



**United
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Fruit and
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Processed
Products
Branch

United States Standards for Grades of Canned Green Beans and Canned Wax Beans

Effective February 16, 1993

This is the eighth issue of the United States Standards for Grades of Canned Green Beans and Canned Wax Beans published in the **FEDERAL REGISTER** of January 14, 1993 (58 FR 4295) to become effective February 16, 1993.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The standards also serve as a basis for the inspection and grading of commodities by the Federal inspection service, the only activity authorized to approve the designation of U.S. grades as referenced in the standards, as provided under the Agricultural Marketing Act of 1946. This service available as on-line (in-plant) or lot inspection and grading of all processed fruit and vegetable products, is offered to interested parties, upon application, on a fee-for-service basis. The verification of some specific recommendations, requirements or tolerances contained in the standards can be accomplished only by the use of on-line inspection procedures. In all instances, a grade can be assigned based on final product factors or characteristics.

In addition to the U.S. grade standards, grading manuals or instructions for inspection of several processed fruits and vegetables are available upon request for a nominal fee. These manuals or instructions contain detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards and grading manuals obtained from:

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**UNITED STATES STANDARDS FOR GRADES
OF CANNED GREEN BEANS AND CANNED WAX BEANS**

Effective February 16, 1993

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Authority: Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended; (7 U.S.C. 1622, 1624).

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Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

§52.441 Product description.

Canned green beans and canned wax beans are the products defined in the Food and Drug Standard of Identity for canned green beans and canned wax beans (21 CFR 155.120). For the purposes of these standards and unless the text indicates otherwise, the terms "canned beans" or "beans" referred to in this text mean canned green beans or canned wax beans.

§52.442 Styles.

- (a) **Whole** means canned beans that consist of whole pods, including pods which after removal of either or both ends are not less than 44 mm (1.75 in) in length or transversely cut pods not less than 70 mm (2.75 in) in length and, except for "vertical pack" or "asparagus" style, are not arranged in any definite position in the container.
- (b) **Whole vertical pack** means canned beans that are "whole" and are packed parallel to the sides of the container.
- (c) **Whole asparagus style** means canned beans that are "whole" and consist of pods that are cut at both ends, are of substantially equal lengths, and are packed parallel to the sides of the container.
- (d) **Sliced lengthwise, Shoestring, Julienne, or French style** means canned beans consisting of pods that are sliced lengthwise.
- (e) **Cut or cuts** means canned beans consisting of pods that are cut transversely into pieces less than 70 mm (2.75 in), but not less than 19 mm (0.75 in), in length, and may contain shorter end pieces which result from cutting.
- (f) **Short cut or short cuts** means canned beans consisting of pieces of pods of which not less than 75 percent are less than 19 mm (0.75 in) in length and not more than 1 percent are more than 32 mm (1.25 in) in length.
- (g) **Mixed or mixture means** a mixture of two or more of the following styles of canned beans: "whole;" "sliced lengthwise;" "cuts;" or "short cuts".

§52.443 Definitions of terms.

- (a) Acceptable Quality Level (AQL)** means the maximum percent of defective units or the maximum number of defects per hundred units of product that, for the purpose of acceptance sampling, can be considered satisfactory as a process average.

- (b) Blemish.**
 - (1) Minor blemished** means any unit which is affected by scars, pathological injury, insect injury or other means in which the aggregate area affected exceeds the area of a circle 3 mm (0.125 in) in diameter or the appearance or eating quality of the unit is slightly affected.

 - (2) Major blemished** means any unit which is affected or damaged by discoloration or any other means to the extent that the appearance or eating quality of the unit is more than slightly affected.

- (c) Character.**
 - (1) Round type -- Green Beans.**
 - (i) Good character ("A")** means the pods are full fleshed; the pods are tender.

 - (ii) Reasonably good character ("B")** means the pods are reasonably fleshy; the pods are tender.

 - (iii) Fairly good character ("C")** means the pods have not entirely lost their fleshy structure; the pods are fairly tender.

