisation, to conduct applied and development oriented research on food crops, alternative food and cash crops, livestock and resource management issues. Besides applied and adaptive research, NARI is responsible for providing authoritative technical, analytical and diagnostic services and up-to-date information to the entire agriculture sector in PNG. The major targets are the smallholder semi-commercial farmers in the country.

The mission of NARI is to contribute, through applied research and technical services, to the development of the agriculture sector and realization of the national goals by identifying, adapting and transferring agricultural technologies and information, so as to:

- Enhance the productivity, efficiency and sustainability of the smallholder agriculture, and
- Improve farmer income, food security and welfare of Papua New Guineans and the Nation.

The material presented in this bulletin is based on the best information available at the time of printing (November 2005)

Written by Tio Nevenimo currently working at NARI Wet Lowlands: Islands Regional Programme at Keravat, ENBP.

Disclaimers

These Durian clones should not be planted in the following conditions for commercial production:

1. Area with altitudes above 700m.
2. Areas with annual rain fall below 1500mm per annum and where rainfall is above 2000mm per annum but with no distinct dry period of 1–2 months.
3. NARI is not responsible for marketing of fruits.
4. These clones are recommended for farmers until better clones supersede them at some future date.

2. Durian is low management input tree crop, which is environment friendly. It grows and produces well in a wide range of soils in the humid tropical lowlands. Best grown at altitudes below 700 metres and rainfall between 2000 and 3000mm with a 1-2 months of dryer period (100mm).
3. Testing is necessary before commercial cultivation in Agro-ecological zones other than the above.
4. No serious pests or disease have been noted over 20 years of cultivation at LAES, or reported from elsewhere in PNG.

Distribution of planting material from LAES Keravat

These clones can be distribution to anywhere in PNG from LAES.Keravat. Grafted seedlings can be prepared and distributed on request. Small numbers of grafted seedlings are usually available all year round from NARI Keravat. However, people wanting large quantities of grafted seedlings should contact NARI Keravat and place their orders 6 months in advance so that seedlings can be raised and the clones grafted.

NARI RELEASED DURIAN CLONES

Introduction

Durian (*Durio zibethinus*) Murr, is an important fruit tree species in the humid tropics and is a member of the family Bombacaceae. It grows extensively in South East Asia (SEA) where it originates. Thailand, Malaysia and Indonesia are the current major producers.

Durian is well known for its unique smell of the ripe fruit, which is often unpleasant to many who come across the fruit for the first time. The arid, which is the edible part of the fruit, however has a distinctive delicious flavor.

Durians were introduced into Papua New Guinea as seeds from South East Asia and planted at LAES Keravat in the early 1940s. Since then seeds and grafted planting material have been distributed to all parts of PNG.

Evaluation of over 20 seedling trees between 1980 and 1992 has lead to the selection of trees with outstanding fruit qualities (yield, taste and flesh color). The selections were named as K5, K7, K8, K9, K11, K12, K15 and K20. The selections on average produced 108–198 kg per tree per year which is well within the average yield of commercial clone in Thailand and Malaysia. LAES Keravat has distributed these selections widely as superior planting material for the last 12 years.

New introductions of five commercial SEA varieties were made by LAES via Australia in 1999. The introductions included Thai variety Luang, Chompoosee and Gumpun, Malaysian variety D123 and Australian selection Limberlost. These have not yet been distributed by LAES as they are yet to be formally evaluated.

The NARI released Durians

NARI has recently released and recommended 8 durian clones. Prior to this there were no known recommended varieties in PNG. They are called:

1. **KDZ5**
2. **KDZ7**
3. **KDZ8**
4. **KDZ9**
5. **KDZ11**
6. **KDZ12**
7. **KDZ15**
8. **KDZ20**

Quality of these released Durian clones

1. The durian selections are of high quality and are much better than those currently grown from seeds. They are tastier and give consistently high yields.
2. All clones are supplied as grafted seedlings. Grafting ensures that:

- Clones of superior planting materials, which are true to type
- Trees will be small and compact (10-15) metres compared to large tall (30–40 metres) trees produced by seedling trees.
- Trees will come into bearing at 3-4 years compared to 7-8 years for seedling trees.
- Tree will give a uniform production, as all trees of the same clone will come into production at roughly the same time.

Existing planting material in most parts of PNG

1. No previous recommendations for durian varieties exist in PNG.
2. LAES has distributed seedlings and grafted material to various clients over the last 12 years .
3. Prior to this release durian plants in most parts of PNG will have come from either unselected seeds or from farmer's own selections. Only a few growers around ENBP would have planted clones otherwise most plantings elsewhere would have been from seed, which produce trees of variable fruit quality and yield.

Need and Opportunity

1. Durian is fast becoming popular with both PNG national and foreigners and is sold in the local markets and supermarkets.