

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

STD. No. G-5

AGRICULTURAL PRODUCT STANDARDS ACT No. 119 OF 1990

STANDARDS AND REQUIREMENTS REGARDING CONTROL OF THE EXPORT OF
SORGHUM

The Executive Officer: Agricultural Product Standards has stipulated under section 4(3)(a)(ii) of the Agricultural Product Standards Act No. 119 of 1990, the standards regarding the quality of Sorghum and the requirements regarding the packing, marking and labelling thereof.

STD. No. G-5

STANDARDS AND REQUIREMENTS REGARDING CONTROL OF THE
EXPORT OF SORGHUM AS STIPULATED BY
GOVERNMENT NOTICE No. R. 1983 OF 23 AUGUST 1991

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Definitions

1. In these standards and requirements any word or expression to which a meaning has been assigned in the Act, shall have that meaning, and

"animal filth" means dead rodents, dead birds and dung;

"another group" in relation to --

- (a) sorghum of Class GM means sorghum that has a testa; and
- (b) sorghum of Class GH means sorghum that does not have a dark testa;

"bag" means a bag manufactured from --

- (a) jute or phormium or a mixture of jute and phormium; or
- (b) polypropylene that complies with SABS specification CKS632 1246: 2012;

"bulk grain probe" means a double tubed probe of suitable length with multiple apertures on one side of both tubes;

"bulk container" means any vehicle or container in which bulk sorghum is stored or transported;

"chemical residues" means residues of agricultural remedies which in terms of the Foodstuffs, Cosmetics and Disinfectants Act No. 54 of 1972, are permissible for the treatment of pests and diseases and which do not exceed the prescribed maximum residue limit;

"consignment" means

- (a) a quantity of sorghum of the same class which belongs to the same owner, delivered at any one time under cover of the same consignment note, delivery note or receipt note, or delivered by the same vehicle or bulk container, or loaded from the same bin of a grain elevator or from a ship's hold; or
- (b) in the case where quantity referred to in paragraph (a), is subdivided into different grades, each quantity of each of the different grades;

"container" means a bag or a bulk container;

"dark testa" means the layer of the sorghum that contains tannins of the condensed type;

"defective sorghum" means --

- (a) pieces of broken sorghum kernels; or
- (b) sorghum kernels --
 - (i) that are affected by fungi or diseases;
 - (ii) of which the embryo skin is cracked due to germination;
 - (iii) that have a green colour or shows other signs of immaturity; and
 - (iv) that have been damaged by insects, rodents, cold, heat or in any other manner, but does not include weather-stained sorghum;

"foreign matter" means any matter or substance other than sorghum. Coal, dung, glass and metal shall not be present in the consignment concerned;

"insect" means any live grain insect which is injurious to stored sorghum, irrespective of the stage of development of the insect;

"inspector" means the Executive Officer or an officer under his or her control or an Assignee or an employee of an Assignee;

"poisonous seeds" mean seeds or part of seeds of plant species that in terms of the Foodstuffs, Cosmetics and Disinfectants Act No. 54 of 1972, may represent a hazard to human or animal health when consumed, including seeds of *Argemone mexicana L*, *Convolvulus spp.*, *Crotalaria spp.*, *Datura spp.*, *Ipomoea spp.*, *Lolium temulentum*, *Ricinus communis* or *Xanthium spp.*;

"release", with regard to sorghum, means the loading of sorghum from the grain elevator or bulk container into a ship's hold;

"ship's hold" means one or more cargo spaces into which sorghum is released;

"small kernel sorghum" means whole sorghum kernels that pass through a standard sieve;

"Sorghum" means the threshed, ripe seed of the plant of *Sorghum bicolor* (L.) Moench; but excludes broom sorghum, hay sorghum or cane sorghum;

