ICS 67.060

DMS 478:2022
Second edition

DRAFT MALAWI STANDARD

Soybean flour – Specification

Note: This is a draft Malawi standard and it shall neither be used nor regarded as a Malawi standard.

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FOREWORD

This draft Malawi standard has been prepared by the Technical Committee MBS/TC 51, *Edible nuts and seeds and their products,* to provide requirements for soybean flour.

In preparing this standard reference was made to the following standard:

East African Community standard, EAC 799:2018, Edible full fat soya flour – Specification

Acknowledgement is made for the use of the information.

TECHNICAL COMMITTEE

This draft standard was prepared by the Technical Committee MBS/TC 16, *Cereals, pulses, legumes and their products,* and the following organizations were represented:

Agricultural Development and Marketing Corporation;

Agricultural Commodity Exchange;

Auction Holdings Limited Commodity Exchange;

Consumer Association of Malawi;

Export Trading Limited;

Grain Traders and Processors Association;

Lilongwe University of Agriculture and Natural Resources;

Malawi Bureau of Standards;

Ministry of Agriculture – Bvumbwe Agricultural Research Station,

Ministry of Health – Department of Nutrition, HIV and AIDS;

Ministry of Industry and Trade;

National Smallholders Farmers Association of Malawi;

Rab Processors Limited;

Trademark East Africa; and

University of Malawi.

NOTICE

This standard shall be reviewed every 5 years or earlier when it is necessary, in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being reviewed.

DRAFT MALAWI STANDARD

Soybean flour – Specification

1 SCOPE

This draft standard specifies the requirements, sampling and test methods for soybean flour obtained from soybean (*Glycine max (L.) Merr*) intended for human consumption.

2 NORMATIVE REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this Malawi standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *labelling of prepacked foods – General standard;*

MS 21: *Food and food processing units – Code of hygienic conditions;*

MS 144: *Agricultural food products – Determination of crude fibre content – General method;*

MS 145: *Cereals and cereal products – Sampling;*

MS 188: *Edible salt – Specification;*

MS 237: *General standard for food additives;*

MS 244: *Soybeans – Specification;*

MS 302: *Contaminants and toxins in foods – General standard;*

ISO 4832: *Microbiology of food and animal feeding stuffs –Horizontal method for the enumeration of coliforms – Colony-count technique;*

ISO 4833: *Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 °C by the pour plate technique;*

ISO 6579: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp;*

ISO 7251: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia coli – Most probable number technique;*

ISO 7305: *Milled cereal products – Determination of fat activity;*

ISO 11085: *Cereals, cereals-based products and animal feeding stuffs – Determination of crude fat and total fat content by the Randall extraction method;*

ISO 13690: *Cereals, pulses and milled products – Sampling of static batches;*

ISO 14902: *Animal feeding staffs – Determination of trypsin inhibitor activity of soya products;*

ISO 16050: *Foodstuffs – Determination of Aflatoxin B1, and the total content of Aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products – High-performance liquid chromatographic method;*

ISO 20483: *Cereals and pulses – Determination of the nitrogen content and calculation of the crude protein content – Kjeldahl method;*

ISO 21527-2: *Microbiology of food and animal feedstuffs – Horizontal method for the enumeration of yeasts and moulds – Part 2: Colony count technique in products with water activity less than or equal to 0.95;*

ISO 24557: *Pulses – Determination of moisture content – Air oven; and*

AOAC 965.22: *Sorting corn grits – Sieving method.*

3 TERMS AND DEFINITIONS

For the purpose of this draft standard, the following definitions shall apply:

3.1
soybean flour
milled product obtained from whole dry soybeans

3.2
soybean
whole mature dry bean of *Glycine max* (L) Merr. varieties

3.3
food grade packaging material
packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

3.4
foreign matter
all organic and inorganic material other than soybean flour

3.5
filth
impurities of animal and plant origin like dead insects

4 ESSENTIAL COMPOSITION AND QUALITY REQUIREMENTS

4.1 Raw materials

Soybean flour shall be prepared from soybeans complying with MS 244.