 - (iv) Poor character ("Sstd")** means the beans fail the requirements for "fairly good character."

 - (2) Round type -- Wax Beans.**
 - (i) Good character ("A")** means the pods are full fleshed and may show slight breakdown of the flesh between seed cavities; the pods are tender.

- (ii) **Reasonably good character ("B")** means the pods are reasonably fleshy and may show substantial breakdown of the flesh between the seed cavities; the pods are reasonably tender.
 - (iii) **Fairly good character ("C")** means the pods may show total breakdown of the flesh between the seed cavities with no definite seed pocket, but still retain flesh on the inside pod wall; the pods are fairly tender.
 - (iv) **Poor character ("Sstd")** means the beans fail the requirements for "fairly good character."
- (3) **Romano or Italian type.**
- (i) **Good character ("A")** means the pods have a full inner membrane, typical of the variety and are tender.
 - (ii) **Reasonably good character ("B")** means the pods have a reasonably well developed inner membrane and are reasonably tender.
 - (iii) **Fairly good character ("C")** means the pods may lack an inner membrane; the pods are fairly tender.
 - (iv) **Poor character ("Sstd")** means the beans fail the requirements for "fairly good character."
- (d) **Color defective** means any unit that varies markedly from the color that is normally expected for the variety and grade.
- (e) **Defect** means any nonconformance of a unit(s) of product from a specified requirement of a single quality characteristic.
- (f) **Extraneous vegetable material (EVM)** means any harmless vegetable material (other than the bean pods) including, but not limited to, stalk, vine material, stem material attached to vine, leaves of the bean plant, and leaves or portions of other harmless plants.
- (g) **Flavor and odor. Good flavor and odor** means the product has a good characteristic flavor and odor and is free from objectionable flavors and odors.

- (h) **Fiber.**
- (1) **Edible fiber** means fiber developed in the wall of the bean pod that is noticeable upon chewing, but may be consumed with the rest of the bean material without objection.
 - (2) **Inedible fiber** means fiber developed in the wall of the bean pod that is objectionable upon chewing and tends to separate from the rest of the bean material.
- (i) **Mechanical damage** means any unit that is broken or split into two parts, (equals 1 defect) or has ragged edges that are greater than 5/16 inch, or is crushed or is damaged by mechanical means to such an extent that the appearance is seriously affected.
- (j) **Single sample unit** means the amount of product specified (1200 grams for french style and 400 units for all other styles) to be used for unofficial inspection. It may be:
- (1) The entire contents of a container;
 - (2) A portion of the contents of a container; or
 - (3) A combination of the contents of two or more containers.
- (k) **Short piece** means any unit in cut style, mixed style or short cut style that is less than 13 mm (0.50 in) in length, and any unit in whole style that is less than 32 mm (1.25 in) in length, measured along the longest dimension parallel to the bean suture line.
- (l) **Sloughing** means the separation of the outer surface layer of tissue from the pod.
- (m) **Small pieces and odd cuts**, in french style, mean pieces of pod less than 13 mm (0.50 in) in length or pieces of pod not conforming to the normal appearance of a sliced lengthwise bean unit.

- (n) **Stem** means any part or portion (loose or attached) of the hard or tough fibrous material that attaches the bean pod to the vine and is objectionable upon eating.
- (o) **Tolerance** means the percentage of defective units allowed for each quality factor.
- (p) **Tough strings** mean strings or pieces of strings, removed from the cooked bean pod, that will support a 227 g (1/2 lb) weight for not less than five (5) seconds.
- (q) **Unit** means a bean pod or any individual portion thereof.

§52.444 Recommended fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that each container of canned beans be filled with beans as full as practicable without impairment of quality and that the product and packing medium occupy not less than 90 percent of the total capacity of the container.

§52.445 Recommended minimum drained weights.

