



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Fresh
Products
Branch**

United States Standards for Grades of Pineapples

Effective July 5, 1990
(Reprinted - January 1997)

United States Standards for Grades of Pineapples

General

51.1485 General.

Grades

51.1486 U.S. Fancy.

51.1487 U.S. No. 1.

51.1488 U.S. No. 2.

Tolerances

51.1489 Tolerances.

Size and Marking Requirements

51.1490 Size and marking requirements.

Definitions

51.1491 Similar varietal characteristics.

51.1492 Mature.

51.1493 Overripe.

51.1494 Stems removed.

51.1495 Well formed.

51.1496 Fairly well formed.

51.1497 Fairly uniform in size.

51.1498 Freezing injury or Frozen (fruit).

51.1499 Freezing injury or Frozen (tops).

51.1500 Single top.

51.1501 Crown slips.

51.1502 Shell.

51.1503 Flesh.

51.1504 Similar varietal characteristic color for tops.

51.1505 Decay.

51.1506 Internal breakdown.

51.1507 Injury.

51.1508 Damage.

51.1509 Serious damage.

Classification of Defects

51.1510 Classification of defects.

General

§51.1485 General.

(a) Compliance with the provisions of these standards shall not excuse failure to comply with provisions of applicable Federal or State Laws.

(b) These standards are applicable to fresh pineapples with or without tops provided that pineapples with tops attached or with tops removed may not be commingled in the same

container.

Grades

§51.1486 U.S. Fancy.

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

- (1) Basic requirements for fruit:
 - (i) Similar varietal characteristics;
 - (ii) Mature;
 - (iii) Well formed; and,
 - (iv) Stems removed.
- (2) Basic requirements for tops:
 - (i) Similar varietal characteristic color;
 - (ii) Single stem;
 - (iii) Moderately straight;
 - (iv) Well attached to fruit; and,
 - (v) Not more than 1-1/2 times the length of the fruit.
- (3) Fruit free from:
 - (i) Fresh cracks;
 - (ii) Evidence of rodent feeding;
 - (iii) Freezing injury or frozen;
 - (iv) Overripe; and,
 - (v) Decay.
- (4) Tops free from:
 - (i) Crown slips;
 - (ii) Freezing injury or frozen; and,
 - (iii) Decay.
- (5) Fruit free from injury by:
 - (i) Bruising;
 - (ii) Sunburn;
 - (iii) Gummosis;
 - (iv) Internal breakdown;
 - (v) Insects;
 - (vi) Healed cracks; and,
 - (vii) Mechanical or other means.
- (6) Tops free from injury by:
 - (i) Discoloration; and,
 - (ii) Insects.
- (7) Tolerances. (See §51.1489)

§51.1487 U.S. No. 1.

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

- (1) Basic requirements for fruit:
 - (i) Similar varietal characteristics;
 - (ii) Mature;
 - (iii) Well formed; and,

- (iv) Stems removed.
- (2) Basic requirements for tops:
 - (i) Similar varietal characteristic color;
 - (ii) Single stem;
 - (iii) Not more than moderately curved;
 - (iv) Well attached to fruit; and,
 - (v) Not more than twice the length of the fruit.
- (3) Fruit free from:
 - (i) Fresh cracks;
 - (ii) Evidence of rodent feeding;
 - (iii) Freezing injury or frozen;
 - (iv) Overripe; and,
 - (v) Decay.
- (4) Tops free from:
 - (i) Freezing injury or frozen; and,
 - (ii) Decay.
- (5) Fruit free from damage by:
 - (i) Bruising;
 - (ii) Sunburn;
 - (iii) Gummosis;
 - (iv) Internal breakdown;
 - (v) Insects;
 - (vi) Healed cracks; and,
 - (vii) Mechanical or other means.
- (6) Tops free from damage by:
 - (i) Discoloration;
 - (ii) Crown slips; and,
 - (iii) Insects.
- (7) Tolerances. (See §51.1489)

§51.1488 U.S. No. 2.