"standard sieve" means is a slotted sieve --

- (a) with a flat bottom of metal sheet of 1,00 mm thickness with rectangular slots of 12, 7 mm in length and 1, 8 mm in width with rounded ends. The spacing between the slots in the same row must be 2, 43 mm wide and the spacing between the rows of slots must be 2, 0 mm wide. The slots must be alternately orientated, with a slot directly opposite the solid inter segment of the adjacent row of slots;
- (b) of which the upper surface of the sieve is smooth;
- (c) with a circular frame of suitable material with an inner diameter of at least 300 mm and maximum 310 mm and at least 50 mm high;
- (d) that fits onto a tray with a solid bottom and must be at least 20 mm above the bottom of the tray;

"storage facility" means any warehouse, port silo or other place where sorghum intended for export, is stored;

"the Act" means the Agricultural Product Standards Act No. 119 of 1990;

"unthreshed sorghum" means sorghum or pieces of sorghum still enclosed in the glumes;

"weather-stained sorghum" means sorghum of which more than one third of the area of the pericarp is distinctly discoloured by the weather: Provided that purple anthocyanic blotches in or on the pericarp shall not be regarded as discolouration by the weather;

"white sorghum" sorghum of which the colour of the pericarp does not display any shades of brown, red or yellow irrespective of any purple anthocyanic blotches in or on the pericarp; and

"1,8 mm slotted sieve" means a sieve contemplated in item 19.

Scope

2. These standards and requirements shall relate to sorghum in respect of which an approval for the export thereof is required in terms of section 4 of the Act.

Requirements for approval

3. (1) An approval referred to in section 4 of the Act may be issued in respect of a consignment of sorghum if --

- (a) the consignment concerned has been classified in accordance with the classes set out in item 4;
- (b) the consignment concerned complies with the standards for classes set out in item 5;
- (c) the consignment concerned has been graded in accordance with the grades set out in item 6;
- (d) the consignment concerned complies with the standards for grades set out in item 7;
- (e) the containers in which the consignment concerned is packed, where applicable, comply with the requirements set out in item 8;
- (f) the consignment concerned, where applicable, complies with the packing requirements set out in item 9;
- (g) the containers concerned are marked in accordance with the marking requirements set out in items 10 and 11;
- (h) the samples for inspection are abstracted in accordance with the requirements set out in items 12 and 13;
- (i) the consignment concerned is inspected in accordance with the methods set out in items 15 to 23;
- (j) the results obtained after an inspection are interpreted in accordance with the requirements set out in item 24;
- (k) approval has been granted for the release of the sorghum into a ship's hold in accordance with the requirements set out in items 25 and 26;

- (l) the consignment concerned has been presented for inspection in accordance with the provisions of the Regulations Regarding Control of the Export of Grains; and
 - (m) an inspector has, after an inspection in terms of the said regulations, found that the provisions of these standards and requirements have been complied with in respect of that consignment.
- (2) The Executive Officer may deviate from the stipulated standards and requirements and issue the approval in respect of a quantity of a produce that --
- (a) is to be exported as an experiment or under such other special circumstances as may be approved by the Executive Officer; and
 - (b) complies with the requirements for such produce in force in the country to which it is to be exported.

QUALITY STANDARDS

Classes

4. There are three classes of sorghum intended for export namely:
- (a) Class GM;
 - (b) Class GH; and
 - (c) Class Other.

Standards for classes

5. (1) A consignment of sorghum shall be classified as Class GM sorghum if it --
- (a) consists of malt sorghum that does not have a dark testa; and
 - (b) complies with the standards for the grade of Class GM sorghum as set out in item 7.
- (2) A consignment of sorghum shall be classified as Class GH sorghum if it--
- (a) consists of malt sorghum that has a dark testa; and
 - (c) complies with the standards for one of the grades for Class GH sorghum as set out in item 7.
- (3) A consignment of sorghum shall be classified as Class Other if it does not comply with the standards for Class GM, and GH sorghum.