- (a) The drained weight recommendations in Tables No. I and Ia of this section are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purposes of these grades.
- (b) The drained weight of beans is determined by emptying the contents of the container upon a United States Standard No. 8 circular sieve of proper diameter containing 8 meshes to the inch (0.0937-inch \pm 3%, square openings) so as to distribute the product evenly, inclining the sieve slightly to facilitate drainage, and allowing to drain for 2 minutes. A sieve 8 inches in diameter is used for No. 2-1/2 size cans (401 x 411) and smaller sizes, and a sieve 12 inches in diameter is used for containers larger than the No. 2-1/2 size can.

- (c) Compliance with the recommended minimum drained weights for canned beans in Table I and Table Ia of this section is determined by averaging the drained weights from all of the containers in the sample which is representative of a specific lot and such lot is considered as meeting the recommendations if the following criteria are met:
- (1) The average of the drained weights from all of the containers in the sample meets the recommended minimum drained weight for the applicable style.
 - (2) The drained weights from the containers which do not meet the recommended minimum drained weight are not more than:
 - (i) 19.9 g (0.7 oz) lower than the recommended minimum average for No. 3 cylinder can size and smaller.
 - (ii) 56.7 g (2.0 oz) lower than the recommended minimum average for No. 10 cans.
 - (3) The number of containers in the sample which do not meet the requirements of paragraph (c) (2) of this section does not exceed the acceptance numbers prescribed for the sample size as outlined in 7 CFR 52.1 through 52.83.

Table I
Recommended Minimum Drained Weights for
Canned Green Beans and Wax Beans
Ounces - English (Avoirdupois System)

Container size or designation	Whole	Whole vertical pack and whole asparagus style	Short cuts and cuts less than 1-1/2 inches	Cuts - 1-1/2 inches and longer	Mixed-cuts and short cuts	Sliced length wise or French style.
8 oz tall	4.0	4.6	4.5	4.1	4.5	3.9
8 oz glass	3.9	4.5	4.4	4.0	4.4	4.0
No. 1 (picnic)	5.6	6.1	6.0	5.7	6.0	5.7
No. 300	7.2	8.6	8.3	7.8	8.3	7.4
No. 300 glass	8.2	9.2	8.5	8.2	8.5	8.2
No. 1 tall	8.5	9.5	9.2	8.7	9.2	8.7
No. 303	8.0	9.5	9.2	8.7	9.2	8.25
No. 303 glass	9.0	10.0	9.7	9.2	9.7	9.2
No. 2	10.5	11.9	11.2	11.0	11.2	11.0
No. 2-1/2	16.0	17.0	16.4	16.2	16.4	16.2
No. 2-1/2 glass	15.8	16.8	16.2	16.0	16.2	16.0
No. 3 cylinder	26.6	N/A	27.3	27.0	27.3	27.0
No. 10	57.5	N/A	63.0	60.0	63.0	59.0

Table Ia
Recommended Minimum Drained Weights for
Canned Green Beans and Wax Beans
Grams - Metric (Systeme International)

Container size or designation	Whole	Whole vertical pack and whole asparagus style	Short cuts and cuts less than 1-1/2 inches	Cuts - 1-1/2 inches and longer	Mixed-cuts and short cuts	Sliced length wise or French style.
8 oz tall	113.4	130.4	127.6	116.2	127.6	110.6
8 oz glass	110.6	127.6	124.7	113.4	124.7	113.4
No. 1 (picnic)	158.8	172.9	170.1	161.6	170.1	161.6
No. 300	204.1	243.8	235.3	221.1	235.3	209.8
No. 300 glass	232.5	260.8	241.0	232.5	241.0	232.5
No. 1 tall	241.0	269.3	260.8	246.6	260.8	246.6
No. 303	226.8	269.3	260.8	246.6	260.8	233.9
No. 303 glass	255.2	283.5	275.0	260.0	275.0	260.8
No. 2	297.7	337.4	317.5	311.9	317.5	311.9
No. 2-1/2	453.6	482.0	464.9	459.3	464.9	459.3
No. 2-1/2 glass	447.9	476.3	459.3	453.6	459.3	453.6
No. 3 cylinder	745.1	N/A	774.0	765.5	774.0	765.5
No. 10	1630.1	N/A	1786.1	1701.0	1786.1	1672.7

§52.446 Types.

