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DOUBLE-SIEVE GRADING METHOD

of soya beans for the 2016/17 season

The Directorate Food Safety and Quality Assurance of the Department of Agriculture, Forestry and Fisheries (DAFF) has granted the soya bean industry an extension of the dispensation on the grading of soya beans for the 2016 season. This dispensation means that the grading of soya beans can be done according to the double-sieve grading method introduced during the 2015 season.

The dispensation is relevant to the new regulations for grading soya bean on a clean basis, as published by DAFF in June 2014. The double-sieve method allows for a more objective and scientific manner to grade soya beans. 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.

Amendment of inspection methods

The amendment of the inspection methods includes:

- A 1,8mm slotted sieve will 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, dung, sclerotinia and metal that pass through the 1,8mm slotted sieve during the sieving process is considered foreign matter.

Amendments to the grading table mean the maximum percentage foreign matter is increased from 4% to 5%. As a result of this, the maximum percentage for the combination of foreign matter and sclerotinia is increased from 6% to 7%.

Technical aspects of grading

Definitions

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

A 1,8mm slotted sieve is a slotted 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 intersegment of the next row of slots.
- Of which the upper surface 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.

The definition of foreign matter must also be amended to include the material that passes through the 1,8mm slotted sieve and the definition must read as follows:

Foreign matter means:

- All matter that passes through the 1,8mm slotted sieve during the sieving process.
- All matter that does 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

Amendment of inspection methods is necessary to reflect the amendments in the determination 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 with the 4,75mm round-hole sieve on top. Place the sample on the 4,75mm round-hole sieve and screen the sample by moving the sieve 30 strokes 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, 250mm 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 a 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.

Determining the percentages

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, which is free of other grain and sunflower seed, stones, sclerotinia and foreign matter have been removed, expressed as 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.

> Amendments to the grading table mean the maximum percentage foreign matter is increased from 4% to 5%.

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.

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 obtained in Regulation 17(a) by hand and determine the mass thereof.
- Express the mass thus determined as a percentage of the mass of the working sample in Regulation 17(a) obtained.
- Such percentage represents the percentage of soiled soya beans in the consignment concerned.

Grading table

Adjustments to the grading table 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%. The standards for the grading of soya beans are indicated in *Table 1*.

Table 1: Standards for grades of soya beans.

	Nature of deviation	Maximum % permissible deviation (m/m)
		Grade SB1
(a)	Wet pods.	0,2%
(b)	Foreign matter, including stones, other grain, sunflower seed and stones: Provided that such deviations are individually within the limits specified in items (c), (d) and (e).	5%
(c)	Other grain.	0,5%
(d)	Sunflower seed.	0,1%
(e)	Stones.	1%
(f)	Sclerotinia.	4%
(g)	Soya beans and parts of soya beans above the 1,8mm slotted screen which pass through the 4,75mm round hole screen.	10%
(h)	Defective soya beans on the 4,75mm round hole screen.	10%
(i)	Soiled soya beans.	10%
(j)	Deviations in (b) and (f) collectively: Provided that such deviations are individually within the limits of said items.	7%