Grades for sorghum

6. The grades for the different classes of sorghum are as follows:
- (a) Class GM
 - (i) Grade GM1
 - (ii) Grade GM2
 - (iii) Grade GM3
 - (b) Class GH
 - (i) Grade GH1
 - (ii) Grade GH2
 - (c) No grades determined for Class Other.

Standards for grades

7. (1) All grades of sorghum shall--
- (a) be free from black smearing as a result of smut;
 - (b) not contain 10 or more smut balls or portions of smut balls which are collectively equivalent to 10 or more smut balls , per 100 g of sorghum;
 - (c) be free from a musty, sour or other undesirable odour,
 - (d) be free from a substance, which may render such sorghum unsuitable for human or animal consumption or for processing into or utilisation thereof as food or feed;
 - (e) be free from glass, metal, coal or dung;
 - (f) with exception of Class Other have a moisture content of not more than 14 per cent;
 - (g) be free from live insects, irrespective of whether such insects occur in, on or among the sorghum, in or on containers containing sorghum or, in or on a bulk container: Provided that a consignment which is rejected due to insect infestation may be presented for inspection again after fumigation with prescribed remedies and in accordance with acknowledged methods;
 - (h) with exception of Class Other be free from grain insects;
 - (i) contain not more poisonous seeds than permitted in terms of the Foodstuffs, Cosmetics and Disinfectants Act No. 54 of 1972;
 - (j) be free from animal filth;
 - (k) contain no chemical residues which exceed the prescribed maximum residue limit: Provided that --
 - (i) the Executive Officer may grant permission for sorghum with a higher maximum residue limit, to be exported to countries where this higher residue limit is permissible: Provided that the export documents are accordingly endorsed with the name

of the importing country;

- (l) not exceed the maximum percentage of permissible deviation as determined in Table 1 of the Annexure for each grade; and
- (m) be free from organisms of phytosanitary importance as determined in terms of the Agricultural Pest Act No. 36 of 1983.

(2) The presence of purple anthocyanic blotches in or on the outer pericarp shall not be taken into consideration when determining the grade of a consignment of sorghum.

REQUIREMENTS FOR CONTAINERS

General

8. (1) A container, excluding a ship's hold and storage facility, which contain sorghum intended for export shall be suitable, intact (excluding holes made by a grain probe in the case of bags), clean, dry and odourless.

(2) Subject to the provisions of subitem (1) a bag which contain sorghum intended for export shall --

- (a) be new;
- (b) be strong enough for the conveyance of the maximum mass of sorghum that can be accommodated in that bag; and
- (c) not be stained by any colouring matter or be impregnated by any liquid capable of imparting stains, excluding normal discoloration due to exposure to the sun.
- (d) not impart a foreign taste or colour or any substance which may be injurious to human health to the sorghum; and
- (e) in the case of the bags that are re-used, be of such a material that the bags can be cleaned and disinfected prior to re-use.

(3) A ship's hold into which sorghum intended for export is released, shall --

- (a) be free from insects;
- (b) be free from any material or substances that may change the original quality of sorghum at the time of inspection for export which may include any foreign matter or substances which render it unfit for human or animal consumption or processing into or utilization thereof as food or feed (includes material like water, flaked rust pieces etc.); and
- (c) be free from pieces of grain or any other material that may harbour insects;

(4) A storage facility or railway truck or road truck shall --

- (a) be free from insects;

- (b) be free from any material or substances that may change the original quality of sorghum at the time of inspection for export which may include any foreign matter or substances which render it unfit for human or animal consumption or processing into or utilization thereof as food or feed (includes material like water, flaked rust pieces etc.); and
- (c) be free from pieces of grain or any other material that may harbour insects:

Provided that an inspector may order the exporter or agent to clean, treat or fumigate a contaminated storage facility.

PACKING REQUIREMENTS

General

- 9. (1) Sorghum of different classes and grades shall be packed in different containers; and
- (2) Bags shall be filled to capacity and properly closed by way of straight stitching.

