

**DRAFT**

## **DEPARTMENT OF AGRICULTURE**

No. R.

AGRICULTURAL PRODUCT STANDARDS ACT, 1990  
(ACT No. 119 OF 1990)

### **REGULATIONS RELATING THE GRADING, PACKING AND MARKING OF SORGHUM INTENDED FOR SALE IN THE REPUBLIC OF SOUTH AFRICA**

The Deputy Minister of Agriculture, acting under section 15 of the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990), on behalf of the Minister of Agriculture --

- (a) made the regulations in the Schedule; and
- (b) determined that the said regulations shall come into operation on the date of publication.

### **SCHEDULE**

#### ***Definitions***

1. In these regulations any word or expression to which a meaning has been assigned in the Act shall have that meaning and, unless the context otherwise indicates --

**"another group"** in relation to --

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

**"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 a quantity referred to in paragraph (a), is subdivided into different subclasses or grades, each such quantity of each of the different subclasses or grades;

**"cultivar list"** means the list of cultivars determined from time to time by the Executive Officer: Agricultural Product Standards **in collaboration with the Sorghum Forum** and which is obtainable from the Executive Officer: Agricultural Product Standards, Private Bag X258, Pretoria, 0001;

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

**"defective sorghum"** means --

- (a) pieces of, and 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; or
  - (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;

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

"**noxious seeds**" means the seeds or bits of seeds of plant species that may represent a hazard to human or animal health when consumed, including seeds of *Argemone mexicana L.*, *Convolvulus spp.*, *Crotalaria spp.*, *Datura spp.*, *Ipomoea purpurea*, *Lolium temulentum*, *Ricinus communis* or *Xanthium spp.*;

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

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

"**standard sieve**" a round hand sive which consists of a slotted sieve manufactured of 1,0 mm stainless steel which is mounted in durable plastic, with apertures 1,8 mm wide and 12,7 mm long, which fits into a solid-bottom aluminium pan and has an inner diameter of 300 mm and an outer diameter of 314 mm;

"**the Act**" means the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990);

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

"**weather-stained sorghum**" means sorghum kernels of which more than one-third of the surface of the pericarp is distinctly discoloured by the weather, but does not include sorghum kernels with purple anthocyanic blotches in or on the pericarp; and

"**white sorghum**" means sorghum of which the pericarp does not display any of the shades of brown, red or yellow irrespective of any purple anthocyanic blotches in or on the pericarp.

### **Restriction on sale of sorghum**

2. (1) No person shall sell a consignment of sorghum in the Republic of South Africa --
  - (a) unless the sorghum is sold according to the classes set out in regulation 3;
  - (b) unless the sorghum complies with the standards for the class concerned as set out in regulation 4;
  - (c) unless the sorghum complies with the grades of sorghum and the standards for grades set out in regulations 5 and 6 respectively;
  - (d) unless the sorghum is packed in accordance with the packing requirements set out in regulation 7;
  - (e) unless the containers or sale documents, as the case may be, are marked in accordance with the marking requirements set out in regulation 8; and
  - (f) if such sorghum contains a substance that renders it unfit for human consumption or for processing into or utilisation thereof as food or feed.
- (2) The Executive Officer may grant written exemption, entirely or partially, to any person on such conditions as he or she may deem necessary, from the provisions of subregulation (1).

**PART I**  
**QUALITY STANDARDS**

**Classes of sorghum**

3. Sorghum shall be classified as --

- (a) Class GM;
- (b) Class GL; and
- (b) Class GH.
- (c) Class Other.

**Standards for classes**

4. (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;
  - (b) is of a GM cultivar as specified in the cultivar list; and
  - (c) complies with the standards for the grade of Class GM sorghum as set out in regulation 6.
- (2) A consignment of sorghum shall be classified as Class GL sorghum if it --
- (a) consists of sorghum that does not have a dark testa;
  - (b) is of a GL cultivar as specified in the cultivar list; and
  - (c) complies with the standards for one of the grades of Class GL sorghum as set out in regulation 6.
- (3) A consignment of sorghum shall be classified as Class GH sorghum if it --
- (a) consists of malt sorghum that has a dark testa;
  - (b) is of a GH cultivar as specified in the cultivar list; and
  - (c) complies with the standards for one of the grades for Class GH Sorghum as set out in regulation 6.
- (4) A consignment of sorghum shall be classified as Class GH-sorghum if it does not comply with the standards for Class GM, GL and GH Sorghum

**Grades of sorghum**

5. (a) Class GM
- (i) Grade GM1
  - (ii) Grade GM2
- (b) Class GL
- (i) Grade GL1
  - (ii) Grade GL2
- (c) Class GH
- (i) Grade GH1
  - (ii) Grade GH2
- (d) No grades are determined for Class Other sorghum.

