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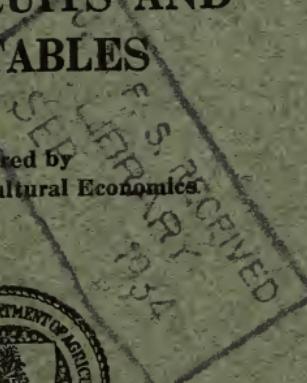
Miscellaneous Publication No. 190

Washington, D.C.

Issued June 1934

HANDBOOK OF  
UNITED STATES STANDARDS  
FOR  
GRADING AND MARKETING  
FRESH FRUITS AND  
VEGETABLES

Prepared by  
Bureau of Agricultural Economics





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UNITED STATES  
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## FOREWORD

The following standards for use in grading and marketing fresh fruits and vegetables are recommended by the Bureau of Agricultural Economics, United States Department of Agriculture. The use of these standards by all agencies engaged in the handling of such fruits and vegetables should promote more uniform grading and should facilitate the marketing of these products.

These standards are subject to revision and no doubt some will be revised before this booklet can be reprinted and such revisions included. Those who wish to be certain that they have the latest standards for any particular commodity may write to the Bureau of Agricultural Economics, Washington, D.C.

Some standards include provisions as to how tolerances shall be applied, whereas others do not. The following general policy shall be in effect for all standards that do not contain specific statements as to how tolerances shall be applied. The tolerances for the standards are on a container basis. However, individual packages in any lot may vary from the specified tolerances as stated below, provided the averages for the entire lot, based on sample inspection, are within the tolerances specified.

For a tolerance of 10 percent or more, individual packages in any lot may contain not more than one and one half times the tolerance specified, except that when the package contains 15 specimens or less, individual packages may contain not more than double the tolerance specified.

For a tolerance of less than 10 percent, individual packages in any lot may contain not more than double the tolerance specified, provided at least one specimen which does not meet the requirements shall be allowed in any one package.

The above policy of course does not apply to the grades for certain raw products for manufacture at canneries where the products are sorted into the various grades and the actual percentage of each grade is computed for each load.

Interstate shipments of fruits and vegetables marketed on the basis of any of these standards must also comply with the provisions of the Food and Drugs Act of June 30, 1906.

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# HANDBOOK OF UNITED STATES STANDARDS FOR FRESH FRUITS AND VEGETABLES

*Prepared by the Division of Fruits and Vegetables,  
Bureau of Agricultural Economics*

## UNITED STATES STANDARDS FOR SWEET ANISE

(Effective Dec. 3, 1930)

### GRADES

**U.S. No. 1** shall consist of stalks of sweet anise which are firm, tender, well trimmed and fairly well blanched; which are free from decay and from damage caused by growth cracks, pithy branches, wilting, freezing, seed stems, dirt, discoloration, disease, insects or mechanical or other means. *Unless otherwise specified* the minimum diameter of each bulb shall be not less than 2 inches.

In order to allow for variations other than size, incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade, but not to exceed one tenth of this amount, or 1 percent, shall be allowed for decay. In addition, not more than 10 percent, by count, of any lot may be below the specified minimum diameter.

**Unclassified** shall consist of stalks of sweet anise which are not graded in conformity with the foregoing grade.

### DEFINITIONS OF TERMS

As used in these grades:

“Stalk” means an individual plant.

“Firm” means that the bulbs are not soft or wilted.

“Tender” means that the bulbs are crisp and succulent.

"Well trimmed" means that not more than one coarse outer branch is left on each side of the bulb to protect the tender inside portion, and the portion of the root remaining is not more than one half inch in length. Tops may be either full length or cut back to not less than 10 inches except that not more than 5 of the outer branches may be cut back to less than 10 inches if necessary to facilitate proper packing, but not more than 3 of these may be on the same side of the bulb.

"Fairly well blanched" means that the bulbs are of a light greenish to white color.

"Damage" means any injury which materially affects the appearance, or the edible, or the shipping quality of the stalk. Any of the following defects shall be considered as damage:

(a) Growth cracks, when more than three branches show one or more growth cracks.

(b) Pithy branches, when more than three branches show distinctly open texture with air spaces in the central portion of that part which goes to make up the base or bulbous portion of the stalk.

(c) Wilting, when the stalk is limp and flabby.

(d) Freezing, when the epidermis of the branches is badly blistered, or when the tops are brown or yellow to such an extent as to materially damage the appearance of the stalk, or when a combination of these causes material damage to the appearance and shipping quality of the stalk.

(e) Seed stems, which have reached the stage where the flower buds are plainly visible. Stalks from which the seed stems have been removed shall be considered as damaged.

(f) Dirt, when caked on the bulbous portion of the stalk, or when present to such an extent on the tops and branches as to cause material damage to the appearance of the stalk.

(g) Discoloration, when the bulbous portion shows extensive brown to dark-brown areas characteristic of injury caused by rough handling, or when the tops are yellow or brown to such an extent as to cause material damage to the appearance of the stalk.

"Diameter" means the smallest diameter measured through the center of the bulb at right angles to the longitudinal axis of the stalk.

## UNITED STATES STANDARDS FOR APPLES

(Effective July 21, 1931)

## INTRODUCTION

Numbers and letters in parentheses following grade terms indicate where such terms are defined on page 7 under Definitions of Terms.

When the numerical count is marked on the container, percentages shall be calculated on the basis of count.

When the minimum diameter or minimum and maximum diameters are marked on the container, percentages shall be calculated on the basis of weight.

When the apples are in bulk, percentages shall be calculated on the basis of weight.

## GRADE REQUIREMENTS

**U.S. Fancy** shall consist of apples of one variety which are mature (1) but not overripe (2), carefully handpicked (3), clean (4), fairly well formed (5); free from decay, internal browning, internal breakdown, scald, freezing injury, unhealed broken skins, and bruises (except those incident to proper handling and packing), and visible water core. The apples shall also be free from damage (7) caused by russetting (7a), sunburn (7b), spray burn (7b), limb rubs (7c), hail (7d), drought spot (7d), scars (7d), disease (7e), insects (7f), or mechanical or other means (7). Each apple of this grade shall have the amount of color specified hereinafter for the variety. (See Tolerances and Condition After Storage or Transit, pp. 10 and 11.)

**U.S. No. 1.**—The requirements for this grade are the same as U.S. Fancy except that less color is required for all varieties except yellow and green varieties, for which the requirements for both grades are the same. Apples of this grade shall be of one variety, mature (1) but not overripe (2), carefully handpicked (3), clean (4), fairly well formed (5); free from decay, internal browning, internal breakdown, scald, freezing injury, unhealed broken skins, and bruises (except those incident to proper handling and packing), and visible water core. The apples

shall also be free from damage (7) caused by russetting (7a), sunburn (7b), spray burn (7b), limb rubs (7c), hail (7d), drought spot (7d), scars (7d), disease (7e), insects (7f), or mechanical or other means (7). Each apple of this grade shall have the amount of color specified hereinafter for the variety. (See Tolerances and Condition After Storage or Transit, pp. 10 and 11.)

**U.S. Commercial** shall consist of apples of one variety which meet the requirements of U.S. No. 1 except as to color. This grade is provided for apples which are mature but which do not have sufficient color to meet the specifications of U.S. No. 1. (See Tolerance and Condition After Storage or Transit, pp. 10 and 11).

**U.S. No. 1 Early** shall consist of apples of one variety which meet the requirements of U.S. No. 1 except as to color and maturity. Apples of this grade may have no red color and need not be mature. This grade is provided for early varieties only, such as Oldenburg (Duchess of Oldenburg), Gravenstein, Lowland Raspberry (Liveland Raspberry), Red June, Summer Hagloe, Twenty Ounce, Wealthy, Williams, Bailey Sweet, Bietigheimer, and other varieties which ripen at the same period and which are often used for cooking rather than for eating out of hand. (See Tolerance and Condition After Storage or Transit, pp. 10 and 11).

**U.S. Utility** shall consist of apples of one variety which are mature (1) but not overripe (2), carefully handpicked (3), not seriously deformed (6); free from decay, internal browning, internal breakdown, scald, freezing injury, and unhealed broken skins. The apples shall also be free from serious damage (8) caused by dirt or other foreign matter, bruises, russetting (8a), sunburn (8b), spray burn (8b), limb rubs (8c), hail (8d), drought spot (8d), scars (8d), visible water core (8e), disease (8f), insects (8g), or mechanical or other means (8). (See Tolerances and Condition After Storage or Transit, pp. 10 and 11.)

**U.S. Utility Early** shall consist of apples of one variety which meet the requirements of U.S. Utility except as to maturity. Apples of this grade need not be mature. This grade is provided for early varieties only, such as Oldenburg (Duchess of Oldenburg), Gravenstein, Lowland Raspberry (Liveland Raspberry), Red June, Summer Hagloe, Twenty Ounce,

Wealthy, Williams, Bailey Sweet, Bietigheimer, and other varieties which ripen at the same period and which are often used for cooking rather than for eating out of hand. (See Tolerance and Condition After Storage or Transit, pp. 10 and 11.)

*Combination grades.*—Combinations of the above grades may also be used as follows:

Combination U.S. Fancy and U.S. No. 1

Combination U.S. No. 1 and U.S. Commercial

Combination U.S. No. 1 and U.S. Utility

Combinations other than these are not provided for in connection with the United States apple grades. When combination grades are packed, at least 50 percent of the apples in any container shall meet the requirements of the higher grade in the combination. (See Tolerance and Condition After Storage or Transit, pp. 10 and 11.)

**U.S. Hail grade** shall consist of apples which meet the requirements of U.S. No. 1 except that hail marks where the skin has not been broken and well healed hail marks where the skin has been broken shall be permitted provided the apples are fairly well formed. (See Tolerance and Condition After Storage or Transit, pp. 10 and 11.)

**Unclassified** shall consist of apples which are not graded in conformity with any of the foregoing grades.

#### COLOR

In addition to the foregoing requirements for U.S. Fancy and U.S. No. 1, each apple of these grades must have the percentage of color shown in the table below.

Variety	U.S. Fancy	U.S. No. 1
	Percent	Percent
Solid red:		
Aiken Red.....	50	25
Arkansas Black.....	50	25
Black Ben.....	50	25
Detroit Red.....	50	25
Esopus Spitzenburg.....	50	25
Gano.....	50	25
King David.....	50	25
Lowry.....	50	25
Opalescent.....	50	25
Virginia Beauty.....	50	25
Winesap.....	50	25
Other similar varieties.....	50	25

Variety	U.S. Fancy	U.S. No. 1
	Percent	Percent
Striped or partially red:		
Jonathan	50	25
Kinnard	50	25
McIntosh	50	25
Missouri Pippin	50	25
Other similar varieties	50	25
Arkansas (Mammoth Black Twig)	33	15
Delicious	33	15
Baldwin	33	15
Gray Baldwin	33	15
Ben Davis	33	15
Bonum	33	15
Fameuse	33	15
Limbertwig	33	15
Nero	33	15
Northern Spy	33	15
Ontario	33	15
Paragon	33	15
Ralls (Geneton)	33	15
Rainier	33	15
Rome Beauty	33	15
Salome	33	15
Stayman Winesap	33	15
Sutton	33	15
Tompkins King	33	15
Wagener	33	15
Wealthy	33	15
Willowtwig	33	15
York Imperial	33	15
Other similar varieties	33	15
Stark	25	10
Hubbardston	25	10
Other similar varieties	25	10
Red June	33	(1)
Williams	33	(1)
Other similar varieties	33	(1)
Gravenstein	25	(1)
Jefferies	25	(1)
Oldenburg (Duchess of Oldenburg)	25	(1)
Red Astrachan	25	(1)
Shiawassee	25	(1)
Smokehouse	25	(1)
Summer Rambo	25	(1)
Twenty Ounce	25	(1)
Other similar varieties	25	(1)
Red cheeked or blushed:		
Hyde King	(2)	None
Maiden Blush	(2)	None
Monmouth (Red Cheeked Pippin)	(2)	None
Winter Banana	(2)	None
Other red cheeked or blushed varieties	(2)	None
Yellow or green varieties	(3)	(3)

<sup>1</sup> Tinge of color.<sup>3</sup> Characteristic color.<sup>2</sup> Blushed cheek.

For the solid red varieties the percentage stated refers to the area of the surface which must be covered with a good shade of solid red characteristic of the variety, except that an apple having color of a lighter shade of solid red or striped red than that considered as good shade of red characteristic of the variety, may be admitted to a grade, provided it has sufficient additional area covered so that the apple has as good an appearance as one with the minimum percentage of good red characteristic of the variety required for the grade.

For the striped red varieties the percentage stated refers to the area of the surface in which the stripes of good shade of red characteristic of the variety shall predominate over the stripes of lighter red, green, or yellow. However, an apple having color of a lighter shade than that considered as good shade of red characteristic of the variety may be admitted to a grade, provided it has sufficient additional area covered so that the apple has as good an appearance as one with the minimum percentage of stripes of good red characteristic of the variety required for the grade. Faded brown stripes shall not be considered as color except in the case of the Gray Baldwin variety.

#### DEFINITIONS OF TERMS

As used in these grades:

1. "Mature" means having reached the stage of maturity which will insure the proper completion of the ripening process.

Before a mature apple becomes overripe it will show varying degrees of firmness, depending upon the stage of the ripening process. The following terms are used for describing these different stages of maturity of apples:

(a) "Hard" means apples with tenacious flesh and starchy flavor. Apples at this stage are suitable for storage and long-distance shipment.

(b) "Firm" means apples with tenacious flesh but becoming crisp with a slight starchy flavor, except the Delicious variety. Apples at this stage are also suitable for storage and long-distance shipment.

(c) "Firm ripe" means with crisp flesh except that in apples of the Gano, Ben Davis, and Rome Beauty varieties the flesh may be slightly mealy. Apples

at this stage may be shipped long distances but should be moved into consumption within a short period of time.

(d) "Ripe" means mealy and soon to become soft for the variety. Apples at this stage should be moved immediately into consumption.

2. "Overripe" means dead ripe, very mealy or soft, past commercial utility.

3. "Carefully hand picked" means that the apples do not show evidence of rough handling or of having been on the ground.

4. "Clean" means free from excessive dirt, dust, spray residue, or other foreign material.

5. "Fairly well formed" means that the apples may be slightly abnormal in shape but not to an extent which detracts materially from the appearance of the fruit.

6. "Seriously deformed" means so badly misshapen that the appearance is severely affected.

7. "Damage" means any injury or defect which materially detracts from the appearance or keeping quality of the apples.

(a) Russetting which exceeds the following shall be considered as damage:

Russetting which is excessively rough on Roxbury Russet and other similar varieties.

Russetting on other varieties which covers a total area of more than 25 percent of the surface in the aggregate except that—

(1) Smooth, solid russetting which covers an area of more than 10 percent of the surface in the aggregate shall be considered as damage unless the russetting is within or continuous with that in the stem basin or calyx cavity, in which case an additional 15 percent shall be permitted provided that the total area covered shall not exceed 25 percent in the aggregate.

(2) Slightly rough russetting which covers an area of more than 15 percent of the surface if confined to the stem basin or calyx cavity or continuous therewith, or such russetting which covers an area of more than one half inch in diameter if it is not continuous with the russetting in the stem basin or calyx cavity, shall be considered as damage.

(3) Rough russetting which is well within the stem basin and is not readily apparent shall be permitted, but any other rough russetting which exceeds one quarter inch in diameter shall be considered as "damage."

Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(b) Sunburn or spray burn which has caused blistering or cracking of the skin or when the discolored area does not blend into the normal color of the fruit unless the injury can be classed as russetting (7a).

(c) Dark-brown or black limb rubs which affect a total area of more than one half inch in diameter or light-brown limb rubs which affect a total area of more than 1 inch in diameter.

(d) Hail marks, drought spots, or other similar depressions or scars which are not superficial or where the injury affects more than one half inch of the surface in the aggregate.

(e) Disease. Scab spots which are not corked over or corked-over scab spots which affect a total area of more than one fourth inch in diameter.

Cedar-rust infection which exceeds in the aggregate an area of one quarter inch in diameter.

Sooty blotch or fly speck which is thinly scattered over more than one tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one half inch in diameter.

(f) Insects. More than two healed insect stings or any healed insect sting which is over one eighth inch in diameter exclusive of any encircling discolored ring.

#### Worm holes.

8. "Serious damage" means any injury or defect which seriously detracts from the appearance or keeping quality of the apples.

(a) Russetting which exceeds the following shall be considered as serious damage:

Smooth solid russetting which affects more than one half of the surface in the aggregate, including any russetting in the stem basin, or rough or barklike russetting which detracts from the appearance of the fruit to a greater extent than the smooth solid russetting permitted, provided that any amount of russetting shall be permitted on Roxbury Russet and similar varieties.

Any one of the following defects or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(b) Sunburn or spray burn which seriously detracts from the appearance of the fruit.

(c) Limb rubs which affect more than one tenth of the surface in the aggregate.

(d) Hail marks, drought spots or scars, if they materially deform or disfigure the fruit, or if such defects affect more than one tenth of the surface in the aggregate, provided that no hail marks which are unhealed shall be permitted and not more than an aggregate area of one half inch shall be allowed for well-healed hail marks where the skin has been broken.

(e) Visible water core which affects an area of more than one half inch in diameter.

(f) Disease.

Scab spots which are not corked over or corked-over scab spots which affect a total area of more than three fourths inch in diameter.

Cedar-rust infection which exceeds in the aggregate an area of three fourths inch in diameter.

Sooty blotch or fly speck which affects more than one third of the surface.

(g) Insects.

More than five healed insect stings.

Worm holes.

#### TOLERANCES FOR PRECEDING GRADES

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent of the apples in any container may be below the requirements of the grade, provided that not more than 5 percent shall be seriously damaged by insects and not more than one fifth of this amount, or 1 percent, shall be allowed for decay or internal breakdown.

When applying the foregoing tolerances to the combination grades no part of any tolerance shall be used to reduce the percentage of apples of the higher grade required in the combination.

The tolerances specified for the various grades are placed on a container basis. However, any lot of apples shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts:

For a specified tolerance of 10 percent, not more than one and one half times the tolerance shall be allowed in any one package.

For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any one package.

#### CONDITION AFTER STORAGE OR TRANSIT

Decay, scald, or other deterioration which may have developed on apples after they have been in storage or transit shall be considered as affecting condition and not the grade.

#### SIZE REQUIREMENTS

The numerical count or the minimum size of the apples packed in a closed container shall be indicated on the package.

When the numerical count is marked on the container the apples shall not vary more than one-fourth inch in their transverse diameter.

When the numerical count is not shown the minimum size shall be plainly stamped, stenciled, or otherwise marked on the container in terms of whole inches, whole and half inches, whole and quarter inches, or whole and eighth inches, as  $2\frac{1}{2}$  inches minimum,  $2\frac{1}{4}$  inches minimum, or  $2\frac{5}{8}$  inches minimum, in accordance with the facts. It is suggested that both minimum and maximum sizes be marked on the container, as  $2\frac{1}{4}$  to  $2\frac{3}{4}$  inches, or  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches, as such marking is especially desirable for apples marketed in the export trade.

“Size” means the transverse diameter of the apple taken at right angles to a line running from the stem to the blossom end.

In order to allow for variations incident to proper sizing, not more than 5 percent of the apples in any container may not meet the size requirements, provided that when the maximum and minimum sizes are both stated an additional 10 percent tolerance is provided for apples which are larger than the maximum size stated.

#### PACKING REQUIREMENTS

Each package shall be packed so that the apples in the shown face shall be reasonably representative in size, color, and quality of the contents of the package.

*Boxes.*—Apples packed in the standard northwestern apple boxes shall be arranged in the containers according to the approved and recognized methods with the stems pointing toward the ends of the boxes, except when jumbled, and all packages shall be well filled but the contents shall not show excessive or unnecessary bruising because of overfilled packages. Apples packed in the standard northwestern apple boxes shall show a total bulge (top and bottom) of not less than three-fourths inch. Each wrapped apple shall be completely enclosed by its individual wrapper.

*Baskets.*—Apples packed in round-stave bushel baskets or tubs shall be ring faced and tightly packed with sufficient bulge to prevent any appreciable movement of the apples within the containers when lidded.

*Barrels.*—Apples in barrels shall be tightly packed.

In order to allow for variations incident to proper packing not more than 5 percent of the containers in any lot may not meet these requirements.

#### MARKING

In order to conserve space, abbreviations may be used for marking the United States grade names on containers. The following abbreviations are suggested where it is not desired to use the full grade name:

1. U.S. Fey. for U.S. Fancy.
2. U.S. No. 1 for U.S. Number 1.
3. U.S. Com. for U.S. Commercial.
4. U.S. Util. for U.S. Utility.

5. Combination grades may be designated by abbreviations of the grades preceded by the abbreviation "Comb." as "Comb. U.S. Fey.—U.S. No. 1."

#### STANDARDS FOR EXPORT

As applied to condition factors.

1. The apples in any lot shall be generally tightly packed when in barrels or baskets and either generally fairly tight or tightly packed when in boxes.
2. Not more than 5 percent of the apples in any container shall be further advanced in maturity than firm ripe.
3. Not more than a total of 5 percent of the apples in any container shall be damaged by bitter pit, Jonathan spot, scald, internal breakdown, water core, freezing, decay, or other condition factors, except that—

(a) Not more than 2 percent shall be allowed for apples affected by decay.

(b) Not more than 2 percent shall be allowed for damage by internal breakdown.