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

- (1) Basic requirements for fruit:
 - (i) Similar varietal characteristics;
 - (ii) Mature; and,
 - (iii) Fairly well formed.
- (2) Basic requirements for tops:
 - (i) Similar varietal characteristic color;
 - (ii) Well attached to fruit;
 - (iii) Not completely curved over; and,
 - (iv) Not more than two fairly well developed stems.
- (3) Fruit free from:
 - (i) Fresh cracks;
 - (ii) Evidence of rodent feeding;

- (iii) Freezing injury or frozen;
- (iv) Overripe; and,
- (v) Decay.
- (4) Tops free from:
 - (i) Freezing injury or frozen; and,
 - (ii) Decay.
- (5) Fruit free from serious damage by:
 - (i) Bruising;
 - (ii) Sunburn;
 - (iii) Gummosis;
 - (iv) Internal breakdown;
 - (v) Insects;
 - (vi) Healed cracks; and,
 - (vii) Mechanical or other means.
- (6) Tops free from serious damage by:
 - (i) Discoloration; and,
 - (ii) Insects.
- (7) Tolerances. (See §51.1489)

Tolerances

§51.1489 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, based on sample inspection, the number of defective specimens in the individual sample, and the number of defective specimens in the lot shall be within the limitations specified in Tables I and II.

Table I
Shipping Point¹
Number of 25 - Count Samples²

| Factor | Grades | AL³ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|--|--------------------------|-----------------------|---|----------------|----------|----------|----------------|----------|----------------|----------------|----------|-----------|-----------|-----------|-----------|----------------|----------------|-----------|-----------|-----------|-----------|----------------|-----------|----------------|-----------|-----------|----------------|
| Decay | ALL | 1 | 0 | 0 ⁴ | 1 | 1 | 1 ⁴ | 2 | 2 | 2 ⁴ | 3 | 3 | 3 | 3 | 3 | 3 ⁴ | 4 | 4 | 4 | 4 | 4 | 4 ⁴ | 5 | 5 | 5 | 5 | 5 |
| Damage serious damage (including decay) | U.S. Fancy U.S. No. 1 | 4 | 3 | 4 | 5 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| Total defects including injury, damage, serious damage and decay | ALL | 6 | 4 | 7 | 10 | 13 | 15 | 18 | 20 | 22 | 25 | 27 | 29 | 32 | 34 | 36 | 39 | 41 | 43 | 45 | 48 | 50 | 52 | 54 | 57 | 59 | 61 |
| | | | 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 | | | | | | | | | | | | | | | | | | | | | | | | |
| Decay | ALL | 1 | 5 ⁴ | 6 | 6 | 6 | 6 | 6 | 6 ⁴ | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 ⁴ | 8 | 8 | 8 | 8 | 8 | 8 | 8 ⁴ | 9 | 9 | 9 ⁴ |
| Damage serious damage (including decay) | U.S. Fancy U.S. No. 1 | 4 | 30 | 31 | 32 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
| Total defects including injury, damage, serious damage, and decay | ALL | 6 | 63 | 65 | 68 | 70 | 72 | 74 | 76 | 79 | 81 | 83 | 85 | 87 | 90 | 92 | 94 | 96 | 98 | 100 | 103 | 105 | 107 | 109 | 111 | 113 | 116 |

¹Shipping point as used in these standards, means the point of origin of the shipment in the production area or at port of loading for ship stores or overseas shipments, or in the case of shipments from outside the continental United States, the port of entry into the United States.

²Sample size - 25 count.

³AL - Absolute limit permitted in individual 25-count sample.

⁴Preferred number of samples for this acceptance number.

Table II**En Route or at Destination***

The number of samples examined shall correspond to the number of containers in the lot shown in chart (a). The total number of defects may not exceed that shown for the total number of fruit examined in chart (b).