4.2 General requirements

Soybean flour shall:

4.2.1 Be characteristic of the colour of soybean from which they were prepared;

4.2.2 Not contain any foreign matter, live insects and filth;

4.2.3 Be free from fermented musty or other objectionable odour and colours;

4.2.4 Be wholesome and fit for human consumption in all aspects.

4.3 Specific requirements

Soybean flour shall conform to the requirements specified in **Table 1** when tested in accordance with the test methods specified therein.

Table 1 – Requirements for soybean flour

1	2	3	6
S/N	**Characteristic**	**Requirements**	**Test method**
1	Moisture content, % m/m, max	10.0	ISO 24557
2	Protein (N x 6.25 dry basis) % m/m, min	35	ISO 20483
3	Soya oil (fats on dry basis) % m/m, min	16	ISO 11085
4	Acid insoluble ash, % m/m, max	0.4	ISO 5985
5	Crude fibre, % m/m, max	6.0	MS 144
6	Trypsin inhibitor activity ml/g, max	5.0	ISO 14902
7	Fat acidity, mg KOH/100g, max	80	ISO 7305

4.4 Particle size

When tested in accordance with AOAC 965.22, not less than 90 % shall pass through a 600um sieve for fine flour and not less than 90 % shall pass through a 1000um sieve for coarse flour.

4.5 Microbiological limits

Soybean flour shall not contain any pathogenic organisms and shall comply with microbiological limits given in **Table 2.**

Table 2 – Microbiological limits for soybean flour

1	2	3	4
S/No	**Microorganism**	**Maximum limit**	**Method of test**
1	*E.coli*, MPN/g	Absent	ISO 7251
2	*Salmonella spp*. per 25 g	absent	ISO 6579
3	Yeast and moulds, cfu/g	10^4	ISO 21527-2
4	Total Plate Count (TPC), cfu/g	10^4	ISO 4833
5	Coliform, cfu/g	10	ISO 4832

5 HYGIENE

The processing of soybean flour shall be done in premises built and maintained under hygienic conditions as prescribed in MS 21.

6 FOOD ADDITIVES

Only those food additives listed in MS 237 under this product shall be used and only within the limits specified.

7 CONTAMINANTS

7.1 Heavy metals

Products covered by this draft proposal shall comply with the maximum limits of heavy metals specified in MS 302.

7.2 Pesticides residues

Soybean flour shall comply with the maximum pesticides residues limits established by the Codex Alimentarius Commission.

7.3 Aflatoxins

The maximum content of aflatoxins in soya protein products when determined in accordance with the ISO 16050 shall not exceed 5 ppb (µg/kg) for aflatoxin B_1 and 10 ppb for total aflatoxins

8 PACKAGING AND LABELLING

8.1 Packaging

Soybean flour shall be packed in food grade material to safeguard the safety, hygienic, nutritional and organoleptic qualities of the product.

8.2 Labelling

In addition to the provisions prescribed in MS 19, the following shall appear in legible and indelible marking on each package and on each outer container:

8.2.1 Name of product as “Soybean flour”

8.2.2 Name and address of the manufacturer/packer/importer;

8.2.3 Brand name/registered trade mark;

8.2.4 Batch or code number;

8.2.5 Net weight in metric units;

8.2.6 Storage instruction as “Store in a cool dry place’’;

8.2.7 The statement "Food for human consumption";

8.2.8 Country of origin;

8.2.9 Date of manufacture;

8.2.10 Best before date; and

8.2.11 Instructions for disposal of used package.

9 SAMPLING AND METHOD OF TESTS

9.1 The method of sampling shall be done in accordance with MS 145 and ISO 13690.

9.2 Soybean flour shall be tested in accordance with **Table 1** and **Table 2** and any other equivalent test methods.

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THE MALAWI BUREAU OF STANDARDS

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Trade and Industry. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

CERTIFICATION MARK SCHEME

To bring the advantages of standardization within the reach of the common consumer, the Bureau operates a Certification Mark Scheme. Under this scheme, manufacturers who produce goods that conform to national standards are granted permits to use the Bureau's "Mark of Quality" depicted below on their products. This Mark gives confidence to the consumer of the commodity's reliability.