(c) The apples shall be free from scald unless they are properly packed in oiled paper or have been especially treated with oil to prevent scald. When so packed or treated, not more than 2 percent of slight scald shall be permitted.

Any lot of apples shall be considered as meeting the standards for export if the entire lot averages within the requirements specified, provided that no sample from the containers in any lot is found to exceed double the percentages specified.

NOTE.—These standards for export are issued as optional trading standards regarding the condition of the apples and are distinctly different from the requirements of the Export Apple and Pear Act of June 10, 1933 (48 Stat. 123), and regulations issued thereunder.

## A STATEMENT RELATIVE TO THE UNITED STATES APPLE STANDARDS

WASHINGTON, D.C., *July 21, 1931.*

The adoption and use of standardized grades in transactions in farm produce has eliminated much of the source of misunderstanding and dissatisfaction. Clear-cut grades, based on variations in quality, provide a practicable basis for contracts and purchases upon which buyers and sellers can deal with mutual confidence and understanding.

In addition to the designation "Unclassified," 10 grades have been provided as follows: U.S. Fancy; U.S. No. 1; U.S. No. 1 Early; U.S. Commercial; U.S. Utility; U.S. Utility Early; Combination U.S. Fancy and U.S. No. 1; Combination U.S. No. 1 and U.S. Commercial; Combination U.S. No. 1 and U.S. Utility; U.S. Hail Grade.

U.S. Fancy is intended for well-colored apples for which a premium is usually secured.

U.S. No. 1 is provided for apples which meet the requirements of U.S. Fancy, except that less color is required.

U.S. No. 1 Early is provided for early varieties which may have no red color and which may not be mature, but which meet all other requirements for

U.S. No. 1 grade. Such apples are often used for cooking purposes rather than for eating out of hand.

U.S. Commercial is provided for apples which meet the requirements of U.S. No. 1 except for color. Apples of this grade must be mature.

U.S. Utility is provided for apples which are free from serious damage from any cause. During light-crop years this grade of apples may be utilized and shipped to advantage; but during years of heavy production it is best to send such stock to byproducts plants or to local markets.

U.S. Utility Early is provided for early varieties which may not be mature but which meet all other requirements for U.S. Utility grade.

Combination grades are provided to care for many lots of apples which in the past have been marked "Commercial" or "Unclassified", although such lots may have contained a large percentage of high-quality apples. It is expected that the use of combination grades will reduce the quantity of stock shipped at the present time under the Commercial grade or the Unclassified designation.

#### STATEMENT OF CONDITION

Attention is called to the statement that scald, decay, or other deterioration which may have developed on apples after they have been in storage or transit shall be considered as affecting the condition and not the grade. When ordering apples which have been held in storage it is advisable to secure in addition to the grade statement, information relative to the maturity and relative to the freedom from scald or decay or the percentages of scald or decay which may be in the particular lot in question.

#### STANDARDS FOR EXPORT

As applied to condition factors.

United States standards for export have been provided with a view to establishing a common language between exporters and the foreign buyers as to the condition of the apples at the time of inspection. It must be understood, however, that such factors as the previous handling and storage (as they affect keeping quality) or the temperature and length of time in transit may cause a change in the condition of the apples after they have been inspected. The tightness of pack may also be affected by decay or softening in transit.

Official certificates issued on requests for certification for export will bear the statement, "Lot meets United States standards for export", provided the apples meet these standards. An inspection certificate which bears this statement will show that the lot of apples so described meets the United States standards for export at the time of inspection. It means that such apples were generally tightly packed when in barrels or baskets and were either generally fairly tight or tightly packed when in boxes and not more than 5 percent were further advanced in maturity than firm ripe. It also means that not more than a total of 5 percent of the apples were damaged by bitter pit, Jonathan spot, scald, internal breakdown, water core, freezing, decay, or other condition factors, except that not more than 2 percent were affected by decay and not more than 2 percent damaged by internal breakdown and that the apples were free from scald except that when properly packed in oiled paper or especially treated with oil to prevent scald, not more than 2 percent were affected with slight scald.

Although apples may be certified as meeting the export standards, such a statement on the certificate does not assure the buyer that the apples will arrive at destination in a satisfactory condition. Uncertainty as to such factors as time in transit, temperature, and ventilation in stowage, makes it manifestly impossible to forecast accurately the condition of such fruit on arrival at destination. Official certification merely describes its condition at the time of the inspection.

#### PACKING REQUIREMENTS

The United States standards specify that the "apples in the shown face shall be reasonably representative in size, color, and quality of the contents of the package."

It has long been the practice in the barreled-apple region to place the best apples in the shown face, and the custom has often been carried to extremes. The United States standard for packing is provided to discourage such extreme overfacing, which has been the cause of much dissatisfaction to buyers in both the domestic and foreign trade.

The apples used for facing should not be so different from the remainder of the apples as to cause a marked contrast. This applies to size as well as to the color and other quality factors. When 3-inch apples are used to face containers which contain mostly

2 $\frac{1}{4}$ - to 2 $\frac{1}{2}$ -inch fruit the contrast is so great that the 2 $\frac{1}{4}$ -inch apples appear smaller than they really are, with consequent complaints. Similar objections frequently are made to containers which are faced with 2 $\frac{1}{2}$ -inch apples but which contain many 3-inch or larger apples in the middle of the barrel.

Most European markets prefer to have the range of sizes marked upon barrels and baskets. Certain outlets desire medium or small sizes, whereas certain others prefer large sizes for cooking purposes.

It is suggested that the barrels and baskets should be marked with both the minimum and maximum sizes, especially when they are intended for export. Such marking of barrels as "2 $\frac{1}{4}$  to 2 $\frac{3}{4}$  inches" or other range of size which properly describes the fruit is far more definite than the statement of minimum size only.

#### BRUIISING

Apples are often unnecessarily bruised by careless picking or by improper packing methods. Such bruises are not always evident at the time of packing, but they may become very pronounced several days later, and when the barrels are opened for display the apples may present an unattractive appearance.

Adequate racking of the barrels on a solid foundation during the period of filling is very important in preventing slack barrels. Many packers attempt to make tight packs through heavy pressing instead of through frequent vigorous racking prior to pressing. Apples which are bruised by pressing tend to become soft, or to decay in storage or in transit, so that overpressing often causes more slack barrels at destination than would occur if proper racking and pressing were practiced.

### UNITED STATES STANDARDS FOR CANNERY APPLES<sup>1</sup>

(Effective July 23, 1930)

#### GRADES

**U.S. No. 1** shall consist of apples of one variety which are not overripe; which are free from decay, worm holes, freezing injury, internal breakdown, and

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<sup>1</sup> These standards supersede United States Standards for Cannery Apples for Sauce Purposes and United States Standards for Cannery Apples for Slicing Purposes, issued May 8, 1929.

from any defect which cannot be removed during the usual commercial preparation for use without causing a loss of over 5 percent, by weight, of the apple in excess of that which would occur if the apple were perfect. (See minimum size.)

**U.S. No. 2** shall consist of apples of one variety which are not overripe; which are free from freezing injury, internal breakdown, and from any defect which cannot be removed during the usual commercial preparation for use without causing a loss of over 25 percent, by weight, of the apple in excess of that which would occur if the apple were perfect. (See Minimum Size.)

Ciders shall consist of apples which do not meet the requirements of either of the foregoing grades.

#### MINIMUM SIZE

*The minimum size may be fixed by agreement between buyer and seller. Apples below this specified minimum size shall be classed as ciders.*

### UNITED STATES STANDARDS FOR APRICOTS

(Effective May 25, 1928)

#### GRADES

**U.S. No. 1** shall consist of apricots of one variety which are mature but not soft, overripe, or shriveled and which are well formed, free from decay, cuts, skin breaks, worm holes and from damage caused by limb rubs, russetting, growth cracks, dirt, scab, scale, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade but not more than one half of this tolerance or 5 percent, shall be allowed for defects causing serious damage and not more than one fifth of this amount or 1 percent, shall be allowed for decay.

**U.S. No. 2** shall consist of apricots of one variety which are mature but not soft, overripe, or shriveled and which are free from decay, worm holes, and from serious damage caused by limb rubs, growth cracks, dirt, scale, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by

count, of any lot may be below the requirements of this grade, and not more than one tenth of this amount or 1 percent shall be allowed for decay.

**Unclassified** shall consist of apricots which do not meet the requirements of the foregoing grades.

#### MARKING AND PACKING REQUIREMENTS

The minimum size, numerical count, or description of pack of the apricots in any package shall be plainly labeled, stenciled, or otherwise marked on the package.

When the numerical count is used the apricots in any container shall not vary more than one fourth inch in diameter.

"Minimum size" refers to the diameter of the smallest apricot in the package. It shall be stated in terms of whole and eighth inches as 1½ inches minimum, 1½ inches minimum, etc., in accordance with the facts.

"Description of pack" refers especially to apricots packed in four-basket crates and shall be designated according to the arrangement of the apricots in the basket as 4-4, 4-5, 5-5, 5-6, or 6-6. These packs shall not be more than three layers deep. The figures given represent the number of rows of apricots each way in the basket. The bottom layer in any basket shall contain one row less than the two upper layers, i.e., that in a 5-5 pack the apricots in the bottom layer must not be smaller than will pack 4-5.

In order to allow for variations incident to proper sizing not more than 10 percent, by count, of the apricots in any package may be below the minimum size specified.

#### DEFINITIONS OF TERMS

As used in these grades:

"Mature" means having reached the stage of maturity which will insure a proper completion of the ripening process.

"Well formed" means having the shape characteristic of the variety.

"Damage" means that the apricot is injured to an extent readily apparent in the process of proper grading and handling. Well-healed growth cracks not over three eighths of an inch in length, or smooth shallow limb rubs not more than one fourth of an inch in diameter, or russetting affecting not to exceed one tenth of the surface of the apricot, shall not be regarded as damage.

"Serious damage" means any deformity or injury which causes breaking of the skin, or which seriously affects the appearance; but well-healed growth cracks not over one half inch in length shall not be regarded as serious damage.

"Diameter" means the greatest diameter, measured through the center of the apricot, at right angles to a line running from the stem to the blossom end.

## UNITED STATES STANDARDS FOR GLOBE ARTICHOKES

(Effective Feb. 10, 1926)

### GRADES

**U.S. No. 1** shall consist of artichokes which are properly trimmed, fairly well formed, fairly compact, not overdeveloped, and which are free from damage caused by worms, snails, bruising, freezing, disease, insects, or other means. (See Size.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade but no part of this tolerance shall be allowed for decay.

**U.S. No. 2** shall consist of artichokes which are not badly spread or overdeveloped, and which are free from serious damage caused by worms, bruising, freezing, disease, insects, or other means. (See Size.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade but no part of this tolerance shall be allowed for decay.

**Unclassified** shall consist of artichokes which are not graded in conformity with the foregoing grades.

### SIZE

Artichokes in any package shall not vary more than three fourths of an inch in diameter.

The size of the artichokes in any package shall be plainly stamped or otherwise marked on the package in terms of numerical count or minimum size.

In order to allow for variations incident to proper sizing not more than 5 percent, by count, of the artichokes in any package may be below the specified minimum size, or may vary from the  $\frac{3}{4}$ -inch range in diameter permitted in any package.

## DEFINITIONS OF TERMS

As used in these grades:

"Properly trimmed" means that the artichoke has a clean-cut short stem attached.

"Fairly well formed." Artichokes are either of the short, chunky, rounded type with blunt end, or of the slightly long and pointed type. Artichokes are *not* fairly well formed if excessively long and pointed.

"Fairly compact" means that the artichokes shall be reasonably firm and not more than slightly spreading.

"Overdeveloped" means that the artichoke is of a brownish color; that the scales are tough, leathery, and stringy; that the flower in the center of the bud has turned dark pink or purple and become fuzzy.

"Damage" means any injury from the causes mentioned which materially affects the appearance or edible quality.

"Serious damage" means any injury from the causes mentioned which seriously affects the appearance or edible quality.

"Minimum size" means the largest transverse diameter of the smallest artichokes permitted in the package taken at right angles to a line running from the stem to the opposite end.

UNITED STATES STANDARDS FOR  
ASPARAGUS (FRESH)

(Effective Mar. 1, 1933)

## GRADES

**U.S. No. 1** shall consist of stalks of asparagus which are fresh, well trimmed, and fairly straight; which are free from decay and from damage caused by spreading or broken tips, dirt, disease, insects, or mechanical or other means.

*Unless otherwise specified* each stalk shall have a diameter of not less than one-half inch and not less than two thirds of the stalk length shall be of a green color. Any lot may be otherwise classified as to diameter and amount of green color. (See Diameter Classification, Amount of Green Color, and Stalk Length.)

## TOLERANCE FOR DEFECTS

In order to allow for variations, other than diameter and length, incident to proper grading and

handling, not more than 10 percent, by count of the stalks in any container<sup>2</sup> may be below the requirements of the grade but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage and not more than one fifth of this amount, or 1 percent, shall be allowed for decay.

#### TOLERANCE FOR DIAMETER AND LENGTH

In order to allow for variations in diameter and length incident to proper sizing, not more than 10 percent, by count, of the stalks in any container<sup>2</sup> may be below the prescribed minimum diameter for the grade or any other specified minimum diameter or any specified minimum length.

**U.S. No. 2** shall consist of stalks of asparagus which are fresh, well trimmed, and not badly misshapen; which are free from decay and from serious damage caused by spreading or broken tips, dirt, disease, insects, or mechanical or other means.

*Unless otherwise specified* each stalk shall have a diameter of not less than five sixteenths inch and not less than one half of the stalk length shall be of a green color. Any lot may be otherwise classified as to diameter and amount of green color. (See Diameter Classification, Amount of Green Color, and Stalk Length.)

#### TOLERANCE FOR DEFECTS

In order to allow for variations, other than diameter and length, incident to proper grading and handling, not more than 10 percent, by count, of the stalks in any container<sup>2</sup> may be below the requirements of the grade but not more than one tenth of this tolerance, or 1 percent, shall be allowed for decay.

#### TOLERANCE FOR DIAMETER AND LENGTH

In order to allow for variations in diameter and length incident to proper sizing, not more than 10

<sup>2</sup> The tolerances specified for the various grades are placed on a container basis. However, any lot of asparagus shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than  $1\frac{1}{2}$  times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

percent, by count, of the stalks in any container<sup>3</sup> may be below the prescribed minimum diameter for the grade or any other specified minimum diameter or any specified minimum length.

**Unclassified** shall consist of stalks of asparagus which are not graded in conformity with any of the foregoing grades.

#### DIAMETER CLASSIFICATION

The following terms are provided for describing the diameters of any lot:

Very small, less than  $\frac{5}{16}$  inch.  
 Small,  $\frac{5}{16}$  inch to less than  $\frac{9}{16}$  inch.  
 Medium,  $\frac{9}{16}$  inch to less than  $\frac{11}{16}$  inch.  
 Large,  $\frac{11}{16}$  inch to less than  $\frac{13}{16}$  inch.  
 Very large,  $\frac{13}{16}$  inch and up.

#### AMOUNT OF GREEN COLOR

When the asparagus has less or more green color than is specified in the grade it may be described as one fourth green, three fourths green, etc., in accordance with the facts.

#### STALK LENGTH

There is no minimum stalk length specified in the grades but the minimum stalk length should be stated in terms of whole or whole and half inches in connection with the grade designation, as U.S. No. 1, 8½-inch minimum; U.S. No. 1 Large, 7-inch minimum; U.S. No. 1 Large, 10½-inch minimum, etc., in accordance with the facts.

The reason no definite minimum length is specified is due to the wide variation in minimum stalk length as packed in the various producing districts. This variation in stalk length ranges from 5 to 7 inches in some districts to 8½ to 10½ inches in others.

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<sup>3</sup> The tolerances specified for the various grades are placed on a container basis. However, any lot of asparagus shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than 1½ times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

## DEFINITIONS OF TERMS

As used in these grades:

“Fresh” means that the stalk is not limp or flabby.

“Well trimmed” means that the butt of the stalk is smoothly cut at approximately right angles to the longitudinal axis and is not stringy or frayed.

“Damage” means any injury or defect which materially affects the appearance, or edible or shipping quality.

“Diameter” means the greatest thickness of the stalk measured at a point approximately 1 inch from the butt.

“Badly misshapen” means that the stalk is so badly flattened, crooked or otherwise so badly deformed that its appearance is seriously affected.

“Serious damage” means any injury or defect which seriously affects the appearance, edible or shipping quality.

UNITED STATES STANDARDS FOR FRESH  
FABA (FAVA) BEANS

(Effective Apr. 16, 1931)

## GRADES

U.S. No. 1 shall consist of pods of *Faba* beans of similar varietal characteristics which are fresh, not overmature, well filled with well-developed beans; which are free from decay, mildew injury, black spot, internal discoloration of the pod, sprouted beans, worm holes, and from damage caused by excessive moisture, russetting, freezing, hail, dirt, leaves or other foreign matter, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by weight, of the pods in any container<sup>4</sup> may be below the requirements of this grade, and

<sup>4</sup> The tolerances specified for the grade are placed on a container basis. However, any lot of *Faba* beans shall be considered as meeting the requirements of the grade if, upon inspection, no sample from the containers in any lot is found to exceed the tolerances specified by more than one half the amount allowed, provided that the entire lot shall average within the tolerances specified.

not more than 5 percent may be allowed for defects causing serious damage but not more than 2 percent may be allowed for decay.

**Unclassified** shall consist of pods of Faba beans which are not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the pods of Faba beans in any container are of the same general color and type.

“Fresh” means that the pods are not badly wilted and flabby.

“Overmature” means that the beans have developed beyond that stage of growth at which they are desirable for use as fresh beans.

“Well filled” means that two thirds, or more, of each pod is filled with well-developed beans. No pod shall be considered well filled which has less than four well-developed beans.

“Well developed” means that the beans have reached the stage of development at which they do not contain excessive moisture and the skin does not readily slip from the cotyledons when pressed between the thumb and finger. Beans which are stunted or have not attained good size in proportion to the width of the pod shall not be considered as “well developed.”

“Damage” means any injury which materially affects the appearance, edible, or shipping quality.

“Serious damage” means any injury which seriously affects the appearance, edible, or shipping quality.

### UNITED STATES STANDARDS FOR STRING BEANS, WAX, OR GREEN

(Effective Mar. 31, 1927)

#### GRADES

**U.S. No. 1** shall consist of beans of similar varietal characteristics which are fairly bright, fresh, fairly young and tender, firm, of reasonably uniform size, and free from damage caused by dirt, leaves, leaf stems, foreign matter, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the beans in any lot may be below the requirements of this grade, but not to exceed a total of 5 percent, shall be allowed for defects causing serious damage, and not more than two fifths of this amount or 2 percent, shall be allowed for beans affected with soft rot.

**U.S. No. 2** shall consist of beans of similar varietal characteristics which are fairly fresh, firm, and free from serious damage caused by dirt, leaves, leaf stems, foreign matter, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of any lot may be below the requirements of this grade.

**Unclassified** shall consist of beans which are not graded in conformity with any of these grades.

**U.S. Fancy** is provided for the use of those who wish a special grade for the superior beans which meet its requirements.

**U.S. Fancy** shall consist of beans of similar varietal characteristics which are well formed, bright, clean, fresh, young and tender, firm, of reasonably uniform size, and free from damage caused by leaves, leaf stems, foreign matter, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the beans in any lot may be below the requirements of this grade, but not to exceed a total of 5 percent, shall be allowed for defects causing serious damage, and not more than two fifths of this amount or 2 percent, shall be allowed for beans affected with soft rot.

#### DEFINITIONS OF GRADE TERMS

As used in these grades:

“Similar varietal characteristics” means that the beans in any container are of the same color and general type. For example, wax and green beans, or beans of the Refugee and the Valentine types must not be mixed.

“Firm” means that the beans are not wilted or flabby.

"Damage" means that the beans are injured to an extent readily apparent upon examination. Beans showing spots due to blight, anthracnose, or similar spots are damaged.

"Serious damage" means that the beans are injured to such an extent as to seriously injure the appearance or keeping quality of the lot.

## UNITED STATES STANDARDS FOR BUNCHED BEETS

(Effective Aug. 9, 1927)

### GRADES

**U.S. No. 1** shall consist of beets of similar varietal characteristics which are firm, fairly smooth, free from decay and from damage caused by growth cracks, dirt, disease, insects, or mechanical or other means. The tops shall be fresh and either full size or cut back to not less than 6 inches in length. *Unless otherwise specified*, the minimum diameter of the beets shall be  $1\frac{1}{2}$  inches.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of any lot, may be below the specified minimum diameter. In addition, not more than 10 percent, by count, of any lot may be below the remaining requirements of this grade but not more than one tenth of this amount, or 1 percent, shall be allowed for decay.

**Unclassified** shall consist of beets which are not graded in conformity with the foregoing grade.

### SIZE TERMS

The following terms are provided for describing the diameters of any lot: Small means less than 2 inches; medium means 2 to 3 inches, inclusive; large means over 3 inches.

### BUNCHING

Bunches shall be fairly uniform in size.

### DEFINITIONS OF TERMS

As used in these grades:

"Damage" means any injury which materially affects the appearance of the lot or causes appreciable waste in the ordinary preparation for use.

"Diameter" means the greatest dimension of the root taken at right angles to the longitudinal axis.

"Firm" means that the beets are not soft, flabby, or shriveled.

"Fresh" means that tops of beets are not badly wilted and are practically free from discolored or decayed leaves.

