

DEPARTMENT OF AGRICULTURE

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

CONSOLIDATION OF THE REGULATIONS RELATING TO THE GRADING, PACKING AND MARKING OF WHEAT INTENDED FOR SALE IN THE REPUBLIC OF SOUTH AFRICA (No. R. 905 OF 10 JULY 1998 AS AMENDED BY NOS. R. 1421 OF 6 NOVEMBER 1998, R. 876 OF 14 SEPTEMBER 2001 AND R. 979 OF 19 JULY 2002, R. 1210 OF 29 AUGUST 2003 AND DISPENSATION: REFERENCE NO. 21/4/1/1 AND SERIAL NO. 791 OF 25 JULY 2003)

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 --

"**amber glossy and flinty kernels**" means all kernels of durum wheat of which the endosperm is not white and mealy, or partly white and mealy and which do have a glossy and flinty appearance;

"**consignment**" means --

- (a) a quantity of wheat 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;

[Amended by Government Notice No. R. 876 of 14 September 2001]

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

"**damaged kernels**" means wheat kernels and pieces of wheat kernels --

- (a) which have been damaged by insects;
- (b) which have been distinctly discoloured (orange-brown, dark brown or black) by external heat or as a result of heating caused by internal fermentation in wheat with an excessive moisture content, excluding wheat kernels in respect of which the discolouration is confined to the germ end;
- (c) which are immature and have a distinctly green colour; and
- (d) in which germination has proceeded to such an extent that the skin covering the embryo has been broken or the developing rootlets are clearly visible;

[Amended by Government Notice No. R. 876 of 14 September 2001]

"**ergot sclerotia**" means the sclerotia of the fungus *Claviceps purpurea*; and "**ergot**" has a corresponding meaning;

"**falling number**" means the time in seconds according to Hagberg-Perten as a measure of the degree of Alpha-Amylase Activity in grain and flour;

"**field fungi infected kernels**" means wheat kernels that are visibly infected with fungi, and that -

- (a) clearly have greyish brush-ends that are discoloured as a whole; or
- (b) have a dull, lifeless, chalky or pinkish and shrunken appearance as a result of Fusarium infection;

[Amended by Government Notice No. R. 1210 of 29 August 2003]

"**foreign matter**" means all material excluding wheat, other grain and unthreshed ears;

[Amended by Government Notice No. R. 876 of 14 September 2001]

"**heavily frost-damaged wheat**" means --

- (a) blistered wheat kernels which have been damaged by severe frost during the milk to soft dough stage and which is characterised by the kernels being fairly plump but covered entirely with small blisters extending into the crease, excluding --
 - (i) kernels in which blistering is confined to the back of the kernel; and
 - (ii) immature wrinkled kernels in which wrinkling has been caused by frost while the kernels were still immature; and
- (b) wheat kernels (flaked) which have a slightly flaked-off bran coat due to frost: Provided that evidence of frost damage is present and that the bran coat had not been rubbed off due to handling;

[Amended by Government Notice No. R. 876 of 14 September 2001]

"**hectoliter mass**" means the mass in kilogram per hectoliter;

"**insect**" in relation to wheat, means any live insect that is injurious to stored grain irrespective of the stage of development of that 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 *Convolvulus spp.*, *Crotalaria spp.*, *Datura spp.*, *Ipomoea purpurea*, *Lolium temulentum*, *Ricinus communis* or *Xanthium spp.*;

"**other grain**" means the kernels or pieces of kernels of barley, oats, triticale, maize, rye and sorghum;

[Amended by Government Notice No. R. 1421 of 6 November 1998]

"**screenings**" means all material that passes through a standard sieve contemplated in regulation 19(2);

"**stinking smut infection**" means wheat that --

- (a) is infected with *Tilletia spp.* with the exception of wheat infected with *Tilletia indica*; or
- (b) has an unmistakable stinking smut odour; or
- (c) contains wheat kernels that are smeared with stinking smut; or

- (d) contains more than four stinking smut balls (or pieces of balls equal to four stinking smut balls) per 100 g of wheat;

[Amended by Government Notice No. R. 876 of 14 September 2001]

