

SRI LANKA STANDARD 1040 : PART 3 : 1999

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**CODE OF PRACTICE FOR
HARVESTING AND HANDLING
OF FRESH FRUITS AND VEGETABLES
PART 3 : RAMBUTAN**

SRI LANKA STANDARDS INSTITUTION

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SLS 1040 : Part 3 : 1999

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SRI LANKA STANDARDS INSTITUTION
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SRI LANKA

Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This standard does not purport to include all the necessary provisions of a contract.

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CODE OF PRACTICE FOR HARVESTING AND HANDLING
OF FRESH FRUITS AND VEGETABLES
PART 3 : RAMBUTAN**

FOREWARD

This standard was approved by the Sectoral Committee on Agriculture & Food products and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 1999-03-11.

The fruit of Rambutan plant (*Nephelium lappaceum Linn*) has a great demand in its fresh form. Although there were not formal published grades for international trade in fresh rambutan, export markets have similar importer preferences.

Varieties Malwana special, Malaysian red (Malayan red) and Malaysian yellow (Malayan yellow) are the varieties most popular in grown areas.

The objective of formulating this code of practice is to maintain quality and minimise post harvest losses of Rambutan.

In the preparation of the standard the assistance derived from the following publications is gratefully acknowledged.

- (1) Rambutan Fruit Development, Post Harvest Physiology and marketing in ASEAN published by ASEAN Food Handling Bureau - 1987. (pg 1-75)
- (2) RAP Post Harvest Information Bulletin No. 4 Post Harvest Handling Of Rambutan - 1997 (pg 1-8)

1 SCOPE

This standard recommends a code of practice to be adopted in harvesting, handling, packaging, storage and transportation.

2 DEFINITIONS

For the purpose of this standard the following definitions shall apply.

2.1 Spinterns : Hair that forms part of the skin covering the fruit.

2.2 Aril : Translucent portion with a blend of sweet and sour taste, covering the seed.

2.3 Crack Fruit: A condition resulting from the expansion of cells in the aril at a faster rate than that of the skin during rainy seasons.

2.4 Poorly Filled Fruit : Fruit with low edible portion

3 CONDITIONS FOR HARVESTING

3.1 Maturity indices for harvesting of Rambutan.

The following parameter/parameters may be used to determine the time of harvest.

- a) Fruit colour : Red (Malwana special and Malaysian red) or yellow (Malaysian yellow) according to the variety.
- b) Age of fruit from full bloom or fruit set
- c) Weight of fruit aril and seed
- d) Chemical characteristics such as total soluble solids and total acids.

3.2 Extra care shall be taken to ensure that the method of harvesting avoids fruit dropping directly to the ground.

3.3 Each cluster to be harvested and gently removed from the branch with a cutting device (Figure 1) and collected into a shallow container.

