



**United States
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Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Fresh
Products
Branch**

United States Standards for Grades of Lettuce

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United States Standards for Grades of Lettuce¹

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¹Packing of the product in conformity with the requirements 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.

Grades

§51.2510 U.S. Fancy.

"U.S. Fancy" consists of heads of lettuce which meet the following requirements:

- (a) Basic requirements:
 - (1) Similar varietal characteristics;
 - (2) Fresh;
 - (3) Green;
 - (4) Not soft;
 - (5) Not burst;
- (b) Free from:
 - (1) Decay;
 - (2) Russet spotting;
 - (3) Doubles;
- (c) Free from injury by:
 - (1) Tipburn;
 - (2) Downy mildew;
 - (3) Field freezing;
 - (4) Discoloration;
- (d) Not damaged by any other cause.
- (e) Each head shall be fairly well trimmed unless specified as closely trimmed.
- (f) For tolerances see §51.2513.

§51.2511 U.S. No. 1.

"U.S. No. 1" consists of heads of lettuce which meet the following requirements:

- (a) Basic requirements:
 - (1) Similar varietal characteristics;
 - (2) Fresh;
 - (3) Green;
 - (4) Not soft;
 - (5) Not burst;
- (b) Free from:
 - (1) Decay;
 - (2) Doubles.
- (c) Not damaged by any other cause.
- (d) Each head shall be fairly well trimmed unless specified as closely trimmed.
- (e) For tolerances see §51.2513.

§51.2512 U.S. No. 2.

"U.S. No. 2" consists of heads of lettuce which meet the following requirements:

- (a) Basic requirements:
 - (1) Similar varietal characteristics;
 - (2) Not burst;
- (b) Free from decay;
- (c) Not seriously damaged by any other cause;
- (d) Unless otherwise specified each head shall be reasonably trimmed.

(e) For tolerances see §51.2513.

Tolerances

§51.2513 Tolerances.

In order to allow for variations incident to proper grading and handling the following tolerances, by count, shall be permitted in any lot:

(a) **U.S. Fancy -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than 5 percent shall be allowed for soft heads: And provided further, That not more than 4 percent shall be allowed for defects causing serious damage; included in this latter amount not more than 1 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects including therein not more than 5 percent for soft heads; or,

(ii) 6 percent for heads which are seriously damaged; including therein not more than 4 percent for heads seriously damaged by permanent defects and not more than 3 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

(b) **U.S. No. 1 -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than 5 percent shall be allowed for soft heads: And provided further, That not more than 4 percent shall be allowed for defects causing serious damage, included in this latter amount not more than 1 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects including therein not more than 5 percent for soft heads; or,

(ii) 6 percent for heads which are seriously damaged; including therein not more than 4 percent for heads seriously damaged by permanent defects and not more than 3 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (see §51.2514.)

(c) **U.S. No. 2 -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than 3 percent shall be allowed for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: Provided, That included in this amount not more than the following

² Shipping point, as used in these standards, means the point of origin of the shipment in producing area or at port of loading for ship stores or overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

percentages shall be allowed for defects listed:

- (i) 8 percent for heads having permanent defects; or,
- (ii) 5 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

Application of Tolerances

§51.2514 Application of tolerances.

(a) In order to meet the requirements of a specified grade the average percentage of defective specimens in the lot, based on sample inspection shall be within the tolerances specified, and the number of defective specimens in individual packages in the lot shall be within the limitations set forth in the following table:

Table I -- Maximum Number of Defective Heads Permitted in Any Package

Lot tolerance, percent	Total number of heads in package			
	24	18 or 20	30	Over 30
1	1	1	2	2
3	3	2	3	4
4	3	3	4	4
5	3	3	4	5
6	4	3	5	6
8	5	4	6	7
12	6	5	7	9

Precooling Requirements

§51.2515 Precooling requirements.

The following precooling requirements may be used in certifying lettuce in the producing area:

(a) Lettuce certified as meeting "Precooling Requirements" in the producing area shall have a core temperature of not more than 36° F (2.2 ° C) when placed in a refrigerated conveyance or storage.

(1) The temperature shall be taken near the center of the head with a thermometer which has previously been cooled to the approximately temperature of the lettuce.

Standard Pack

§51.2516 Standard pack.

(a) Heads of lettuce shall be fairly uniform in size, and fairly tightly to tightly packed but not excessively tightly packed in uniform layers in the container according to the approved and recognized methods; except that in standard fiberboard containers a "bridge" of 6 heads may be placed between the layers in a 2 1/2 dozen pack.

(1) Fairly uniform in size means that not more than 10 percent, by count, of heads in any container may vary appreciably in size from the standard size head for the count pack.