"storage fungi infected kernels" means wheat kernels that are visibly infected with fungi, and that show -

- (a) blue, green, blackish or yellow fungal growth anywhere on the kernel; or
 (b) visible mould beneath the bran;

[Amended by Government Notice No. R. 876 of 14 September 2001]

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

"unthreshed ears" means ears and bits of ears of wheat, barley, triticale and rye that still contain seeds;

[Amended by Government Notice R. 1421 of 6 November 1998]

"wheat" means the kernels of the species *Triticum aestivum* (bread wheat and biscuit wheat), *Triticum durum* (durum wheat), *Triticum polonicum* (durum wheat) and *Triticum turgidum* (durum wheat).

Restrictions on sale of wheat

2. (1) No person shall sell a consignment of wheat in the Republic of South Africa --
- (a) unless the wheat is sold according to the classes set out in regulation 3;
 [Amended by Government Notice No. R. 1210 of 29 August 2003]
- (b) unless the wheat complies with the standards for the classes set out in regulation 4;
 [Amended by Government Notice No. R. 1210 of 29 August 2003]
- (c) unless the wheat, where applicable, complies with the grades of wheat and the standards for grades set out in regulations 5 and 6 respectively;
- (d) unless the wheat 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 wheat 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 wheat

3. The classes of wheat are --

- (a) Class Bread Wheat;
- (b) Class Biscuit Wheat;
- (c) Class Durum Wheat; and
- (d) Class Other Wheat.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

Standards for classes

[Amended by Government Notice No. R. 1210 of 29 August 2003]

4. (1) Notwithstanding the provisions of subregulations (2), (3), (4) and (5), all consignments of wheat must --

- (a) be free from any toxin, chemical or other substances that renders it unsuitable for commercial purposes: Provided that not more than 10 microgram per kilogram aflatoxin, of which not more than 5 microgram per kilogram will be aflatoxin B1, is permissible;
- (b) contain not more noxious seeds or ergot sclerotia than permitted in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972);
- (c) be free from organisms of phytosanitary importance as determined in terms of the Agricultural Pest Act, 1983 (Act No. 36 of 1983);
- (d) be free from mould infected, sour and rancid other grain, foreign matter and any other matter;
- (e) be free from any odour, taste or colour not typical of undamaged and sound wheat;
- (f) with the exception of Class Other Wheat, be free from insects;
- (g) with the exception of Class Other Wheat, be free from stinking smut infection; and
- (h) with the exception of Class Other Wheat, have a moisture content not exceeding 13 per cent.

[Amended by Government Notice No. R. 876 of 14 September 2001]

- (2) A consignment of wheat shall be classified as Class Bread Wheat if --
 - (a) it consists of at least 95 per cent (m/m) of one or more of the bread wheat cultivars specified in the cultivar list; and
 - (b) it complies with the standards for Grade 1, Grade 2, Grade 3, Grade 4 or Utility Grade set out in regulation 6.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

- (3) A consignment of wheat shall be classified as Class Biscuit Wheat if --
 - (a) it consists of at least 95 per cent (m/m) of one or more of the biscuit wheat cultivars specified in the cultivar list; and

- (b) it complies with the standards for Grade 1 or Grade 2 set out in regulation 6.
- (4) A consignment of wheat shall be classified as Class Durum Wheat if --
 - (a) it consists of at least 95 per cent (m/m) of one or more of the durum wheat cultivars specified in the cultivar list; and
 - (b) it complies with the standards for Super Grade, Grade 1 or Grade 2 set out in regulation 6.
- (5) A consignment of wheat shall be classified as Class Other Wheat if it does not comply with the standards for Class Bread Wheat, Class Biscuit Wheat or Class Durum Wheat.

Grades of wheat

5. (1) The grades for the different classes of wheat shall be as follows:

- (a) Class Bread Wheat --

- (i) Grade 1;
- (ii) Grade 2;
- (iii) Grade 3;
- (iv) Grade 4; and
- (v) Utility Grade.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

- (b) Class Biscuit Wheat --

- (i) Grade 1; and
- (ii) Grade 2.

- (c) Class Durum Wheat --

- (i) Super Grade;
- (ii) Grade 1; and
- (iii) Grade 2.