## UNITED STATES STANDARDS FOR TOPPED BEETS

(Effective May 1, 1934)

### INTRODUCTION

The tolerances for the standards are placed on a container basis. However, for a tolerance of 10 percent, individual packages in any lot may contain not more than one and one-half times the tolerance specified, and for one of less than 10 percent, individual packages in any lot may contain not more than double the tolerance specified, provided that at least one specimen which does not meet the requirements shall be allowed in any one package and that the average for the entire lot, based on sample inspection, shall average within the tolerances specified.

### GRADES

**U.S. No. 1** shall consist of beets of similar varietal characteristics which are firm, fairly smooth, fairly well shaped, and well trimmed; which are free from soft rot, and from damage caused by freezing, growth cracks, cuts, dirt, disease, insects, rodents, or mechanical or other means.

*Unless otherwise specified*, the minimum diameter of the beets shall be not less than 2 inches. (See Size.)

In order to allow for variations other than size incident to proper grading and handling, not more than 10 percent, by weight, of the beets in any container may be below the requirements of this grade but not more than one-tenth of this amount, or 1 percent, shall be allowed for soft rot.

**Unclassified** shall consist of beets which are not graded in conformity with the foregoing grade.

### SIZE

The following terms are provided for describing the size of the beets in any lot: "Small" means less

than 2 inches in diameter; "medium" means 2 to 3½ inches, inclusive; "large" means over 3½ inches.

In order to allow for variations incident to proper sizing not more than 5 percent, by weight, of the beets in any container may be below any specified minimum size and in addition not more than 10 percent may be above any specified maximum size.

#### DEFINITIONS OF TERMS

As used in these grades:

"Firm" means that the beet is not soft, flabby, or shriveled.

"Fairly smooth" means that the appearance of the beet is not materially injured by roughness such as is caused by abnormal growing conditions or roughness of the crowns caused by the shedding of a considerable number of dead leaves. Slight roughness over the crown or slight pitting caused by the shedding of dead leaves shall not be considered as injury to the appearance.

"Fairly well shaped" means that the beet is not misshapen to such an extent as to materially injure its appearance.

"Well trimmed" means that the tops are trimmed to not more than one-half inch in length and that unattractive secondary rootlets have been removed.

"Soft rot" means any soft, mushy, or leaky condition of the tissue.

"Damage" means any injury or defect which materially injures the appearance of the individual beet or the general appearance of the beets in the container, or which cannot be removed without a loss of more than 5 percent of the total weight of the beet.

"Diameter" means the greatest dimension of the beet taken at right angles to the longitudinal axis.

#### UNITED STATES STANDARDS FOR ITALIAN SPROUTING BROCCOLI

(Effective July 29, 1930)

#### GRADES

**U.S. Fancy** shall consist of well trimmed stalks of Italian sprouting broccoli with compact heads which are not overmature; which are free from decay, and

from damage caused by freezing, wilting, dirt or other foreign material, disease, insects, or mechanical or other means.

*Unless otherwise specified* the minimum diameter of each head shall be not less than 3 inches, and the length of stem and head shall be not less than 5 inches.

In order to allow for variations, other than size, incident to proper grading and handling, not more than 10 percent, by weight, of any lot may be below the requirements of this grade but not more than one tenth of this amount, or 1 percent, shall be allowed for decay.

In addition, not more than 5 percent, by weight, of any lot may not meet the size requirements.

**U.S. No. 1** shall consist of stalks of Italian sprouting broccoli which meet all the requirements of U.S. Fancy except as to size and compactness of heads.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of any lot may be below the requirements of this grade but not more than one tenth of this amount, or 1 percent shall be allowed for decay.

**Unclassified** shall consist of stalks of Italian sprouting broccoli which are not graded in conformity with either of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well trimmed” means that the tough woody portion of the lower stem has been cut off and that any damaged or discolored leaves have been removed. Any attached leaves may be full length, or cut back so as to expose the head.

“Stalk” means the head and stems and any attached leaves.

“Compact” means that the buds in each bud cluster are closely united and that these clusters are also closely united.

“Head” means the bud clusters.

“Overmature” means the stage of growth at which the buds generally appear on the verge of opening, many of them having a pronounced yellowish tinge. A head which shows an occasional open blossom shall not be considered as overmature unless the rest of the buds appear on the verge of opening.

"Damage" means any injury which materially affects the appearance, or the edible or shipping quality of the stalk.

"Diameter" means the average transverse distance through the head.

## UNITED STATES STANDARDS FOR CABBAGE

(Effective Dec. 20, 1928)

### GRADES

**U.S. No. 1** shall consist of heads of cabbage which are of one type, of reasonable solidity, and well trimmed; which are not soft, withered, puffy, or burst; which are free from soft rot, seed stems, and from damage caused by discoloration, freezing, disease, insects, or mechanical or other means. (See Size.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of any lot may be below the requirements of this grade but not to exceed one fifth of this amount or 2 percent may be allowed for decay.

**Unclassified** shall consist of cabbage which is not graded in conformity with the foregoing grade.

### SIZE

The minimum size may be specified in connection with the grades as "U.S. No. 1, 1 pound minimum" or any lot may be classified as "small", "medium", "large", "small to medium", or "medium to large" in accordance with the facts.

Small	Medium	Large
Pointed under 1½ pounds-----	<i>Pounds</i> 1½-3	Over 3 pounds.
Domestic under 2 pounds-----	2 -5	Over 5 pounds.
Danish under 3 pounds-----	3 -6	Over 6 pounds.

In order to allow for variations in sizing not more than a total of 15 percent, by weight, of any lot may vary from the size specifications but not more than 10 percent may be either above or below the size specified. This tolerance is in addition to the tolerance for the grade.

## DEFINITIONS OF TERMS

As used in these grades:

“One type” means that all the lot is pointed, Danish, domestic, savoy, or red as the case may be. Pointed type includes such varieties as Early Jersey Wakefield, Charleston Wakefield, Early York, Winingstadt, and others which normally develop oblong, conical, or pointed shaped heads. Danish type includes such late maturing varieties as Danish Ballhead or Hollander, Danish Roundhead, etc., and such early maturing varieties as Cannonball, Danish Summer Ballhead, etc., which normally develop hard, tight-leaved, compactly formed heads. A head of any such variety even after trimming will appear tight and smooth leaved around the basal portion and when viewed from the stem end, circular and regular in outline. Domestic type includes such varieties as Succession, All Head Early, Flat Dutch, and others that are commonly termed domestic and which normally develop heads flat in shape and less compactly formed than those of the Danish type. The term also includes such varieties as Copenhagen, Glory of Enkhuizen, and others that develop heads roundish in shape but which in solidity of head and storage qualities are similar to the flat domestic type.

“Reasonable solidity” means fairly firm for pointed type cabbage and southern domestic-type cabbage. Northern domestic-type cabbage shall be firm and Danish or Hollander type fairly hard.

“Well trimmed” means that the head shall have not more than four wrapper leaves attached and any portion of these leaves appreciably injured by worms or other means shall be removed, and the stem shall be not longer than one half inch.

“Soft” means loosely formed or lacking compactness.

“Puffy” means that the heads are very light in weight in comparison to size and have air spaces in the central portion. They normally feel firm at time of harvesting but soften quickly. They are known as “balloon heads” in certain sections.

“Seed stems” means those heads which have seed stalks showing or in which the formation of seed stalks has plainly begun.

“Free from damage” means that the head shall not be injured to an extent readily apparent upon examination.

UNITED STATES STANDARDS FOR CABBAGE  
FOR SAUERKRAUT MANUFACTURE

(Effective Feb. 11, 1933)

## INTRODUCTION

Grades for cabbage for sauerkraut manufacture which provide a definite basis for contracts between the manufacturer and the grower are meeting with increased favor. Such grades must recognize variations in commercial value and still be simple enough to be practical in actual operation.

Buying and selling on grade will encourage better production and better handling. The practice of paying a flat price for all cabbage which is accepted, discriminates against the best growers. The grower should be paid a suitable premium for stock of high quality which will make a high-quality manufactured product. Such stock can be manufactured at a minimum cost. On the other hand there should be a suitable penalty for the delivery of culls.

It should be understood at the outset that in the application of these grades the only sorting required of the grower is the removal of culls. Such cabbage should be left in the field. These grades provide a basis for sampling the cabbage as it is delivered to the factory and with a sufficient premium paid for U.S. No. 1 cabbage, over that paid for U.S. No. 2, it will be to the advantage of the grower to increase the percentage of U.S. No. 1 cabbage and to decrease the percentage of U.S. No. 2 by careful growing and harvesting practices.

Attention is specifically called to the fact that in these grades there are no tolerances for defects. The reason for this is that the inspection report will show the exact percentages of U.S. No. 1's, U.S. No. 2's and culls for each load. It is therefore suggested that when the grades are used as a basis for sales to distant buyers, the seller should describe the quality by quoting the percentage of each grade of cabbage in the shipment. For example, a shipper may quote "90 percent U.S. No. 1; remainder U.S. No. 2", or "85 percent U.S. No. 1, 2 percent culls, remainder U.S. No. 2" in accordance with the facts. Such quotations should give the distant buyer a picture of the quality of cabbage in the shipment.

The application of these grades requires the services of private or official inspectors to determine and re-

port the percentages of U.S. No. 1, U.S. No. 2, and cull cabbage in each load. Such inspectors must be capable, efficient, and above all they must be absolutely neutral.

#### GRADES

**U.S. No. 1** shall consist of heads of cabbage which are firm and well trimmed; which are free from seed stems, and from damage caused by bursting, decay, discoloration, freezing, disease, birds, insects, mechanical, or other means. *Unless otherwise specified*, the weight of each head of cabbage shall be not less than 3 pounds.

**U.S. No. 2** shall consist of heads of cabbage which are not soft; which are fairly well trimmed, free from seed stems and from serious damage caused by decay, discoloration, bursting, freezing, disease, birds, insects, mechanical or other means. *Unless otherwise specified*, the weight of each head shall be not less than 2 pounds.

**Culls** are heads of cabbage which do not meet the requirements of either of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well trimmed” means that the head shall be free from loose leaves and the stem shall be not longer than one half inch. Loose leaves shall be considered those leaves which do not closely enfold the head. Heads of cabbage which show evidence of having been well trimmed in the field shall be considered as meeting the trimming requirements although they may have some leaves which have become loose in the process of ordinary handling.

“Seed stems” means those heads which have seed stalks showing or in which the formation of seed stalks has plainly begun.

“Soft” means loosely formed or lacking compactness.

“Damage” means any injury which materially affects the shipping or canning quality or which cannot be removed in the ordinary process of trimming without a waste of more than 5 percent, by weight, over that which would occur if the head of cabbage were perfect.

“Serious damage” means any injury which severely affects the shipping or canning quality or which cannot be removed in the ordinary process of trim-

ming without a waste of more than 15 percent, by weight, over that which would occur if the head of cabbage were perfect.

## UNITED STATES STANDARDS FOR CANTALOUPS

(Effective Apr. 22, 1930)

### GRADES

**U.S. No. 1** shall consist of cantaloups of one variety which are firm, mature, well formed, well netted, and free from aphis honeydew, cracks, sunburn, decay, and from damage caused by dirt, moisture, hail, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade, but not over one half of this tolerance or 5 percent, shall be allowed for any one defect causing serious damage, and no part of this tolerance shall be allowed for decay.

**Unclassified** shall consist of cantaloups which are not graded in conformity with the foregoing grade.

### DEFINITIONS OF TERMS

As used in these grades:

“Mature” means the cantaloup has reached the stage of development which will insure a proper completion of the ripening process.

“Well netted” means having the netting characteristic of a well developed specimen of the variety.

“Damage” means any injury from the causes mentioned which is apparent in the process of proper grading and handling.

“Serious damage” means any injury that seriously affects the edible or shipping quality. Cantaloups which are soft, immature, or cracked shall be considered as being seriously damaged.

## UNITED STATES STANDARDS FOR BUNCHED CARROTS

(Effective Sept. 1, 1932)

### GRADES

**U.S. No. 1** shall consist of carrots of similar varietal characteristics which are firm, fairly well col-

ored, fairly well formed, and fairly smooth; which are free from decay, and from damage caused by growth cracks, seed stems, dirt, sunburn, disease, insects, or mechanical or other means. The tops shall be fresh and free from damage by any cause. *Unless otherwise specified* the carrots shall have full tops. *Unless otherwise specified* the diameter of each carrot shall be not less than 1 inch, and the length of tops shall be not more than 20 inches. (See Length of Tops.)

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of the carrots in any container<sup>5</sup> may be below the specified minimum diameter and not more than 5 percent, by count, may not meet any maximum diameter which may be specified in connection with the grade. In addition, not more than 25 percent of the bunches may have tops longer than the specified length. In addition, not more than 5 percent, by count, may fail to meet the color requirements, and not more than 5 percent, by count, may be below the remaining requirements of this grade but not more than one tenth of this amount, or 0.5 percent shall be allowed for decay at shipping point. In addition, a total of not more than 3 percent shall be allowed for decay en route or at destination.

Unclassified shall consist of carrots which are not graded in conformity with the foregoing grade.

#### SIZE TERMS

The following terms are provided for describing the diameter of any lot:

For varieties similar to the Chantenay, Danvers Half Long, or Nantes types, "small" means less than 1 inch; "medium" means 1 to 1½ inches; "large" means over 1½ inches in diameter.

For varieties similar to the Oxheart type, "small" means less than 1¾ inches; "medium" means 1¾ to 2¼ inches; "large" means over 2¼ inches in diameter.

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<sup>5</sup> Application of tolerances: The tolerances specified for this grade are placed on a container basis. However, any lot of carrots shall be considered as meeting the requirements of the grade if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the tolerance specified by more than double the amount allowed.

### LENGTH OF TOPS

In addition to the statement of grade, the length of tops may be specified as "short", "medium", "long", or "extra long" provided that not more than 25 percent of the bunches have tops longer than the maximum size specified.

Short, under 12 inches; medium, 12 to 16 inches, inclusive; long, over 16 to 20 inches, inclusive; extra long, over 20 inches.

### STANDARD BUNCHES

Each bunch shall contain at least 6 medium-sized carrots or the equivalent of this quantity by weight. For example, a bunch may contain only 4 large carrots if the total edible quantity of roots is approximately equal in weight to 6 medium-sized carrots, or a bunch may contain 10 small carrots if they are about equal in weight to 6 medium-sized carrots. Small and large carrots shall not be mixed in the same bunch.

In order to allow for variations incident to proper bunching not more than 10 percent, by count, of the bunches may not meet the requirements for bunching.

### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the carrots in any container are of the same general type. For example, carrots with a short, blunt growth, like the Oxheart variety, shall not be mixed with carrots having a slender pointed growth like the Chantenay or Danvers Half Long.

"Firm" means that the carrots are not soft, flabby, or shriveled.

"Fairly well colored" means that the carrots have an orange, orange-red, or orange-scarlet color, but not a pale-yellowish color.

"Fairly well formed" means that the carrots are not so forked or misshapen as to materially affect the appearance or cause an appreciable waste in the ordinary preparation for use.

"Fairly smooth" means that the carrots are not rough, ridged, or covered with secondary rootlets to an extent which materially affects the appearance or causes an appreciable waste in the ordinary preparation for use.

"Damage" means any injury which causes appreciable waste in the ordinary preparation for use or which materially affects the appearance of the individual plant or bunch.

"Fresh" means that the tops are not badly wilted.

"Diameter" means the greatest dimension of the root taken at right angles to the longitudinal axis.

## UNITED STATES STANDARDS FOR TOPPED CARROTS

(Effective Oct. 24, 1928)

### GRADES

**U.S. No. 1** shall consist of carrots of similar varietal characteristics which are well trimmed, firm, fairly smooth, not badly misshapen; free from freezing injury, decay, and from damage caused by dirt, sprouts, second growth, growth cracks, cuts, disease, insects, or by mechanical or other means.

*Unless otherwise specified*, the diameter of each carrot shall be not less than  $1\frac{1}{2}$  inches nor more than 3 inches, and the length shall be not less than 3 inches.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of any lot may be larger than the specified maximum diameter and not more than a total of 5 percent, by weight, may be smaller than the specified minimum diameter and minimum length. In addition, not more than a *total* of 10 percent, by weight, may be below the remaining requirements of this grade but not to exceed 5 percent shall be allowed for defects causing serious damage and not more than 3 percent shall be for carrots affected by soft rot but not more than one third of this amount or 1 percent shall be allowed for carrots which are seriously affected by soft rot.

**Unclassified** shall consist of carrots which are not graded in conformity with the foregoing grade.

### DEFINITIONS OF TERMS

As used in these grades:

"Well trimmed" means that the tops shall be cut back to not more than one half inch in length.

"Firm" means that the carrots are not soft, flabby, or shriveled.

"Badly misshapen" means that the carrots are so forked or so misshapen as to cause an appreciable waste in the ordinary preparation for use.

"Damage" means any injury which materially affects the appearance of the lot or causes appreciable waste in the ordinary preparation for use. Unhealed growth cracks are considered as damage but healed-over growth cracks which are smooth and shallow shall not be considered as damage. The superficial green color frequently noticed encircling the stem end of the carrots shall not be considered as damage. Carrots caked with excessive dirt are damaged.

"Serious damage" means any damage from the causes mentioned which seriously affects the appearance or which cannot be removed in the ordinary process of preparation for use without a waste of 20 percent or more of the total weight.

"Diameter" means the greatest dimension of the root taken at right angles to the longitudinal axis.

## UNITED STATES STANDARDS FOR CAULIFLOWER

(Effective June 7, 1934)

### INTRODUCTION

The tolerances for the standards are placed on a container basis. However, individual packages in any lot may vary from the specified tolerances as stated below, provided the averages for the entire lot, based on sample inspection, are within the tolerances specified.

For a tolerance of 10 percent or more, individual packages in any lot may contain not more than one and one-half times the tolerance specified, except that when the package contains 15 specimens or less, individual packages may contain not more than double the tolerance specified.

For a tolerance of less than 10 percent, individual packages in any lot may contain not more than double the tolerance specified, provided at least one specimen which does not meet the requirements shall be allowed in any one package.

### GRADES

**U.S. No. 1** shall consist of compact heads of cauliflower which are not discolored, ricey, or overmature; which are free from soft or wet decay and from dirt or other foreign matter, bruises, diseases, insects,

damage caused by wilting, fuzziness, enlarged bracts, or mechanical or other means. Jacket leaves shall be fresh, green, well trimmed, and free from serious damage by any cause. (See Minimum Size.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the heads in any container may be below the requirements of this grade but not more than one-tenth of this amount, or 1 percent, may be affected by soft or wet decay affecting the curd.

**Unclassified** shall consist of cauliflower which is not graded in conformity with the foregoing grade.

#### MINIMUM SIZE

*Unless otherwise specified the minimum size shall be 4 inches in diameter.*

In order to allow for variations incident to proper packing, not more than 15 percent, by count, of the heads in any container may be below the specified minimum size.

#### DEFINITIONS OF TERMS

As used in these grades:

“Compact” means that the flower clusters are closely united and the heads feel solid.

“Discolored” means that the head is of some abnormal color.

“Ricey” means that the stems of the flower clusters have started to elongate, causing the clusters to separate and give the head a loose or open and sometimes a granular appearance.

“Overmature” means a stage of growth which is beyond that of a compact, properly developed head. An overmature head usually is loose or ricey.

“Damage” means any injury or defect which materially affects the appearance, or the edible or shipping quality of the head. “Damage by fuzziness” means that more than half the head has a distinctly fuzzy appearance. Mold which causes the flesh of the curd to disintegrate or which exceeds three-eighths inch in diameter in the aggregate, or any single spot which exceeds one-fourth inch in diameter shall be considered as damage.

“Enlarged bracts” means leaves growing up through and extending above the curd. Bracts, including small white bracts and enlarged bracts which do not materially injure the appearance of the head shall not be considered as “damage.”

"Well trimmed" means that the jacket leaves shall be limited to the number and length necessary to protect the head. No wrapper leaves are required on heads which are individually wrapped.

"Serious damage" means any injury to the jacket leaves which severely affects the appearance of the head.

"Diameter" refers to the average diameter of the head exclusive of the jacket leaves.

## UNITED STATES STANDARDS FOR ROUGH CELERY

(Effective Sept. 1, 1932)

### GRADES

**U.S. No. 1** shall consist of well-trimmed stalks of celery of similar varietal characteristics which have fairly good heart formation and which are fairly well blanched<sup>7</sup> and not wilted or badly spread, and which are free from damage caused by growth cracks, hollow crown, pithy branches, brown stems, seed stems, freezing, dirt, disease, insects, or mechanical or other means. (See Size for specifications on stalk length.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the stalks in any container<sup>8</sup> may be below the requirements of this grade, but not to exceed one fifth of this tolerance or two percent shall be allowed for decay.

**Unclassified** shall consist of stalks of celery which are not graded in conformity with the foregoing grade.

### SIZE

Where celery is packed in standard containers the number of stalks shall be specified by numerical

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<sup>7</sup> Celery which meets all the requirements of U.S. No. 1 grade except as to blanching may be designated as U.S. No. 1 Green celery.

<sup>8</sup> Application of tolerances: The tolerances specified for this grade are placed on a container basis. However, any lot of celery shall be considered as meeting the requirements of the grade, if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than  $1\frac{1}{2}$  times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

count or in terms of dozens or half dozens. Variations from the number specified shall be allowed as follows:

- Less than 50 stalks, 3-stalk variation.
- 50 to 70 stalks, inclusive, 4-stalk variation.
- More than 70 stalks, 5-stalk variation.

