SRI LANKA STANDARD 739 : 1986

UDC 634.58

SPECIFICATION FOR
UNSHELLED GROUND NUT

SRI LANKA STANDARDS INSTITUTION

SPECIFICATION FOR FRESH UNSHELLED GROUNDNUT

SLS 739:1986

Gr. 5

SRI LANKA STANDARDS INSTITUTION
53, Dharmapala Mawatha,
Colombo 3,
Sri Lanka.

CONSTITUTION OF THE DRAFTING COMMITTEE

CHAIRMAN	*REPRESENTING*
Mr. K.B. Palipane	Rice Processing Research and Development Centre
MEMBERS	
Mr. V. Aberatne	Consolexpo
Mrs. S. Gunasinghe	The Co-operative Wholesale Establishment
Dr. S.J.B.A. Jayasekera	Agricultural Research Station, Maha Illuppallama
Mr. A. Mudiappa	Eswaran Brothers (Ceylon) Limited
Mrs. Damitha Rajapakse	Ceylon Institute of Scientific and Industrial Research
Mr. S.A. Rajendran	Ceylon Oils and Fats Corporation
Dr. U. Samarajeewa	University of Peradeniya

TECHNICAL SECRETARIAT

SRI LANKA STANDARDS INSTITUTION

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.

SRI LANKA STANDARD

SPECIFICATION FOR FRESH UNSHELLED GROUNDNUT

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1986-05-16, after the draft, finalized by the Drafting Committee on Subsidiary Food Crops, had been approved by the Agricultural and Food Products Divisional Committee.

This specification is subject to the provisions of the Food Act No. 26 of 1980 and the regulations framed thereunder.

The standard values used throughout this specification are given in SI units.

In reporting, the result of a test or analysis made in accordance with this specification, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with CS 102. The number of significant places retained in the rounded off value should be the same as that of the specified value in this specification.

In the preparation of this specification the assistance obtained from the publications of the Standards and Industrial Research Institute of Malaysia and the Food Corporation of India is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for fresh unshelled groundnut *(Arachis hypogaea L.)* *(S. RATA KADJU, T. NILKADALAI)*.

2 REFERENCES

CS 102 Presentation of numerical values

SLS 448 Analysis of food grains

Part 1 Moisture

Part 2 Refractions

SLS 528 Sampling of food grains

3 DEFINITIONS

For the purpose of this specification the following definitions shall apply:

3.1 fresh in-shell groundnut : Groundnut that have not been subjected to roasting, shelling and various forms of chemical treatment.

3.2 kernel : Softer body enclosed by the seed coat and shell which carries the oil; sometimes termed 'meats'.

3.3 mature kernel : Kernels which are firm and well developed.

3.4 pops : The fully developed shells which contain practically no kernels.

3.5 immature pods : Pods which have excessively soft **and/or** very thin ends **and/or** having small, shrivelled kernels.

3.6 mouldy pods : Pods which are showing surface mould growth to the naked eye or under a hand lens.

3.7 damaged pods : Pods/kernels which are sprouted or discoloured as a result of heat, moisture, insect or microbial action.

3.8 cracked or broken pods : Pods which have been broken to the extent that the kernel within, is plainly visible without minute examination and with no application of pressure, or the appearance of the individual groundnut is materially affected.

3.9 pest infestation : Presence of live insects or other organisms or their eggs, **and/or** other developmental stages.

3.10 foreign matter : All matter other than groundnut (whether whole or broken). Foreign matter includes such things as sand/stones, seeds of weed, stalks, fibrous matter, insect debris and dust.

3.11 shelling percentage : The percentage by mass of the seeds in a given quantity of pods. This also reflects the amount of pops present.

4 TYPES

Unshelled groundnut shall be classified into the following types on the basis of the number of seeds per pod. The basis is as follows:

a) one-seeded pods;

b) two-seeded pods;

c) three-seeded pods; and

d) four-seeded pods.

5 GRADES

Unshelled groundnut shall be classified into the following three grades as described in Table 1.

a) Grade 1;

b) Grade 2; and

c) Grade 3.

6 REQUIREMENTS

6.1 Fresh unshelled groundnut shall preferably have kernels of uniform size, shape and colour.

6.2 Fresh unshelled groundnut shall be free from pest infestation and mould growth when examined as prescribed in Appendix A. It shall be free from objectionable odour and bad taste.

6.3* Fresh unshelled groundnut shall not contain pesticidal residues in excess of the limits laid down under the Food Act No. 26 of 1980 and the regulations framed thereunder.

6.4* Fresh unshelled groundnut shall not contain more than 30 µg/kg (p.p.b.) of aflatoxin.

*NOTE** - *It is not necessary to carry out the determinations given in* **6.3** *and* **6.4** *as a routine for all the samples. This should be tested in case of dispute and when required by the purchaser or vendor.*

6.5 Fresh unshelled groundnut shall also conform to the requirements specified in Table 1 when tested by relevant methods given in Column 6 of the table.