MARKING REQUIREMENTS

Particulars

10. Each container or the accompanying export documents (export certificate) of a consignment of sorghum shall be marked or endorsed with –

- (a) the product name;
- (b) the class and grade of the sorghum;
- (c) the name and address of the exporter or packer: Provided that if the name and address concerned are indicated in a code, such code shall be registered with the Executive Officer;
- (d) the country of origin as “Produce of South Africa” or “Product of South Africa”: Provided that no abbreviations or the expression "South Africa" on its own shall be used;
- (e) the producer's code ,exporter, packer or silo code which is registered with the Executive Officer by the producer, exporter or packer, as the case may be: Provided that --
 - (i) if a producer has more than one farm, each farm shall be registered separately; and
 - (ii) such code shall be preceded by the expression "producer", "silo", "PUC", "FBO", as the case may be, or any other suitable term having similar meaning.

Prohibited particulars

11. No wording, illustration or other method of expression which constitutes a misrepresentation or which, directly or by implication, creates a misleading impression of the contents shall appear on a container which contains sorghum.

SAMPLING

Obtaining a sample

12. (1) An inspector shall for the purpose of these standards and requirements draw a representative random sample of sorghum in the following manner:

- (a) In the case of sorghum which is exported in bags, small quantities of sorghum shall be drawn with a bag probe in such a manner from a number of bags which is at least equal to the square root of the total number of bags in the consignment, that the samples drawn will be representative of the whole consignment. These samples shall be collected in a container and thoroughly mixed before dividing to obtain a working sample.
- (d) In the case of sorghum which is exported in bulk –
 - (i) samples of sorghum which are presented in bulk containers, excluding grain elevators, shall be drawn from each hatch or from at least six different places, chosen at random throughout the full depth of the consignment with a bulk grain probe or bulk sampling apparatus in such a manner that the samples drawn will be representative of the contents of the bulk container. The collective sample from each bulk container shall be mixed thoroughly and kept separate for each bulk container for further examination; and shall have a total mass of at least 5 kg; and
 - (ii) samples of sorghum which are loaded from a grain elevator into a ship's hold or railway truck or road truck shall be drawn at regular intervals at the outflow of the shipping bins on to the conveyor belts in such a manner that the samples drawn will be representative of the consignment which is loaded. Each separate sample shall be mixed thoroughly before further examination and the collective sample shall have a total mass of at least 5 kg.

(2) An inspector may at any time draw samples of sorghum from any part of a grain elevator.

Obtaining a working sample

13. A working sample shall be obtained by dividing the random or deviating sample of the consignment according to the latest revision of the ICC (International Association for Cereal Science and Technology) 101/1 methods.

INSPECTION METHODS

Determination of class and presence of smut, undesirable smell harmful substances, poisonous seeds, insects and animal filth

15. (1) A consignment or a sample of a consignment of sorghum shall be sensorially assessed or chemically analysed in order to determine –

- (a) the class thereof;
- (b) whether it is smeared black by smut;
- (c) whether it contains smut balls;
- (e) whether it contains any substance occur that renders it unfit for human consumption or for processing into or utilisation as food or feed;
- (f) whether it has a musty, sour or other undesirable smell;
- (g) whether it contains any poisonous seeds;
- (h) whether it contains any live grain insects; and
- (i) whether it contains any animal filth.

(2) The results of the determinations in subitem (1) represent the findings in respect of the consignment with regard to the presence of the factors thus determined.

Determination of percentage foreign matter

16. The percentage foreign matter in sorghum is determined as follows:

- (a) Obtain a working sample of at least 100 g sorghum from either a random or a deviating sample, as the case may be.
- (b) Sort the working sample in such a manner that the foreign matter is retained.
- (c) Determine the mass of the foreign matter so obtained and express it as a percentage of the mass of the working sample.
- (d) Such percentage shall represent the percentage of foreign matter in the consignment concerned.