- (2) No grades are determined for Class Other Wheat.

Standards for grades of wheat

6. (1) Subject to the provisions of subregulations (2), (3) and (4), a consignment of wheat shall be graded as --

- (a) Super Grade, in the case of durum wheat, if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 2 of the said table opposite the deviation concerned;
- (b) Grade 1 if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 3 of the said table opposite the deviation concerned;
- (c) Grade 2 if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 4 of the said table opposite the deviation concerned;
- (d) Grade 3 if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 5 of the said table opposite the deviation concerned;
- (e) Grade 4 if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 6 of the said table opposite the deviation concerned; and
- (f) Utility Grade if the nature of deviation, specified in column 1 of Table 1 of the Annexure, in that consignment does not exceed the percentage specified in column 7 of the said table opposite the deviation concerned.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

- (2) (a) The minimum hectoliter masses for the different grades, in the case of Class Bread Wheat, are as follows:
 - (i) Grade 1 - 77 kg;
 - (ii) Grade 2 - 76 kg;
 - (iii) Grade 3 - 74 kg;
 - (iv) Grade 4 - 72 kg; and
 - (v) Utility Grade - 70 kg.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

- (b) The minimum hectolitre masses for different grades in the case of Class Durum Wheat and Class Biscuit Wheat are as follows:
 - (i) Super Grade - 79 kg;
 - (ii) Grade 1 - 76 kg; and

(iii) Grade 2 - 74 kg.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

- (3) (a) Grade 1, Grade 2 and Grade 3 shall, in the case of Class Bread Wheat and Super Grade, Grade 1 and Grade 2, in the case of Class Durum Wheat, have a minimum falling number value of not less than 250 seconds;
- (b) Grade 4 shall, in the case of Class Bread Wheat, have a minimum falling number value of not less than 200 seconds.
- (c) Utility Grade shall, in the case of Class Bread Wheat, have a minimum falling number value of not less than 150 seconds.
- (d) Notwithstanding the provision of paragraph (a), wheat shall be deemed to comply with the requirements of the paragraph concerned if it deviates with not more than 30 seconds lower than the minimum prescribed for Super Grade, in the case of durum wheat, Grade 1, Grade 2 and Grade 3, as the case may be.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

(4) Class Durum Wheat shall --

- (a) in the case of Super Grade, contain --
- (i) a minimum of 14 per cent (on a 12 per cent moisture basis) protein; and
- (ii) a minimum of 90 per cent amber glossy and flinty kernels;
- (b) in the case of Grade 1, contain --
- (i) a minimum of 13 per cent (on a 12 per cent moisture basis) protein; and
- (ii) a minimum of 80 per cent amber glossy and flinty kernels; and
- (c) in the case of Grade 2, contain --
- (i) a minimum of 12 per cent (on a 12 per cent moisture basis) protein; and
- (ii) a minimum of 70 per cent amber glossy and flinty kernels.

(5) The minimum protein content (on a 12 per cent moisture basis) for the different grades, in the case of Class Bread Wheat, shall be as follows:

- (a) Grade 1 - 12 per cent;
- (b) Grade 2 - 11 per cent;
- (c) Grade 3 - 10 per cent;

- (d) Grade 4 - 9 per cent; and
- (e) Utility Grade - 8 per cent.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

PART II

PACKING AND MARKING REQUIREMENTS

Packing requirements

7. Wheat of different classes shall be packed in different containers.

Marking requirements

8. (1) Every container or the accompanying sale documents of a consignment of wheat shall be marked or endorsed by means of appropriate symbols specified in subregulation (2), with --

- (a) the class of the wheat; and
- (b) the grade, in the case of Class Bread Wheat, Class Biscuit Wheat and Class Durum Wheat.

(2) The symbols referred to in subregulation (1) shall appear in the order of class and grade.

(3) The symbols used to indicate the different --

- (a) classes shall be --
 - (i) B in the case of Class Bread Wheat;
 - (ii) C in the case of Class Biscuit Wheat;
 - (iii) D in the case of Class Durum Wheat; and
 - (iv) O in the case of Class Other Wheat;
- (b) grades shall be --
 - (i) S in the case of Super Grade;
 - (ii) 1 in the case of Grade 1;
 - (iii) 2 in the case of Grade 2;
 - (iv) 3 in the case of Grade 3;
 - (v) 4 in the case of Grade 4; and
 - (vi) UT in the case of Utility Grade.