The type of canned beans is not incorporated in the grades of finished product, since it is not a factor of quality. The types of canned beans are described as "round type" and "Romano or Italian type."

(a) **Round type** means canned beans having a width not greater than 1-1/2 times the thickness of the beans.

(b) **Romano or Italian type** means canned beans having a width greater than 1-1/2 times the thickness of the beans.

§52.447 Sizes.

The size of canned beans is not a factor of quality for the purposes of these grades. The size of a whole, cut, or short cut bean is determined by measuring the thickness at the shorter diameter of the bean transversely to the long axis at the thickest portion of the pod. The designations of the various sizes of round type and flat type (Romano or Italian) beans are shown in Tables II and IIa below.

**Table II
Sizes of Round Type Beans**

Number Designation	Word Designation		Thickness in 1/64 inch	Thickness in Millimeters
	Whole	Cut or short		
Size 1	Tiny	Small	Less than 14-1/2	Less than 5.8
Size 2	Small	Small	14-1/2 but less than 18-1/2	5.8 but less than 7.3
Size 3	Medium	Small	18-1/2 but less than 21	7.3 but less than 8.3
Size 4	Medium large	Medium	21 but less than 24	8.3 but less than 9.5
Size 5	Large	Large	24 but less than 27	9.5 but less than 10.7
Size 6	Extra large	Extra large	27 or more	10.7 or more

**Table IIa
 Sizes of Romano or Italian Type Beans**

Number Designation	Word Designation		Thickness in 1/64 inch	Thickness in Millimeters
	Whole	Cut or short		
Size 2	Small	Small	Less than 14-1/2	Less than 5.8
Size 3	Medium	Medium	14-1/2 but less than 18-1/2	5.8 but less than 7.3
Size 4	Medium large	Medium large	18-1/2 but less than 21	7.3 but less than 8.3
Size 5	Large	Large	21 but less than 24	8.3 but less than 9.5
Size 6	Extra large	Extra large	24 or more	9.5 or more

§52.448 Kinds of pack

The kind of pack of canned beans is not incorporated in the grades of finished product, since it is not a factor of quality. The kinds of pack of canned beans are described as "regular pack" and "special pack."

- (a) **Regular pack** means canned beans that are packed containing single varietal characteristics.
- (b) **Special pack** means canned beans that are intentionally packed containing two or more varietal characteristics (such as a mixture of green and wax beans).

§52.449 Grades.

- (a) **U.S. Grade A** is the quality of canned green and canned wax beans that:
 - (1) Meets the following prerequisites in which the beans:
 - (i) Have similar varietal characteristics (except "special packs");
 - (ii) Have a good flavor and odor;
 - (iii) Have a good appearance;
 - (iv) Are not materially affected by sloughing;

- (v) Are practically free from small pieces [units less than 13 mm (0.50 in) in length] and odd cut units (units not representative of the intended shape of cut) for the style of "sliced lengthwise."
 - (2) Is within the limits for defects as specified in Tables IIIa, IVa, Va, VIa, or VIIa in §52.451 as applicable for the style.
- (b) U.S. Grade B** is the quality of canned green beans and canned wax beans that:
- (1) Meets the following prerequisites in which the beans:
 - (i) Have similar varietal characteristics (except "special packs");
 - (ii) Have a good flavor and odor;
 - (iii) Have a reasonably good appearance;
 - (iv) Are not materially affected by sloughing;
 - (v) Are reasonably free from small pieces [units less than 13 mm (0.50 in) in length] and odd cut units (units not representative of the intended shape of cut) for the style of "sliced lengthwise."
 - (2) Is within the limits for defects as specified in Tables IIIa, IVa, Va, VIa, or VIIa in §52.451 as applicable for the style.
- (c) U.S. Grade C** is the quality of canned green beans and canned wax beans that:
- (1) Meets the following prerequisites in which the beans:
 - (i) Have similar varietal characteristics (except "special packs");
 - (ii) Have a good flavor and odor;
 - (iii) Have a fairly good appearance;
 - (iv) Are not seriously affected by sloughing.
 - (2) Is within the limits for defects as specified in Tables IIIa, IVa, Va, VIa, or VIIa in §52.451 as applicable for the style.