**Standards for grades**

6. (1) All grades of sorghum shall --
- (a) be free from black smearing as a result of smut;
  - (b) may 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 smell;
  - (d) be free from any substance that renders it unsuitable for human consumption or animal consumption or for processing into or utilisation thereof as food or feed;
  - (e) contain not more noxious seeds than permitted in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972);
  - (f) with the exception of Class Other Sorghum, be free from insects; and
  - (g) with the exception of Class Other Sorghum, have a moisture content of not more than 13 per cent.
- (2) Grades GM1, GM2, GL1, GL2, GH1 and GH2 shall not exceed the permissible deviations specified in columns 2, 3, 4, 5 and 6 of the Table in the Annexure, respectively, with regard to the nature of deviation specified in column 1 of the said table.
- (3) 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.

**PART II****PACKING AND MARKING REQUIREMENTS****Packing requirements**

7. Sorghum of different classes and grades shall be packed in different containers.

**Marking requirements**

8. (1) (a) Each container or the accompanying sales documents of a consignment shall be marked or endorsed with the applicable class or grade of the sorghum.

**PART III****SAMPLING****Obtaining of sample**

9. (1) A sample of a consignment of sorghum shall --
- (a) in the case of sorghum delivered in bags and subject to regulation 10, be obtained by sampling at least ten per cent of the bags chosen from that consignment at random, with a bag probe: Provided that at least 25 bags in a consignment shall be sampled and where a consignment consists of less than 25 bags, all the bags in that consignment shall be sampled; and

(b) in the case of sorghum delivered in bulk and subject to regulation 10, be obtained by sampling that consignment throughout the whole depth of the layer, in at least six different places, chosen at random in that bulk quantity, with a bulk sampling apparatus.

(2) The collective sample obtained in subregulation (1)(a) or (b) shall --

(a) have a total mass of at least 10 kg; and

(b) be thoroughly mixed before further examination.

(3) If it is suspected that the sample referred to in subregulation (1)(a) is not representative of that consignment, an additional five per cent of the remaining bags, chosen from that consignment at random, shall be emptied into a suitable bulk container and sampled in the manner contemplated in subregulation (1)(b).

(4) A sample taken in terms of these regulations shall be deemed to be representative of the consignment from which it was taken.

### ***Sampling if contents differ***

10. (1) If, after an examination of the sorghum taken from different bags in a consignment in terms of regulation 9(1)(a), it appears that the contents of those bags differ substantially --

(a) the bags concerned shall be placed separately;

(b) all the bags in the consignment concerned shall be sampled with a bag probe in order to do such separation; and

(c) each group of bags with a similar contents in that consignment shall for the purposes of these regulations be deemed to be a separate consignment.

(2) If, after the discharge of a consignment of sorghum in bulk has commenced, it is suspected that the consignment could be of a class or grade other than that determined by means of the initial sampling, the discharge shall immediately be stopped and the part of the consignment remaining in the bulk container as well as the sorghum already in the hopper shall be sampled anew with a bulk sampling apparatus or by catching, by means of a suitable container, at regular intervals quantities from the stream of sorghum flowing in bulk.

### ***Working sample***

11. (1) A working sample shall be obtained by dividing the representative sample of the consignment according to the ICC (International Association for Cereal Chemistry) 101 (Approved 1960) method.

## **PART IV**

### **INSPECTION METHODS**

#### ***Determination of class and presence of smut, undesirable smells, harmful substances, noxious seeds and insects***

12. 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 blackened by smut or contains smut balls;

- (c) whether it has a musty, sour or other undesirable smell;
- (d) whether it contains any substance that renders it unsuitable for human consumption or for processing into or utilisation as food or feed;
- (e) whether it contains any noxious seeds; and
- (f) whether it contains any insects.

***Determination of percentage foreign matter***

13. The percentage of foreign matter in a consignment of sorghum shall be determined as follows:
- (a) Obtain a working sample of at least 100 g of material from the sample of the consignment.
  - (b) Remove all foreign matter 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 foreign matter in the consignment concerned.

***Determination of percentage unthreshed sorghum***

14. The percentage of unthreshed sorghum in a consignment of sorghum shall be 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) Express the mass thus determined, as a percentage of the mass of the working sample.
  - (d) Such percentage shall represent the percentage of unthreshed sorghum in the consignment concerned.

***Determination of percentage defective sorghum content and percentage small kernel sorghum***

15. The percentages of defective sorghum and small kernel sorghum in a consignment of sorghum shall be 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 slotted 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 slotted 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***

16. The percentage of sorghum of another group in a consignment of sorghum 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 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***

17. The percentage of white sorghum in a consignment of sorghum 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 white sorghum in the consignment concerned.

***Determination of percentage weather-stained sorghum***

18. 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***

19. The moisture content of a consignment of sorghum may be determined according to any suitable method: Provided that the results thus obtained are in accordance ( $\pm 0,3$  per cent) with the results obtained by means of the 72 hour oven dried method against 103°C [AACC (American Association of Cereal Chemists) Method 44/15A/1981].

**PART V**

**OFFENCES AND PENALTIES**

20. 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 or imprisonment in terms of section 11 of the Act.