

Subpart D - United States Standards for Corn

Terms Defined

§ 810.402 Definition of other terms.

- (a) ***Broken corn.*** All matter that passes readily through a 12/64 round-hole sieve and over a 6/64 round-hole sieve sample according to procedures prescribed in FGIS instructions.
- (b) ***Broken corn and foreign material.*** All matter that passes readily through a 12/64 round-hole sieve and all matter other than corn that remains in the sieved after sieving according to procedures prescribed in FGIS instructions.
- (c) ***Classes.*** There are three classes for corn: Yellow corn, White corn, and Mixed corn.
- (1) ***Yellow corn.*** Corn that is yellow-kerneled and contains not more than 5.0 percent of corn of other colors. Yellow kernels of corn with a slight tinge of red are considered yellow corn.
 - (2) ***White corn.*** Corn that is white-kerneled and contains not more than 2.0 percent of corn of other colors. White kernels of corn with a slight tinge of light straw or pink color are considered white corn.
 - (3) ***Mixed corn.*** Corn that does not meet the color requirements for either of the classes Yellow corn or White corn and includes white-capped Yellow corn.
- (d) ***Damaged kernels.*** Kernels and pieces of corn kernels that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.
- (e) ***Foreign material.*** All matter that passes readily through a 6/64 round-hole sieve and all matter other than corn that remains on top of the 12/64 round-hole sieve according to procedures prescribed in FGIS instructions.
- (f) ***Heat-damaged kernels.*** Kernels and pieces of corn kernels that are materially discolored and damaged by heat.
- (g) ***Sieves -***
- (1) ***12/64 round-hole sieve.*** A metal sieve 0.032 inch thick with round perforations 0.1875 (12/64) inch in diameter which are 1/4 inch from center to center. The perforations of each row shall be staggered in relation to the adjacent row.
 - (2) ***6/64 round-hole sieve.*** A metal sieve 0.032 inch thick with round perforations 0.0937 (6/64) inch in diameter which are 5/32 inch from center to center. The perforations of each row shall be staggered in relation to the adjacent row.

Principles Governing the Application of Standards

§ 810.403 Basis of determination.

Each determination of class, damaged kernels, heat-damaged kernels, waxy corn, flint corn, and flint and dent corn is made on the basis of the grain after the removal of the broken corn and foreign material. Other determinations not specifically provided for under the general provisions are made on the basis of the grain as a whole, except the determination of odor is made on either the basis of the grain as a whole or the grain when free from broken corn and foreign material.

Grades and Grade Requirements

§ 810.404 Grades and grade requirements for corn.

Grade	Minimum test weight per bushel (pounds)	Maximum limits of		
		Damaged kernels		Broken corn and foreign material (percent)
		Heat damaged kernels (percent)	Total (percent)	
U.S. No. 1	56.0	0.1	3.0	2.0
U.S. No. 2	54.0	0.2	5.0	3.0
U.S. No. 3	52.0	0.5	7.0	4.0
U.S. No. 4	49.0	1.0	10.0	5.0
U.S. No. 5	46.0	3.0	15.0	7.0

U.S. Sample Grade

U.S. Sample grade is corn that:

- (a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, 4, or 5; or
- (b) Contains stones with an aggregate weight in excess of 0.1 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 8 or more cockleburrs (*Xanthium* spp.), or similar seeds singly or in combination, or animal filth in excess of 0.20 percent in 1,000 grams; or
- (c) Has a musty, sour, or commercially objectionable foreign odor; or
- (d) Is heating or otherwise of distinctly low quality.

Special Grades and Special Grade Requirements

§ 810.405 Special grades and special grade requirements.

- (a) **Flint corn.** Corn that consists of 95 percent or more of flint corn.
- (b) **Flint and dent corn.** Corn that consists of a mixture of flint and dent corn containing more than 5.0 percent but less than 95 percent of flint corn.
- (c) **Waxy corn.** Corn that consists of 95 percent or more waxy corn, according to procedures prescribed in FGIS instructions.

Subpart J -- United States Standards for Soybeans

Terms Defined

§ 810.1601 Definition of soybeans.