- (d) **Substandard** is the quality of canned green beans and canned wax beans that fail the requirements of U.S. Grade C.

§52.450 Factors of quality.

The grade of canned green and canned wax beans is based on requirements for the following quality factors:

- (a) Varietal characteristics (except "special packs");
- (b) Flavor and odor;
- (c) Sloughing;
- (d) Small pieces and odd cuts (sliced lengthwise style only);
- (e) Appearance;
- (f) Extraneous vegetable material (EVM);
- (g) Stems;
- (h) Major blemished;
- (i) Total blemished (includes major blemished and minor blemished);
- (j) Mechanical damage;
- (k) Short pieces (except sliced lengthwise style);
- (l) Color;
- (m) Character;
- (n) Tough strings;
- (o) Inedible fiber;
- (p) Edible fiber.

§52.451 Allowances for defects.

**Table III
Acceptable Quality Levels (AQL's) and Tolerances
for
Whole Style Canned Green Beans and Wax Beans**

Quality Factor	Grade A		Grade B		Grade C	
	AQL	Tolerance	AQL	Tolerance	AQL	Tolerance
EVM	0.40	1.00	0.65	1.25	2.50	3.75
Stems	1.50	2.50	2.50	3.75	4.00	5.50
Blemished-Major	0.65	1.25	1.50	2.50	2.50	3.75
Blemished-Total	1.50	2.50	2.50	3.75	6.50	8.50
Mechanical Damage	4.00	5.50	6.50	8.50	8.50	10.75
Short Pieces	20.00	23.25	N/A	N/A	N/A	N/A
Tough Strings	1.00	1.75	2.50	3.75	8.50	10.75
Color Defectives	4.00	5.50	8.50	10.75	15.00	17.75
Character - "B"	8.50	10.75	N/A	N/A	N/A	N/A
Character - "C"	1.00	1.75	8.50	10.75	N/A	N/A
Character - "Sstd"	0.40	1.00	1.00	1.75	8.50	10.75
Edible Fiber	1.00	1.75	4.00	5.50	8.50	10.75
Inedible Fiber	0.04	0.10	1.00	1.75	4.00	5.50

Table IIIa
Acceptance Numbers for Whole Style Canned Green Beans and Wax Beans

Units of Product	Grade A					Grade B					Grade C				
	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600
Extraneous Vegetable Material	8	15	28	43	57	12	22	43	67	89	39	73	149	234	318
Stems	25	46	92	144	195	39	73	149	234	318	59	112	232	366	499
Major Blemishes	12	22	43	67	89	25	46	92	144	195	39	73	149	234	318
Total Blemishes (Major + Minor)	25	46	92	144	195	39	73	149	234	318	92	176	368	584	799
Mechanical Damage	59	112	232	366	499	92	176	368	584	799	118	227	476	758	1037
Short Pieces	262	512	1087	1740	2391	NO LIMIT									
Tough Strings	18	32	64	99	134	39	73	149	234	318	118	227	476	758	1037
Edible Fiber	18	32	64	99	134	39	73	149	234	318	118	227	476	758	1037
Inedible Fiber	1	2	4	6	8	18	32	64	99	134	59	112	232	366	499
Color Defectives	59	112	232	366	499	118	227	476	758	1037	200	388	822	1314	1803
"B" Character	118	227	476	758	1037	NO LIMIT									
"C" Character	18	32	64	99	134	118	227	476	758	1037	NO LIMIT				
"Sstd" Character	8	15	28	43	57	18	32	64	99	134	118	227	476	758	1037

