

EXTRACTION OF OIL PALM HEART

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The palm heart is literally the heart (central part) of a palm tree. Extraction of palm heart is tedious where it needs a number of workers and is also time consuming. In 1991, Yap *et al.* evaluated the effectiveness of palm heart extraction method using a chain-saw.

A chipper was used for felling and removal of fronds (6 min) and sectioning of trunk was done using a chain-saw (30 min, *Figure 1*).

According to the study, trimming of the fibrous tissues (outer layers of palm heart) using a chain-saw was extremely laborious and delicate. The chain-saw method appears unsuitable in large-scale production and it appears that an innovative purpose-built machinery is needed for optimal commercial scale palm heart extraction.

Therefore, in this study we manage to overcome the inherent problems associated with the trimming process by using an extractor (MAD Auger), which is designed and locally fabricated (*Figure 2*).

PALM HEART EXTRACTOR

The machines will be mounted on a tractor (for energy supply) to be used in the field. The recovery of the extracted palm heart using Machine 1 was presented



Figure 1.
Cutting the
palm heart
using chain-
saw.



Figure 2. Machine 1.

in the MPOB TT No. 169, where the recovery is around 20%-28%. Using chain-saw, the recovery is slightly lower (15%-18%). Results show that by using the MAD Auger for palm heart extraction, time consumed could be reduced by 60%.

EFFICIENCY and ECONOMICS

The extraction rate (efficiency) is higher using the extractor. The extraction time is reduced by 60% and the rate of extraction is increased to 55%.

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In terms of economics, the cost involved using chain-saw is about RM 30 per tree, while using the extractor, the cost is rather low (RM 10). This means that the cost of using chain-saw is three times higher than using the extractor.

Once the heart is removed from the trunk, it is covered with cling film to protect it from any contamination, as there is no more protecting sheaths that remain. Palm hearts extracted can be stored in chiller for 10 days, after which they turn brown and lose its sweetness.

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