Not more than 10 percent of the containers may not meet the foregoing requirements for the count specified, except that no containers shall vary from the specified count more than three stalks in excess of the variation permitted.

#### STALK LENGTH

Stalk length may be stated in terms of the nearest even inch as 18-inch, 20-inch, 24-inch, etc., in accordance with the facts, *but unless otherwise specified the minimum stalk length of U.S. No. 1 celery shall be 18 inches.*

In order to allow for variations incident to proper packing, not more than 5 percent of the stalks may be shorter than the specified minimum stalk length.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well trimmed” means that the outside coarse and damaged branches have been removed and the portion of the main root remaining is not more than 3 inches in length. Sometimes, for export purposes, celery tops are clipped back and the stalk is wrapped. Such stalks shall not be considered as poorly trimmed or damaged.

“Stalk” means an individual plant.

“Similar varietal characteristics” means that the stalks in any container have the same color and character of growth. For example, celery of Giant Pascal and Golden Self Blanching types must not be mixed.

“Fairly good heart formation” means that the inner heart branches shall be of reasonable number, length, and stockiness.

“Fairly well blanched” means that the stalks are of a light-greenish to white color.

“Damage” means any injury or defect which materially affects the appearance, edible, or shipping quality. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(1) Growth cracks, when the stalk has more than two branches affected by growth cracks each of which is more than one half inch long. Growth cracks of any length affecting not more than two branches shall be permitted.

(2) Pithy branches, when the stalk has more than two branches which are pithy. "Pithy branches" means those which have a distinctly open texture with air spaces in the central portion.

(3) Seed stems, when the stalk has a seed stem the length of which is more than one and one half times the greatest diameter of the stalk. The greatest diameter of the stalk shall be measured at a point 2 inches above the point of attachment of the outer branches to the root. The length of the seed stem shall be measured from the point of attachment of the outer branches at the base of the seed stem to the top of the actual seed stem exclusive of any leaves or leaf stems attached to the top of the seed stem.

(4) Dirt, when the stalk is caked with dirt.

(5) Cutworms, when the edible part of any branch other than the outer ones are affected, or when the outer branches have more than a total of one third of a square inch affected, or any stalk on which the cutworm is present.

## UNITED STATES STANDARDS FOR RED SOUR CHERRIES FOR MANUFACTURE

(Effective Apr. 22, 1931)

### GRADES

**U.S. No. 1** shall consist of cherries which are fairly well colored, free from decay, stems, and worms, and from damage caused by pulled pits, hail, bird pecks, sunscald, shriveling, wind whips, limb rubs, scars, foreign material, disease, mechanical, or other means. *Unless otherwise specified*, each cherry shall have a diameter of not less than five eighths inch.

In order to allow for variations incident to proper handling, not more than 5 percent, by count, of the cherries in any lot may be below the requirements of this grade but no part of this tolerance shall be allowed for cherries which are affected by worms.

**U.S. No. 2** shall consist of cherries which meet all the requirements of U.S. No. 1 grade except that a

tolerance of 10 percent, by count, of the cherries in any lot shall be permitted for grade defects but no part of this tolerance shall be allowed for cherries which are affected by worms.

**U.S. No. 3** shall consist of cherries which meet all the requirements of U.S. No. 1 grade except that a tolerance of 15 percent, by count, of the cherries in any lot shall be permitted for grade defects but no part of this tolerance shall be allowed for cherries which are affected by worms.

**U.S. No. 4** shall consist of cherries which meet all the requirements of U.S. No. 1 grade except that a tolerance of 20 percent, by count, of the cherries in any lot shall be permitted for grade defects but no part of this tolerance shall be allowed for cherries which are affected by worms.

**Unclassified** shall consist of cherries which do not meet the requirements of any of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

"Fairly well colored" means that the cherry may be light red to dark red in color, but shall not be of whitish-pink color.

"Damage" means any injury which materially affects the appearance or edible quality of the cherry. Light-colored scars or scars which do not materially discolor the flesh beneath the skin shall not be considered as damaged. Cherries from which the pits have been removed in the process of harvesting shall be regarded as damaged.

"Diameter" means the greatest dimension, measured through the center of the cherry at right angles to a line running from the stem end to the blossom end.

### UNITED STATES STANDARDS FOR SWEET CHERRIES

(Effective June 2, 1927)

#### GRADES

**U.S. No. 1** shall consist of fresh cherries of one variety which are well formed, mature, but not soft, overripe, or shriveled and which are free from decay and from damage caused by dirt or other foreign matter, skin breaks, cracks, limb rubs, bruises,

scald, hail, birds, russetting, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the cherries in any lot, may be below the requirements of this grade, but not to exceed one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage, and not more than one fifth of this amount, or 1 percent, shall be allowed for cherries affected by decay.

**Unclassified** shall consist of fresh cherries which are not graded in conformity with the foregoing grade.

#### SIZE

In addition to the statement of grade, the size of the cherries in any lot may be specified in terms of minimum diameter or according to the number of cherries to the pound.

In order to allow for variations incident to proper packing, not more than 10 percent, by count, of the cherries in any lot, may vary from the size specified.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well formed” means having the shape characteristic of the variety. Mature doubles shall be considered well formed cherries when each of the halves are evenly formed.

“Mature” means having reached the stage of maturity which will insure a proper completion of the ripening process.

“Damage” means that the cherries are injured to an extent readily apparent in the process of proper grading and handling. The following shall be considered as damage:

1. Heavy or unsightly scratches, limb rubs, russetting, or scars even though covering only a small area of the surface.

2. Any material discoloration or softening of the tissue caused by scald or bruises.

3. All skin breaks and cracks except a very thin line encircling the stem end of the fruit.

“Serious damage” means fresh punctures, rain cracks, or other open skin breaks.

“Diameter” means the greatest dimension, measured through the center of the cherry, at right angles to a line running from the stem to the blossom end.

**UNITED STATES STANDARDS FOR CITRUS FRUITS<sup>9</sup>**

(Effective Oct. 9, 1932)

**INTRODUCTION.**

These standards apply only to the common or sweet orange group, grapefruit, and tangerines, and other varieties belonging to the mandarin group.

Numbers and letters in parentheses following grade terms indicate where such terms are defined on pages 47 to 51, inclusive, under Definitions of Terms.

**GRADE REQUIREMENTS**

**U.S. Fancy** shall consist of citrus fruits of similar varietal characteristics (1), which are well colored (2), firm (3), well formed (4), mature, and of smooth texture (5); free from ammoniation, bird pecks, bruises, buckskin, creasing, cuts which are not healed, decay, growth cracks, scab, split navels, spray burn, and undeveloped or sunken segments, from injury (6) by black or unsightly discoloration (6-7), green spots (6a), rough and excessively wide or protruding navels (6b), scars (6c), scale (6d), thorn scratches (6e), and from damage (10) caused by dirt or other foreign materials (10), dryness (10b), sprouting (10), sunburn (10h), disease, insects, or mechanical or other means (10). (See Tolerances pp. 51 to 53.)

In this grade not more than 10 percent in the aggregate of the surface of each fruit may be affected with discoloration (7).

**U.S. No. 1** shall consist of citrus fruits of similar varietal characteristics (1) which are fairly well colored (8), firm (3), well formed (4), mature, and of fairly smooth texture (9); free from bruises, buckskin, creasing, cuts which are not healed, decay, growth cracks, spray burn, undeveloped or sunken segments, and from damage (10) caused by ammoniation (10a), bird pecks (10), black or unsightly discoloration (7 and 10), dirt or other foreign materials (10), dryness (10b), green spots (10c), scab (10d), scale (10e), scars (10f), split or rough or pro-

<sup>9</sup> These standards supersede United States Standards for Florida Citrus Fruits and United States Standards for Texas Citrus Fruits issued Aug. 7, 1930. They do not apply to California and Arizona citrus fruits for which separate United States standards are issued.

truding navels (10g), sprouting (10), sunburn (10h), thorn scratches (10i), disease, insects, or mechanical or other means (10).

In this grade not more than 50 percent in the aggregate of the surface of each fruit may be affected with discoloration (7).

**U.S. No. 1 Bright.**—The requirements for this grade are the same as for U.S. No. 1 *except* that in this grade no fruit may have more than 20 percent in the aggregate of its surface affected with discoloration (7). (See Tolerances pp. 51 to 53.)

**U.S. No. 1 Russet.**—The requirements for this grade are the same as for U.S. No. 1 *except* that in this grade, more than 60 percent, by count, of the fruit shall have in excess of one half of the surface in the aggregate affected with discoloration (7). (See Tolerances pp. 51 to 53.)

**U.S. No. 2** shall consist of citrus fruits of similar varietal characteristics (1) which are mature but may be only slightly colored (11), fairly firm (12), slightly misshapen (13), and slightly rough (14) but which are free from bruises, cuts which are not healed, decay, growth cracks, and from serious damage (15) caused by ammoniation (15a), bird pecks (15), black or unsightly discoloration (7 and 15), buckskin (15b), creasing (15c), dirt or other foreign materials (15), dryness (15d), green spots (15e), scab (15f), scale (15g), scars (15h), split or protruding navels (15i), spray burn (15j), sprouting (15), sunburn (15k), thorn scratches (15l), undeveloped or sunken segments (15m), disease, insects, mechanical, or other means (15).

In this grade not more than 50 percent, by count, of the fruit may have in excess of one-half of the surface in the aggregate affected with discoloration (7). (See Tolerances pp. 51 to 53.)

**U.S. Combination grade.**—Any lot of citrus fruits may be designated "U.S. Combination" when not less than 40 percent, by count, of the fruits in each container meet the requirements of U.S. No. 1 grade and the remainder U.S. No. 2 grade, provided that not more than 25 percent, by count, of the fruits in any container may have in excess of one half of the surface in the aggregate affected with discoloration. (See Tolerances pp. 51 to 53.)

**U.S. No. 2 Bright.**—The requirements for this grade are the same as for U.S. No. 2 *except* that in this grade no fruit may have more than 20 percent in the

aggregate of its surface affected with discoloration (7). (See Tolerances pp. 51 to 53.)

**U.S. No. 2 Russet.**—The requirements for this grade are the same as for U.S. No. 2 *except* that in this grade, more than 60 percent, by count, of the fruit shall have in excess of one half of the surface in the aggregate affected with discoloration (7). (See Tolerances pp. 51 to 53.)

**Unclassified** shall consist of citrus fruits which are not graded in conformity with any of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

1. "Similar varietal characteristics" means that the fruits in any container are similar in color and shape.

2. "Well colored" as applied to grapefruit, means that the fruit is yellow in color with practically no trace of green color; as applied to oranges of the common and mandarin groups, means that the fruit is yellow or orange in color with practically no trace of green color.

3. "Firm" as applied to grapefruit and oranges, means that the fruit is not soft or noticeably wilted or flabby; as applied to oranges of the mandarin group (tangerines, Satsumas, King, mandarin), means that the fruit is not badly puffy although the skin may be slightly loose.

4. "Well formed" means that the fruit has the shape characteristic of the variety.

5. "Smooth texture" means that the skin is thin and smooth for the variety and size of fruit.

6. "Injury" means any defect or blemish which more than slightly affects the appearance, edible or shipping quality of the fruit. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as injury:

(a) Green spots, when more than four, or when aggregating more than three fourths inch in diameter.

(b) Rough and excessively wide or protruding navels, when protruding beyond the general contour of the orange; or when flush with the general contour but with the opening so wide, considering the size of the fruit, and the navel growth so folded and ridged, that it detracts noticeably from the appearance of the orange.

(c) Scars, when causing roughness of the fruit texture to a greater degree than is permitted under the term "smooth" as required in the grade; or when the scars affect the appearance of the fruit to a greater extent than the maximum of discoloration allowed in the grade.

(d) Scale, when more than a few adjacent to the "button" at stem end, or when more than six scattered on other portions of the fruit.

(e) Thorn scratches, when the injury is not slight, not well healed, or more unsightly than discoloration allowed in the grade.

7. "Discoloration" means russetting of a light shade of golden brown caused by rust mite or other means. Lighter shades of russetting caused by superficial scars or other means may be allowed on a greater area, or darker shades may be allowed on a lesser area, provided, no russetting caused by melanose or other means may affect the appearance of the fruit to a greater extent than the shade and amount of russetting allowed for the grade.

8. "Fairly well colored" means that the yellow or orange color predominates over the green color on that part of the fruit which is not russeted.

9. "Fairly smooth texture" means that the skin is fairly thin and not coarse for the variety and size of fruit.

10. "Damage" means any defect or injury which materially affects the appearance, edible, or shipping quality of the fruit. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as damage:

(a) Ammoniation, when not occurring as light speck type similar to melanose.

(b) Dryness, when extending into segments more than one fourth inch at the stem end, or more than the equivalent of this amount, by volume, when occurring in other portions of the fruit.

(c) Green spots, when more than seven in number, or when aggregating more than 1 inch in diameter.

(d) Scab, when it cannot be classed as discoloration, or affects shape or texture.

(e) Scale, when occurring as a ring or concentrated blotch on oranges and varieties of the mandarin group when the average outside diameter is more than three fourths of an inch; or as more than one ring, or any ring or blotch on grapefruit when

the average outside diameter is more than  $1\frac{1}{2}$  inches; or scattered scale on oranges or grapefruit which detracts from the appearance of the fruit to a greater extent than the maximum ring or blotch allowed.

(f) Scars when causing roughness of the fruit texture to a greater degree than is permitted under the term "fairly smooth" as required in the grade; or when these scars affect the appearance of the fruit to a greater extent than the maximum of discoloration allowed.

(g) Split or rough or protuding navels, when any split is unhealed, or more than three well-healed splits at the navel, or any split which is more than one fourth inch in length; or three-cornered, star-shaped, or other irregular navels when the opening is so wide, considering the size of the orange, and the navel growth so folded and ridged, that it detracts materially from the appearance of the orange; or navels which flare, bulge, or protrude beyond the general contour of the orange to the extent that they are subject to mechanical injury in the process of proper grading, handling, and packing.

(h) Sunburn, when the area affected exceeds 25 percent of the fruit surface, or when the affected portion is appreciably flattened, dry, darkened, or hard.

(i) Thorn scratches, when the injury is not well healed, or when light colored and concentrated and more than 1 inch in diameter, or black or scattered thorn injury which detracts from the appearance of the fruit to a greater extent than the 1 inch light-colored concentrated injury.

11. "Slightly colored" means that the green or russet color predominates but that the fruit shows some yellow or orange color on that part of the fruit which is not russeted.

12. "Fairly firm" as applied to grapefruit, means that the fruit may be slightly soft but not bruised, and the skin may be thick and slightly puffy; as applied to oranges, means that the fruit may be slightly soft, but not bruised; as applied to oranges of the mandarin group (tangerines, Satsumas, King, mandarin) means that the skin of the fruit is not badly puffy or very loose.

13. "Slightly misshapen" means that the fruit is not of the shape characteristic of the variety but is

not decidedly pear shaped, elongated, sharply pointed, or otherwise badly deformed.

14. "Slightly rough texture" means that the skin is not of smooth texture but is not badly ridged, badly grooved, or badly wrinkled.

15. "Serious damage" means any defect or injury which seriously affects the appearance, or edible or shipping quality of the fruit. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(a) Ammoniation, when scars are cracked, or when more than  $1\frac{1}{4}$  inches in diameter in the aggregate.

(b) Buckskin, when unsightly, or the fruit texture is seriously affected.

(c) Creasing, when deep, or when more than 1 inch in length.

(d) Dryness, when extending into segments more than one half inch at the stem end, or more than the equivalent of this amount by volume when occurring in other portions of the fruit.

(e) Green spots, when aggregating more than 2 inches in diameter.

(f) Scab, when more than 15 percent in the aggregate of the surface is affected, or when materially affecting shape or texture.

(g) Scale, when occurring as a ring or concentrated blotch on oranges and varieties of the mandarin group when the average outside diameter is more than 1 inch; or as one ring or blotch on grapefruit when the average outside diameter is more than  $1\frac{3}{4}$  inches; or scattered scale or small rings or blotches on oranges or grapefruit which detract from the appearance of the fruit to a greater extent than does the maximum ring or blotch allowed.

(h) Scars, when causing roughness of the fruit texture to a greater degree than is permitted under the term "slightly rough" as stated in the grade; or when these scars affect the appearance of the fruit to a greater extent than the maximum of discoloration allowed in the grade.

(i) Split or protruding navels, when any split is unhealed, or one well-healed split at each corner of irregular navels when any one is more than one half inch in length, or when aggregating more than 1 inch in length, or when more than four in number; or navels which protrude beyond the general contour of the orange to the extent as to be a likely source of

mechanical injury during the process of proper grading, handling, and packing; or irregular-shaped navels when the opening is so wide, considering the size of the orange, and the navel growth so badly folded and ridged that it detracts seriously from the appearance of the orange.

(j) Spray burn, when seriously affecting appearance of the fruit or when more than  $1\frac{1}{2}$  inches in diameter in the aggregate.

(k) Sunburn, when the affected portion exceeds one third of the fruit surface, or is hard or discolored, or the fruit decidedly one-sided.

(l) Thorn scratches, when the injury is not well healed, or when light colored and concentrated and more than  $1\frac{1}{2}$  inches in diameter, or black or scattered thorn injury which detracts from the appearance of the fruit to a greater extent than the  $1\frac{1}{2}$ -inch light-colored concentrated injury.

(m) Undeveloped or sunken segments, in navel oranges, when such segments are so sunken or undeveloped that they are readily noticeable.

#### TOLERANCES FOR PRECEDING GRADES

The tolerances specified for the various grades are placed on a container basis. However, any lot of fruit shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts:

For a specified tolerance of 10 percent or more, not more than one and one half times the tolerance shall be allowed in any one package.

For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any one package.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances are provided as specified:

*U.S. Fancy.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade but not more than one fourth of this tolerance, or  $2\frac{1}{2}$  percent, shall be allowed for damage by black or unsightly discoloration, and not more than one twentieth of this tolerance or 0.5 percent, shall be allowed for decay at shipping point. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at destina-

tion. No part of any tolerance shall be allowed for wormy fruit or worm holes.

*U.S. No. 1 Bright.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade but not more than one fourth of this tolerance, or 2½ percent, shall be allowed for serious damage by black or unsightly discoloration, and not more than one twentieth of this tolerance, or 0.5 percent, shall be allowed for decay at shipping point. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at destination. No part of any tolerance shall be allowed for wormy fruit or worm holes.

*U.S. No. 1.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade other than for discoloration but not more than one twentieth of this tolerance, or 0.5 percent, shall be allowed for decay at shipping point. In addition, not more than 10 percent, by count, of the fruit in any container may not meet the requirements relating to discoloration but not more than one fourth of this tolerance, or 2½ percent, shall be allowed for serious damage by black or unsightly discoloration. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at destination. No part of any tolerance shall be allowed for wormy fruit or worm holes.

*U.S. No. 2 Bright.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade but not more than one fourth of this tolerance, or 2½ percent, shall be allowed for serious damage by black or unsightly discoloration and not more than one twentieth of this tolerance, or 0.5 percent, shall be allowed for decay at shipping point. In addition, a total tolerance of not more than 3 percent shall be allowed for decay en route or at destination. No part of any tolerance shall be allowed for wormy fruit or worm holes.

*U.S. No. 2.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade but not more than one twentieth of this tolerance, or 0.5 percent shall be allowed for decay at shipping point. In addition, not more than 10 percent, by count, of the fruit in any container may not meet the requirements relating to discoloration. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at

destination. No part of any tolerance shall be allowed for wormy fruit or worm holes.

*U.S. Combination grade.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of this grade but not more than one twentieth of this tolerance, or 0.5 percent, shall be allowed for decay at shipping point. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at destination. No part of any tolerance shall be allowed for wormy fruit or worm holes. No part of any tolerance shall be allowed to reduce the percentage of U.S. No. 1 required in the combination except that the 3 percent tolerance for decay en route or at destination may be used to reduce this percentage provided there is no evidence that the decayed fruit did not meet the requirements of U.S. No. 1 grade at time of packing.

*U.S. No. 1 Russet, U.S. No. 2 Russet grades.*—Not more than 10 percent, by count, of the fruit in any container may be below the requirements of these grades but not more than one twentieth of this amount, or 0.5 percent, shall be allowed for decay at shipping point, and no part of this tolerance shall be allowed to reduce the percentage of russet fruit required in these grades. In addition, a *total* tolerance of not more than 3 percent shall be allowed for decay en route or at destination. No part of any tolerance shall be allowed for wormy fruit or worm holes.

#### STANDARD PACK

Fruit shall be arranged in the boxes according to the approved and recognized methods. The fruit shall be tightly packed and the wrap show at least one half twist. Each fruit shall be enclosed in its individual wrapper, except that in packs of oranges and tangerines of a size 250 and smaller only fruit in the top and bottom layers and fruit exposed at the sides of the box shall be required to be wrapped.

Each box of oranges shall show a minimum bulge of  $1\frac{1}{4}$  inches. With grapefruit the minimum bulge shall be 2 inches, except that boxes packed with grapefruit of a size 80 or smaller need only show a bulge of  $1\frac{1}{2}$  inches. Boxes of tangerines shall show a minimum bulge of three fourths of an inch.

In order to allow for variations incident to proper packing not more than 5 percent of the boxes in any lot may not meet the requirements for the standard pack.

## UNITED STATES STANDARDS FOR GREEN CORN

(Effective Jan. 20, 1927)

## GRADES

**U.S. No. 1** shall consist of ears of green corn of similar varietal characteristics which are well trimmed, well formed, and free from damage caused by smut or other disease, insects, mechanical, or other means. Cobs shall be well filled with plump and milky kernels and well covered with fresh, green husks.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade.