[Amended by Government Notice No. R. 1210 of 29 August 2003]

PART III**SAMPLING*****Taking of sample***

9. (1) A sample of a consignment of wheat shall --
- (a) in the case of wheat 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 wheat 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.
- (5) In the case of arbitration, the buyer and seller shall agree upon the bulk sampling apparatus.

Sampling if contents differ

10. (1) If, after an examination of the wheat 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 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 wheat in bulk has commenced, it is suspected that the consignment could be of a class, subclass 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 wheat 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 wheat flowing in bulk.

Working sample

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

[Amended by Government Notice No. R. 1421 of 6 November 1998]

PART IV**DETERMINATION OF OTHER SUBSTANCES*****Determination of undesirable odours and harmful substances***

12. A consignment of wheat or a sample of a consignment of wheat shall be sensorially assessed or chemically analysed in order to determine --

- (a) whether it contains a substance that renders the wheat unfit for human consumption or for processing into or for utilisation as food or feed; and
- (b) whether it has a musty, sour, rancid or other undesirable odour: Provided that a working sample of unscreened wheat that is ground in a grain mill to a fine meal may be used for the determination concerned.

PART V**DETERMINATION OF CLASS, HECTOLITRE MASS, AMBER GLOSSY AND FLINTY KERNELS, MOISTURE CONTENT, PROTEIN CONTENT AND FALLING NUMBER*****Determination of class***

13. The class of a consignment of wheat shall be determined as follows:

- (a) Obtain a working sample of at least 500 g and screen the working sample in the manner prescribed in regulation 19.
- (b) Take at least 100 g of the screened wheat and remove all other grain, unthreshed ears and foreign matter by hand.
- (c) Obtain duplicate working samples of at least 25 g each after all other grain, unthreshed ears and foreign matter have been removed and separate the different cultivars.
- (d) Determine the mass of each of the cultivars concerned and express the mass thus determined as a percentage of the mass of the duplicate working sample concerned.
- (e) If the percentage of the duplicate working samples obtained in paragraph (d) differ by more than 0,5 per cent an additional determination shall to be performed on another 500 g working sample and the provisions of paragraphs (a), (b), (c) and (d) shall *mutatis mutandis* apply to the additional sample taken.
- (f) Determine the average of the percentages obtained in paragraph (d) or (e), as the case may be.
- (g) Such average represents the percentage of the particular cultivar in the consignment.
- (h) Determine the sum of the percentage of all cultivars that, according to the cultivar list, belongs to the same class.

Determination of the hectolitre mass

14. (1) The hectolitre mass shall be determined by the Two-level funnel method.
- (2) The standard apparatus needed for this method is the following:
- (a) Any laboratory mass meter with an accuracy of 0,1 g or a four-in-one mass meter.
 - (b) A bucket with an internal height of 123 mm and a capacity of 500 ml.
 - (c) A two-level funnel apparatus consisting of the following:
 - (i) A conical funnel with a swing shutter at the narrow end, a height of 226 mm, a top diameter of 91,4 mm and a shutter hole diameter of 28,5 mm.
 - (ii) A solid, oval-shaped metal base with a small platform at each end of its long axis and with a metal rod screwed vertically into the base equidistant between the centers of the two platforms.
 - (iii) A metal arm of which one end is attached to the funnel and the other end is fitted over the metal rod around which it can be rotated.
 - (d) A wooden scraper 10 mm thick, 40 mm wide and at least 100 mm long and of which at least one edge shall be well rounded, but not worn.
- (3) The hectolitre mass is determined as follows:
- (a) Place the entire apparatus on a hard, smooth, level surface, not subject to jarring or shaking.
 - (b) Fill the funnel with unsifted wheat taken from the sample of the consignment and level off the wheat by scraping off the excess: Provided that a clean sample, that is free from other grain, unthreshed ears, screenings and foreign matter shall be used if grading is conducted on a clean basis.