(i) The standard size head for a 2 dozen pack is that size head, having 4 wrapper leaves, which will pack tightly but not excessively tightly, 3 rows with 4 heads of uniform size in each row in a layer in a standard fiberboard container. Heads having lesser or greater numbers of wrapper leaves which can be packed as specified herein are considered equivalent in size to a standard size head with 4 wrapper leaves.

(2) Excessively tightly packed means that heads are packed so tightly as to cause distortion, or crushing of the heads or breaking of the midribs.

(b) When heads of lettuce are wrapped no head may have more than 1 wrapper leaf.

(c) In order to allow for variations incident to proper packing not more than a total of 10 percent of the containers in any lot may fail to meet the requirements of standard pack.

Standard Weight

§51.2517 Standard weight.

(a) The following weight requirements may be used in connection with grade.

(1) Lettuce packed in a standard lettuce containers shall have a net weight of not less than 42 pounds (19 kg) and not more than 50 pounds (23 kg).

(b) In order to allow for variations incident to proper packing, not more than a total of 5 percent of the containers in any lot may fail to meet the requirements of standard weight.

Solidity Classification

§51.2518 Solidity classification.

(a) Solidity of lettuce may be specified in connection with the grade in accordance with any of the following classification:

(1) **Hard.** "Hard" means that the head is compact and solid. This term represents the highest degree of solidity.

(2) **Firm.** "Firm" means that the head is compact, but may yield slightly to moderate pressure.

(3) **Fairly firm.** "Fairly firm" means that although the head is not firm, it is not soft and spongy, and has good head formation.

(4) **Soft.** "Soft" means that the head is easily compressed or spongy.

Definitions

§51.2519 Similar varietal characteristics.

"Similar varietal characteristics" means that the heads in any container have the same characteristic leaf growth. For example, lettuce of the Iceberg and Big Boston types shall not be mixed.

§51.2520 Fresh.

"Fresh" means that the head as a whole has normal succulence and the wrapper leaves and the outermost head leaves are not more than slightly wilted.

§51.2521 Green.

"Green" means that one-half or more of the exterior surface of the head, exclusive of the wrapper leaves, has at least a light green color.³

§51.2522 Burst.

"Burst" means that the head is split or broken open.

³ The color referred to is illustrated by plate 5 GY 8/6 in the Munsell Book of Color. Individual plates of the above color may be purchased from the Munsell Color Co., 2441 North Calvert, Baltimore, Md. 21218.

§51.2523 Doubles.

"Doubles" means two heads on the same stem.

§51.2524 Fairly well trimmed.

"Fairly well trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 7 in number.

§51.2525 Closely trimmed.

"Closely trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 3 in number.

§51.2526 Reasonably trimmed.

"Reasonably trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 12 in number.

§51.2527 Cap leaf.

"Cap leaf" is the first head leaf. This is the outermost leaf which fairly closely enfolds the compact portion of the head, some portion of which extends to the top of the crown. The tip of the leaf may be separated from the head, Provided, That the separation does not extend more than 1 1/4 inches (31.8 mm) in height from the compact portion of the head. (See figure 1.)

(a) All leaves outside of the cap leaf are wrapper leaves.

(b) On elongated or pointed heads the inner leaves that closely enfold the head three-fourths of their length are head leaves.

§51.2528 Crown.

"Crown" means the upper half of the head. (See figure 1.)

§51.2529 Injury.

"Injury" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which noticeably detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2530 Damage.

"Damage" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2531 Serious damage.

"Serious damage" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2532 Permanent defects.

"Permanent defects" means defects which are not subject to change during shipment or storage, including but not limited to soft, burst, open or poorly trimmed heads, seedstems or dirt.

§51.2533 Condition defects.

"Condition defects" means defects which are subject to change during shipment or storage, including but not limited to decay, tipburn, russet spotting, pink rib, rib discoloration, and freezing injury.