Determination of percentage unthreshed sorghum

17. The percentage of unthreshed sorghum is determined as follows:
- (a) Obtain a working sample of at least 50 g of material from the sample from which all foreign matter has been removed.
 - (b) Remove all unthreshed sorghum by hand from the working sample and determine the mass thereof.
 - (c) Determine the mass of the unthreshed sorghum thus obtained and express it as a percentage of the mass of the working sample.
 - (d) Such percentage shall represent the percentage of unthreshed sorghum in the consignment concerned.

Defective sorghum kernels

18. Sorghum kernels and pieces of sorghum kernels shall be classified as defective sorghum kernels in the case of --
- (a) pieces of, and broken sorghum kernels; or
 - (b) sorghum kernels --
 - (i) that are rotten or affected by fungi or diseases;
 - (ii) of which the embryo skin is cracked;
 - (iii) that have a green colour or show other signs of immaturity; or
 - (iv) that have been damaged by insects, rodents, cold, heat or any other manner, but does not include weather-stained sorghum.

Determination of percentage defective sorghum content and percentage small kernel sorghum

19. (1) The percentages of defective sorghum and small kernel of sorghum in a consignment are determined as follows:
- (a) Obtain a working sample of at least 50 g of material from a sample

from which all foreign matter and unthreshed sorghum have been removed.

- (b) Place the working sample on a standard sieve.
- (c) Screen the working sample for 25 to 30 seconds by performing 30 movements of the standard sieve and collecting tray on an even horizontal surface and along the longitudinal axis of the slots of the sieve: Provided that each such movement shall consist of a to-and-fro movement of between 200 mm and 300 mm each.
- (d) Remove all defective grain sorghum kernels from those portions of the working sample that respectively remained in or on the standard sieve and were collected in the collecting tray and determine the joint mass thereof.
- (e) Express the mass thus determined, as a percentage of the mass of the working sample.
- (f) Such percentage shall represent the percentage of defective grain sorghum in the consignment concerned.
- (g) Determine the mass of the material that remained in the collecting tray after the removal of the defective sorghum kernels in terms of paragraph (d).
- (h) Express the mass thus determined as a percentage of the mass of the working sample.
- (i) Such percentage shall represent the percentage of small kernel sorghum in the consignment concerned.

Determination of percentage sorghum of another group

20. The percentage of sorghum of another group in a consignment of sorghum is determined as follows:

- (a) Obtain a working sample of at least 25 g of material from the sample from which all foreign matter, unthreshed sorghum, defective grain sorghum and small kernel sorghum have been removed.
- (b) Remove all sorghum of another group by hand from the working sample and determine the mass thereof.

- (c) Express the mass thus determined, as a percentage of the mass of the working sample.
- (d) Such percentage shall represent the percentage of sorghum of another group in the consignment concerned.

Determination of percentage white sorghum

21. The percentage of white sorghum in a consignment shall be determined as follows:

- (a) Obtain a working sample of at least 25 g of material from the sample from which all foreign matter, unthreshed sorghum, defective sorghum and small kernel sorghum have been removed.
- (b) Remove all the white sorghum by hand from the working sample and determine the mass thereof.
- (c) Express the mass thus determined, as a percentage of the mass of the working sample.
- (d) Such percentage shall represent the percentage of sorghum of a white sorghum in the consignment concerned.

Determination of percentage weather-stained sorghum

22. The percentage of weather-stained sorghum in a consignment shall be determined as follows:

- (a) Obtain a working sample of at least 10 g of material from the sample from which all foreign matter, unthreshed sorghum, defective sorghum and small kernel sorghum have been removed.
- (b) Remove all the weather-stained sorghum by hand from the working sample and determine the mass thereof.
- (c) Express the mass thus determined, as a percentage of the mass of the working sample.
- (d) Such percentage shall represent the percentage of weather-stained sorghum in the consignment concerned.

Determination of moisture content

23. The moisture content of a consignment of sorghum may be determined according to any suitable method: Provided that the results thus obtained complies with the maximum permitted errors for a class 1 moisture meter as detailed in ISO (International Organization for Standardization) 7700/1 based on the results of the 72 hours, 103°C oven dried method [the latest revision of the AACCI (American Association of Cereal Chemists International) Method 44/15A].