**U.S. Fancy** shall consist of ears of green corn which meet all the requirements of U.S. No. 1 grade except that the ears shall be free from insect injury instead of free from damage caused by insect injury.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade.

**Unclassified** shall consist of green corn which is not graded in conformity with either of the foregoing grades.

## DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the ears in any container are of similar color and character of growth. Ears of field and sweet corn or white and yellow corn shall not be mixed in the same container.

“Well trimmed” means that the ears are practically free from loose husks and that the shank shall not extend more than 1 inch beyond the point of attachment of the outside husk.

“Well formed” means that the ears are not stunted. Nubbins are not well formed ears.

“Damage” means injury from any cause which materially affects the appearance or edible quality of the ear. Ears showing worm injury extending not more than 1½ inches from the tip of the cob shall

not be regarded as damaged, but worm injury affecting kernels on other parts of the cob shall be considered as damaged.

"Well filled" means that the rows of kernels show fairly uniform development, and that the appearance and quantity of the edible portion of the ear are not materially affected by poorly developed rows.

"Plump and milky" means that the kernels are well developed but not over mature or shriveled.

"Fresh" means that the husks are not badly wilted, dried, or turning yellow or brown.

## SUGGESTED UNITED STATES STANDARDS FOR SWEET CORN FOR CANNING

(Effective Feb. 17, 1932)

### INTRODUCTION

These grades are suggested for experimental use under commercial conditions. They are not recommended for general use at this time but it is hoped that they will be used in an experimental way in order to determine whether or not changes are necessary.

In order to avoid confusion the term "milk stage" is used in these grades to describe the maturity which has been sometimes called "early maturity" or "whole-grain maturity." The term "early dough stage" is used to describe that stage of maturity sometimes referred to as "late maturity" or "cream style maturity."

The U.S. No. 1 grade covers a rather wide range of maturity. Sweet corn of this grade may range in maturity from the beginning of the milk stage to the most advanced maturity permitted in the early dough stage. It may be desirable for canners to specify in their contracts the proportion of milk stage to early dough stage which they desire. (These terms are defined in the standards.) There is not sufficient information at hand on which to determine just what the proper proportion should be. Experiments should be conducted with a view to determining the proportion which is most desirable. If a moisture test should be found to be practical under commercial conditions there will probably be no need for specifying such a proportion.

If these grades were to be used as a basis for contracts between canners and growers, the following example illustrates one method of determining the value of the loads:

Suppose the contract specifies 1 cent per pound for U.S. No. 1 cobs and kernels,  $\frac{1}{2}$  cent per pound for No. 2's, and nothing for culls.

The inspector takes a sample from a load of 2,000 pounds of sweet corn and obtains the following results based on his inspection:

40 percent of U.S. No. 1 cobs and kernels.  
20 percent of U.S. No. 2 cobs and kernels.  
10 percent of cull cobs and kernels.

The prices for the whole load would be determined as follows: 40 percent of 2,000 pounds equals 800 pounds of No. 1 cobs and kernels, which at 1 cent per pound equals \$8; 20 percent of 2,000 pounds equals 400 pounds of No. 2 cobs and kernels, which at  $\frac{1}{2}$  cent per pound equals \$2.

\$8 for the No. 1's plus \$2 for the No. 2's equals \$10 which will be the price paid for the ton of corn as delivered in the husk.

The foregoing prices are used for illustrative purposes only.

In determining the proportion of each of the grades of sweet corn in any load, percentages shall be determined by weight, on the basis of the proportion of cobs and kernels to the gross weight of the sample consisting of husks, cobs, and kernels. For example, a sample of sweet corn taken from a load weighs 50 pounds, including husks, cobs, and kernels. The corn is husked and the cobs and kernels are separated into U.S. No. 1's, U.S. No. 2's, and Culls. The cobs and kernels of each grade are weighed separately and it is found that there are 20 pounds of No. 1 grade, 10 pounds of No. 2, and 5 pounds of Culls. The 20 pounds of No. 1 grade equals 40 percent of the 50-pound sample secured from the load; the 10 pounds of No. 2 grade equals 20 percent, and the 5 pounds of Culls equals 10 percent. These percentages total 70 percent, the remaining 30 percent consisting of husks. Attention is specifically called to the fact that although the husk is weighed with the gross sample, it is not weighed with the cobs and kernels in determining the amounts of corn in each of the grades.

## GRADES

**U.S. No. 1** shall consist of ears of sweet corn of similar varietal characteristics (1)<sup>10</sup> which are fairly well formed (2), free from freezing injury, smut, and from damage (3) caused by other disease, insects, cross-pollination, or other means. Kernels shall have reached the milk stage (4) but shall not have advanced in maturity beyond the early dough stage (5). *Unless otherwise specified*, each cob shall have not less than 4 inches of its length practically filled with kernels which are free from injury from any cause.

**U.S. No. 2** shall consist of ears of sweet corn of similar varietal characteristics (1) which are free from freezing injury, smut, and from serious damage (6) caused by other disease, insects, cross-pollination, or other means. Kernels shall be mature (7) but not overmature (8) for canning purposes. *Unless otherwise specified*, each cob shall have not less than 3 inches of its length fairly well filled with kernels which are free from injury from any cause.

**Culls** are ears of corn which do not meet the requirements of either of the foregoing grades.

## DEFINITIONS OF TERMS

As used in these grades:

1. "Similar varietal characteristics" means that the corn in any lot is of the same general type and color.

2. "Fairly well formed" means that the ear is of such shape that trimming is not required for it to pass through the cutting machine.

3. "Damage" means any injury which materially affects the canning quality or which causes an appreciable waste of corn or loss of labor in preparation for canning. Ears which have more than five kernels of a color which is materially different from that of the majority of the kernels on an ear shall be considered as damaged.

4. "Milk stage" means that the exudate of the kernels is milky and not of a watery consistency.

5. "Early dough stage" means that the kernels have a heavy, creamy consistency and that moderate pressure with the thumb nail is required to break

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<sup>10</sup> Numbers in parentheses following grade terms indicate where such terms are defined under Definitions of Terms on pp. 57 and 58.

the skins or pericarps, but the kernels do not show denting due to advanced maturity.

6. "Serious damage" means that the ear is injured to such an extent as to seriously affect the canning quality or to cause a large amount of waste or loss of labor in preparation for canning.

7. "Mature for canning purposes" means that the ears of sweet corn have developed beyond the stage at which the kernels are blister-like and have a watery consistency characteristic of immature corn.

8. "Overmature for canning purposes" means that the kernels show appreciable denting due to advanced maturity, or the skins or pericarps are tough.

## UNITED STATES STANDARDS FOR SLICING CUCUMBERS

(Effective Apr. 5, 1932)

### GRADES

**U.S. Fancy** shall consist of cucumbers which are well formed, fresh, firm, and sufficiently mature for slicing purposes but not full grown or ripe; which have a green color over two thirds or more of the surface and are free from decay and from damage caused by dirt, freezing, mosaic or other disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum length of the cucumbers shall be not less than 5 inches. (See Tolerances p. 59.)

**U.S. No. 1** shall consist of cucumbers which are fairly well formed and which are fresh, firm, and sufficiently mature for slicing purposes but not full grown or ripe; which are free from decay and from damage caused by dirt, freezing, mosaic or other disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum length of the cucumbers shall be not less than 5 inches. (See Tolerances p. 59.)

**U.S. No. 2** shall consist of cucumbers which are not badly deformed and which are fresh, firm, and sufficiently mature for slicing purposes but not full grown or ripe; which are free from decay and from serious damage caused by dirt, freezing, mosaic or other disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum length of the cucumbers shall be not less than 4 inches. (See Tolerances p. 59.)

**Unclassified** shall consist of cucumbers which are not graded in conformity with any of the foregoing grades.

#### TOLERANCES FOR PRECEDING GRADES

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of the cucumbers in any container may be below the specified minimum length. In addition, not more than 10 percent, by count, of the cucumbers in any container may be below the remaining requirements of this grade but not more than one tenth of this tolerance, or 1 percent, shall be allowed for decay.

The tolerances specified for the various grades are placed on a container basis. However, any lot of cucumbers shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts:

For a specified tolerance of 10 percent, not more than one and one half times the tolerance shall be allowed in any one package.

For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any one package.

#### DEFINITIONS OF TERMS

As used in these grades:

"Well formed" means the normal typical shape for the variety.

"Fresh" means bright, not wilted or old.

"Sufficiently mature for slicing purposes" means the cucumber has a bright color and the warts or knobs when present are fairly prominent. The seeds are not hard and the flesh firm and fairly crisp.

"Full grown" means that the cucumber has a dull appearance, is fairly smooth and warts when present, are not prominent. Such cucumbers are generally well filled out at the ends and yield to slight pressure of the thumb. The seeds are fairly hard to hard and the pulp in the seed cavity is usually watery or jellylike.

"Fairly well formed" means that the cucumber is not more than slightly curved, tapered slightly more than normal at one or both ends, or otherwise slightly misshapen.

“Damage” means any injury by the causes mentioned which materially affects the appearance, or edible or shipping quality.

“Badly deformed” means that the cucumber is so badly curved, hooked, beaked, bottle-necked, constricted, or otherwise so badly misshapen that the appearance is seriously affected, or excessive waste is caused in preparation for use.

“Serious damage” means any injury by the causes mentioned which seriously affects the appearance, or edible or shipping quality.

## UNITED STATES STANDARDS FOR DEW-BERRIES AND BLACKBERRIES

(Effective Feb. 13, 1928)

### GRADES

**U.S. No. 1** shall consist of dewberries or blackberries of one variety which are firm, well colored, well developed, and not overripe, which are free from caps (calyxes), mold, and decay, and from damage caused by dirt or other foreign matter, shriveling, moisture, disease, insects, mechanical, or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by volume, of the berries in any lot may be below the requirements of this grade, but not to exceed one half of this tolerance or 5 percent, shall be allowed for defects causing serious damage and not more than one fifth of this amount or 1 percent, may be affected by mold or decay.

**U.S. No. 2** shall consist of dewberries or blackberries of one variety which are not graded in conformity with the foregoing grade and which do not contain more than 10 percent, by volume, of berries that have been seriously damaged from any cause, but not more than one fifth of this amount, or 2 percent, may be affected by mold or decay.

**Unclassified** shall consist of dewberries or blackberries which are not graded in conformity with the foregoing grades.

### DEFINITIONS OF TERMS

As used in these grades:

“Well colored” means that the whole surface of the berry shall be a blue or black color.

“Well developed” means that the berries shall not be misshapen owing to anthracnose injury, frost in-

jury, lack of pollination, insect injury, or other causes.

“Overripe” means dead ripe or soft, necessitating immediate consumption.

“Damage” means any injury from the causes mentioned which materially affects the appearance, or edible or shipping quality.

“Seriously damaged” means berries which are badly deformed, crushed, leaky, moldy, decayed, or otherwise seriously injured. Berries which have less than one half of the surface covered with a blue or black color shall be considered as seriously damaged.

## UNITED STATES STANDARDS FOR EGGPLANT

(Effective Dec. 1, 1933)

### GRADES

**U.S. No. 1** shall consist of eggplants of similar varietal characteristics which are firm, fairly smooth, of good characteristic color, fairly well shaped and which are free from damage caused by disease, insects, mechanical, or other means. If count is specified, the eggplants shall be reasonably uniform in size in the container.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the eggplants in any container<sup>11</sup> may be below the requirements of this grade but not more than one eggplant in any container<sup>11</sup> may be affected by decay provided an average of not more than 1 percent of the eggplants in any lot may be affected by decay.

**U.S. No. 2** shall consist of eggplants which are firm and which are free from serious damage caused by disease, insects, mechanical, or other means.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the eggplants in any container<sup>11</sup> may be below the requirements of this grade but not

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<sup>11</sup> Application of tolerances: The tolerances specified for these grades are placed on a container basis. However, any lot of eggplants shall be considered as meeting the requirements of a specified grade, if the entire lot averages within the tolerances specified, provided that the defects in any container based on sample inspection do not contain more than double the amount allowed.

more than one eggplant in any container<sup>12</sup> may be affected by decay provided an average of not more than 1 percent of the eggplants in any lot may be affected by decay.

Unclassified shall consist of eggplants which are not graded in conformity with the foregoing grades.

#### MARKING REQUIREMENTS FOR SIZE

The size of eggplants may be designated in terms of count or minimum diameter.

Where the size is specified, in order to allow for variations incident to proper packing, not more than 10 percent, by count, of the eggplants in any container<sup>12</sup> may be below the size specified.

#### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the eggplants are alike as to shape and general characteristics.

“Firm” means that the eggplants are not soft or flabby.

“Good characteristic color” means that the eggplants are uniformly colored a deep purple. Streaked color, light-purple, reddish, or yellowish color shall not be considered good characteristic color.

“Fairly well shaped” means that those of the long type such as Florida High Bush may be either cylindrical or slightly curved but that they shall not be materially deformed; those of thick, chunky type such as New York Improved may show the characteristic scallops at the base and may be slightly curved, but they shall not be materially deformed.

“Fairly smooth” means that any scars present do not materially affect the appearance, shape, or color.

“Damage” means any injury which materially affects the appearance, edible or shipping quality.

“Serious damage” means any injury which seriously affects the appearance, edible or shipping quality.

“Diameter” means the greatest dimension at right angles to the longitudinal axis.

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<sup>12</sup> See footnote 11.

UNITED STATES STANDARDS FOR ENDIVE  
OR ESCAROLE OR CHICORY <sup>13</sup>

(Effective June 15, 1933)

## GRADES

**U.S. No. 1** shall consist of plants of similar varietal characteristics, which are fresh, well trimmed, fairly well blanched, free from decay and from damage caused by seed stems, broken, bruised, spotted or discolored leaves, wilting, dirt, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the plants in any container <sup>14</sup> may be below the requirements of this grade but not to exceed a total of 5 percent, shall be allowed for defects causing serious damage, and not more than two fifths of this amount or 2 percent shall be allowed for decay.

**Unclassified** shall consist of endive, escarole, or chicory, which is not graded in conformity with the foregoing grade.

## DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the plants shall be of the same type as curly-leaved endive or broad-leaved escarole.

"Well trimmed" means that the roots shall be neatly cut, close to the point of attachment of the outer leaf stems.

"Fairly well blanched" means that the plant shall have a yellowish white to white heart formation with a spread averaging not less than 4 inches in diameter

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<sup>13</sup> These grades do not apply to French endive or chicory which is marketed for its roots.

<sup>14</sup> Application of tolerances: The tolerances specified for the grade are placed on a container basis. However, any lot of endive or escarole or chicory shall be considered as meeting the requirements of the grade, if the entire lot averages within the tolerances specified, provided that the defects in any container based on sample inspection do not exceed the following amounts: For a specified tolerance of 10 percent, not more than 1½ times the tolerance shall be allowed for any 1 container. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed for any 1 container.

when the head is opened as far as possible without breaking the leaves or leaf stems.

"Damage" means any injury from the causes mentioned which materially affects the appearance, edible or shipping quality of the individual plant, or of the lot as a whole.

"Serious damage" means any injury from the causes mentioned which seriously affects the appearance, edible or shipping quality of the individual plant, or of the lot as a whole.

## UNITED STATES STANDARDS FOR GARLIC

(Effective Sept. 12, 1927)

### GRADES

**U.S. No. 1** shall consist of garlic of similar varietal characteristics which is mature and well cured, clean, compact, with cloves well filled and fairly plump, and free from damage caused by doubles, sunburn, sunscald, cuts, tops, roots, disease, insects, or mechanical or other means.

*Unless otherwise specified, the minimum diameter of each bulb shall be not less than 1½ inches.*

In order to allow for variations incident to proper grading and handling, not more than 10 percent by weight, of any lot may be below the requirements of this grade, but not more than a total of one fifth of this tolerance or 2 percent shall be allowed for garlic which is affected by soft rot.

**Unclassified** shall consist of garlic which is not graded in conformity with the foregoing grade.

### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the garlic in any container is of the same color. White and red garlic shall not be mixed.

"Mature and well cured" means having reached that stage of development at which the garlic is firm and sufficiently dried so as not to be soft and spongy.

"Clean" means free from excessive dirt or other foreign matter.

"Compact" means that the cloves are closely joined at the top and are not spreading or split.

"Well filled and fairly plump" means that each clove contains a kernel which is fairly plump and not shriveled.

"Damage" means any injury or defect which materially affects the appearance of the lot.

"Doubles" means garlic consisting of cloves attached to the rest of the bulb at the root but which are not enclosed by a scale completely covering the bulb.

"Sunburn" means discoloration due to exposure to the sun when there is no injury to the tissue.

"Sunscald" means softening of the tissue due to exposure to the sun.

"Diameter" means the greatest dimension at right angles to a straight line running from stem to root end.

"Soft rot" means any soft or mushy condition of the tissue such as slimy soft rot, or wet break-down following sunscald.

## UNITED STATES STANDARDS FOR AMERICAN (EASTERN TYPE) BUNCH GRAPES

(Effective July 14, 1930)

### GRADES

**U.S. Fancy Table** grapes shall consist of grapes of one variety which are well colored, mature, firmly attached to cap stems, not shattered, split, crushed, dried, wet or soft; which are free from mold, decay, mildew, berry moth, russetting, hail, and from damage caused by freezing, disease, insects, or other means. Not less than 50 percent of the bunches in any container<sup>15</sup> shall be compact and the remainder shall be fairly compact. Bunches shall not be excessively small excepting that compact portions of bunches consisting of no less than five berries may be used to fill open spaces between whole bunches.

Berries of the Concord, Worden, Champion, and other varieties of similar size shall have a minimum diameter of not less than nine sixteenths of an inch measured through the widest portion of the cross section.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent by weight, of the berries in any container<sup>15</sup>

may be below the requirements of this grade but not more than 5 percent shall be allowed for serious damage. Of this tolerance for serious damage not more than two fifths or 2 percent shall be allowed for dried berries and not more than one fifth or 1 percent may be affected by mold or decay. In addition, not more than 5 percent, by weight, of the bunches in any container<sup>15</sup> may be straggly, and not more than one tenth, by weight, of the bunches in any container<sup>15</sup> may have more than 10 percent of berries which do not meet the size requirements.

**U.S. No. 1 Table** grapes shall consist of grapes of one variety which are fairly well colored, mature, firmly attached to cap stems, not shattered, split, crushed, dried, wet or soft, which are free from mold, decay, berry moth, and from damage caused by mildew, russetting, hail, freezing, disease, insects, or other means. Not less than 85 percent of the bunches in any container<sup>15</sup> shall be fairly compact.

Berries of the Concord, Worden, Champion, and other varieties of similar size shall have a minimum diameter of not less than nine sixteenths of an inch measured through the widest portion of the cross section.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent by weight, of the berries in any container<sup>15</sup> may be below the requirements of this grade, but not more than 5 percent shall be allowed for serious damage. Of this tolerance for serious damage not more than two fifths or 2 percent shall be allowed for dried berries and not more than two fifths or 2 percent may be affected by mold or decay.

In addition not more than one tenth by weight, of the bunches in any container<sup>15</sup> may have more than 10 percent of berries which do not meet the size requirement.

**U.S. No. 1 Juice** grapes shall consist of grapes of one variety which are fairly well colored, mature, firmly attached to cap stems, not shattered, split,

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<sup>15</sup>Application of tolerances: Although the tolerances specified for the various grades are placed on a container basis, not more than one fourth of the containers in any lot may be permitted to exceed the tolerances specified, by not more than one half of the amount allowed; provided, that the entire lot shall average within the tolerances specified; provided, further, that no container shall have more mold or decay than the amount specified in the tolerance.

crushed, dried, wet, or soft, which are free from mold, decay, berry moth, and from serious damage caused by mildew, russetting, hail, freezing, disease, insects, or other means. Not less than 60 percent of the bunches in any container<sup>16</sup> shall be fairly compact.

In order to allow for variations incident to proper grading and handling, not more than a total of 15 percent, by weight, of the berries in any container<sup>16</sup> may be below the requirements of this grade but not more than 6 percent shall be allowed for berries which are seriously damaged and not more than one half of this amount or 3 percent may be affected by mold or decay.

#### MIXED VARIETIES

Any lot of grapes consisting of more than one variety which meets all other requirements of "U.S. Fancy Table", "U.S. No. 1 Table" or "U.S. No. 1 Juice" may be designated as "U.S. Fancy Table Mixed", "U.S. No. 1 Table Mixed", "U.S. No. 1 Juice Mixed."

**Unclassified.**—Grapes which are not graded in conformity with the foregoing grades may be designated as "Unclassified."

#### DEFINITIONS OF TERMS

As used in these grades:

"Mature" means that the grapes are juicy, palatable, and have reached that stage of development at which the skin of the berry easily separates from the pulp. Frozen or slightly frosted stock should not be confused with mature stock.

"Well colored" means that the berries shall show full color characteristic of the variety.

"Fairly well colored" means that not less than 75 percent, by weight, shall show full color characteristic of the variety; 25 percent may show partially or poorly colored berries which are not characteristic of immature berries.

"Shattered berries" means berries which have separated from the bunch.

"Compact bunches" means well filled bunches, with no open spaces.

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<sup>16</sup> See footnote 15.

"Fairly compact" means that the bunches are well filled but that the berries are not closely spaced as in "compact bunches."