[Amended by Government Notice No. R. 876 of 14 September 2001]
 - (c) Place the bucket onto the higher platform of the base so that the centre of the bucket is directly below that of the funnel shutter, the distance from the shutter opening to the top of the bucket is approximately 30 mm and the bucket rests firmly on the platform.
 - (d) Open the funnel shutter with a quick swing so that the wheat fills the bucket and overflows on all sides.
 - (e) Swing the funnel away from the bucket without disturbing the bucket in any way.
 - (f) The surplus wheat shall then be scraped off with a scraper by holding the bucket firmly with one hand and placing the scraper gently but firmly on the edge of the bucket and scraping the surplus off with one firm scrape straight across the rim of the bucket: Provided that when a scraper with a round as well as a sharp edge is used only the round edge may be used for scraping.

- (g) Pour the contents of the bucket into the pan of the mass meter, which has been zeroed or balanced, as the case may be, and determine the hectoliter mass thereof: Provided that if a mass meter not calibrated for hectoliter mass is used, the following formula shall be used to calculate the hectoliter mass:

$$\text{Hectolitre mass} = \frac{\text{Mass (g) of wheat in a 500 ml-bucket}}{5}$$

- (h) Repeat the procedure with the same sample: Provided that if the two readings differ, the test shall be repeated on an additional sample and the provisions of paragraphs (a) to (g) shall apply *mutatis mutandis* to such additional sample.

Determination of the percentage amber glossy and flinty kernels

15 (1) The percentage amber glossy and flinty kernels shall, in the case of Class Durum Wheat, be determined by means of a kernel-cutter as follows:

- (a) Fill the cup of the kernel-cutter (knife in open position) with Class Durum Wheat from which all foreign matter, screenings and broken kernels have been removed and shake it in order to fill the 50 holes with kernels.
- (b) Close the cup with one hand in such a manner that the wheat does not spill out and use the other hand to cut the kernels with the knife.
- (c) Open the kernel-cutter and calculate the percentage mealy kernels by adding 1 per cent for each kernel with one or more mealy spots and 2 per cent for each kernel of which half or more is mealy.
- (d) Repeat the procedure described in paragraphs (a), (b) and (c) three times and calculate the average of three determinations.
- (e) Subtract the average obtained in paragraph (d) from hundred.
- (f) Such percentage represents the percentage amber glossy and flinty kernels in the consignment.

(2) The kernel-cutter referred to in subregulation (1), must be capable of simultaneously cutting 50 kernels broadwise.

Determination of moisture content

16. (1) The moisture content of a consignment of wheat may be determined using any suitable method: Provided that the results thus obtained are in accordance ($\pm 0,3$ per cent) with the results obtained by the 72 hour air-oven method at 103°C as described in subregulation 2.

[Amended by Government Notice No. R. 876 of 14 September 2001]

(2) The moisture content of wheat kernels shall according to the 72 hour air-oven method at 103°C be determined as follows:

- (a) Use apparatus prescribed according to AACC method 44-15A number 3 to 6.
- (b) Weigh two or more empty dishes and lids and note the mass to 0,0001 g (D).
- (c) Weigh approximately 15 g unground wheat kernels into each dish and note the mass to 0,0001 g (A).

- (d) Cover the dishes with lids.
- (e) Place the dishes on a single shelf (do not stack) in an oven which had been preheated to $103 \pm 1^\circ\text{C}$. When placing the dishes in the oven, open the dishes and place the lids next to the dishes.
- (f) Start timing when the oven has regained the required temperature.
- (g) Place the lids on the dishes after 72 hours and remove the dishes from the oven one by one and place them immediately in a dessicator (do not stack).
- (h) Let the dishes cool in the dessicator for 45 to 60 minutes.
- (i) Remove the dishes from the dessicator one by one, weigh (B) and calculate the loss in mass (A - B).
- (j) Use the following equation to determine moisture percentage:

Calculation

$$\text{Equation: \% moisture} = \frac{(A - B)}{C} \times 100$$

A = sample mass before drying including mass of dish and lid.

B = sample mass after drying including mass of dish and lid.

C = sample mass before drying excluding mass of dish and lid before drying (A-D).

