SRI LANKA STANDARD 794 : 1987

UDC 633.1

SPECIFICATION FOR

BLACK GRAM, WHOLE

SRI LANKA STANDARDS INSTITUTION

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SLS 794:1987

Gr. 5

SRI LANKA STANDARDS INSTITUTION
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This standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
SPECIFICATION FOR BLACK GRAM, WHOLE

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1987-10-08, 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.

For the purpose of deciding whether a particular requirement of this specification is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off 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 Food Corporation of India is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for whole seeds of black gram *(Vigna mungo* (L) Hepper*)*. *(S. UNDU T. ULUNDU)*.

2 REFERENCES

CS 102 Presentation of numerical values

SLS 428 Random sampling methods

SLS 448 Analysis of food grains

Part 1 : Moisture

Part 2 : Refractions

Part 4 : Mass of 1000 grains

SLS 528 Sampling of food grains

3 DEFINITIONS

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

3.1 **black gram** : Whole seeds of *Vigna mungo* (L) Hepper.

3.2 **damaged grain** : Seeds which are distinctly identified as having been visibly affected by insects, heat, water, disease or any causative agent. This includes grains that are damaged or split in the process of handling.

3.3 **immature grain** : Seeds which are not fully developed, normally smaller in size than the mature grain, shrivelled and off coloured.

3.4 **objectionable foreign odour** : Odours which are entirely foreign to black gram and which, because of their presence, render black gram unfit for its normal commercial usage.

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

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

4 TYPES

Black gram shall be classified into the following types on the basis of the mass of 1000 grains (see **SLS 448:Part 4**). The basis is as follows:

a) Small - mass of 1000 grains less than 35 g

b) Medium - mass of 1000 grains between 35 g and 60 g

c) Large - Mass of 1000 grains above 60 g.

5 GRADES

Black gram shall be classified into the following 3 grades as prescribed in Table 1.

a) Grade 1;

b) Grade 2; and

c) Grade 3.

6 REQUIREMENTS

6.1 Black gram shall be in the form of well filled seeds of black colour with prominent hylum.

6.2 Black gram shall be free from any objectionable odour and pest infestation when examined as prescribed in Appendix A.

6.3 Black gram shall not contain pesticide residues in excess of the limits laid down under the Food Act No. 26 of 1980. (see Note).

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

6.4 Black gram shall also conform to the requirements specified in Table 1 when tested by the relevant method given in Column 6 of the table.

TABLE 1 - Requirements for black gram

Sl. No. (1)	Characteristic (2)	Grade 1 (3)	Grade 2 (4)	Grade 3 (5)	Method of test reference (6)
i)	Moisture, per cent by mass, max.	12.0	12.0	12.0	SLS 448:Part 1
ii)	Foreign matter, per cent by mass, max.	1.0	1.5	2.5	SLS 448:Part 2
iii)	Type admixture, per cent by mass, max.	6.0	7.0	8.0	Appendix B
iv)	Damaged grain, per cent by mass, max.	2.0	2.5	3.5	Appendix B
v)	Immature grain, per cent by mass, max.	3.0	5.5	8.5	Appendix B

7 PACKAGING AND MARKING

7.1 Packaging

7.1.1 Black gram in bulk shall be packed in clean jute bags, woven polypropylene or coarse cloth bags, or any other bags made from 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 an approved indelible ink or dye.

7.1.2 Black gram when prepared for retail trade shall be packed in clean polyethylene bags or in any other container made from suitable material. The mouth of each container shall be securely sealed.

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 of origin);

e) Trade mark, if any;

f) Net mass in grams or in kilograms; and

g) Month and year of harvest (applicable to bulk packages).

8 SAMPLING

8.1 Sampling from bulk containers

A representative sample of black gram 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 black gram 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 packages to be selected from a lot shall be in accordance with Table 2.

8.2.2.3 The retail packages 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 packages 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 to get a composite sample of required size.

8.3 Preparation of test samples

The composite sample prepared as in **8.1** or **8.2.2.4** shall be divided into three equal parts. Each part thus obtained shall constitute a test sample.

One of these samples shall be marked for the purchaser, one for the supplier and the third as the reference sample to be used in case of dispute between purchaser and supplier.

TABLE 2 - Scale of sampling

Number of retail packages in the lot (1)	Number of retail packages to be selected (2)
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
1001 to 5 000	50
5001 to 10 000	80

8.4 Number of tests

The test sample prepared as in 8.3 shall be tested for all requirements of this specification.

9 METHODS OF TEST

Tests shall be carrried 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 sample tested as in 8.4 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 free from objectionable foreign odour and pest infestation.

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 black gram sample, which has been freed from foreign matter (refer **SLS 448:Part 2**). Mix well and take three 100-g representative samples weighed to the nearest 0.1 gram. Visually separate as follows:

a) grain belonging to other types using one sample;

b) damaged grain using another sample; and

c) immature grain using the remaining sample.

Weigh each and calculate the percentage of each by mass.

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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.*

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SRI LANKA STANDARDS INSTITUTION

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