§51.2534 Classification of defects. Table II -- At Shipping Point ²

Defect	Injury	Damage	Serious damage
Tipburn	More than 2 spots of tipburn occurring anywhere in the compact portion of the head or the aggregate area of discernible tipburn, regardless of color, exceeds that of a rectangle 1-inch (25.4 mm) in length and 1/4-inch (6.4 mm) in width	Aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds a rectangle 1-inch (25.4 mm) in length and 1/2-inch (12.7 mm) in width	Aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds that of a rectangle 3-inches (76.2 mm) in length and 1-inch (25.4 mm) in width.
Downy mildew	Occurring on any head or wrapper leaf	Readily apparent on any head leaf; when mildew not accompanied by discoloration is readily apparent on more than 2 wrapper leaves, or discoloration associated with mildew is readily apparent on any wrapper leaf	Materially detracting from the appearance or shipping quality of any head leaf; mildew not accompanied by discoloration is readily apparent on more than 3 wrapper leaves, or discoloration associated with mildew is readily apparent on more than 2 wrapper leaves.
Opening		In a hard or firm head when 1/4 or more of the head is separated from the remainder, or any degree of opening in a fairly firm head	
Seedstems		Excessively long, excessively curved, tough or fibrous. (see figures. 2 and 3)	Causing the head to split or when protruding through the outer head leaves.
Broken midribs		More than 2 head leaves have midribs broken in 2 due to abnormal growth	More than 4 head leaves have midribs broken in 2 due to abnormal growth.
Russet spotting	Present in any degree	Present in any degree	Present in any degree.

² Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores for overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

Pink rib	Occurring on any head leaf	Ribs of more than 2 head leaves show areas of deep pink color more than 2-inches (50.8 mm) in length or when causing more than 2 head leaves to be excessively papery and tough	Areas of deep pink color seriously detracts from the appearance or the edible quality of more than 2 head leaves.
Rib discoloration	Occurring on any head leaf	Aggregate length of brown or black spots on outer surface of any head leaf exceeds 1 inch (25.4 mm).....	Seriously detracting from the appearance or the edible quality of more than 2 head leaves.
Dirt		Compact portion of the head is smeared with mud, or wrapper leaves are badly smeared with mud, or when the basal portion is caked with mud or dry dirt	
Insects and worms		Compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on the compact portion of the head	Compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on more than 2 head leaves
Field Freezing	Any peeling, feathering or yellow or brown discoloration resulting from field freezing is readily apparent on any outer head leaf	Peeling or feathering extends over more than 3/4 the area of the crown on more than 2 head leaves or yellow or brown discoloration resulting from field freezing extends over more than 1/2 of the crown, or the wrapper leaves are seriously damaged by discoloration resulting from freezing	
Discoloration (other than caused by freezing)	Any 1 of the following types or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type (1) Yellow or brown discoloration from any cause affecting any portion of the leaf, or when materially detracting from the appearance of the wrapper leaves	Any 1 of the following types or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type (1) Yellow or brown affecting any portion of the leaf, or when seriously detracting from the appearance of the wrapper leaves	Any 1 of the following types, or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type. (1) Yellow or brown, affecting any portion of the leaf, or very seriously detracting from the appearance of the wrapper leaves

(2) Yellow or brown discoloration from any cause when readily apparent on the compact portion of the head.....	(2) Yellow or brown, materially detracting from the appearance of the head exclusive of the wrapper leaves.	(2) Yellow or brown, seriously detracting from the appearance of the head leaves exclusive of the wrapper leaves.....
(3) Discoloration following bruising noticeably detracting from the appearance of more than 2 outer head leaves	(3) Discoloration following bruising materially detracting from the appearance of more than 2 outer head leaves.	(3) Discoloration following bruising seriously detracting from the appearance of more than 2 outer head leaves

Table III -- (En Route or at Destination)

Defect	Injury	Damage	Serious damage
Tipburn.	Aggregate area of tipburn of a light buff ⁴ or darker color exceeds that of a rectangle 1 inch (25.4 mm) in length and 1/4 inch (6.4 mm) in width.	Aggregate area of tipburn of a light buff ⁴ or darker color occurring anywhere in the compact portion of the head exceeds a rectangle 1 inch (25.4 mm) in length and 1/2 inch (12.7 mm) in width.	Aggregate area of tipburn of a light buff ⁴ or darker color occurring anywhere in the compact portion of the head exceeds that of a rectangle 3 inches (78.2 mm) in length and 1 inch (25.4 mm) in width.
Downy mildew.	Any that is readily apparent on any head leaf or discoloration associated with mildew is readily apparent on more than 2 wrapper leaves.	Materially detracting from the appearance of any head leaf or seriously detracting from the appearance of more than 2 wrapper leaves.	Materially detracting from the appearance of more than 2 head leaves or seriously detracting from the appearance of the wrapper leaves.
Pink rib.	More than 2 head leaves having midribs showing noticeable areas of pink color as viewed on the outer surface of the leaf or when causing any head leaf to be excessively papery and tough.	See Table II.	See Table II.

⁴ The color referred to is illustrated by plate 10 YR 8/4 in the Munsell Book of Color. Individual plates of the above color may be purchased from the Munsell Color Co., 2441 North Calvert Street, Baltimore, Md. 21218.