- (k) If the results of the replication differ by more than 0,2%, repeat, on new samples, steps (a), (b), (c), (d), (e), (f), (g), (h), (i) and (j).

[Amended by Government Notice No. R. 876 of 14 September 2001]

Determination of protein content

17. The percentage of protein of a consignment of wheat may be determined according to any suitable method: Provided that --

- (a) the determination shall be conducted on a sample which had been sifted using a 1,786 mm screen and from which other grain, unthreshed ears and foreign matter had been removed by hand; and
- (b) the results thus obtained are in accordance ($\pm 0,3$ per cent) with the results obtained by the Dumas Combustion Analysis Method [AACC (American Association of Cereal Chemists) Method 46/30/1995].

[Amended by Government Notice No. R. 876 of 14 September 2001]

Determination of falling number in wheat

18. (1) The falling number of a consignment of wheat may be determined according to any suitable method: Provided that --

- (a) the determination shall be conducted on a sample which had been sifted using a 1,786 mm screen and from which other grain, unthreshed ears and foreign matter had been removed by hand; and

- (b) the results thus obtained are in accordance (± 5 percent) with the results obtained by the ICC (International Association of Cereal Chemists) Standard No. 107/1 Approved: 1968, Revised: 1995 Method.

[Amended by Government Notice No. R. 876 of 14 September 2001]

(2) If the falling number of a consignment of wheat is determined according to the ICC (International Association for Cereal Chemistry) Standard No. 107/1 Approved: 1968, Revised: 1995 method, --

- (a) the sampling in the mentioned method shall be replaced with the manner prescribed in regulation 9; and

[Amended by Government Notice No. R. 876 of 14 September 2001]

- (b) only the altitude corrected value shall be used.

[Amended by Government Notice No. R. 876 of 14 September 2001]

(3) If the falling number of a consignment of wheat is in the case of Super Grade, Grade 1 and Grade 2 below the minimum set out in regulation 6(3)(a) and taking into account regulation 6(3)(c); or in the case of Utility Grade below 150 seconds, and before a consignment is downgraded --

- (a) an additional determination of falling number shall be done on the same working sample;
- (b) the average falling number shall be determined;
- (c) an additional determination on another working sample, shall be done if the average of the falling number is still below the minimum for the grade concerned; and
- (d) the average of all the readings shall be regarded as the falling number of the consignment.

PART VI

DETERMINATION OF PERCENTAGE DEVIATIONS

Determination of percentage screenings

19. (1) The percentage screenings in a consignment of wheat shall be determined as follows:
- (a) Obtain duplicate working samples of at least 500 g each.
- (b) Place each sample on a standard sieve referred to in subregulation (2) and screen the sample by moving the sieve 50 strokes to and fro, alternately away from and towards the operator of the sieve, in the same direction as the long axes of the slots of the sieve. Move the sieve, which rests on a table or other suitable smooth surface, 250 mm to 460 mm away from and towards the operator with each stroke. The prescribed 50 strokes must be completed within 50 to 60 seconds: Provided that the screening process may also be performed in some or other container or an automatic sieving apparatus.
- (c) Determine the mass of the material that has passed through the sieve and express that mass as a percentage of the total mass of the duplicate working sample concerned.

- (d) If the percentages of the duplicate working samples differ by more than 0,5 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
- (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
- (f) Such average represents the percentage screenings in the consignment.

(1A) Prior to the determination of any grading factor that is conducted on a sifted sample, that sifted sample shall be mixed thoroughly: Provided that all material that do not pass through the sieve shall represent the sifted sample.

[Amended by Government Notice No. R. 876 of 14 September 2001]

(2) A standard sieve is a hand sieve which consists of a slotted, stainless steel sieve with a thickness of 1,0 mm, mounted in durable plastic, with apertures 1,8 mm wide and 12,7 mm long, which fits into an aluminium pan with a solid bottom, and has an inner diameter of 300 mm and an outer diameter of 302,5 mm.