Table IV
Acceptable Quality Levels (AQL's) and Tolerances
for
Cut Style Canned Green Beans and Wax Beans

Quality Factor	Grade A		Grade B		Grade C	
	AQL	Tolerance	AQL	Tolerance	AQL	Tolerance
EVM	0.40	1.00	0.65	1.25	1.50	2.50
Stems	1.50	2.50	2.50	3.75	4.00	5.50
Blemished-Major	0.65	1.25	1.50	2.50	2.50	3.75
Blemished-Total	1.50	2.50	2.50	3.75	6.50	8.50
Mechanical Damage	2.50	3.75	4.00	5.50	8.50	10.75
Short Pieces	6.50	8.50	10.00	12.50	15.00	18.25
Tough Strings	1.00	1.75	2.50	3.75	6.50	8.50
Color Defectives	4.00	5.50	8.50	10.75	15.00	17.75
Character - "B"	8.50	10.75	N/A	N/A	N/A	N/A
Character - "C"	1.00	1.75	8.50	10.75	N/A	N/A
Character - "Sstd"	0.40	1.00	1.00	1.75	8.50	10.75
Edible Fiber	1.00	1.75	2.50	3.75	6.50	8.50
Inedible Fiber	0.04	0.125	0.65	1.25	2.50	3.75

Table IVa
Acceptance Numbers for Cut Style Canned Green Beans and Wax Beans

Units of Product	Grade A					Grade B					Grade C				
	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600
Extraneous Vegetable Material	8	15	28	43	57	12	22	43	67	89	25	46	92	144	195
Stems	25	46	92	144	195	39	73	149	234	318	59	112	232	366	499
Major Blemishes	12	22	43	67	89	25	46	92	144	195	39	73	149	234	318
Total Blemishes (Major + Minor)	25	46	92	144	195	39	73	149	234	318	92	176	368	584	799
Mechanical Damage	39	73	149	234	318	59	112	232	366	499	118	227	476	758	1037
Short Pieces	92	176	368	584	799	138	265	557	887	1216	200	388	822	1314	1803
Tough Strings	18	32	64	99	134	39	73	149	234	318	92	176	368	584	799
Edible Fiber	18	32	64	99	134	39	73	149	234	318	92	176	368	584	799
Inedible Fiber	1	2	4	6	8	12	22	43	67	89	39	73	149	234	318
Color Defectives	59	112	232	366	499	118	227	476	758	1037	200	388	822	1314	1803
"B" Character	118	227	476	758	1037	NO LIMIT									
"C" Character	18	32	64	99	134	118	227	476	758	1037	NO LIMIT				
"Sstd" Character	8	15	28	43	57	18	32	64	99	134	118	227	476	758	1037

Table V
Acceptable Quality Levels (AQL's) and Tolerances
for
Short Cut Style Canned Green Beans and Wax Beans

Quality Factor	Grade A		Grade B		Grade C	
	AQL	Tolerance	AQL	Tolerance	AQL	Tolerance
EVM	0.15	0.50	0.40	1.00	0.65	1.25
Stems	0.65	1.25	1.00	1.75	1.50	2.50
Blemished-Major	0.65	1.25	1.50	2.50	2.50	3.75
Blemished-Total	1.50	2.50	2.50	3.75	6.50	8.50
Mechanical Damage	12.50	15.25	15.00	17.75	20.00	23.25
Short Pieces	12.50	15.25	15.00	17.75	20.00	23.25
Tough Strings	1.00	1.75	2.50	3.75	2.50	3.75
Color Defectives	4.00	5.50	8.50	10.75	15.00	17.75
Character - "B"	8.50	10.75	N/A	N/A	N/A	N/A
Character - "C"	1.00	1.75	8.50	10.75	N/A	N/A
Character - "Sstd"	0.40	1.00	1.00	1.75	8.50	10.75
Edible Fiber	1.00	1.75	2.50	3.75	6.50	8.50
Inedible Fiber	0.04	0.10	0.65	1.25	2.50	3.75