Chart (a)

| | | | | | |
|-------------------------------------|----------|------------|------------|-------------|--------------|
| Number of containers in the lot | 1 to 150 | 151 to 300 | 301 to 750 | 751 to 1200 | 1201 or more |
| Number of 25 count samples examined | 2 | 4 | 6 | 8 | 10 |

Chart (b)

| Factor | Grades | Absolute limit | <u>Number of 25 count samples</u> | | | | |
|---|--------------------------|----------------|-----------------------------------|-----|-----|-----|-----|
| | | | 2 | 4 | 6 | 8 | 10 |
| Decay | All | 2 | 1 | 3 | 4 | 4 | 5 |
| Damage (U.S. Fancy) or serious damage (U.S. No. 1) by permanent defect, excluding decay | U.S. Fancy U.S. No. 1 | 4 | 4 | 7 | 9 | 11 | 14 |
| Total damage (U.S. Fancy) or serious damage (U.S. No. 1) including decay | U.S. Fancy U.S. No. 1 | 4 | 4 | 7 | 10 | 13 | 15 |
| Total permanent defects | All | 6 | 7 | 13 | 18 | 22 | 27 |
| Total defects | All | 7 | 8 | 14 | 19 | 25 | 30 |
| Total number fruit examined | | | 50 | 100 | 150 | 200 | 250 |

Size and Marking Requirements**§51.1490 Size and marking requirements.**

(a) The pineapples in each container shall be fairly uniform in size and the count shall be plainly stamped, stenciled, or otherwise marked on the container.

(b) In order to allow for variations incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements pertaining to size and marking.

Definitions**§51.1491 Similar varietal characteristics.**

"Similar varietal characteristics" means the pineapples in any lot are similar in type and character of growth.

§51.1492 Mature.

"Mature" means the pineapple has reached the stage of development where ripening has progressed to a degree where the fruit is usable and edible.

*En route or at destination means any point other than shipping point as described in Table I. Footnote 1. Shipping point.

§51.1493 Overripe.

"Overripe" means the fruit is soft and past commercial utility.

§51.1494 Stems removed.

"Stems removed" means the stem at the base of the fruit has been removed so that it does not extend more than one inch beyond the outermost bottom portion of the butt of the fruit.

§51.1495 Well formed.

"Well formed" means the fruit shows good shoulder development and is not lopsided or distinctly pointed, and that the sides are not noticeably flattened.

§51.1496 Fairly well formed.

"Fairly well formed" means the fruit is not excessively lopsided, or excessively flattened at the shoulders or sides.

§51.1497 Fairly uniform in size.

"Fairly uniform in size" means the weight of the fruit within individual containers does not vary more than 1-1/2 pounds from smallest to largest.

§51.1498 Freezing injury or frozen (fruit).

"Freezing injury (fruit)" means the edible flesh is glassy, watersoaked, and/or discolored characteristic of having been frozen.

"Frozen (fruit)" means the fruit is affected by freezing so that some portion is in a hardened state with ice crystals present.

§51.1499 Freezing injury or frozen (tops).

"Freezing injury (tops)" means the leaf tissue is glassy, watersoaked, and/or discolored as is characteristic of having been frozen.

"Frozen (tops)" means the tops are to some degree, hardened by freezing with ice crystals present.

§51.1500 Single top.

"Single top" means the fruit has only one prominent main stem at the crown of the fruit.

§51.1501 Crown slips.

"Crown slips" means the small secondary top growths at the crown of the fruit.

§51.1502 Shell.

"Shell" means the external surface or rind of the fruit.

§51.1503 Flesh.

"Flesh" means the internal edible portion of the fruit.

§51.1504 Similar varietal characteristic color for tops.

"Similar varietal characteristic color for tops" means the tops in a lot may vary from a characteristic green to reddish-green color.

§51.1505 Decay.

"Decay" means breakdown or disintegration of the tops or breakdown, disintegration or fermentation of the pineapple caused by bacteria or fungi.

§51.1506 Internal breakdown.

"Internal breakdown" means a physiological deterioration which results in a watersoaked or brown or blackish discoloration.

§51.1507 Injury.