[Amended by Dispensation: Ref. No. 21/4/1/1, Serial No. 791 of 25 July 2003]

Heavily frost-damaged wheat kernels

[Deleted by Government Notice No. R. 876 of 14 September 2001]

Determination of the percentage heavily frost-damaged wheat

21. The percentage heavily frost-damaged kernels in a consignment of wheat shall be determined as follows:

- (a) Obtain duplicate working samples of at least 25 g each of a screened sample.
- (b) Remove all heavily frost-damaged kernels by hand and determine the mass of the heavily frost-damaged kernels in each of the duplicate working samples concerned.
- (c) Express the mass thus determined as a percentage of the total mass of the duplicate working sample concerned.
- (d) If the percentages of the duplicate working samples differ by more than 0,5 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
- (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
- (f) Such average represents the percentage heavily frost-damaged kernels in the consignment concerned.

Determination of the percentages other grain and unthreshed ears

22. The percentage other grain and unthreshed ears in a consignment of wheat shall be determined as follows:

- (a) Obtain duplicate working samples of at least 50 g each from a screened sample.
- (b) Remove all other grain and unthreshed ears by hand and determine the mass of the other grain and unthreshed ears in each of the duplicate working samples concerned.

- (c) Express the mass thus determined as a percentage of the total mass of the duplicate working sample concerned.
- (d) If the percentages of the duplicate working samples differ by more than 0,5 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
- (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
- (f) Such average represents the percentage other grain and unthreshed ears in the consignment concerned.

Determination of the percentage foreign matter

23. The percentage foreign matter in a consignment of wheat is determined as follows:
- (a) Obtain duplicate working samples of at least 100 g each from a screened sample.
 - (b) Remove all foreign matter by hand and determine the mass of the foreign matter in each of the duplicate working samples concerned.
 - (c) Express the mass thus determined as a percentage of the total mass of the duplicate working sample concerned.
 - (d) If the percentages of the duplicate working samples differ by more than 0,5 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
 - (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
 - (f) Such average represents the percentage foreign matter in the consignment concerned.

Damaged wheat kernels

[Deleted by Government Notice No. R. 876 of 14 September 2001]

Determination of the percentage damaged kernels

25. The percentage damaged kernels in a consignment of wheat shall be determined as follows:
- (a) Obtain duplicate working samples of at least 25 g each of a screened sample for the determination of damaged kernels, other than heat-damaged kernels.
 - (b) Remove all damaged kernels, other than heat damaged kernels, by hand and determine the mass of the damaged kernels, other than heat damaged kernels, in each of the duplicate working sample concerned.
 - (c) Express the mass thus determined as a percentage of the total mass of the duplicate working sample concerned.
 - (d) If the percentages of the duplicate working samples differ by more than 0,5 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.

- (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
- (f) Determine the sum of the percentages obtained in paragraph (e) and regulation 26(f).
- (g) Such sum represents the percentage damaged kernels in the consignment concerned.

Determination of the percentage heat-damaged kernels

26. The percentage heat-damaged kernels in a consignment of wheat shall be determined as follows:

- (a) Obtain duplicate working samples of at least 100 g each from a screened sample.
- (b) Remove all heat-damaged kernels by hand and determine the mass of the heat-damaged kernels in each of the duplicate working samples concerned. Kernels from an additional working sample may also be sensorially assessed (by smelling and tasting the kernels) to confirm suspicion of heat damage.

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- (c) Express the mass thus determined as a percentage of the total mass of the duplicate working sample concerned.
- (d) If the percentages of the duplicate working samples differ by more than 0,2 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
- (e) Determine the average of the percentages obtained in paragraph (c) or (d), as the case may be.
- (f) Such average represents the percentage heat-damaged kernels in the consignment concerned.

Determination of percentage field and storage fungi infected kernels

27. The percentage field fungi infected kernels and storage fungi infected kernels in a consignment of wheat shall be determined as follows:

- (a) Obtain two working samples of at least 25 g each from a screened sample.
- (b) Remove all field fungi infected kernels and storage fungi infected kernels by hand and determine the mass of the field fungi infected kernels and storage fungi infected kernels in each of the working samples concerned.
- (c) Express the mass of field fungi infected kernels and storage fungi infected kernels determined respectively as a percentage of the total mass of the working sample concerned.
- (d) If the percentages of the working samples differ by more than 0,2 per cent an additional determination shall be performed on another working sample and the provisions of paragraphs (a), (b) and (c) shall *mutatis mutandis* apply to the additional working sample.
- (e) Determine the average of the percentages of field fungi infected kernels and storage fungi infected kernels, respectively obtained in paragraph (c) or (d) as the case may be.