INTERPRETATION OF RESULTS

General

24. (1) Subject to the provisions of sub-item (2) a consignment of sorghum can be approved by an inspector by virtue of the results obtained from the single analysis of a random sample.

(2) If the results of an analysis of a random sample differing less than the percentages indicated in Table 2 of the Annexure from the permissible deviation exceeding the limits, a second analysis shall be made to verify the results of the first analysis.

(3) No consignment may be rejected before a further two analyses are made from an additional sample obtained from the same or additional random sample: Provided that the average of the results of all such analyses shall be regarded as the result in respect of the consignment concerned.

RELEASE OF SORGHUM

Application for release

25. An application for an approval for the release of sorghum shall, in the case where one or more cargo spaces of the ship are to be filled to capacity with such sorghum, be directed in writing by the exporter or agent to the inspector.

Approval of release

26. (1) An inspector issue a certificate as approval of the release of sorghum if the inspector finds that the ship's hold complies with the requirements in item 8(3).

(2) If an inspector finds that the ship's hold does not comply with the requirements in item 8(3), the inspector shall --

- (a) issue a certificate to that effect;
- (b) re-inspect the ship's hold after the relevant ship's hold has been cleaned, treated or fumigated; and
- (c) issue a certificate as an approval for the release of sorghum if he or she has found during the re-inspection that the ship's hold complies with the requirements in item 8(3).

(3) An inspector may at his discretion re-inspect the ship's hold if the release of sorghum into the ship's hold occurs more than 96 hours after the approval of the ship's hold.

(4) The granting of approval for the release of sorghum shall not serve as an assurance that the ship's hold is free of insects that could infest sorghum in that ship's hold.

Offence and penalties

27. Any person who contravenes or fails to comply with any provision of these regulations shall be guilty of an offence and upon conviction be liable to a fine of not exceeding R50 000 or to imprisonment for a period not exceeding two years, or to both that fine and imprisonment.

**ANNEXURE A
TABLE 1**

PERMISSIBLE DEVIATIONS SORGHUM

| 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------------------------------------|----------------------------------------------------------------|-----------|-----------|-----------|-----------|
| Nature of deviation | Maximum extent to which defects are permissible in percentages | | | | |
| | Grade GM1 | Grade GM2 | Grade GM3 | Grade GH1 | Grade GH2 |
| 1. Foreign matter | 1,5 | 2,0 | 3,0 | 1,5 | 3,0 |
| 2. Unthreshed sorghum | 4,0 | 6,0 | 12,0 | 4,0 | 20,0 |
| 3. Defective sorghum | 3,0 | 10,0 | 20,0 | 3,0 | 20,0 |
| 4. Small kernel sorghum | 8,0 | 10,0 | 20,0 | 8,0 | 20,0 |
| 5. Total of defective sorghum and small kernel sorghum | 10,0 | 10,0 | 20,0 | 10,0 | 20,0 |
| 6. Sorghum of another group | 4,0 | 6,0 | 10,0 | 4,0 | * |
| 7. White sorghum | 4,0 | 6,0 | * | 4,0 | * |
| 8. Total of Sorghum of another group and White Sorghum | 6,0 | 10,0 | * | 6,0 | * |
| 9. Weather-Stained Sorghum | 50,0 | 50,0 | 75,0 | 50,0 | 75,0 |

* No specification

ANNEXURE B**TABLE 2
DIFFERENCE IN RESPECT OF PERMISSIBLE DEVIATION**

| Permissible deviation | Difference in respect of permissible deviation (%) |
|---------------------------------------|----------------------------------------------------|
| More than 0,3% but not exceeding 0,5% | 0,1 |
| More than 0,5% but not exceeding 5% | 0,5 |
| More than 5% but not exceeding 20% | 1 |