"Injury" means any defect listed in the Classification of Defects section or any other defect or combination of defects which more than slightly detracts from the appearance, edible, or shipping

quality of the fruit.

§51.1508 Damage.

"Damage" means any defect listed in the Classification of Defects section or any other defect or combination of defects which materially detracts from the appearance, edible, or shipping quality of the fruit.

§51.1509 Serious damage.

"Serious damage" means any defect listed in the Classification of Defects section or any other defect or combination of defects which seriously detracts from the appearance, edible, or shipping quality of the fruit.

§51.1510 Classification of Defects¹

| Defects | Injury | Damage | Serious damage |
|---------------------------|---|---|---|
| Tops: | | | |
| Discoloration | When more than 10 percent of the crown leaves are discolored. | When more than 25 percent of the crown leaves are discolored. | When more than 50 percent of the crown leaves are discolored. |
| Crown slips | Free from. | When more than 5 crown slips or when more than 2 are over 2-3/4 inches in length. | |
| Mechanical or other means | When physical injury (cleanliness, mechanical damage) more than slightly affects the appearance of the pineapple. | When physical injury (cleanliness, mechanical damage) materially affects the appearance of the pineapple. | When physical injury (cleanliness, mechanical damage) seriously affects the appearance of the pineapple. |
| Fruit: | | | |
| Bruising | When any bruise extends into flesh more than 1/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 1-1/2 inches in diameter. | When any bruise extends into flesh more than 1/2 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 2-1/4 inches in diameter. | When any bruise extends into flesh more than 3/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 3 inches in diameter. |
| Sunburn | When there is bleaching and a slight softening of the shell affecting an aggregate area more than 1-1/2 inches in diameter. | When there is bleaching and a moderate softening of the shell affecting an aggregate area more than 2-1/4 inches in diameter. | When there is bleaching and severe softening of the shell affecting an aggregate area more than 3 inches in diameter. |

¹Classification of defects is based on a 10 size fruit (ten, 4-pound average fruit per 40 pound box). Accordingly larger or smaller fruit are permitted to have defects relative to their size.

| | | | |
|----------------------------|--|--|---|
| Gummosis | When gum deposits penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/4 inch in diameter. | When gum deposits slightly penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/2 inch in diameter. | When gum deposits readily penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1 inch in diameter. |
| Internal breakdown | When more than 5 percent of the edible flesh has a distinct light brown to medium brown discoloration which more than slightly detracts from the appearance or edible quality of the fruit. | When more than 10 percent of the edible flesh has a light to medium brown discoloration which materially detracts from the appearance or edible quality of the fruit. | When more than 20 percent of the edible flesh has a distinct medium to dark brown or brown-black discoloration which seriously detracts from the appearance or edible quality of the fruit. |
| Insects and insect feeding | When an aggregate area more than 1/2 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which more than slightly detracts from the appearance, edible, or shipping quality of the fruit. | When an aggregate area more than 3/4 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which materially detracts from the appearance, edible, or shipping quality of the fruit. | When an aggregate area more than 1 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which seriously detracts from the appearance, edible, or shipping quality of the fruit. |
| Healed cracks | When healed cracks more than slightly detract from the appearance, edible, or shipping quality of the fruit. | When healed cracks on the eyes are more than 1/2 inch in width and not more than 1/2 inch in depth or which materially detract from the appearance, edible, or shipping quality of the fruit. | When healed cracks on the eyes are more than 3/4 inch in width and not more than 3/4 inch in depth or which seriously detract from the appearance, edible, or shipping quality of the fruit. |
| | | When healed cracks between the eyes materially affect the appearance of the fruit shell. | When healed cracks between the eyes seriously affect the appearance of the fruit shell. |
| Mechanical or other means | When physical injury (cleanliness, mechanical damage) more than slightly affects the appearance or edible quality of the pineapple. | When physical injury (cleanliness, mechanical damage) materially affects the appearance or edible quality of the pineapple. | When physical injury (cleanliness, mechanical damage) seriously affects the appearance or edible quality of the pineapple. |