"Damage" means any injury which materially affects the appearance or the edible or shipping quality. Mildew which affects the appearance of the berries shall be considered as damage, but berries shall not be regarded as damaged by mildew which are firmly attached to the stems and which have only slight traces of mildew on the inside of the bunch where it does not affect the appearance of the berries.

"Serious damage" means that the defects taken singly or collectively seriously affect the market quality.

"Straggly" means a decidedly open bunch with large open spaces and very few berries. Small immature "shot berries" characteristic of the Worden variety should be disregarded unless they are excessive in number and detract materially from the appearance of the lot.

## UNITED STATES STANDARDS FOR JUICE GRAPES

N.B.—Drafted with especial reference to California grapes

(Effective July 22, 1931)

### GRADES

**U.S. No. 1** Juice grapes shall consist of bunches of well developed grapes of one variety<sup>19</sup> which are well colored and mature, which are not weak, loose at cap stems, shattered, split, crushed, or wet; which are free from immature shot berries, sunburned or dried berries, waterberry, redberry, severe freezing injury, mold or decay, and from damage caused by mildew or other disease, insects or other means, provided that there shall be no color requirement in this grade for white varieties when the grapes test not less than 20 percent soluble solids in juice. Not more than a total of 15 percent, by weight, of the

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<sup>19</sup> Mixed grapes of the Alicante Bouschet, Alicante Ganzin, Petit Bouschet, and Grand Noir varieties shall be considered as Alicante Bouschet type, and may be admitted to this grade.

berries in any container<sup>20</sup> may be raisining or raisined but not more than 5 percent may be raisined, except that any amount of raisining may be permitted if the percentage of raisining is specified in connection with the grade.

*Bunches* shall not be excessively straggly.

*Stems* shall not be moldy.

In order to allow for variations incident to proper handling, not more than 10 percent, by weight, of the berries in any container<sup>20</sup> may be below the requirements of this grade, but not more than a total of 5 percent, by weight, may be seriously damaged, and not more than two fifths of this amount, or 2 percent, may be affected by decay, but in no case shall more than 15 percent, by weight, of the bunches in any container<sup>20</sup> have spots of decay affecting three or more contiguous berries. No part of this tolerance shall be allowed for berries which are raisining or raisined.

**U.S. No. 1 Mixed Juice** grapes shall consist of grapes of mixed varieties of the same color which meet the remaining requirements of U.S. No. 1 Juice grapes.

**U.S. No. 2 Juice** grapes shall consist of grapes of one variety<sup>21</sup> which are mature; which are not detached from the cap stems, split, crushed or wet; which are free from raisined berries, sunburned or dried berries, waterberry, redberry, mold or decay, and from other serious damage.

In order to allow for variations incident to proper handling, not more than 15 percent, by weight, of the berries in any container<sup>20</sup> may be raisined, and in addition not more than 10 percent, by weight, of the berries in any container<sup>20</sup> may be below the remaining requirements of this grade, but not more than a total of 5 percent, by weight, may be affected by decay.

**U.S. No. 2 Mixed Juice** grapes shall consist of grapes of mixed varieties of the same color which meet the remaining requirements of U.S. No. 2 Juice grapes.

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<sup>20</sup>Application of tolerances: Although the tolerances specified for these grades are placed on a container basis, individual containers in any lot may be permitted to exceed the tolerances specified, by not more than one half of the amount allowed; provided that the entire lot shall average within the tolerances specified.

<sup>21</sup> See footnote 19.

Unclassified grapes shall be mature and shall not include in excess of 10 percent, by weight, of berries in any one container which are affected by decay.

#### COLOR REQUIREMENTS FOR GRAPES

*"Well colored"* means in the case of:

*"Black varieties"* that each bunch shall have not less than 85 percent, by count, of berries, showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>22</sup> may have not less than 50 percent, by count, of berries showing characteristic color; provided in the case of the following varieties: Zinfandel, Rose of Peru, Black Prince, Black Hamburg, Blue Elba, Grignolino, Aramon, Mission, Zante, and Black Monukka, each bunch shall have not less than 75 percent, by count, of berries showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>22</sup> may have not less than 50 percent, by count, of berries showing characteristic color. Purple to black shall be considered characteristic color for Malvoise, Grenache, Trouseau, Rose of Peru, Black Prince, and Black Hamburg; and reddish purple to black shall be considered characteristic color for Cornichon, Aramon, Mission, Grignolino, Zante, and Black Monukka.

*"Red varieties"* that each bunch shall have not less than 60 percent, by count, of well colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>22</sup> may be below this requirement; provided that in the case of the Flame Tokay variety each bunch shall have not less than 45 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>22</sup> may be below this requirement.

*"White varieties"* that each bunch shall have not less than 50 percent, by count, of berries showing light-green straw or amber color; excepting that in order to allow for variations incident to proper grading and

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<sup>22</sup> See footnote 20.

handling, not more than 10 percent, by weight, of the bunches in any container<sup>20</sup> may be below this requirement.

#### MATURITY REQUIREMENTS FOR GRAPES

“Mature” for Malaga, Sultanina (Thompson Seedless), Flame Tokay, Rose of Peru, and similar varieties means that each bunch of grapes shall show a sugar test of not less than 17 percent of soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except that the varieties Emperor, Gros Colman (Dodrelabi, Bleu Grau, Servian Blue, Fresno Beauty), Pierce Isabella (Pierce, Isabella Regia), Concord, Olivette Blanche, Blaney White (Rish Baba, Humphrey Lady Finger), Red Malaga (Molinera Gordo), Ribier, Khalili, and Dizmar (Persian 23), shall test not less than 16 percent.

“Mature” for Burger, muscat varieties, Alicante Bouschet, Zinfandel, and similar varieties means that the average or composite test of all the grapes in each container shall be not less than 17 percent soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except Burger which shall test not less than 16 percent, and except muscat varieties, which shall test not less than 18 percent.

#### DEFINITIONS OF TERMS

As used in these grades:

“One variety” means grapes showing the same varietal characteristics.

“Waterberry” means a disease characterized by a watery, soft, or flabby condition of the berries. Such affected berries are low in sugar content, have tender skins, and are very easily crushed.

“Weak berries” are those which approach a waterberry in condition but are not so far advanced or affected.

“Redberry” means a condition closely resembling waterberry generally found in black varieties. Such grapes show a red or brownish-red color in addition to the general characteristics of waterberry.

“Raisining berries” means grape berries in a stage of normal curing process, which have developed to some extent the characteristic shriveled or wrinkled appearance of a raisin, but which contain sufficient juice to drop from the berry under ordinary pressure between thumb and finger. Change of color and flavor

<sup>20</sup> See footnote on p. 69.

are in some cases, additional characteristics of raisining berries.

While wilting is prerequisite to the raisining process, berries which merely are wilted, or which show the fine wrinkling of the skin characteristic of advanced maturity without distinct shriveling, or change of color or taste, are not considered as raisining.

"Raisined berries" means grape berries which are fully cured, resembling raisins, which do not contain sufficient juice to drop from the berry under ordinary pressure between thumb and finger.

"Sunburned or dried grapes" means grapes which show complete drying out from any cause, of part or all of any individual berries.

"Damage caused by mildew" means any active powdery mildew, or scars which cause cracking or deformity of the berries, or which affect the appearance of the bunch.

"Decay" means any infection of rhizopus, blue mold, gray mold or black mold, and does not include slight surface development of green mold (*Cladosporium*).

"Seriously damaged" includes grapes which are split, crushed, wet, completely dried, or affected with redberry, waterberry, or decay, excepting that raisining grapes which are cracked or split, and grapes which show cracks at the blossom end shall not be considered as seriously damaged.

"Wet" means moisture from crushing or rain.

"Severe freezing injury" means damage affecting the pulp of the berries.

## UNITED STATES STANDARDS FOR SAWDUST PACK GRAPES

N.B.—Drafted with especial reference to California grapes

(Effective June 19, 1931)

### GRADES

**U.S. Fancy Sawdust Pack**<sup>24</sup> shall consist of bunches of well-developed grapes of one variety which are uniformly well colored, well matured, firm, firmly attached to cap stems, which are not weak, shattered,

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<sup>24</sup> This grade shall be applicable only to grapes packed in sawdust, granulated cork, or similar packing material.

split, crushed, wet, wilted, shriveled at cap stems, or scarred; which are free from shot berries, raisining or raisined berries, sunburned or dried berries, waterberry, mildew, Almeria spot, mold, decay, and from damage caused by other disease, insects, discoloration, freezing, or other means.

*Bunches* may be loose but shall not be straggly, shall weigh not less than one-half pound, and shall be not less than 6 inches in length, measured from shoulder to tip, except Almeria variety which shall have bunches not less than 4 inches in length.

*Stems* shall be mature, well developed, strong, not dry and brittle, and shall be free from mold and damage caused by mildew.

*Berries* shall have a minimum diameter of not less than five eighths of an inch, measured through the widest portion of the cross section, except Almeria variety which shall have berries with a minimum diameter of not less than nine sixteenths of an inch, and the Sultanina (Thompson Seedless) variety, which shall have berries with a minimum diameter of not less than seven sixteenths of an inch.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches, and in addition not more than 5 percent, by weight, of the berries in any container<sup>25</sup> may be below the prescribed size. Not more than 5 percent, by weight, of the grapes in any container<sup>25</sup> may fail to meet the remaining requirements of this grade, but not more than a total of 0.5 percent may be seriously damaged.

**U.S. No. 1 Sawdust Pack**<sup>26</sup> shall consist of bunches of well-developed grapes of one variety which are well colored, mature, firm, firmly attached to cap stems, which are not weak, shattered, split, crushed, wet, wilted, shriveled at capstems, or scarred; which are free from shot berries, raisining or raisined berries, sunburned or dried berries, waterberry, mildew, Almeria spot, mold, decay, and from damage caused by other disease, insects, discoloration, freezing, or other means.

<sup>25</sup> Application of tolerances: Although the tolerances specified for the various grades are placed on a container basis, individual containers in any lot may be permitted to exceed the tolerances specified, by not more than one half of the amount allowed; provided that the entire lot shall average within the tolerances specified.

<sup>26</sup> See footnote 24.

*Bunches* may be loose but shall not be straggly, shall weigh not less than one-half pound, and shall be not less than 5 inches in length measured from shoulder to tip, except the Almeria variety which shall have bunches not less than 4 inches in length.

*Stems* shall be well developed, strong, not dry and brittle, and shall be free from mold and damage caused by mildew.

*Berries* shall have a minimum diameter of not less than five eighths of an inch, measured through the widest portion of the cross section, except Almeria variety which shall have berries with a minimum diameter of not less than nine sixteenths of an inch, and the Sultanina (Thompson Seedless) variety, which shall have berries with a minimum diameter of not less than seven sixteenths of an inch.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches, and in addition not more than 5 percent, by weight, of the berries in any container<sup>27</sup> may be below the prescribed size. Not more than 5 percent, by weight, of the grapes in any container<sup>27</sup> may fail to meet the remaining requirements of this grade, but not more than a total of 0.5 percent may be seriously damaged.

Unclassified grapes shall not contain more than 10 percent, by weight, of berries in any one container which are affected by decay and they shall not contain more than 10 percent, by weight, of bunches in any container<sup>27</sup> which are immature.

#### MATURITY REQUIREMENTS FOR GRAPES

“Well matured” means that each bunch of grapes shall show a sugar test of not less than 17 percent of soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except that the Flame Tokay variety shall test not less than 18 percent, and except that Malaga, Sultanina (Thompson Seedless), and all muscat varieties shall test not less than 20 percent when produced in any district except Imperial Valley, Coachella Valley, or Palo Verde Valley of California, or any section of Arizona, in which districts these varieties shall test not less than 18 percent.

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<sup>27</sup> See footnote 25.

"Mature" for Malaga, Sultanina, Flame Tokay, Rose of Peru, and similar varieties means that each bunch of grapes shall show a sugar test of not less than 17 percent soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except that the varieties Emperor, Gros Colman (Dodrelabi, Bleu Grau, Servian Blue, Fresno Beauty), Pierce Isabella (Pierce, Isabella Regia), Concord, Olivette Blanche, Blaney White (Rish Baba, Humphrey Ladyfinger), Red Malaga (Molinera Gordo), Ribier, Khalili, and Dizmar (Persian 23), shall test not less than 16 percent.

"Mature" for Burger, all muscat varieties, Alicante Bouschet, Zinfandel, and similar varieties means that the average or composite test of all the grapes in each container shall be not less than 17 percent soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except Burger, which shall test not less than 16 percent, and except muscat, which shall test not less than 18 percent.

"Mature" as applied to the stems, means that they shall be firm and pliable but not limp or flabby, and shall have a yellowish green or straw color, or shall have brownish woody seals at the cut ends.

#### COLOR REQUIREMENTS FOR GRAPES

"Uniformly well colored" in grades for grapes, means in the case of:

"Black varieties" that each bunch shall have not less than 95 percent, by count, of berries showing good characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>28</sup> may have not less than 80 percent, by count, of berries showing good characteristic color.

"Red varieties" that each bunch shall have not less than 75 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>28</sup> may have not less than 60 percent of well-colored berries; provided that in the case of the Flame Tokay variety each bunch shall have not less than 60 per-

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<sup>28</sup> See footnote 25.

cent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>29</sup> may have not less than 25 percent of well-colored berries. Red grape berries shall be considered well colored when at least 60 percent of the surface shows good characteristic color. Light or cherry red, dark red, or purple, are considered good characteristic color for the red varieties.

*"White varieties"* that each bunch shall have not less than 75 percent, by count, of berries showing light-green, straw, or amber color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>29</sup> may be below this requirement.

*"Well colored"* in grades for grapes, means in the case of:

*"Black varieties"* that each bunch shall have not less than 85 percent, by count, of berries, showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>29</sup> may have not less than 50 percent, by count, of berries showing characteristic color; provided that in the case of the following varieties: Zinfandel, Rose of Peru, Black Prince, Black Hamburg, Blue Elba, Grignolino, Aramon, Mission, Zante, and Black Monukka, each bunch shall have not less than 75 percent, by count, of berries showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>29</sup> may have not less than 50 percent, by count, of berries showing characteristic color. Purple to black shall be considered characteristic color for Malvoise, Grenache, Troussseau, Rose of Peru, Black Prince, and Black Hamburg; and reddish purple to black shall be considered characteristic color for Cornichon, Aramon, Mission, Grignolino, Zante, and Black Monukka.

*"Red varieties"* that each bunch shall have not less than 60 percent, by count, of well-colored berries; excepting that in order to allow for variations inci-

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<sup>29</sup> See footnote 25.

dent to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>30</sup> may be below this requirement; provided that in the case of the Flame Tokay variety each bunch shall have not less than 45 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>30</sup> may be below this requirement.

*“White varieties”* that each bunch shall have not less than 50 percent, by count, of berries showing light-green, straw or amber color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>30</sup> may be below this requirement.

#### DEFINITIONS OF TERMS

As used in these grades:

“One variety” means grapes showing the same varietal characteristics.

“Waterberry” means a disease characterized by a watery, soft, or flabby condition of the berries. Such affected berries are low in sugar content, have tender skins and are very easily crushed.

“Weak berries” are those which approach a waterberry in condition but are not so far advanced or affected.

“Raisining berries” means grape berries in a stage of normal curing process, which have developed to some extent the characteristic shriveled or wrinkled appearance of a raisin, but which contain sufficient juice to drop from the berry under ordinary pressure between thumb and finger. Change of color and flavor are in some cases additional characteristics of raisining berries.

While wilting is prerequisite to the raisining process, berries which merely are wilted, or which show the fine wrinkling of the skin characteristic of advanced maturity without distinct shriveling or change of color or taste, are not considered as raisining.

“Raisined berries” means grape berries which are fully cured, resembling raisins, which do not contain sufficient juice to drop from the berry under ordinary pressure between thumb and finger.

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<sup>30</sup> See footnote 25.

"Sunburned or dried grapes" means grapes which show complete drying out, from any cause, of part or all of any individual berries.

"Free from mildew" means berries free from active powdery mildew or any scars caused by that disease.

"Stems free from damage caused by mildew" means free from active powdery mildew or from any scars caused by this disease which constrict or weaken any part of the main, lateral, or cap stems.

"Decay" shall mean any infection of rhizopus, blue mold, gray mold, or black mold, but shall not include slight surface development of green mold (*Cladosporium*).

"Seriously damaged" includes grapes which are split, crushed, wet, completely dried, or affected with redberry, waterberry, or decay, excepting that raisining grapes which are cracked or split, and grapes which show cracks at the blossom end, shall not be considered as seriously damaged.

"Wet" means moisture from crushing or rain.

"Damage caused by discoloration" means that more than 15 percent, by count, of the berries on any bunch, show either a dark brown discoloration, or "ring mildew." "Buckskin" berries of the Flame Tokay variety are considered as damaged by discoloration, but "sun-kissed" berries of white varieties which are amber or light brown in color shall not be considered as damaged.

## UNITED STATES STANDARDS FOR TABLE GRAPES

N.B.—Drafted with especial reference to California grapes

(Effective July 22, 1931)

### GRADES

**U.S. Fancy Table** grapes shall consist of bunches of well-developed grapes of one variety<sup>31</sup> which are uniformly well colored, well matured, firm, firmly attached to cap stems, which are not weak, shattered, split, crushed, wet, wilted, shriveled at cap stems, or

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<sup>31</sup> Special packs of assorted varieties, when so marked, may be admitted to this grade.

badly scarred; which are free from shot berries, raisining or raisined berries, sunburned or dried berries, waterberry, Almeria spot, mold, decay, and from damage caused by mildew or other disease, insects, discoloration, freezing, or other means.

*Bunches* may be loose but shall not be straggly, and shall weigh not less than one-half pound, excepting that a sufficient number of small bunches shall be allowed to insure a properly packed container.

*Stems* shall be well developed, strong, not dry and brittle, and shall be free from mold and damage caused by mildew.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by weight, of the grapes in any container<sup>32</sup> may be below the requirements of this grade; but not more than a total of 2 percent, by weight, may be seriously damaged, and not more than one fourth of this amount, or one half of 1 percent, may be affected by decay.

**U.S. No. 1 Table** grapes shall consist of bunches of well-developed grapes of one variety<sup>33</sup> which are well colored, mature, firm, firmly attached to cap stems, which are not weak, shattered, split, crushed, wet, wilted, or badly scarred; which are free from shot berries, raisining or raisined berries, sunburned or dried berries, waterberry, mold, decay, and from damage caused by mildew or other disease, insects, freezing, or other means, provided that there shall be no color requirements in this grade for white varieties when the grapes test not less than 20 percent of soluble solids in juice.

*Bunches* may be loose but shall not be straggly, and shall weigh not less than one fourth pound, excepting that a sufficient number of small bunches shall be allowed to insure a properly packed container.

*Stems* shall not be weak or dry and brittle, and shall be free from mold and damage caused by mildew.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the grapes in any container<sup>32</sup> may be below the requirements of this grade; but not more than a total of 3 percent, by weight, may be seriously

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<sup>32</sup> See footnote 25.

<sup>33</sup> See footnote 31.

damaged, and not more than one sixth of this amount, or 0.5 percent, may be affected by decay.

**Unclassified** grapes shall be mature and shall not contain more than 10 percent, by weight, of berries in any one container which are affected by decay and they shall not contain more than 10 percent, by weight, of bunches in any one container<sup>34</sup> which are immature.

#### MATURITY REQUIREMENTS FOR GRAPES

“Well matured” means that each bunch of grapes shall show a sugar test of not less than 17 percent soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except that the Flame Tokay variety shall test not less than 18 percent, and except that Malaga, Sultanina (Thompson Seedless), and all muscat varieties shall test not less than 20 percent when produced in any district except Imperial Valley, Coachella Valley, or Palo Verde Valley of California, or any section of Arizona, in which districts these varieties shall test not less than 18 percent.

“Mature” for Malaga, Sultanina, Flame Tokay, Rose of Peru, and similar varieties means that each bunch of grapes shall show a sugar test of not less than 17 percent of soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except that the varieties Emperor, Gros Colman (Dodrelabi, Bleu Grau, Servian Blue, Fresno Beauty), Pierce Isabella (Pierce, Isabella Regia), Concord, Olivette Blanche, Blaney White (Rish Baba, Humphrey Ladyfinger), Red Malaga, (Molinera Gordo), Ribier, Khalili, and Dizmar (Persian 23), shall test not less than 16 percent.

“Mature” for Burger, all muscat varieties, Alicante Bouschet, Zinfandel, and similar varieties means that the average or composite test of all the grapes in each container shall be not less than 17 percent of soluble solids in juice, as determined by the Balling or Brix scale hydrometer, except Burger, which shall test not less than 16 percent, and except muscat varieties, which shall test not less than 18 percent.

#### COLOR REQUIREMENTS FOR GRAPES

“Uniformly well colored” in grades for grapes, means in the case of:

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<sup>34</sup> See footnote 25.

*"Black varieties"* that each bunch shall have not less than 95 percent, by count, of berries showing good characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight of the bunches in any container<sup>35</sup> may have not less than 80 percent, by count, of berries showing good characteristic color.

*"Red varieties"* that each bunch shall have not less than 75 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>35</sup> may have not less than 60 percent of well-colored berries; provided that in the case of the Flame Tokay variety each bunch shall have not less than 60 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>35</sup> may have not less than 25 percent of well-colored berries. Red grape berries shall be considered well-colored when at least 60 percent of the surface shows good characteristic color. Light or cherry red, dark red, or purple are considered good characteristic color for the red varieties.

*"White varieties"* that each bunch shall have not less than 75 percent, by count, of berries showing light-green, straw, or amber color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>35</sup> may be below this requirement.

