

## SECTION B

210/B

### **Maturity indices of nutmeg (*Myristica fragrans* Houtt.)**

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Nutmeg, *Myristica fragrans* Houtt. is one of the most important export agricultural crops of Sri Lanka. Nutmeg is the only spice crop, which gives two products from a fruit namely- nutmeg seed and mace. A serious problem in the industry is immature harvesting of nutmeg fruits for the market. This affects the yield and the quality of the product. Therefore identification of maturity indices is important to harvest nutmeg at correct stages of maturity.

Fruits were labelled at the time of fruit initiation and harvested at 1 month intervals from 1<sup>st</sup> month of fruit initiation up to 8 months. The experiment was set according to the Completely Randomized Design (CRD) with 9 replicates for each age group. As the mean separation procedure Duncan's Multiple Range Test (DMRT) was used. Maturity indices (colour of the fruit rind, seed and mace, fresh weight of fruit, rind, seed and mace, volume, diameter, moisture content of seed and mace) were determined.

Colour changes were visually observed with the maturity and a colour code was prepared. Fresh weight of whole fruit and rind increased significantly at  $P=0.001$  with maturity. The highest weights were 74 g and 55 g respectively in 8 month old fruits. Seed weight increased significantly at  $P=0.0001$  up to 5  $\frac{1}{2}$  months and gradually declined. Mean diameter and volume were significantly increased at  $P=0.0001$  with maturity. The mean values of above mentioned parameters at 8 month old fruits were 55 mm and  $7.6 \times 10^{-5} \text{ m}^3$ . Mean moisture contents significantly decreased at  $P=0.0001$  with maturity in seed and mace. Highest moisture contents were 18 % and 56 % respectively in mace and seed at 4 months.

To obtain the best quality product and the highest income when nutmeg is sold for seed or mace the most suitable time period is the fully mature stage (8 month).