TABLE 1 - Requirements for fresh unshelled groundnut

Sl. No.	Characteristic	Grade			Method of test reference
		1	2	3	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Moisture, per cent by mass max.	7.0	8.0	9.0	SLS 448:Part 1
ii)	Foreign matter, per cent by mass, max.	0.5	1.0	2.0	SLS 448:Part 2
iii)	Pods of other types, per cent by mass, max.	1.0	2.0	5.0	Appendix B
iv)	Damaged pods, per cent by mass, max.	0.5	1.5	3.0	Appendix B
v)	Broken or cracked pods, per cent by mass, max.	1.0	2.0	4.0	Appendix B
vi)	Shelling percentage, max.	70	68	65	Appendix C

7 PACKAGING AND MARKING

7.1 Packaging

7.1.1 Fresh unshelled groundnut in bulk shall be packed in clean jute bags, woven polypropylene bags, or coarse cloth bags or in any other bags made from suitable material. The mouth of each bag shall be securely sealed.

7.1.2 Fresh in-shell groundnut when prepared for retail trade shall be packed in clean polyethylene bags or any other suitable material. The mouth of each bag shall be securely sealed.

NOTE - When bags are being re-used, the existing markings shall be crossed out with non-toxic indelible ink or dye.

7.2 Marking

Each bag shall be marked legibly and indelibly or a label shall be attached to the bag, with the following information:

a) Name of commodity;

b) Type;

c) Grade;

d) Name and address of the producer or trader (including the country);

e) Trade mark, if any;

f) Net mass, in kg; and

g) Month and year of harvest.

8 SAMPLING

8.1 Sampling from bulk containers

A representative sample of fresh unshelled groundnut shall be obtained according to relevant clauses of **SLS 528**.

8.2 Sampling from retail packages

8.2.1 *Lot*

All the retail packages containing fresh unshelled groundnut of one grade and packed at one place from one batch of supply shall constitute a lot.

8.2.2 *Scale of sampling*

8.2.2.1 Samples shall be taken from each lot for ascertaining conformity of the lot to the requirements of this specification.

8.2.2.2 The number of retail containers to be selected from a lot shall be in accordance with Table 2.

TABLE 2 - Scale of sampling

Number of retail containers in the lot	Number of containers to be selected
Up to 50	3
51 to 100	5
101 to 150	8
151 to 300	13
301 to 500	20
501 to 1 000	32
1 001 to 5 000	50
5 001 to 10 000	80

8.2.2.3 The retail containers shall be selected at random. In order to ensure randomness of selection random number tables as given in **SLS 428** shall be used.

8.2.2.4 The bags selected as in **8.2.2.2** shall be emptied on a flat and hard surface and thoroughly mixed. The material shall be reduced by means of successive coning and quartering method to get a composite sample of required size.

8.3 Number of tests

The composite sample prepared as in **5.3** of **SLS 528** or **8.2.2.4** of this specification shall be tested for all the requirements of this specification.

9 METHODS OF TEST

Tests shall be carried out as prescribed in **SLS 448** and the appropriate appendices of this specification.

10 CONFORMITY TO STANDARD

A lot shall be declared as conforming to the requirements of this specification, if the composite sample tested as in **8.3** satisfies the relevant requirements.

APPENDIX A

VISUAL EXAMINATION

A.1 PROCEDURE

Take about 500 g of the test sample and examine as a whole as given in **SLS 448:Part 2** for its general conditions including odour and infestation and report whether the sample is wholesome, clean, dry and in sound marketable condition. Examine the sample for any deleterious material hazardous to human health **and/or** rendering the grain inedible.

APPENDIX B

DETERMINATION OF TYPE ADMIXTURE, DAMAGED GRAIN AND IMMATURE GRAIN

B.1 APPARATUS

B.1.1 *Balance*, of sensitivity 1 mg.

B.1.2 *Magnifying glass*, with a handle of about 75 mm in length and having magnification of 10.

B.1.3 *Forceps*, of about 100 mm in length.

B.2 PROCEDURE

Take the groundnut sample, which has been freed from foreign matter (refer **SLS 448:Part 2**). Mix the sample well and take three 100 g representative samples weighed to the nearest 0.1 gram. Using each of the samples, visually separate,

a) pods of other types;

b) damaged pods; and

c) cracked or broken pods.

APPENDIX C

DETERMINATION OF SHELLING PERCENTAGE

Take a clean sample of about 250 g weighed to the nearest gram. Remove the shells of the pods and weigh. Calculate the shelling percentage as follows:

$$\text{Shelling percentage} = \frac{m_2}{m_1} \times 100$$

where,

m_1, is the mass of pods; and

m_2, is the mass of seeds in m_1.

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.*

Printed at SLSI (Printing Unit)

SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

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.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.