*"Well colored"* in grades for grapes, means in the case of:

*"Black varieties"* that each bunch shall have not less than 85 percent, by count, of berries, showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>35</sup> may have not less than 50 percent, by count, of berries showing characteristic color; provided that in the case of the following varieties: Zinfandel, Rose of Peru, Black Prince, Black Hamburg, Blue Elba, Grignolino, Aramon, Mis-

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<sup>35</sup> See footnote 25.

sion, Zante, and Black Monukka, each bunch shall have not less than 75 percent, by count, of berries showing characteristic color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>36</sup> may have not less than 50 percent, by count, of berries showing characteristic color. Purple to black shall be considered characteristic color for Malvoise, Grenache, Trouseau, Rose of Peru, Black Prince, and Black Hamburg; and reddish purple to black shall be considered characteristic color for Cornichon, Aramon, Mission, Grignolino, Zante, and Black Monukka.

*"Red varieties"* that each bunch shall have not less than 60 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>36</sup> may be below this requirement; provided that in the case of the Flame Tokay variety each bunch shall have not less than 45 percent, by count, of well-colored berries; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>36</sup> may be below this requirement.

*"White varieties"* that each bunch shall have not less than 50 percent, by count, of berries showing light green, straw or amber color; excepting that in order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the bunches in any container<sup>36</sup> may be below this requirement.

#### DEFINITIONS OF TERMS

As used in these grades:

*"One variety"* means grapes showing the same varietal characteristics.

*"Waterberry"* means a disease characterized by a watery, soft, or flabby condition of the berries. Such affected berries are low in sugar content, have tender skins and are very easily crushed.

*"Weak berries"* are those which approach a waterberry in condition but are not so far advanced or affected.

*"Raisining berries"* means grape berries in a stage of normal curing process, which have developed to some extent the characteristic shriveled or wrinkled appearance of a raisin, but which contain sufficient

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<sup>36</sup> See footnote 25.

juice to drop from the berry under ordinary pressure between thumb and finger. Change of color and flavor are in some cases additional characteristics of raisining berries.

While wilting is prerequisite to the raisining process, berries which merely are wilted, or which show the fine wrinkling of the skin characteristic of advanced maturity without distinct shriveling or change of color or taste, are not considered as raisining.

“Raisined berries” means grape berries which are fully cured, resembling raisins, which do not contain sufficient juice to drop from the berry under ordinary pressure between thumb and finger.

“Sunburned or dried grapes” means grapes which show complete drying out, from any cause, of part or all of any individual berries.

“Damage caused by mildew” means any active powdery mildew, or scars which cause cracking or deformity of the berries, or which affect the appearance of the bunch.

“Stems free from damage caused by mildew” means free from active powdery mildew or from any scars caused by this disease which constrict or weaken any part of the main, lateral, or capstems.

“Decay” means any infection or rhizopus, blue mold, gray mold, or black mold, and does not include slight surface development of green mold (*Cladosporium*).

“Seriously damaged” includes grapes which are split, crushed, wet, completely dried, or affected with redberry, waterberry or decay, excepting that raisining grapes which are cracked or split, and grapes which show cracks at the blossom end shall not be considered as seriously damaged.

“Wet” means moisture from crushing or rain.

“Damage caused by discoloration” means that more than 15 percent, by count, of the berries on any bunch, show either a dark brown discoloration or “ring mildew.” “Buckskin” berries of the Flame Tokay variety are considered as damaged by discoloration, but “sun-kissed” berries of white varieties which are amber or light brown in color shall not be considered as damaged.

## UNITED STATES STANDARDS FOR CALIFORNIA AND ARIZONA GRAPEFRUIT

(Effective Oct. 28, 1929)

## GRADES

**U.S. Fancy** shall consist of grapefruit of similar varietal characteristics which are mature, well colored, firm, well formed, of smooth texture for the variety, thin skinned, free from decay, bruises, any indication of freezing injury, spray burn, or fumigation injury, ammoniation, cuts which are not healed, from injury caused by scars, scale, sunburn, dirt or other foreign materials, sprouting, disease, insects, or mechanical or other means, and from damage caused by dryness and thorns.

**U.S. No. 1** shall consist of grapefruit of similar varietal characteristics which are mature, fairly well colored, firm, well formed, of fairly smooth texture for the variety, fairly thin skinned, free from decay, bruises, any indication of freezing injury, spray burn, or fumigation injury, ammoniation, cuts which are not healed, and from damage caused by scars, scale, sunburn, dirt or other foreign materials, sprouting, dryness, thorns, disease, insects, or mechanical or other means.

**U.S. No. 2** shall consist of grapefruit of similar varietal characteristics which are mature, slightly colored, fairly firm, not badly misshapen, not excessively rough, free from decay, cuts which are not healed, and from serious damage caused by bruises, freezing injury, spray burn or fumigation injury, ammoniation, scars, scale, sunburn, dirt or other foreign materials, sprouting, dryness, disease, insects, or mechanical or other means.

**Unclassified** shall consist of grapefruit which are not graded in conformity with the foregoing grades.

## TOLERANCES

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, not more than 10 percent, by count, of any lot may be below the requirements of the specified grade, but not more than one twentieth of this amount, or 0.5 percent shall be allowed for decay.<sup>37</sup> In addition, not more

<sup>37</sup> Decay, or other deterioration developing in transit on fruit otherwise up to grade shall be considered as affecting the condition and not the grade.

than 10 percent, by count, of any lot may not meet the requirements relating to color.

### STANDARD PACK

Fruit shall be arranged in the boxes according to the approved and recognized methods. The fruit shall be tightly packed and the wrap shall show at least one half twist. Each fruit shall be enclosed in its individual wrapper. Each box of grapefruit shall show a minimum bulge of 2 inches.

### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the fruits in any container are similar in color and shape.

“Well colored” means that the fruit shows practically no trace of green color.

“Firm” means that the fruit is not soft or noticeably wilted or flabby, the skin may feel slightly springy or spongy to the touch, but is not loose.

“Well formed” means that the fruit shows the normal shape characteristic of the variety.

“Smooth” means that the skin is of fairly fine grain, the “pebbling” not pronounced, and any furrows radiating from the stem end are extremely short and shallow.

“Injury” means any defect or blemish which more than slightly affects the appearance, or edible, or shipping quality of the fruit. Any one of the following defects, or any combination thereof the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as injury:

(1) Scars which are dark in color or which are rough. Scars with no depth when aggregating more than 1½ inches in diameter. Scars with slight depth when aggregating more than 1 inch in diameter.

(2) Scale, when more than a few adjacent to “button” at stem end, or when more than six scattered on other portions of the fruit.

(3) Sunburn, when the normal color of the grapefruit is appreciably changed, or the shape of the fruit affected, or the area affected exceeds 10 percent of the fruit surface.

“Fairly well colored” means that the yellow color predominates on the fruit.

“Fairly smooth” means that the skin does not feel noticeably rough or coarse. The size of the fruit

should be considered in judging texture as large sized fruit is not usually as smooth as the small sized. Slight furrows or grooves which may be present on the stem end portion of the fruit should not be considered as slightly rough unless they are of sufficient depth, length, and number as to materially affect the appearance and smoothness of the fruit.

“Damage” means any injury by the causes mentioned which materially affects the appearance, or edible or shipping quality of the fruit. Any one of the following defects, or any combination thereof the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(1) Dryness, when extending into segments more than one fourth inch at the stem end, or more than the equivalent of this amount by volume, when occurring in other portions of the fruit.

(2) More than an occasional slight, light-colored well-healed and threadlike scar caused by thorn or deadwood scratches. Any black, or more than an occasional superficial and well-healed thorn, or deadwood prick.

(3) Scars which are dark in color or which are rough. Scars with no depth when affecting more than 10 percent in the aggregate of the fruit surface. Scars which have only slight depth, when not fairly smooth to smooth and when more than 2 inches in diameter in the aggregate. Deep scars when aggregating more than 1 inch in diameter.

(4) Scale, when concentrated, or when scattered over a segment comprising more than one third of the fruit surface.

(5) Sunburn when the area affected exceeds 25 percent of the fruit surface, or when the affected portion is appreciably flattened, dry, darkened, or hard.

“Slightly colored” means that sufficient yellow color is distributed over the fruit surface which, blended with the green color present, is equivalent in degree, to 25 percent of full yellow color characteristic of the variety.

“Fairly firm” means that the fruit may be slightly soft but not bruised, and the skin may be thick and slightly puffy.

“Badly misshapen” means that the fruit is decidedly pear-shaped, elongated, sharply pointed, or otherwise badly deformed.

"Excessively rough" means that the fruit is badly ridged, badly grooved, or badly wrinkled.

"Serious damage" means any injury by the causes mentioned which seriously affects the appearance, or edible, or shipping quality of the fruit. Any one of the following defects, or any combination thereof the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as serious damage:

(1) Freezing injury when the fruit shows a water soaked appearance or evidence of previous water soaking, or the presence of crystals or crystalline deposit, on the two surface membranes of each of two or more segments, as shown on the separation of the segments, one from another, of a section, not less than 1 inch or more than 1½ inches in thickness, of the central portion of the fruit, obtained by cutting off a portion of each end—the evidence of freezing injury to show for the entire length but not necessarily the entire area of the surface membranes.

(2) Spray burn, which materially changes the color of the affected portion, or when the scarring aggregates more than 1½ inches in diameter.

(3) Fumigation injury when occurring as thinly scattered specks over a segment comprising more than one half of the fruit surface or solid scarring aggregating more than 1½ inches in diameter.

(4) Ammoniation, when occurring as thinly scattered specks over a segment comprising more than one half of the fruit surface, or solid scarring (not cracked) when aggregating more than 1¼ inches in diameter.

(5) Scars caused by any means other than spray burn, fumigation injury, or ammoniation, when rough, deep, and affecting more than 20 percent in the aggregate of the fruit surface, or black scars which detract seriously from the appearance of the grapefruit.

(6) Scale, when concentrated as a ring or blotch, or when thinly scattered over more than 50 percent of the fruit surface.

(7) Sunburn, when the affected portion exceeds one third of the fruit surface, or is hard, or discolored, or the fruit is decidedly one-sided.

(8) Dryness, when extending into segments more than one half inch at the stem end, or more than the equivalent of this amount by volume, when occurring in other portions of the fruit.

**UNITED STATES STANDARDS FOR HONEY DEW AND HONEY BALL TYPE MELONS**

(Effective May 28, 1934)

**INTRODUCTION**

The tolerances for the standards are placed on a container basis. However, for a tolerance of 10 percent, individual packages in any lot may contain not more than one and one-half times the tolerance specified, and for one of less than 10 percent individual packages in any lot may contain not more than double the tolerance specified, provided that at least one specimen which does not meet the requirements shall be allowed in any one package and that the average for the entire lot, based on sample inspection, is within the tolerances specified.

**GRADES**

**U.S. No. 1** shall consist of Honey Dew or Honey Ball type melons which are mature, firm, and well formed; which are free from decay and from damage caused by dirt, aphis stain, rust spots, bruises, cracks, broken skin, sunscald, sunburn, hail, moisture, insects, disease, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than a *total* of 10 percent, by count, of the melons in any lot may be below the requirements of this grade, but not more than one-half of this amount, or 5 percent, shall be allowed for defects causing serious damage, and not more than 1 percent shall be allowed for melons affected with soft rot.

**U.S. No. 2** shall consist of Honey Dew or Honey Ball type melons which are mature, firm, and fairly well formed; which are free from decay and from serious damage by any cause.

In order to allow for variations incident to proper grading and handling, not more than a *total* of 10 percent, by count, of the melons in any lot may be below the requirements of this grade, but not more than one-tenth of this amount, or 1 percent, shall be allowed for melons affected with soft rot.

**Unclassified** shall consist of Honey Dew or Honey Ball type melons which are not graded in conformity with the foregoing grades.

**DEFINITIONS OF TERMS**

As used in these grades:

“Mature” means having reached the stage of development which will insure a proper completion of the ripening process. This condition is indicated by a change from a dark-green color to a light-green, whitish, or cream color and by a change from a slightly rough and fuzzy feel of an immature melon to the characteristic smoothness of the skin of a mature one.

“Well formed” means having the shape characteristic of the variety; not lop-sided or irregular in shape.

“Damage” means any injury or defect which materially affects the appearance, or the edible or shipping quality. Sunburn which causes the rind to become brownish, hard, tough, or thin, and green spots caused by bruising, shall be considered as damage. The following blemishes shall not be considered as damage: (1) Slight bruising which is caused by the light pressure from the weight of other melons or from the lidding of the crate, (2) yellow spots, (3) superficial hail spots, or small transparent spots which do not materially injure the appearance of the melons, (4) slight surface scratches which are caused by picking, hauling, and packing, (5) netting, either raised or occurring as very shallow checks in the skin.

“Serious damage” means any injury or defect which seriously injures the appearance, or the edible or shipping quality.

**UNITED STATES STANDARDS FOR KALE**

(Effective April 25, 1934)

**INTRODUCTION**

The tolerances for the standards are placed on a container basis. However, for a tolerance of 10 percent, individual packages in any lot may contain not more than one and one half times the tolerance specified, and for one of less than 10 percent individual packages in any lot may contain not more than double the tolerance specified, provided that at least one specimen which does not meet the requirements shall be allowed in any one package and that the average for the entire lot, based on sample inspection, is within the tolerances specified.

**GRADES**

**U.S. No. 1** shall consist of plants of kale of one type which are well trimmed and not stunted; which are free from decay and from damage caused by yellow or discolored leaves, seed stems, wilting, bud burn, freezing, dirt, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the plants in any container may be below the requirements of the grade, but not more than one tenth of this tolerance, or 1 percent, shall be allowed for kale which is affected by wet decay.

**U.S. Commercial** shall consist of plants of kale which meet the requirements of **U.S. No. 1** except that bronze or slightly yellowish color affecting only the edges of the leaves shall be permitted, provided these edges are not dried.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the plants in any container may be below the requirements of the grade, but not more than one-tenth of this tolerance or 1 percent, shall be allowed for kale which is affected by wet decay.

**Unclassified** shall consist of kale which is not graded in conformity with either of the foregoing grades.

**DEFINITIONS OF TERMS**

As used in these grades:

“One type” means that the kale in any container shall have the same general character of growth and color; that is, curly-leaf type and distinctly smooth-leaf types shall not be mixed, and distinctly purple-type plants shall not be mixed with green- or blue-type kale. As blue-type kale often shows a purplish tinge on some leaves while other plants of this type may not show this color, such a mixture shall be considered as one type.

“Well trimmed” means that the butt is trimmed off to not more than three-fourths of an inch from the point of attachment of the outer leaves and that yellow, discolored, dried, or otherwise damaged leaves which materially affect the appearance of the plant have been removed.

“Damage” means any injury or defect which materially affects the appearance, or the edible or ship-

ping quality. A plant shall be considered as damaged by a seed stem when the flower buds are dried or have opened, or when the seed stem extends above the top of the plant when the leaves are folded together around the seed stem, or when the removal of part of the seed stem has caused the appearance of the plant to be materially injured.

## UNITED STATES STANDARDS FOR LETTUCE

(Effective Mar. 15, 1934)

### INTRODUCTION

Numbers and letters in parentheses following grade terms indicate where such terms are defined on pages 93 to 95, inclusive, under Definitions of Terms.

The tolerances for the various grades are placed on a container basis. However, for a tolerance of 10 percent, individual packages in any lot may not contain more than one and one-half times the tolerance specified, and for one of less than 10 percent individual packages in any lot may not contain more than double the tolerance specified, provided that the entire lot based on sample inspection shall average within the tolerances specified.

### GRADES

**U.S. Fancy** shall consist of heads of lettuce of similar varietal characteristics (1) which are fresh (2), firm (3), well formed (4), and well trimmed (5); which are not split, burst (6), or open; and which are free from decay, tipburn, russet, brown blight, doubles (7), and from damage (8) caused by seed stems (8a), broken midribs (8b), freezing (5 and 8c), dirt (8d), sunburn (5 and 8e), discoloration (5 and 8), disease, aphis (8f) or other insects, or mechanical or other means (8).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the heads in any container may be below the requirements of this grade, but not more than one-half of this tolerance, or 5 percent, shall be allowed for decay affecting the compact portion of the head. Of this tolerance for decay, not more than two-fifths or 2 percent, shall be allowed for slimy decay.

**U.S. No. 1** shall consist of heads of lettuce of similar varietal characteristics (1); which are fresh (2); which are not split or burst (6); and which are free from decay, tipburn, russet, brown blight, doubles (7), and from damage caused by opening (8g), seed stems (8a), broken midribs (8b), freezing (5 and 8c), dirt (8d), sunburn (5 and 8e), discoloration (5 and 8), disease, aphis (8f) or other insects, or mechanical or other means (8). Each head shall be fairly well trimmed (9) unless specified as closely trimmed (10). Not less than 75 percent of the heads of Iceberg-type lettuce shall be firm (3), and the remainder shall be fairly firm (11). Heads of Big Boston type lettuce shall be fairly firm (11).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the heads in any container may be below the requirements of this grade, but not more than one-half of this tolerance, or 5 percent, shall be allowed for decay affecting the compact portion of the head; provided that, of this tolerance for decay not more than two-fifths, or 2 percent, shall be allowed for slimy decay. This tolerance shall not permit in any lot of U.S. No. 1 Iceberg-type lettuce fewer than 90 percent of heads which are firm or fairly firm and free from defects, on the basis of a ratio of 3 firm heads to 1 fairly firm head.

**U.S. Commercial** shall consist of heads of lettuce which meet all of the requirements of U.S. No. 1 grade except that they shall be free from serious damage by tipburn instead of free from tipburn.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the heads in any container may be below the requirements of this grade, but not more than one-half of this tolerance, or 5 percent, shall be allowed for decay affecting the compact portion of the head; provided that, of this tolerance for decay, not more than two-fifths or 2 percent, shall be allowed for slimy decay. This tolerance shall not permit in any lot of U.S. Commercial Iceberg-type lettuce fewer than 90 percent of heads which are firm or fairly firm and free from defects, on the basis of a ratio of 3 firm heads to 1 fairly firm head.

**U.S. No. 2** shall consist of heads of lettuce of similar varietal characteristics (1) which are not split or burst (6); which are free from decay, from dam-

age (8) caused by seed stems (8a), and from serious damage (12) caused by wilting, tipburn, freezing, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the heads in any container may be below the requirements of this grade.

#### DEFINITIONS OF TERMS

As used in these grades:

1. "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.

2. "Fresh" means that the head is crisp, although the wrapper leaves and the outer 1 or 2 head leaves may be slightly wilted.

3. "Firm", as applied to heads of Iceberg type lettuce, means that the head is compact but may yield slightly to moderate pressure; as applied to heads of Big Boston type lettuce, means that the head is fairly compact.

4. "Well formed" means that the head is well shaped, and that midribs of the leaves are not abnormally prominent or protruding.

5. "Well trimmed" means that the butt is trimmed off close to the point of attachment of the outer leaves; that wrapper leaves are free from appreciable injury from any cause; that on heads of Iceberg-type lettuce wrapper leaves do not exceed six in number, not more than one-half of which may be excessively large and coarse such as are characteristic of No. 6 strain; and, provided further, that the outermost leaves of the head show some shade of green color on a part of the leaves. "Wrapper leaves" means all leaves which do not fairly closely enfold the compact portion of the head. Heads shall not be considered well trimmed when the wrapper leaves are badly blistered or show yellow discoloration or more than slight brown margins. Heads with torn wrapper leaves shall not be considered well trimmed when such leaves appreciably injure the appearance of the head.

6. "Burst" means that the head is broken open.

7. "Doubles" means two heads on the same stem.

8. "Damage" means any injury which materially affects the appearance, or edible or shipping quality

of the lettuce except defects affecting wrapper leaves as restricted under definitions of "well trimmed", "fairly well trimmed", and "closely trimmed." The following shall be considered as damage:

(a) Seed stems which are apparent upon external examination of the head.

(b) Broken midribs, when more than two of the outer head leaves have the midribs broken in two because of abnormal growth conditions.

(c) Freezing, when the head leaves show a brown discoloration over more than half of the crown, or when more than three of the outer head leaves show appreciable injury by freezing.

(d) Dirt, when the head is smeared with mud, or when wrapper leaves are badly smeared with mud, or when the basal portion of the head is caked with mud or dry dirt.

(e) Sunburn, when the head leaves show a brown discoloration over more than half of the crown of the head.

(f) *Aphis*, when the head proper is infested, or when the wrapper leaves are badly infested.

(g) Opening in hard or firm heads which have one-fourth or more of the head distinctly separated from the remainder, or any degree of opening in fairly firm heads.

9. "Fairly well trimmed" means that the butt is trimmed off close to the point of attachment of the outer leaves; that wrapper leaves are free from serious injury by any cause; that, on heads of Iceberg type lettuce, wrapper leaves do not exceed 10 in number; not more than 6 of which may be excessively large and coarse such as are characteristic of No. 6 strain; and, provided further, that the outermost leaves of the head show some shade of green color on a part of the leaves. "Wrapper leaves" means all leaves which do not fairly closely enfold the compact portion of the head. Heads shall not be considered fairly well trimmed when the wrapper leaves show yellow or brown discoloration or brown margins to an extent that the appearance of the head is seriously injured. Any blistering except that causing yellow or brown discoloration which seriously affects the appearance of the wrapper leaves or any tearing of wrapper leaves shall not be considered as serious injury.

