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Division

United States Consumer Standards for Potatoes

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This is a reprint of the United States Consumer Standards for Potatoes which have been in effect since December 8, 1947 and were updated to modify the format.

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 fresh and processed fruits, vegetables, and specialty crops 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 U.S. grade standards and inspection instructions for all fresh and processed fruits, vegetables, and specialty crops are available on the internet and upon request at the address below. These documents provide detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the U.S. Department of Agriculture (USDA) after careful consideration of all data and views submitted during rulemaking. The Department welcomes suggestions for improving the standards in future revisions. Comments may be submitted to, and copies of standards and inspection instructions obtained from:

Director, Specialty Crops Inspection Division
Specialty Crops Program,
USDA, Agricultural Marketing Service
1400 Independence Avenue, SW, STOP 0240
Washington, D.C. 20250

Authority: 7 U.S.C. 1621-1627.

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.

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Grades

§51.1575 U.S. Grade A Small; U.S. Grade A Medium; U.S. Grade A Medium to Large; U.S. Grade A Large.

Potatoes of each of these grades shall be of one variety or similar varietal characteristics which are fairly well shaped, fairly clean, free from freezing injury, blackheart, late blight, and soft rot or wet breakdown, and from damage caused by sunburn, second growth, growth cracks, air cracks, hollowheart, internal discoloration, cuts, shriveling, sprouting, scab, dry rot, rhizoctonia, other diseases, wireworm, other insects, or mechanical or other means. Potatoes of these grades shall also be mature: *Provided*, That potatoes which are not mature and the outer skin loosens or “feathers” readily under the usual handling practices need not meet this requirement if they are firm and are further designated as “Early” in connection with the grade, as for example “U.S. Grade A Medium-Early.” Potatoes on the shown face shall be reasonably representative in size and quality of the contents of the containers. (See §51.1577.)

- (a) Tolerances. Incident to proper grading and handling, except for the tolerances for size, not more than a total of 5 percent, by weight, of the potatoes in any lot may fail to meet the requirements of the grade, including not more than 1 percent for potatoes affected by soft rot or wet breaking down. (See §51.1579.)

§51.1576 U.S. Grade B Small; U.S. Grade B Medium; U.S. Grade B Medium to Large; U.S. Grade B Large.

Potatoes of each of these grades shall meet the requirements for U.S. Grade A Small; U.S. Grade A Medium; U.S. Grade A Medium to Large; and U.S. Grade A Large, except for the increased tolerance for defects specified below. (See §51.1577.)

- (a) Tolerances. Incident to proper grading and handling, except for the tolerance for size, not more than a total of 20 percent, by weight, of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 5 percent shall be allowed for potatoes which are seriously damaged by any cause, including not more than 1 percent for potatoes affected by soft rot or wet breakdown. (See §51.1579.)

Size

§51.1577 Size range requirements.

In addition to the quality requirements specified for the above grades, potatoes shall also meet the requirements for minimum and maximum diameter or weight, and the tolerances as specified for the various grades in the table appearing in this section. Potatoes specified as meeting one for the grades may be of any size within its size range requirements, except that it is not permissible to specify a lot as “U.S. Grade A Medium to Large,” or “U.S. Grade B Medium to Large,” unless more than 15 percent, by weight, of the potatoes are larger than the maximum size required for U.S. Grade A Medium, or U.S. Grade B Medium, respectively. For example, a lot of round or

intermediate-shaped potatoes to be specified as “U.S. Grade A Medium to Large” must have more than 15 percent, by weight, of potatoes from 3 to 4 inches in diameter.

Grades	Size range requirements, round or intermediate shaped varieties		Size range requirements, long varieties		Tolerances for size	
	Minimum diameter (Inches)	Maximum diameter (Inches)	Minimum diam. or wt.	Maximum weight (Ounces)	Undersize (Percent)	Oversize (Percent)
U.S. Grades A & B small	1 ½	2 ¼	1 ½ inches	4	3	15
U.S. Grades A & B medium	2 ¼	3	4 ounces	10	5	15
U.S. Grades A & B medium to large	2 ¼	4	4 ounces	16	5	15
U.S. Grades A & B large	3	4	10 ounces	16	5	15

Off-Grade

§51.1578 Off- Grade potatoes.