Russet spotting.	Present in any degree.	Present in any degree on more than 2 outer head leaves, or when the number, size, and color of the spots materially detracts from the appearance of any head leaf.	The number, size, and color of the spots seriously detracts from the appearance of 2 or more head leaves.
Rib discoloration.	Any distinct brown or black spots or rib discoloration present on the outer surface of any head leaf.	See Table II	See Table II.

Note: For classification of the following defects refer to Table II: opening, seedstems, broken midribs, field freezing, discoloration, and dirt.

Figure 1

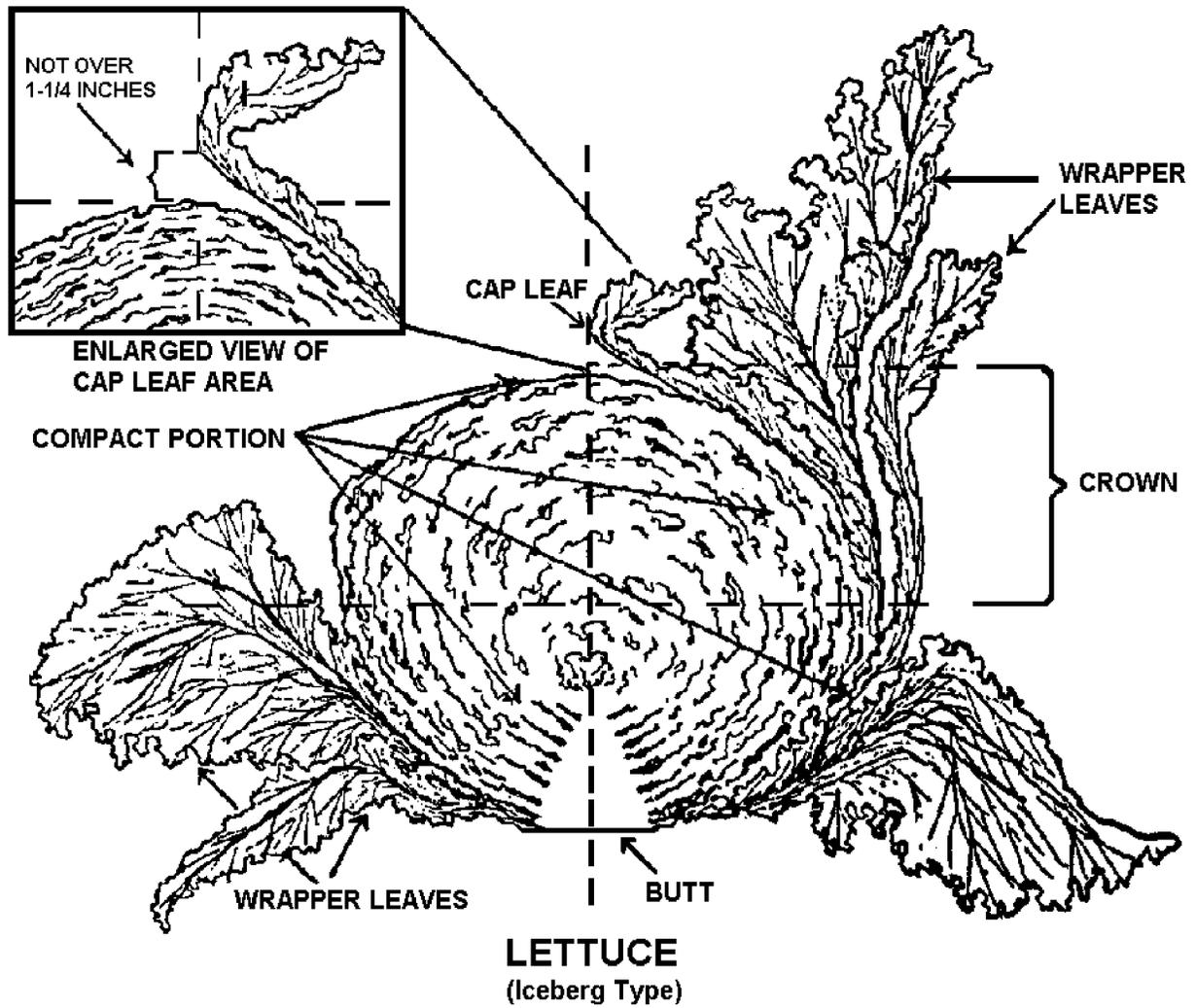


Illustration LET 1

Figure 2

LETTUCE SEEDSTEM

Figure 3



**Maximum Extent To Which Head May Be Affected
By Seedstem In U.S. No. 1 Grade**



**Maximum Extent To Which Head May Be Affected
By Seedstem In U.S. No. 1 Grade**

Illustration LET 2