Table Va
Acceptance Numbers for Short Cut Style Canned Green Beans and Wax Beans

Units of Product	Grade A					Grade B					Grade C				
	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600
Extraneous Vegetable Material	4	7	12	18	24	8	15	28	43	57	12	22	43	67	89
Stems	12	22	43	67	89	18	32	64	99	134	25	46	92	144	195
Major Blemishes	12	22	43	67	89	25	46	92	144	195	39	73	149	234	318
Total Blemishes (Major + Minor)	25	46	92	144	195	39	73	149	234	318	92	176	368	584	799
Mechanical Damage	169	326	689	1100	1508	200	388	822	1314	1803	262	512	1087	1740	2391
Short Pieces	169	326	689	1100	1508	200	388	822	1314	1803	262	512	1087	1740	2391
Tough Strings	18	32	64	99	134	39	73	149	234	318	39	73	149	234	318
Edible Fiber	18	32	64	99	134	39	73	149	234	318	92	176	368	584	799
Inedible Fiber	1	2	4	6	8	12	22	43	67	89	39	73	149	234	318
Color Defectives	59	112	232	366	499	118	227	476	758	1037	200	388	822	1314	1803
"B" Character	118	227	476	758	1037	NO LIMIT									
"C" Character	18	32	64	99	134	118	227	476	758	1037	NO LIMIT				
"Sstd" Character	8	15	28	43	57	18	32	64	99	134	118	227	476	758	1037

Table VI
Acceptable Quality Levels (AQL's) and Tolerances
for
Mixed Cut Style Canned Green Beans and Wax Beans

Quality Factor	Grade A		Grade B		Grade C	
	AQL	Tolerance	AQL	Tolerance	AQL	Tolerance
EVM	0.40	1.00	0.65	1.25	1.00	1.75
Stems	0.65	1.25	1.00	1.75	2.50	3.75
Blemished-Major	0.65	1.25	1.50	2.50	2.50	3.75
Blemished-Total	1.50	2.50	2.50	3.75	6.50	8.50
Mechanical Damage	12.50	15.00	15.00	17.75	20.00	23.25
Short Pieces	12.50	15.00	15.00	17.75	20.00	23.25
Tough Strings	1.00	1.75	2.50	3.75	5.00	6.75
Color Defectives	4.00	5.50	8.50	10.75	15.00	17.75
Character - "B"	8.50	10.75	N/A	N/A	N/A	N/A
Character - "C"	1.00	1.75	8.50	10.75	N/A	N/A
Character - "Sstd"	0.40	1.00	1.00	1.75	8.50	10.75
Edible Fiber	1.00	1.75	2.50	3.75	6.50	8.50
Inedible Fiber	0.04	0.10	0.65	1.25	2.50	3.75

Table VIa
Acceptance Numbers for Mixed Cut Style Canned Green Beans and Wax Beans

Revised May 1997

Units of Product	Grade A					Grade B					Grade C				
	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600	1200	2400	5200	8400	11600
Extraneous Vegetable Material	8	15	28	43	57	12	22	43	67	89	18	32	64	99	134
Stems	12	22	43	67	89	18	32	64	99	134	39	73	149	234	318
Major Blemishes	12	22	43	67	89	25	46	92	144	195	39	73	149	234	318
Total Blemishes (Major + Minor)	25	46	92	144	195	39	73	149	234	318	92	176	368	584	799
Mechanical Damage	169	326	689	1100	1508	200	388	822	1314	1803	262	512	1087	1740	2391
Short Pieces	169	326	689	1100	1508	200	388	822	1314	1803	262	512	1087	1740	2391
Tough Strings	18	32	64	99	134	39	73	149	234	318	73	138	286	453	619
Edible Fiber	18	32	64	99	134	39	73	149	234	318	92	176	368	584	799
Inedible Fiber	1	2	4	6	8	12	22	43	67	89	39	73	149	234	318
Color Defectives	59	112	232	366	499	118	227	476	758	1037	200	388	822	1314	1803
"B" Character	118	227	476	758	1037	NO LIMIT									
"C" Character	18	32	64	99	134	118	227	476	758	1037	NO LIMIT				
"Sstd" Character	8	15	28	43	57	18	32	64	99	134	118	227	476	758	1037

