

# Solomon Islands

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The Solomon Islands is a country in Melanesia, east of Papua New Guinea, consisting of nearly 1000 islands. Together they cover a land mass of 28,400 km<sup>2</sup>. As of 2006, the vast majority of the 552,438 people living on the Solomon Islands are ethnically Melanesian (94.5%) followed by Polynesian (3%) and Micronesian (1.2%).

A history of the coconut industry in Solomon Islands is given by Ilala (1989). Since the ethnic tension in 1998, copra and cocoa have been the focus of most international extension and development projects. Moves to introduce high-yielding hybrids were unsuccessful in most cases because of resistance by farmers, poor husbandry and susceptibility to pest, disease and weed infestation.

Coconut research has been carried out since 1952 in the Solomon Islands. In 1960 a Joint Coconut Research Scheme was established by the Solomon Island Government and the Levers company, Russell Islands Plantation Estates Ltd, based at Yandina, Central Province. A seed garden for the production of Dwarf x Tall hybrids seednuts was producing up to 240,000 seednuts a year. Sixteen coconut varieties were also conserved at Yandina, until the blaze at the Dodo Creek Research Station in 2000. Levers was the largest single producer and buyer of copra and cocoa in the country (and the largest employer), but the company was declared bankrupt in 2001.

The Ministry of Commerce is currently focusing on the creation of production and marketing cooperatives for copra and cocoa production. Targets set by the national government for copra and coconut production in 2005 have been met (Evans 2006). Copra production has reached 20,000 tonnes, despite the closure of Russell Islands Plantation Estates Ltd. This suggests that smallholders are responding to relatively high prices and assistance from the Community Peace and Restoration Fund and others.

## References

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- Osborne T. 2005. Research on coconut genetic resources in the South Pacific. In: Batugal P, Ramanatha Rao V, Oliver J, editors. Coconut Genetic Resources. International Plant Genetic Resources Institute – Regional Office for Asia, the Pacific and Oceania (IPGRI-APO), Serdang, Selangor DE, Malaysia. pp. 513-523. Available from: URL: <http://www.cogentnetwork.org/index.php?page=books>

## Rennell Island Tall (RIT)

*Bourdeix R, Labouisse JP, Batugal P*

### Conservation

Rennell Island Tall (RIT) is represented worldwide in germplasm banks by 19 accessions and 2695 individual palms. At least 11 germplasm conservation centres are involved, namely: Brazil, Côte d'Ivoire, Fiji, India, Indonesia, Jamaica, Papua New Guinea, Samoa, the Solomon Islands, Tanzania and Vanuatu. The registered accession sizes are highly variable, from only two palms in India to 561 in Côte d'Ivoire.

### History

Rennell Island is a little island located in of the Solomon archipelago. Its two main traits are its volcanic lake, now registered as a world heritage, and its Polynesian population. Other Solomon Islands are mainly populated with Melanesians.

### Identification

Rennell Island Tall has a bulky stem that starts with a very big bole. The leaf is quite short given its huge stem development. The inflorescence is wide with a long peduncle, and bends quite rapidly after opening.

Controversy remains about the numerous seednuts collected from the Rennell Island and sent to other countries. MA Foale, who visited the Rennell Island in 1964, said that the pure true-to-type RIT with big and pointed fruits is found mainly around the volcanic lake on the eastern part of the island. In other places, such as the coastal area, there is a mix between the RIT and the ordinary type, known as the Solomon Island Tall, which has smaller oblong fruits.

The fruits of RIT are among the biggest coconuts in the world. The fruit shape is quite variable, from oblong to pear-shaped. Some of the fruits have a long nipple at the bottom, which is very specific to the RIT. The colour of the young fruits ranges mainly from green to brown-red, although yellow or orange ones are occasionally found. The fruits have a high content of solid kernel and free water. Inside the husk, the nut is drop-shaped and pointed at the germination side. On the opposite side, the nut is often terminated by a shell point of about 10 mm long that grows inside the husk.

### Yield and production

The fruit weight ranges from 1443g in Tanzania to 1707g in Côte d'Ivoire. The fresh kernel weight varies from 491g in Tanzania to 593g in Thailand. In Côte d'Ivoire and the Philippines, the yields are 48 and 78 fruits per palm per year, respectively.