Potatoes which fail to meet the requirements of any of the foregoing grades shall be Off-Grade potatoes.

Application of Tolerances

§51.1579 Application of tolerances to individual containers.

- (a) Based on sample inspection, the contents of individual containers in the lot are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:
- (1) When a tolerance is 10 percent or more, not more than one-tenth of the individual containers in any lot may contain more than one and one-half times the tolerance specified, except that at least one defective and one off-sized specimen may be permitted in a container.
 - (2) When tolerance is less than 10 percent, not more than one-tenth of the individual containers in any lot may contain more than double the tolerance specified, but no package may contain more than four times the tolerance for soft rot or wet breakdown, except that at least one defective and one off-sized specimen may be permitted in a container.

Definitions

§51.1580 Fairly well shaped.

“Fairly well shaped” means that the appearance of the individual potato or the general appearance of the potatoes in the container is not materially injured by pointed, dumbbell-shaped or otherwise ill-formed potatoes.

§51.1581 Fairly clean.

“Fairly Clean” means that from the viewpoint of general appearance, that potatoes in the container are reasonably free from dirt or other foreign matter, and that individual potatoes are not materially caked with dirt or materially stained.

§51.1582 Soft rot or wet breakdown.

“Soft rot or wet breakdown” means any soft, mushy, or leaky condition of the tissue such as slimy soft rot, leak, or wet breakdown following freezing injury, scald, or other injury.

§51.1583 Damage.

“Damage” means any injury or defect which materially injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 5 percent of the total weight of the potato including peel covering defective area. Loss of outer skin (epidermis) shall not be considered as damage when the potatoes are designated an “Early” unless the skinned surface is materially affected by dark discoloration. Any one of the following defects, or any combination of defects, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

- (a) **Second growth or growth cracks** which have developed to such an extent as to materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.
- (b) **Air cracks** which are deep, or shallow air cracks which materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.
- (c) **Shriveling**, when the potato is more than moderately shriveled, spongy, or flabby.
- (d) **Sprouting**, when the sprouts are not dried and are more than one-half inch long.
- (e) **Surface scab** which covers an area of more than 5 percent of the surface of the potato in the aggregate.
- (f) **Pitted scab** which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 5 percent of the total weight of the potato including peel covering defective area.
- (g) **Rhizoctonia**, when the general appearance of the potatoes in the container is materially injured or when individual potatoes are badly infected.
- (h) **Wireworm, grass root or similar injury**, when any hole on potatoes ranging in

size from 6 to 8 ounces is longer than three-fourths inch, or when the aggregate length of all holes is more than one and one-fourth inches; smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts; *Provided*, That the removal of the injury by proper trimming does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

§51.1584 Internal discoloration.

“Internal discoloration” means discoloration such as is caused by net necrosis or any other type of necrosis, stem-end browning, internal brown spot, or other similar types of discoloration not visible externally.

§51.1585 Mature.

“Mature” means that the outer skin (epidermis) does not loosen or “feather” readily during the ordinary methods of handling.

§51.1586 Serious damage.

“Serious damage” means any injury or defect which seriously injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 10 percent of the total weight of the potato including peel covering defective area. Any one of the following defect or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

- (a) **Fairly smooth cuts** such as are made by the digger, or by a knife to remove injury when both ends are clipped, or when more than an estimated one-fourth of the potato is cut away, or, in the case of long varieties, when the remaining portion of the clipped potato weighs less than 6 ounces; irregular types of cuts which seriously affect the appearance of the individual potato, or which cannot be removed without a loss of more than 10 percent of the total weight of the potato including peel covering defective area.
- (b) **Shriveling**, when the potato is excessively shriveled, spongy, or flabby.
- (c) **Surface scab** which covers an area of more than 50 percent of the surface of the potato in the aggregate.
- (d) **Pitted scab** which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 10 percent of the total weight of the potato including peel covering defective area.
- (e) **Wireworm, grass root or similar injury**, when any hole on potatoes ranging in size from 6 to 8 ounces is longer than one and one-fourth inches, or when the

aggregate length of all holes is more than two inches; smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts; Provided, That the removal of the injury by proper trimming, does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

§51.1587 Diameter.

“Diameter” means the greatest dimension at right angles to the longitudinal axis. The long axis shall be used without regard to the position of the stem (rhizome).