Table VII
Acceptable Quality Levels (AQL's) and Tolerances
for
French Style Canned Green Beans and Wax Beans

Quality Factor	Grade A		Grade B		Grade C	
	AQL	Tolerance	AQL	Tolerance	AQL	Tolerance
EVM	0.40	1.00	0.65	1.25	2.50	3.75
Stems	1.50	2.50	2.50	3.75	4.00	5.50
Blemished-Major	0.65	1.25	1.50	2.50	2.50	3.75
Blemished-Total	1.50	2.50	2.50	3.75	8.50	10.75
Tough Strings	1.50	2.50	4.00	5.50	8.50	10.75
Color Defectives	4.00	5.50	8.50	10.75	15.00	17.75
Character - "B"	40.00	44.40	N/A	N/A	N/A	N/A
Character - "C"	5.00	6.75	20.00	23.75	N/A	N/A
Character - "Sstd"	1.00	1.75	4.00	5.50	10.00	12.50
Edible Fiber	1.00	1.75	4.00	5.50	8.50	10.75
Inedible Fiber	0.04	0.10	1.00	1.75	4.00	5.50

Table VIIa
Acceptance Numbers for French Style Canned Green Beans and Wax Beans

Grams of Product	Grade A					Grade B					Grade C				
	3600	7200	15600	25200	34800	3600	7200	15600	25200	34800	3600	7200	15600	25200	34800
Extraneous Vegetable Material (No. of pieces)	8	15	28	43	57	12	22	43	67	89	39	73	149	234	318
Stems (No. of stems)	25	46	92	144	195	39	73	149	234	318	59	112	232	366	499
Major Blemishes (Grams)	36	66	129	201	267	75	138	276	432	585	117	219	447	702	954
Total Blemishes = Maj+Min (Grams)	75	138	276	432	585	177	219	447	702	954	354	681	1428	2274	3111
Tough Strings (No. of strings)	25	46	92	144	195	59	112	232	366	499	118	227	476	758	1037
Edible Fiber (No. of pieces)	18	32	64	99	134	59	112	232	366	499	118	227	476	758	1037
Inedible Fiber (No. of pieces)	1	2	4	6	8	18	32	64	99	134	59	112	232	366	499
Color Defectives (Grams)	177	336	696	1098	1497	354	681	1428	2274	3111	600	1164	2466	3942	5409
"B" Character (Grams)	1521	2997	6414	10299	14178	NO LIMIT									
"C" Character (Grams)	219	414	858	1359	1857	786	1537	3261	5220	7173	NO LIMIT				
"Sstd" Character (Grams)	54	96	192	297	402	177	336	696	1098	1497	414	795	1671	2661	3648

§52.452 Sample size.

The sample size used to determine whether the requirements of these standards are met shall be as specified in the sampling plans and procedures in the "Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products" (7 CFR 52.1 through 52.83).

§52.453 Quality requirements criteria.

- (a) **Lot Inspection.** A lot of canned beans is considered as meeting the requirements for quality if:
- (1) The prerequisite requirements specified in §52.449 are met; and
 - (2) None of the allowances for the individual quality factors specified in Table IIIa, IVa, Va, VIa, or VIIa in §52.451 as applicable for the style, are exceeded.
- (b) **Single sample unit.** Each unofficial sample unit submitted for quality evaluation will be treated individually and is considered as meeting the requirements for quality if:
- (1) The prerequisites requirements specified in §52.449 are met; and
 - (2) The Acceptable Quality Levels in Table III, IV, V, VI, or VII in §52.451 as applicable for the style are not exceeded.

dated: January 8, 1993

/s/ Daniel Haley,
Administrator