### Other information

RIT is tolerant to the *Phytophthora* diseases in Côte d'Ivoire and Indonesia. It is sensitive to the lethal yellowing diseases in Jamaica, Tanzania and Ghana. RIT is widely used as parental material in breeding programmes. The hybrid Malayan Red Dwarf x RIT is distributed in many countries in the Pacific region. In Vanuatu, the hybrid between the Vanuatu Tall and the RIT is currently being improved. In Côte d'Ivoire, all the Tall cultivars introduced are systematically crossed with the RIT. One of the two improved hybrids currently distributed to farmers is a cross between the Cameroon Red Dwarf and RIT. It is recommended to be used only in the most suitable zones.

### References

- Foale MA. 1964. Report on a visit to Rennell Island BSIP to study the coconut population. Joint Coconut Research Scheme, Solomon Islands.
- de Nucé de Lamothe M, Rognon F. 1977. Les cocotiers nains à Port Bouët (Côte d'Ivoire). I. Nain Jaune Ghana, Nain Rouge Malaisie, Nain Vert Guinée Equatoriale et Nain Rouge Cameroun. *Oléagineux* 32:367- 375.

Rennell Island Tall (RIT)



## Solomon Island Tall (SIT)

*Bourdeix R, Konan JL, Labouisse JP*

### Conservation

Solomon Island Tall (SIT) is conserved in the coconut germplasm centres of at least five countries, represented by eight accessions with more than 850 palms. In addition to the Solomon Islands, it can also be found in Côte d'Ivoire, India, Jamaica and Vanuatu. Two distinct populations of SIT, Nendo and Reef, are conserved in Vanuatu,

### History

The Solomon archipelago is made up of almost a thousand islands and Melanesian atolls covering over 28,000 km<sup>2</sup> of land in 800,000 km<sup>2</sup> of ocean to the East of Papua New Guinea. Its name comes from the traces of gold discovered in the place, which were assumed to be vestiges of the mines belonging to the legendary king of Israel. Up to World War II, most foreigners kept away for fear of head hunters, cannibals and malaria.

### Identification

The fruits of the Solomon Island Tall are predominantly brown, slightly coppery and rarely green. The fruit weighs an average of 1056g, and the round nut weighs 685g. The 352g kernel gives around 200g of copra. The fruits germinate very rapidly, even more quickly than those of the RIT, which comes from the same island group. The shape of SIT fruits is more or less elongated oval, but is never round. On the average, the fruits are a little heavier than those of the Vanuatu Tall (VIT) variety, although some palms of both varieties resemble each other a great deal (Vanuatu and the Solomons are neighbouring island groups). However, the main difference between these two varieties is not visible to the naked eye: the SIT is highly susceptible to the deadly foliar decay virus, which is widespread in Vanuatu, whilst the VIT resists that disease. Fruit composition is generally good, notably with a thin husk and a thick kernel. However, as can be seen in the photograph, not all fruits display that characteristic. Vertical growth is extremely rapid. At 12 years, the palms already measure 8.8 m from the ground to the base of the first green frond. On the 18th year, they exceed 13 m.

### Yield and production

Flowering takes place five years after planting. Production is excellent from the 6th to the 9th year, producing 51-97 fruits per palm per year. It then increases further and fluctuates between 91 and 131 fruits up to the 18th year. In terms of copra weight per ha, the SIT is the highest yielding traditional variety observed in Côte d'Ivoire. From the 9th to 18th year, it has produced an average of 2.9 t of copra per ha, i.e. 80% more than the local West African Tall variety. Only hybrids reach or exceed that level of production.

### Other information

In 1905, Levers Pacific Plantation Limited arrived in the Solomon Islands and set up large coconut plantations in the Russell Islands and Guadalcanal. From the 1950s to 1980s, coconut research activities, known as the 'Joint Coconut Research Scheme' were implemented by the Levers' Plantation at the Yandina Coconut Research Station. A large coconut collection was established. Breeding work involved crosses between a number of Tall and Dwarf varieties. A fire at the Yandina Station destroyed a large number of documents and research results. A few years later, it was converted into a luxury hotel.

### References

Foale MA. 1987. Coconut germplasm in the South Pacific Islands. ACIAR Technical Reports Series No.4.

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Solomon Island Tall (SIT)

