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National Agricultural Research Institute

ABIU (*Pouteria caimito*)



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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 (December 2005)

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

Pest and Disease

No serious pest and diseases affect abiu production in the tropics. In PNG there are no records of serious pests or diseases but there may be some problems when they are grown on a large scale.

Uses

Abius are very tasty when eaten fresh by themselves. If they are used in fruit salads, their flavour is enhanced by the addition of a slice of orange to provide a little acidity, which the abiu lacks.



Mature fruit still attached to the branch. Only fully ripe fruits are harvested to avoid the sticky white latex that is produced by immature fruits

Field preparation for planting should be done in the same ways as those for planting cocoa. Because abius are small trees, they will require shade for the first year of growth but after that they will not require shade. The trees should be planted at least four metres apart.

Management

Little or no pruning is necessary, however weeding during the juvenile phase of the tree must be done regularly. No fertilizer is recommended at this stage.

Field preparation is normally done in the same way as those of cocoa. Plants are planted in at a spacing of at least 4 metres square. Plantings should be carried out in the wet season, preferably during periods of expected good rainfall. If mulching is done be careful not to place mulches too close to the tree trunks. The trees will come into bearing 2-3 years after field planting. Some grafted seedlings will come into bearing much earlier at about eighteen months under good management.

Harvesting

Abius are harvested when fully mature, immature fruits contain unpleasant, milky latex near the skin, which sticks to hands or the lips after eating. To avoid sticking the fruits are allowed to fully ripen before consuming.

ABIU

Scientific name: *Pouteria caimito*

Other names: abiu (English, Brazil) caimo (Colombia), cauje (Ecuador)

Abiu, (*Pouteria caimito*) originates from the headwaters of the Amazon and its tributaries in tropical Brazil and Peru. Abius are round to oval in shape, sometimes pointed, and have very attractive, smooth, bright yellow skins. The fruits are borne directly onto the stems of the larger twigs and tree branches. The fruit inside is creamy white in color. They are often eaten raw but it is a real taste-treat when eaten slightly chilled. Fruit is normally sliced in half and the sweet, succulent, creamy-white flesh spooned out. There may be two or more large oval or oblong shaped hard dark brown-shelled seeds in each fruit.

The abiu is a small evergreen, low branching tree with glossy light green leaves, which turn to clustered at the end of the shoots. Trees grow to a height of up to 16 metres in their natural uniformly warm and humid climate of the Amazon valley, however abiu trees grown around the tropics today are often seen in small orchards where trees grow to a height of some 4 to 8 metres.

Abiu is now well distributed around the tropics although they have not yet been grown on large commercial scale.

Abiu was introduced as seed to LAES Keravat in the

1970s from Australia as seeds. Since its introduction, LAES produced and supplied seedling plants to interested farmers. Abiu has yet to gain popularity in PNG.

The abiu is said to be non-seasonal crop, which means that they can produce all year round with one or two major flushes. Under LAES conditions trees produce several crops a year.

Climate

Abiu prefers a warm, humid climate and may be grown satisfactorily in most tropical and warmer subtropical areas. Best growth is obtained when grown within 12 to 25° of the equator and up to 1000m. Unlike many fruits it does not require stress to induce flowering and produces well under high (3000mm) rainfall areas. The young plant is very cold susceptible, usually not tolerating frost conditions. As the tree grows and become established it becomes hardier and usually survives. Abiu also appears to have some drought tolerance.

Soil

Abiu grows well in a wide range of soils, providing it is well drained and fertile. Abiu is said to tolerate a wide range of pH levels, however it is very sensitive to saline conditions.

Varieties

There are few named varieties at present in the world and in PNG there are no recommended varieties. All trees at LAES Keravat have been established from

seeds. These materials are currently being evaluated and recommendations will be made in the near future.

At present LAES Keravat is distributing seedlings from its nursery and can supply seeds during the fruiting season. This is mainly due to the fact that it does not have known cultivars to distribute.

Cultivation

Propagation

Abiu trees are often grown from seeds, which are often not true to type. The seeds are extracted from good healthy fruits and are planted into polybags. Seeds can be stored for a short period of up to two months and planted. They are fast slow growing and are ready for field planting in three to four months.

Vegetative propagation

Abiu can be successfully reproduced vegetatively by cleft or bud grafting. Vegetative propagation ensures that:

- Trees are true to type.
- Trees will be small and compact (4-5) metres compared to large tall (10–15 metres) trees produced by seedling trees.
- Trees will come into bearing at 2-3 years compared to 4-6 years for seedlings trees.
- Tree will give a uniform production, as all trees will come into production at roughly the same time.

Field Preparation and Planting