

# Mapanget Tall-2 (MPT02)

Tampake H, Tenda ET

## Conservation

Mapanget Tall-2 (MPT02) is conserved at the Mapanget Experimental Garden of the Research Institute for Coconut and Palmae in North Sulawesi, Indonesia.

## History

Mapanget Tall-2 comes from one of 100 palms of Mapanget Tall that were selected in Bahasas around Mapanget which were numbered serially. The MPT-2 was planted in Mapanget in 1930 and was rejuvenated in 1983.

## Identification

Mapanget Tall-2 has a spherical crown and a thick stem. At 17 years of age, the stem height from the ground to the base of the first green leaf is about 8-10 meters. The number and length of the MPT02 leaf is almost the same as that of Mapanget Tall. MPT02 has bigger fruits compared to other Mapanget Talls. The reddish yellow fruits have an almost round to angular shape from a polar view. The coconut inside is flat and has a thick kernel (12-13 mm). The inflorescence length varies from 65 to 80 cm while the number of female flowers per inflorescence is 20 to 35, depending on environmental factors.

## Yield and production

Fruit production generally begins 5-7 years after planting. At the adult stage, bunch production ranges from 12 to 14 per palm per year. The number of fruits ranges from 70 to 100 per palm per year depending on environmental conditions and cultural practices. Fruit component analysis of MPT02 showed that weight of fruit is 1690g, with 567g meat and 281g shell.

## Other information

Mapanget Tall-2 is sensitive to drought. It is tolerant to *Phytophthora* diseases; in a period of 17 years there were no dead palms caused by *Phytophthora* while other palms nearby were affected by the disease. MPT02 has a high ratio of endosperm and oil content, so it is good for the production of copra, cooking oil and desiccated coconut. MPT02 is being used as parental material in the Indonesian coconut breeding programme to produce a Tall x Tall hybrid with Mapanget-32. This hybrid was released in 1984 as 'Kelapa Baru-2' (KB-2); it produces more than 3.5 tons of copra per ha per year with low input. In the future, the MPT-2 will be used as parent material to cross with selected Dwarfs and as seed source for coconut Tall development programme in Indonesia.

## References

- Thammes PLM. 1955. Review of coconut selection in Indonesia. *Euphytica* 4:17-24.
- Davis TA, Sudasrip H, Darwis SN. 1985. Coconut Research Institute, Manado, Indonesia: an overview of research activities. Report of the Coconut Research Institute, Manado, Indonesia, 165 pp.
- Miftahorrahman, Mangindaan H, Novarianto H. 1996. Genetic diversity for fruit components of Tall coconuts of North Sulawesi. *Zuriat* 7:7-16 (Bahasa Indonesia).



Big



Medium



Small



20 cm

JTO



# Mapanget Tall-10 (MPT10)

Tenda ET, Novarianto H

## Conservation

Mapanget Tall-10 (MPT10) is conserved at the Mapanget Experimental Garden of the Research Institute for Coconut and Palmae in North Sulawesi, Indonesia.

## History

Mapanget Tall-10 is one of 100 selected palms gathered in Bahasas around Mapanget, North Sulawesi which were numbered serially. The MPT10 palms were planted at the germplasm collection in 1930 and replanted in 1983.

## Identification

MPT10 has a spherical crown with a thick stem. The stem height from the ground to the base of the first green leaf is around 8-10 meters when the palm is 17 years old. The leaf length and number of leaves are almost the same as those of Mapanget Tall. The inflorescence varies in length from 50 to 75 cm with 15-25 female flowers per inflorescence depending on environmental factors. The green to greenish yellow fruit is round from a polar view and is angular from an equatorial view. The nut inside is flat and the kernel is thick (12-13 mm).

## Yield and production

Fruit production generally begins 5-7 years after planting. Mapanget Tall-10 produces 12-14 bunches per palm per year. The number of fruits ranges from 70 to 100 per palm per year depending on environmental conditions and cultural practices. The fruit weighs 1425g and the meat weighs 445g (31%). MPT10 has high dry matter content (56-60%).

## Other information

Mapanget Tall-10 is tolerant to drought. It is also tolerant to *Phytophthora* diseases; none of the palms succumbed to the *Phytophthora* (17-year observation). MPT10 has high endosperm content, making it suitable for producing desiccated coconut and cooking oil. MPT10 is being selfed; the fourth generation of self-pollinated MPT10 was planted in 1999 at the Mapanget Experimental Garden.

## References

- Davis TA, Sudasrip H, Darwis SN. 1985. Coconut Research Institute, Manado, Indonesia: an overview of research activities. Internal report of the Coconut Research Institute, Manado, Indonesia. 165pp.
- Akuba RH, Mahmud Z. 1991. Coconut based farming systems at Pekarangan. Industrial Crops Research Journal 4:33-42.
- Thammes PLM. 1955. Review of coconut selection in Indonesia. Euphytica 4:17-24.

## Mapanget Tall-10 (MPT10)



# Mapanget Tall-99 (MPT99)

Tenda ET, Mangindaan HF

## Conservation

Mapanget Tall-99 (MPT99) is conserved at the Mapanget Experimental Garden of the Research Institute for Coconut and Palmae in North Sulawesi, Indonesia. One accession of MPT99, totalling 50 palms, is referenced in the Coconut Genetic Resources Database.

## History

Mapanget-99 Tall is the one of 100 selected Mapanget Tall palms from Bahasas around Mapanget, North Sulawesi. Mapanget Tall-99 was planted in 1930 together with other Mapanget Tall, and then replanted in 1983.

## Identification

Mapanget Tall-99 has a spherical crown and a thick stem. The height from the ground to the base of the first green leaf varies from 10 to 11 m at the age of 17 years. The leaves and number of leaflets is similar to the Mapanget Tall. The fruit is medium in size and is greenish-yellow in colour, but green ones can also found. Fruit shape is mostly round, both in polar and equatorial views. The husked nut is almost round.

## Yield and production

Fruit production generally begins 5-7 years after planting. MPT99 palms produce 12-16 bunches per palm per year. The number of fruits ranges from 70 to 100 per palm per year depending on environmental factors and cultural practices. At 12 years of age, fruit weight is 1476g; meat weight, 491g (33%); husk weight, 352g (24%); shell weight, 192g (13%) and water weight, 442g (30%).

## Other information

Mapanget Tall-99 is tolerant to drought and *Phytophthora* disease. No palms died due to the disease in the Mapanget Experimental Garden up to 17 years of age. MPT99 palms produce heavy and good quality endosperm with high oil content. This variety is good for producing cooking oil, desiccated coconut and coconut milk. In addition, MPT99 has high water content for the production of 'nata de coco' and coconut water drink. The Mapanget-99 Tall was used as parental material in the coconut breeding programme in Indonesia to produce a hybrid with Mapanget Tall-32 (MPT32 x MPT99). This cross was released to farmers in 1984 as 'Kelapa Baru-4' (KB-4).

## References

- Thammes PLM. 1955. Review of coconut selection in Indonesia. *Euphytica* 4:17-24.  
Miftahorrahman, Mangindaan H, Novarianto H. 1996. Genetic diversity for fruit components of Tall coconuts of North Sulawesi. *Zuriat* 7:7-16 (Bahasa Indonesia).  
Akuba RH, Mahmud Z. 1991. Coconut based farming systems at Pekarangan. *Industrial Crops Research Journal* 4:33-42.

## Mapanget Tall-99 (MPT99)



Big



Medium



Small



20 cm

JTO

