Dispensation for a new method of SOYA BEAN GRADING

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A new dispensation on the grading of soya beans for the 2015 season has been granted by the Directorate of Food Safety and Quality Assurance of the Department of Agriculture, Forestry and Fisheries (DAFF), following a request by Agbiz Grain members.

The dispensation approves a new method of grading that allows for a more objective and scientific manner to grade soya beans which is relevant to the new regulations for grading soya beans on a clean basis, as published by DAFF in June 2014. It is also faster, more accurate and less tedious for the grain grader, without compromising the position of either producers or agribusiness role-players in the value chain.

The method involves the use of two sieves during grading instead of just the usual 4,74mm round-hole sieve. Agbiz Grain members and other role-players in the soya bean industry may start using the new double sieve grading method immediately and for the duration of the 2015 season.

Preliminary tests were done by Agbiz Grain and industry specialists to evaluate the effectiveness of this method prior to requesting the dispensation. More work will be done later in the year before a request is made to DAFF to change the soya bean grading regulation.

Inspection methods

- A 1,8mm slotted sieve should be used in combination with the 4,75mm round-hole sieve for the determination of foreign matter in soya beans.
- The number of sieve strokes must be increased from 20 to 30 and the prescribed 30 strokes must be completed within 30 to 35 seconds.
- All matter other than soya beans, loose seed coats and pods of soya beans as well as glass, coal, manure, sclerotinia and metal that pass through the 1,8mm slotted sieve during the sieving process is considered foreign matter.

The grading table

- The maximum percentage foreign matter is increased from 4 to 5%.
- The combination of foreign matter and sclerotinia is increased from 6 to 7%.

Definitions

The 1,8mm slotted sieve, which has also been used for the grading of wheat, sunflower seed and sorghum, will also be used in combination with the 4,75mm round-hole sieve for the detection of foreign matter.

A 1,8mm slotted sieve is a sieve:

- With a flat bottom of metal sheet of 1mm thickness with apertures 12,7mm long and 1,8mm wide with rounded ends. The spacing between the slots in the same row must be 2,43mm wide and the spacing between the rows of slots must be 2mm wide. The slots must be alternately orientated with a slot always opposite the solid inter segment of the next row of slots.
- Of which the upper surface of the sieve is smooth;
- With a round frame of suitable material with an inner diameter of between 300 and 310mm maximum and at least 50mm high;
- That fits onto a tray with a solid bottom and must be at least 20mm above the bottom of the tray.

Foreign matter

The definition of foreign matter must also be amended to include the material that passes through the 1,8mm slotted sieve. Foreign matter means:

- All matter that pass through the 1,8mm slotted sieve during the sieving process.
- All matter that do not pass through the 1,8mm slotted sieve other than soya beans, glass, coal, manure, sclerotinia or metal and loose seed coats of soya beans as well as pods.

Inspection methods

An amendment of inspection methods is necessary to reflect the amendments in the detection of foreign matter and soya beans and

pieces of soya beans that pass through the 4,75mm round-hole sieve. The number of strokes must be increased from 20 to 30 to be certain that all matter smaller than 1,8mm has the opportunity to pass through the sieve.

The percentage of other grain, sunflower seed, stones, sclerotinia and foreign matter in a consignment of soya beans shall be determined as follows:

- Obtain working samples of at least 200g from a representative sample of the consignment.
- Place the 1,8mm slotted sieve in the pan and the 4,75mm round-hole sieve on top of the 1,8mm slotted sieve. Place the sample on the 4,75mm round-hole sieve and screen the sample by moving the sieve 30 strokes to and fro, alternately away from and towards the operator of the sieve, in the same direction as the long axis of the slots of the 1,8mm sieve. Move the sieve, which rests on a table or other suitable smooth surface, 250 to 460mm away from and towards the operator with each stroke. The prescribed 30 strokes must be completed within 30 to 35 seconds, provided that the screening process may also be performed in some or other container or an automatic sieving apparatus.
- Remove the foreign matter from both sieves by hand and add it to the foreign matter below the 1,8mm sieve in the pan and determine the mass of the foreign matter. Remove all other grain, sunflower seed, stones and sclerotinia by hand from the working samples and determine the mass of the other grain, sunflower, seed, stones and sclerotinia separately.
- Express the respective masses thus determined as a percentage of the mass of the working sample concerned.
- Such percentage represents different percentages of other grain, sunflower seed, stones, sclerotinia and foreign matter in the consignment concerned.

The percentage of soya beans and pieces of soya beans which pass through the 4,75mm round-hole sieve shall be determined as follows:

- Determine the mass of the soya beans and pieces of soya beans that pass through the 4,75mm round-hole sieve and remain on top of the 1,8mm slotted sieve. The mass of other grain, sunflower seed, stones, sclerotinia and foreign matter that have been removed, is expressed as a percentage of the mass of the working sample.
- Such percentage represents the percentage soya beans and pieces of soya beans in the consignment which passes through the 4,75mm round-hole sieve and not through a 1,8mm slotted sieve.

Defective soya beans

The percentage of defective soya beans shall be determined as follows:

- Obtain a working sample of at least 100g soya beans that remained on top of the 4,75mm round-hole sieve after the sieving action, which is free of other grain, sunflower seed, stones, sclerotinia and foreign matter, from the representative sample of the consignment.
- Sort the soya beans on the 4,75mm round-hole sieve so that the defective soya beans are retained.
- Determine the mass of the defective soya beans on the 4,75mm round-hole sieve and express it as a percentage of the mass of the working sample concerned.
- Such percentage represents the percentage of defective soya beans in the consignment.

Percentage of soiled beans

The percentage of soiled soya beans in a consignment of soya beans shall be determined as follows:

- Remove all soiled soya beans from the working sample by hand and determine the mass thereof.
- Express the mass thus determined as a percentage of the mass of the working sample obtained.
- Such percentage represents the percentage of soiled soya beans in the consignment concerned.

Grading table

Amendments to the grading table (*Table 1*) must also be done in the light of the additional material that passes through the 1,8mm slotted sieve that has become part of the foreign matter. The maximum percentage foreign matter is increased from 4 to 5%. As a result, the combination of foreign matter and sclerotinia is increased from 6 to 7%.

Table 1: Standards for grades of soya beans according to the new dispensation.

Nature of deviation	Maximum percentage permissible deviation (m/m)
	Grade SB1
1	2
Wet pods	0,2
Foreign matter, including stones, other grain, sunflower seed and stones, provided that such deviations are individually within the limits specified	5
Other grain	0,5
Sunflower seed	0,1
Stones	1
Sclerotinia	4
Soya beans and parts of soya beans above the 1,8mm slotted screen which pass through the 4,75mm round hole screen	10
Defective soya beans on the 4,75mm round hole screen	10
Soiled soya beans	10
Deviations in foreign matter and sclerotinia collectively, provided that such deviations are individually within the limits of said items	7