SRI LANKA STANDARD 851 : 1989

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SPECIFICATION FOR

MAIZE (CORN)

SRI LANKA STANDARDS INSTITUTION

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SLS 851:1989

Gr. 4

SRI LANKA STANDARDS INSTITUTION
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SRI LANKA STANDARD

SPECIFICATION FOR MAIZE (CORN)

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1989-07-25, 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.

All standard values in this specification are 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 an analysis, shall be rounded off in accordance with CS 102. The number of significant places retained in the rounded off value shall be the same as that of the specified value in this specification.

In the preparation of this specification the assistance derived from the publications of the Food Corporation of India and Bureau of Standards of Philippine is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for maize *(Zea mays L.)* (S.*Bada Iringu*, T.*Solum*).

2 REFERENCES

CS 102 Presentation of numerical values.
SLS 428 Random sampling methods.
SLS 448 Methods of 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 **maize** : Whole mature grains of *Zea mays L.*

3.2 **damaged grain** : Grains which are distinctly identified as having been visibly affected by heat, moisture, disease or any other causative agent. Such grains include stained, spotted, and discolcured grains. Damaged grain also include those that are damaged in the process of handling.

3.3 **insect damaged grain** : Grains that are partially or wholly damaged by insects.

3.4 **immature grain** : Grains which are not fully developed, normally smaller in size, malformed and off coloured.

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

3.6 **foreign matter** : All matter other than maize (whether whole or broken). Foreign matter includes such things as sand/stones, seeds of weed, stalks, fibrous matter, insect debris and other food grains.

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

4 TYPES

Maize shall be classified into the following types on the basis of mass of 1000 grains and colour.

Type	Mass of 1000 grains (g)	Colour
Small yellow	below 200	yellow
Small white	below 200	white
Large yellow	above 200	yellow
Large white	above 200	white

5 GRADES

Maize shall be classified into the following three grades.

Grade 1;
Grade 2; and
Grade 3.

6 REQUIREMENTS

6.1 Maize shall be dried, whole, mature grains of *Zea mays* L. The grains shall be of uniform size, shape and colour. They shall be hard and clean.

6.2 Maize shall be free from objectionable foreign odour, pest infestation and mould growth when examined as prescribed in Appendix A.

6.3 Maize 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 Maize 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 maize

Sl. No.	Characteristic	Requirement			Method of test
		Grade 1	Grade 2	Grade 3	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Moisture, per cent by mass, max.	14.0	14.0	14.0	SLS 448: Part 1
ii)	Foreign matter, per cent by mass, max.	0.5	1.0	1.5	SLS 448: Part 2
iii)	Type admixture, per cent by mass, max.	04	08	12	Appendix B
iv)	Damaged grain, per cent by mass, max.	0.5	1.0	2.0	Appendix B
v)	Insect damaged grain, per cent by mass, max.	0.5	1.0	1.5	Appendix B
vi)	Immature grain, per cent by mass, max.	01	02	04	Appendix B

7 PACKAGING AND MARKING

7.1 Packaging

7.1.1 Maize in bulk shall be packed in clean jute, polypropylene or any other bag made from a suitable material. The mouth of each bag shall be securely sealed/stitched.

7.1.2 Maize when packed for retain trade shall be in clean polythene bags or any other suitable material. The mouth of each bag 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.

8 SAMPLING

8.1 Representative samples of maize shall be drawn in accordance with Clause 5 of SLS 528 : 1981.

8.2 Scale of sampling

8.2.1 Samples shall be tested from each lot for ascertaining its conformity to the requirements of this specification.

8.2.2 Selection of samples shall be in accordance with 5.1.1 or 5.2.1 of SLS 528 : 1981.

8.3 Number of tests

8.3.1 In case of maize in bags, each bag selected as in 5.1 of SLS 528 : 1981 shall be inspected for packaging and marking requirements.

8.3.2 The samples for moisture determination prepared as in 5.3.2 of SLS 528 : 1981 shall be tested for moisture.

8.3.3 The final samples prepared as in 5.3.2 of SLS 528 : 1981 shall be tested for requirements given in 6.2, 6.3 and 6.4 except for moisture.

9 METHODS OF TEST

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

10 CRITERIA FOR CONFORMITY

A lot shall be declared as conforming to the requirements of this specification, if the following conditions are satisfied.

10.1 Each bag inspected as in 8.3.1 satisfies the relevant requirements.

10.2 The samples when tested as in 8.3.2 satisfy the relevant requirement.

10.3 The final samples when tested as in 8.3.3 satisfy the relevant requirements.

APPENDIX A
VISUAL EXAMINATION

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. Report whether the sample is free from objectionable foreign odour, pest and mould infestations.

APPENDIX B
DETERMINATION OF TYPE ADMIXTURE, DAMAGED GRAIN, INSECT DAMAGED GRAIN AND IMMATURE GRAIN

B.1 APPARATUS

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

B.1.2 *Forceps*, of about 100 mm in length.

B.2 PROCEDURE

Take the 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. Using each of the samples, visually separate the following:

a) insect damaged grain;
b) damaged grain;
c) immature grain; and
d) grain belonging to other types.

Weigh each and calculate the percentage by mass.

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SRI LANKA STANDARDS INSTITUTION

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