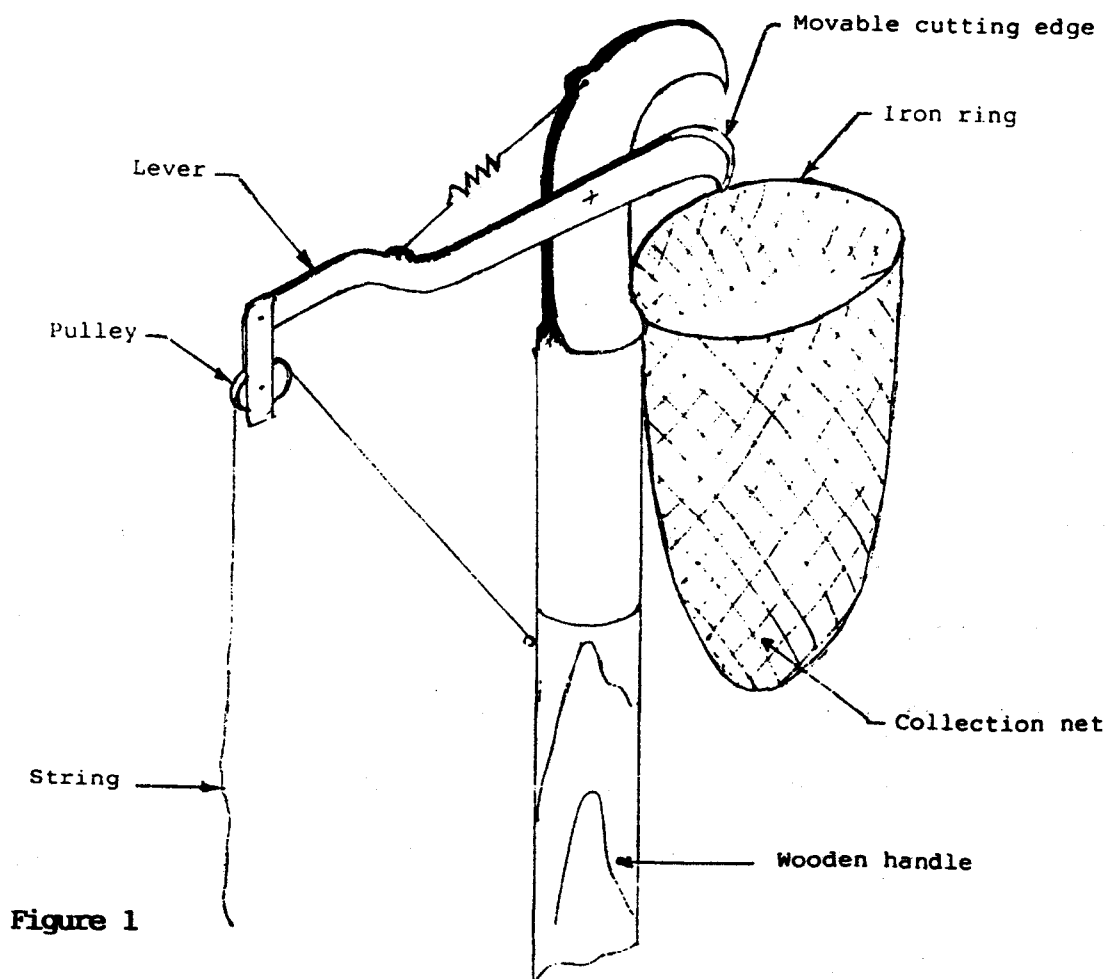


Figure 1

- 3.4 Extra care shall be taken to avoid injuries to the skin and spinterns.
- 3.5 It is recommended that harvest operations be conducted early in the morning.
- 3.6 Harvested fruits shall be free of extraneous matter such as soil, rock, gravel etc.
- 3.7 Rambutan harvested for exports shall be trimmed into individual units and either packed in the field or carried out in shallow, ventilated containers for sorting and grading.

4 QUALITY CHARACTERISTICS

- 4.1 Rambutan shall be whole and mature with attractive spinterns free of any physical damage.
- 4.2 Rambutan fruit shall be free of pests and diseases.
- 4.3 Rambutan fruit shall be medium to large in size and generally weighing more than 30 g each with stem length not exceeding 1.0 cm.
- 4.4 The aril shall be thick firm and easily separated from seed.
- 4.5 Crack fruit shall be rejected.

5 HANDLING PACKAGING AND TRANSPORTATION

- 5.1 Rambutan for exports to overseas markets shall be packed in ventilated corrugated fiberboard cartons of convenient size. A single carton carrying not more than two layers of fruits, shall be neatly arranged to avoid damage to skin and spinterns.

5.2 Fruits intend for domestic market shall be handled with care and packed in shallow containers to avoid compression, damage and loss in quality.

5.3 Every precaution shall be taken

- i) To prevent direct sunlight falling on the box.
- ii) To avoid parking the vehicle in the sun.
- iii) To avoid excessive handling

5.4 Care shall be taken at all times during packing and transportation to prevent damage to spinterns and skin of fruits.

5.5 Efforts shall be made to prevent physical damage and heat build up during transportation.

6. MARKING

6.1 The cartons shall be legibly and indelibly labelled as follows.

- a) Name of the product
- b) Net and gross mass in kilograms
- c) Name and address of exporter /consignee
- d) Batch number
- e) Country of origin

6.2 In order to facilitate careful handling of Rambutan the following markings are recommended.

- a) The words "fresh Rambutan"
- b) Pictorial marking for "this way up" (figure 2)
- c) Pictorial marking for "fragile contents" (figure 3) and
- d) Pictorial marking for temperature limits (figure 4), in the case of packages transported under low temperature conditions.

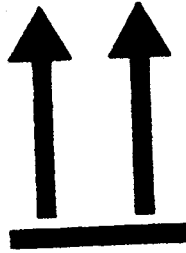


FIGURE 2 - Pictorial marking for "this way up"



FIGURE 3 - Pictorial marking for "fragile" contents

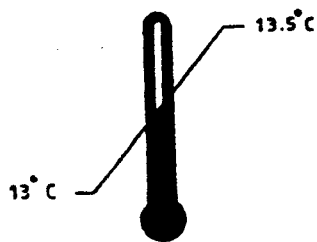


FIGURE 4 - Pictorial marking for temperature limits

7 STORAGE

7.1 Fruit shall be stored in subdued light or in darkened room.

7.2 The temperature of Rambutan at the time of loading into the container or cold room for storage shall be lowered to 13.5 °C . This shall be achieved by precooling. The temperature of the delivery air during storage shall be maintained between 13°C and 13.5°C throughout the storage period as indicated in figure 4.

7.3 The relative humidity in the cold storage shall be maintained between 90-95 percent.

7.4 Air circulation requirement : Air circulation shall be maintained at medium levels (40-50 cfm).

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI which includes surveillance inspection of the factory, testing of both factory and market samples.

Further particulars of the terms and conditions of the permit may be obtained from the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.



SRI LANKA STANDARDS INSTITUTION

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The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.