- (f) Such average represents the percentage of field fungi infected kernels and storage fungi infected kernels respectively in the consignment concerned.

[Amended by Government Notice No. R. 876 of 14 September 2001]

PART VII

Offence and penalties

28. 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 R8 000 or to imprisonment for a period not exceeding two years, or to both that fine or imprisonment.

ANNEXURE/AANHANGSEL

TABLE 1/TABEL 1

**STANDARDS FOR GRADES OF CLASS BREAD WHEAT, CLASS BISCUIT
WHEAT AND CLASS DURUM WHEAT/STANDAARDE VIR GRADE VAN
KLAS BROODKORING, KLAS BESKUITJIEKORING EN KLAS DURUMKORING**

Nature of deviation/ Aard van afwyking	Maximum percentage permissible deviation (m/m)/ Maksimum persentasie toelaatbare afwyking (m/m)					
	Super Grade* Super- Graad*	Grade 1/ Graad 1	Grade 2/ Graad 2	Grade 3/ Graad 3	Grade 4/ Graad 4	Utility Grade/ Utiliteits- graad
1	2	3	4	5	6	7
(a) Heavily frost-damaged kernels/ Erg rypbeskadigde korrels [Reg. 21]	5	5	5	5	5	10
(b) Field fungi infected kernels/Veld- swambesmette korrels [Reg. 27]	2	2	2	2	2	2
(c) Storage fungi infected kernels/ Opbergingswambesmette korrels [Reg. 27]	0,5	0,5	0,5	0,5	0,5	0,5
(d) Screenings/Sifsels [Reg. [19]	3	3	3	3	3	10
(e) Other grain and unthreshed ears/ Ander graan en ongedorste are [Reg. 22]	1	1	1	1	1	4
(f) Gravel, stones, turf and glass/ Gruis, klippies, turf en glas [Reg. 23]	0,5	0,5	0,5	0,5	0,5	0,5
(g) Foreign matter including gravel, stones, turf and glass: Provided that such deviations are indivi- dually within the limits specified in item (f)/ Vreemde voorwerpe met inbegrip van gruis, klippies, turf en glas: Met dien verstande dat sodanige afwykings individueel binne die perke is in item (f) aan- gegee [Reg. 23]	1	1	1	1	1	3
(h) Heat-damaged kernels/Hittebe- skadigde korrels [Reg. 26]	0,5	0,5	0,5	0,5	0,5	0,5

Nature of deviation/ Aard van afwyking	Maximum percentage permissible deviation (m/m)/ Maksimum persentasie toelaatbare afwyking (m/m)					
	Super Grade* Super- Graad*	Grade 1/ Graad 1	Grade 2/ Graad 2	Grade 3/ Graad 3	Grade 4/ Graad 4	Utility Grade/ Utiliteits- graad
1	2	3	4	5	6	7
(i) Damaged kernels, including heat-damaged kernels: Provided that such deviations are individually within the limit specified in item (h) and provided further that the minimum falling number value prescribed in regulation 6(3) for the grade concerned is at least complied with/Beskadigde korrels met inbegrip van hittebeskadigde korrels: Met dien verstande dat sodanige afwyking individueel binne die perke is in item (h) aangegee en met dien verstande voorts dat minstens aan die minimum valgetalwaarde in regulasie 6(3) vir die betrokke graad voorgeskryf, voldoen word [Reg. 25]	2	2	2	2	2	5
(j) Deviations in items (d), (e), (g) and (i) collectively: Provided that such deviations are individually within the limits of the said items/ Afwykings in items (d), (e), (g) en (i) gesamentlik: Met dien verstande dat sodanige afwykings individueel binne die perke van genoemde items is	5	5	5	5	5	10

* Only in the case of Class Durum Wheat/Slegs in die geval van Klas Durumkoring.
[Amended by Government Notice No. R. 1210 of 29 August 2003]