Grain that consists of 50 percent or more of whole or broken soybeans (*Glycine max* (L.) Merr.) that will not pass through an 8/64 round-hole sieve and not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act.

§ 810.1602 Definition of other terms.

- (a) **Classes.** There are two classes of soybeans: Yellow soybeans and Mixed soybeans.
- (1) **Yellow soybeans.** Soybeans that have yellow or green seed coats and which in cross section, are yellow or have a yellow tinge, and may include not more than 10.0 percent of soybeans of other colors.
 - (2) **Mixed soybeans.** Soybeans that do not meet the requirements of the class Yellow soybeans.
- (b) **Damaged kernels.** Soybeans and pieces of soybeans that are badly ground- damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat- damaged, insectbored, mold-damaged, sprout-damaged, stinkbug-stung, or otherwise materially damaged. Stinkbug-stung kernels are considered damaged kernels at the rate of one-fourth of the actual percentage of the stung kernels.
- (c) **Foreign material.** All matter that passes through an 8/64 round-hole sieve and all matter other than soybeans remaining in the sieved sample after sieving according to procedures prescribed in FGIS instructions.
- (d) **Heat-damaged kernels.** Soybeans and pieces of soybeans that are materially discolored and damaged by heat.
- (e) **Purple mottled or stained.** Soybeans that are discolored by the growth of a fungus; or by dirt; or by a dirt-like substance(s) including nontoxic inoculants; or by other nontoxic substances.
- (f) **Sieve. 8/64 round-hole sieve.** A metal sieve 0.032 inch thick perforated with round holes 0.125 (8/64) inch in diameter.
- (g) **Soybeans of other colors.** Soybeans that have green, black, brown, or bicolored seed coats. Soybeans that have green seed coats will also be green in cross section. Bicolored soybeans will have seed coats of two colors, one of which is brown or black, and the brown or black color covers 50 percent of the seed coats. The hilum of a soybean is not considered a part of the seed coat for this determination.
- (h) **Splits.** Soybeans with more than one-fourth of the bean removed and that are not damaged.

Principles Governing the Application of Standards

§ 810.1603 Basis of determination.

Each determination of class, heat-damaged kernels, damaged kernels, splits, and soybeans of other colors is made on the basis of the grain when free from foreign material. Other determinations not specifically provided for under the general provisions are made on the basis of the grain as a whole.

Grades, Grade Requirements, and Grade Designations

§ 810.1604 Grades and grade requirements for soybeans

Grading factors	Grades U. S. Nos.			
	1	2	3	4
Maximum percent limits of				
Damaged kernels:				
Heat (part of total)	0.2	0.5	1.0	3.0
Total	2.0	3.0	5.0	8.0
Foreign material	1.0	2.0	3.0	5.0
Splits	10.0	20.0	30.0	40.0
Soybeans of other colors¹	1.0	2.0	5.0	10.0
Maximum count limits of				
Other materials:				
Animal filth	9	9	9	9
Castor beans	1	1	1	1
Crotalaria seeds	2	2	2	2
Glass	0	0	0	0
Stones²	3	3	3	3
Unknown foreign substance	3	3	3	3
Total³	10	10	10	10
<p>U.S. Sample grade are soybeans that:</p> <p>(a) Do not meet the requirements for U.S. Nos. 1, 2, 3, or 4; or</p> <p>(b) Have a musty, sour, or commercially objectionable foreign odor (except garlic odor); or</p> <p>(c) Are heating or otherwise of distinctly low quality.</p>				
<p>¹ Disregard for Mixed soybeans.</p> <p>² In addition to the maximum count limit, stones must exceed 0.1 percent of the sample weight.</p> <p>³ Includes any combination of animal filth, castor beans, crotalaria seeds, glass, stones, and unknown foreign substances. The weight of stones is not applicable for total other material.</p>				

Special Grades and Special Grade Requirements

§ 810.1605 Special grades and special grade requirements.

- (a) *Garlicky soybeans.* Soybeans that contain five or more green garlic bulblets or an equivalent quantity of dry or partly dry bulblets in a 1,000-gram portion.
- (b) *Purple mottled or stained.* Soybeans with pink or purple seed coats as determined on a portion of approximately 400 grams with the use of an FGIS Interpretive Line Photograph.