10. "Closely trimmed" means that the head meets all requirements of "fairly well trimmed" except

that the wrapper leaves shall be not more than three in number, none of which may be excessively large and coarse.

11. "Fairly firm" means that although the head is not firm, it is not soft or spongy.

12. "Serious damage" means any injury which causes the loss of a material portion of the edible part of the head. The loss of crispness due to freezing shall not be considered serious damage. Heads affected with tipburn shall be considered as seriously damaged when any single spot is larger than one and one-half inches in length and/or three-fourths of an inch in width.

13. "Fairly uniform in size" means that not more than 10 percent, by count, of the heads in any one container may be one standard size smaller than the standard size head for the count packed.

*Example of Standard Size Head.*—The standard size head for a 4-dozen pack is that size which will pack tightly 4 x 4 heads of uniform size in a layer in the crate, assuming that the head has the average number of wrapper leaves found on all the heads in the crate.

#### STANDARD PACK

Heads of lettuce shall be fairly uniform in size (13), and tightly packed in uniform layers according to the approved and recognized methods, provided that a "bridge" may be used with sizes smaller than 5-dozen count.

In order to allow for variations incident to proper packing, not more than a total of 15 percent of the containers in any lot may not meet the requirements of the standard pack, but no part of this tolerance shall be allowed for packs which are excessively loose in the layers.

### UNITED STATES STANDARDS FOR MUSTARD GREENS

(Effective Dec. 18, 1928)

#### GRADES

**U.S. No. 1** shall consist of mustard greens which are fresh, free from decay and from damage caused by seed stems, broken, bruised, spotted, or discolored leaves, wilting, dirt or other foreign matter, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade but not to exceed a total of 5 percent shall be allowed for defects causing serious damage and not more than two fifths of this amount or 2 percent shall be allowed for decay.

**Unclassified** shall consist of mustard greens which are not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Damage” means any injury from the causes mentioned which materially affects the appearance or edible or shipping quality of the individual leaves or of the lot as a whole.

“Serious damage” means any injury from the causes mentioned which seriously affects the appearance or edible or shipping quality of the individual leaves or of the lot as a whole.

### UNITED STATES STANDARDS FOR OKRA

(Effective Dec. 18, 1928)

#### GRADES

**U.S. No. 1** shall consist of pods of okra of similar varietal characteristics which are fresh, tender, not badly misshapen, free from decay, and from damage caused by dirt or other foreign matter, disease, insects, mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the okra in any lot may be below the requirements of this grade but not to exceed a total of 5 percent shall be allowed for defects causing serious damage, and not more than one fifth of this amount or 1 percent shall be allowed for decay.

**Unclassified** shall consist of pods of okra which are not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Damage” means any injury from the causes mentioned which materially affects the appearance, or the edible or the shipping quality of the individual pods or of the lot as a whole.

"Serious damage" means any injury from the causes mentioned which seriously affects the appearance, or the edible or the shipping quality, of the individual pods or of the lot as a whole.

## UNITED STATES STANDARDS FOR BERMUDA ONIONS

(Effective Mar. 10, 1933)

### GRADES

**U.S. No. 1** shall consist of Bermuda onions of one variety which are mature, well shaped, free from soft rot, doubles, splits, bottle necks, seed stems and noticeably pink onions, and from damage caused by dirt or other foreign matter, moisture, sunburn, sunscald, cuts, disease, insects, or mechanical or other means. (See Size Classification.)

In order to allow for variations, other than size, incident to proper grading and handling, not more than a total of 10 percent, by weight, of the onions in any container<sup>39</sup> may be below the requirements of this grade provided that not more than one half of this tolerance, or 5 percent, shall be noticeably pink, and not more than one fifth, or 2 percent, shall be allowed for onions which are water-soaked or affected by soft rot.

**U.S. No. 2** shall consist of Bermuda onions of one variety which are free from soft rot, bottle necks, splits, seed stems, and noticeably pink onions, and from damage caused by moisture, sunscald, cuts, disease, insects, or mechanical or other means. (See Size Classification.)

In order to allow for variations, other than size, incident to proper grading and handling, not more than a total of 10 percent, by weight, of the onions in any container<sup>39</sup> may be below the requirements of this grade but not more than one fifth of this tolerance, or 2 percent, shall be allowed for onions which are water-soaked or affected by soft rot. In

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<sup>39</sup> The tolerances specified for the various grades are placed on a container basis. However, any lot of onions shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent or more, not more than 1½ times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

addition, not more than 15 percent, by weight, of the yellow Bermuda onions in any container shall be noticeably pink.

**U.S. Commercial** shall consist of a combination of U.S. No. 1 and U.S. No. 2 Bermuda onions, provided that at least 50 percent, by weight, of the onions in any lot shall meet the requirements of U.S. No. 1. (See Size Classification.)

In order to allow for variations, other than size, incident to proper grading and handling, not more than a total of 10 percent, by weight, of the onions in any container<sup>40</sup> may be below the requirements of U.S. No. 2 grade but not more than one fifth of this amount, or 2 percent, shall be allowed for onions which are water-soaked or affected by soft rot. In addition, not more than 5 percent, by weight, of any lot of yellow Bermuda onions shall be noticeably pink. No part of any tolerance shall be used to reduce the amount of U.S. No. 1 onions specified in the grade.

**Unclassified** shall consist of onions which are not graded in conformity with any of the foregoing grades.

#### PINK CLASSIFICATION

Yellow Bermuda onions showing more than 15 percent, by weight, of the lot noticeably pink but otherwise conforming to one of the above grades shall be designated as *Pink* in addition to the statement of grade, as *U.S. No. 1 Pink*, *U.S. No. 2 Pink*, or *U.S. Commercial Pink*.

#### SIZE CLASSIFICATION

Onions may be classified for size on the following basis but *unless otherwise specified shall meet the requirements of medium*.

Small (boilers), 1 to 2 inches; medium 2 to  $3\frac{1}{2}$  inches; large, 2-inch minimum with more than 10 percent above  $3\frac{1}{2}$  inches.

In order to allow for variations in sizing, not more than 5 percent, by weight, of the onions in any container<sup>40</sup> may be below the minimum size specified. In addition not more than 10 percent, by weight, of the onions in any container<sup>40</sup> may be larger than the maximum size specified.

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<sup>40</sup> See footnote 39.

**DEFINITIONS OF TERMS**

As used in these grades:

“One variety” means onions which have the same varietal characteristics which are all white or all yellow and not a mixture.

“Mature” means having reached a stage of development at which the onions are firm, not becoming soft or spongy.

“Well shaped” means having the characteristic shape, not 3-, 4-, or 5-sided, thick necked, or badly pinched by hard dry soil, but not necessarily of the flat Bermuda type.

“Doubles” means onions which have developed more than one distinct bulb joined only at the base.

“Splits” means onions which have developed more than one distinct bulb but covered by an outer scale.

“Bottle necks” means onions which have thick necks usually with poorly developed bulbs.

“Seed stems” means any seed stems which are tough or woody, or which are more than one fourth inch in diameter.

“Noticeably pink” means that the pink color often found in the yellow Bermuda onions is so conspicuous as to be readily apparent upon casual examination.

“Damage” means any defect or injury which noticeably affects the appearance or shipping quality of the onions.

“Sunburn” means discoloration due to exposure to the sun where there is no injury to the tissue.

“Sunscald” means either dry, wet, or soft injury of the tissue of the onion due to exposure to the sun.

“Soft rot” means any soft or mushy condition of the tissue such as slimy soft rot, or wet breakdown following sunscald.

“Diameter” means the greatest dimension at right angles to a straight line running from the stem to the root.

**UNITED STATES STANDARDS FOR CREOLE ONIONS**

(Effective May 6, 1926)

**GRADES**

**U.S. No. 1** shall consist of Creole onions of similar varietal characteristics which are mature, well shaped, free from doubles, splits, bottle necks, seed

stems, and from damage caused by dirt, or other foreign matter, moisture, sunburn, sunscald, cuts, disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum diameter of each onion shall be  $1\frac{3}{4}$  inches.<sup>42</sup>

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by weight, of any lot may be below the requirements of this grade, but not more than a total of two fifths of this tolerance or 2 percent, may be allowed for onions which are water-soaked or affected by decay or sunscald. In addition, not more than 5 percent, by weight, may be below the specified minimum size.

**Unclassified** shall consist of onions which are not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the onions have the general distinguishing features of the Creole type, i.e., flat to somewhat globular shape. Variations in color from yellow to brownish red shall be permitted but white Creole onions shall not be mixed in the same container with onions of other colors.

“Mature” means having reached a stage of development at which the onions are firm, not soft or spongy.

“Well shaped” means having the characteristic shape, not 3-, 4-, or 5-sided, thick-necked, or otherwise misshapen, but not necessarily of either flat or globe type.

“Doubles” means onions which have developed more than one distinct bulb joined only at the base.

“Splits” means onions which have developed more than one distinct bulb but covered by an outer scale.

“Bottle necks” means onions which have thick necks usually with poorly developed bulbs.

“Seed stems” means any seed stems which are tough or woody, or which are more than one quarter inch in diameter.

“Damage” means any injury from the causes mentioned which materially affects the appearance, or shipping or edible quality.

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<sup>42</sup> Minimum sizes other than  $1\frac{3}{4}$  inches in diameter shall be specified in connection with the grade as “U.S. No. 1,  $1\frac{1}{2}$ -inch minimum.”

"Sunburn" means discoloration due to exposure to the sun when there is no injury to the tissue.

"Sunscald" means softening of the tissue of the onion due to exposure to the sun.

"Diameter" means the greatest diameter at right angles to a straight line running from the stem to the root end.

## UNITED STATES STANDARDS FOR NORTHERN-GROWN ONIONS

(Effective June 1, 1931)

### GRADES

**U.S. No. 1** shall consist of onions of similar varietal characteristics which are mature, fairly firm, fairly well shaped, free from sunscald, doubles, splits, bottle necks, scallions, and from damage caused by seed stems, tops, roots, sunburn, sprouting, freezing, peeling, dirt, foreign matter, disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum size shall be  $1\frac{1}{2}$  inches in diameter and 40 percent or more, by weight, of the onions in any lot shall be over 2 inches in diameter.<sup>43</sup>

In order to allow for variations other than size, incident to proper grading and handling, not more than 10 percent, by weight, of the onions in any container<sup>44</sup> may be damaged by peeling and not more than 5 percent, may be below the remaining requirements of this grade but not more than two fifths of this tolerance or 2 percent, may be affected by decay. In addition, not more than 5 percent, by weight, may be below the minimum size specified. No part of any tolerance shall be allowed to reduce the specified percentage of onions which shall be over 2 inches in diameter.

<sup>43</sup> Any lot of onions quoted as being of size smaller than  $1\frac{1}{2}$  inches minimum such as "U.S. No. 1,  $1\frac{1}{4}$ -inch minimum", is not required to meet the requirement that 40 percent shall be over 2 inches which is specified in the U.S. No. 1 grade.

<sup>44</sup> Application of tolerances: The tolerances specified for the various grades are placed on a container basis. However, any lot of onions shall be considered as meeting the requirements of a specified grade if, upon inspection, no sample from the containers in any lot is found to exceed the tolerances specified by more than double the amount allowed, provided that the entire lot shall average within the tolerances specified.

**U.S. Commercial** shall consist of onions of similar varietal characteristics which are mature, not soft or spongy, not badly misshapen, free from sunscald, doubles, splits, bottle necks, scallions, and from damage caused by seed stems, tops, roots, sunburn, sprouting, freezing, dirt, foreign matter, disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum size shall be  $1\frac{1}{2}$  inches in diameter.

In order to allow for variations other than size, incident to proper grading and handling, not more than 5 percent, by weight, of the onions in any container<sup>45</sup> may be below the requirements of this grade but not more than two fifths of this tolerance or 2 percent, may be allowed for onions which are affected by decay. In addition, not more than 5 percent, by weight, may be below the size specified.

**U.S. No. 1** **Boilers** shall consist of onions which meet all requirements for U.S. No. 1 grade except for size. *Unless otherwise specified*, the size of onions of this grade shall be not less than 1 inch nor more than  $1\frac{1}{8}$  inches in diameter.

In order to allow for variations other than size, incident to proper grading and handling, not more than 5 percent, by weight, of the onions in any container<sup>45</sup> may be below the requirements of this grade but not more than two fifths of this tolerance or 2 percent, may be allowed for onions which are affected by decay. In addition, not more than 5 percent, by weight, may be below the minimum size, and not more than 15 percent may be above the maximum size specified for this grade.

**U.S. No. 1** **Picklers** shall consist of onions which meet all requirements for U.S. No. 1 grade except for size. *Unless otherwise specified*, the maximum size of onions of this grade shall be not more than one inch in diameter.

In order to allow for variations other than size, incident to proper grading and handling, not more than 5 percent, by weight, of the onions in any container<sup>45</sup> may be below the requirements of this grade but not more than two fifths of this tolerance or 2 percent, may be allowed for onions which are affected by decay. In addition, not more than 15 percent, by weight, may be above the maximum size specified for this grade.

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<sup>45</sup> See footnote 44.

**Unclassified** shall consist of onions which are not graded in conformity with any of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Mature” means dry and well cured. Midseason onions which are not customarily held in storage shall be considered mature when harvested in accordance with good commercial practice at a state which will not result in the onions becoming soft or spongy.

“Fairly firm” means that the onion may yield slightly to moderate pressure but is not appreciably soft or spongy.

“Fairly well shaped” means having the shape characteristic of the variety but slightly off-type, slightly elongated or slightly misshapen onions shall be admitted to U.S. No. 1 grade.

“Badly misshapen” means that the onion is so elongated or misshapen that its appearance is seriously affected.

“Doubles” and “splits” are onions which have developed more than one distinct bulb. All such onions which are either distinctly misshapen or which show a splitting of the dry outer scales shall be excluded from U.S. No. 1.

“Bottle necks” are onions with abnormally thick necks.

“Scallions” are onions which have thick necks and relatively small and poorly developed bulbs.

“Damage” means any injury from the causes mentioned which materially affects the appearance of the lot, or the edible or shipping quality of the individual onions. Any one of the following defects shall be considered as “damage”:

(1) “Peeled” onions when more than one half of the thin papery skin is missing, leaving the larger portion of the fleshy outer scale unprotected. Such onions are sometimes referred to as “bald” or “skinned” onions, or “peelers.”

(2) Onions which have one or more of the fleshy scales cracked. Such onions are undesirable because of the possibility of decay organisms entering the injured tissue. Cracking of the thin papery skins shall not be regarded as damage.

(3) Any lot of onions which is materially stained. A lot of onions shall be considered as materially stained when there are enough stained onions to

distinctly detract from the appearance of the lot. In this connection the number of stained onions permitted will depend upon the natural color of the onions and upon the degree of staining on individual onions. In a lot of yellow onions, 20 percent may be not more than appreciably stained before the lot is considered damaged but when the onions are badly stained not more than 5 percent shall be permitted. In a lot of white onions 15 percent may be not more than appreciably stained, but not over 5 percent may be badly stained. These percentages are given as a guide in determining whether or not a lot is out of grade on account of "damage by dirt" and they shall be in addition to the 5-percent tolerance allowed for other defects.

(4) "Damage by tops:" In considering this factor the appearance of the lot of onions as a whole should be considered. While all onions should be trimmed to less than 2 inches there are often some that have been cut with tops a little longer. However, any lot of onions having more than 20 percent of onions with tops over 2 inches in length shall be considered as damaged. This percentage is given only as a guide and it may be reduced if the tops are very long. For example, not more than 10 percent of onions may have tops longer than 5 inches.

## UNITED STATES STANDARDS FOR CALIFORNIA ORANGES

(Effective Oct. 28, 1929)

### GRADES

**U.S. Fancy** shall consist of oranges of similar varietal characteristics which are mature, well colored, firm, well formed, of smooth texture for the variety, free from decay, bruises, split navels, any indication of freezing injury, spray burn or fumigation injury, ammoniation, growth cracks, cuts which are not healed, from injury caused by rough and excessively wide or protruding navels, creasing, scars, scale, sunburn, dirt or other foreign materials, disease, insects, or mechanical or other means, and from damage caused by dryness and thorns.

**U.S. No. 1** shall consist of oranges of similar varietal characteristics which are mature, well colored,

firm, well formed, of fairly smooth texture for the variety, free from decay, bruises, any indication of freezing injury, spray burn or fumigation injury, ammoniation, growth cracks, cuts which are not healed, and from damage caused by split, rough, or protruding navels, creasing, scars, scale, sunburn, dirt or other foreign materials, dryness, thorns, disease, insects, or mechanical or other means.

**U.S. No. 2** shall consist of oranges of similar varietal characteristics which are mature, fairly well colored, fairly firm, not badly misshapen, not excessively rough, free from decay, growth cracks, cuts which are not healed, and from serious damage caused by bruises, split or protruding navels, freezing injury, spray burn or fumigation injury, ammoniation, creasing, scars, scale, sunburn, dirt or other foreign materials, dryness, disease, insects, or mechanical or other means.

**Unclassified** shall consist of oranges which are not graded in conformity with any of the foregoing grades.

#### TOLERANCES

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, not more than 10 percent, by count, of any lot, may be below the requirements of the specified grade, but not more than one twentieth of this amount, or 0.5 percent, shall be allowed for decay.<sup>47</sup> In addition, not more than 10 percent, by count, of any lot, may not meet the requirements relating to color.

#### STANDARD PACK

Fruit shall be arranged in the boxes according to the approved and recognized methods. The fruit shall be tightly packed and the wrap show at least one half twist. Each fruit shall be enclosed in its individual wrapper. Each box of oranges shall show a minimum bulge of  $1\frac{1}{4}$  inches.

In order to allow for variations incident to proper packing, not more than 5 percent of the boxes in any lot, may not meet the requirements for a standard pack.

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<sup>47</sup> Decay, or other deterioration developing in transit on fruit otherwise up to grade, shall be considered as affecting the condition and not the grade.

## DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the fruits in any container are similar in color, type, and shape.

"Well colored" means that the fruit is yellow or orange in color with no green color excepting a limited area at the blossom end and a trace of green at the stem end provided that Valencias may show light-green color over not more than one third of the fruit at the stem end.

"Firm" means that the fruit is not soft or noticeably wilted or flabby.

"Well formed" means that the fruit shows the normal shape characteristic of the variety.

"Smooth" means that the skin is of fairly fine grain, the "pebbling" not pronounced, and any furrows radiating from the stem end are short and shallow.

"Injury" means any defect or blemish which more than slightly affects the appearance, or edible or shipping quality of the fruit. Any one of the following defects, or any combination thereof the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as injury:

(1) Navel, which protrude beyond the general contour of the orange; or those which are flush with the general contour but with the opening so wide, considering the size of the fruit, and the navel growth so folded and ridged that it detracts noticeably from the appearance of the orange.

(2) Slight creasing, which is more than barely visible, or when extending over a segment comprising more than one fifth of the fruit surface.

(3) Scars which are dark in color or which are rough. Scars with no depth and affecting more than 1 inch in diameter in the aggregate. Scars with slight depth when affecting more than three fourths inch in diameter in the aggregate. Thrip scarring occurring as a complete or part circle around the "button" and averaging more than 1 inch in diameter; or a solid thrip scar on any portion of the fruit surface when affecting more than 1 inch in diameter in the aggregate.

(4) Scale, when more than a few adjacent to "button" at stem end, or when more than six scattered on other portions of the fruit.

(5) Sunburn, when the normal color of the orange is appreciably changed, or the shape of the fruit affected, or the area affected exceeds 10 percent of the fruit surface.

“Fairly smooth” means that the skin does not feel noticeably rough or coarse. The size of the fruit should be considered in judging texture as large sized fruit is not usually as smooth as the small sized. It is common for the fruit to show larger and coarser “pebbling” on the stem end portion than on the blossom end. The presence of slight furrows or grooves on the stem end portion of the fruit is a common condition in certain varieties and the fruit should not be considered as slightly rough unless the furrows or grooves are of sufficient depth, length, and number as to materially affect the appearance and smoothness of the orange.

“Damage” means any injury by the causes mentioned which materially affects the appearance, or the edible or shipping quality of the fruit. Any one of the following defects, or any combination thereof the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(1) Dryness, when extending into segments more than one fourth inch at the stem end, or more than the equivalent of this amount by volume, when occurring in other portions of the fruit.

(2) More than an occasional slight, light-colored, well-healed, and threadlike scar caused by thorn or deadwood scratches. Any black, or more than an occasional superficial and well-healed thorn or deadwood prick. Scars which are dark in color or which are rough. Scars with no depth and affecting more than 10 percent in the aggregate of the fruit surface. Scars which have only slight depth when not fairly smooth to smooth and when more than 1 inch in diameter in the aggregate. Deep scars when aggregating more than one half inch in diameter. Thrip scarring occurring as a complete or part circle around the “button” and averaging more than  $1\frac{3}{4}$  inches in diameter; or a solid thrip scar on any portion of the fruit surface when more than  $1\frac{1}{2}$  inches in diameter in the aggregate.

(3) Any unhealed split or more than three well-healed splits at the navel, or any split which is more than one fourth inch in length. Navels which flare, bulge, or protrude beyond the general contour of the

orange to such an extent that they are subject to mechanical injury in the process of proper grading, handling, and packing; or three-cornered, star-shaped, or other irregular navels when the opening is so wide, considering the size of the orange, and the navel growth so folded and ridged that it detracts materially from the appearance of the orange.

(4) Creasing, when the skin of the affected portion is materially weakened, or when extending over a segment comprising more than 30 percent of the fruit surface.

(5) Scale, when concentrated, or when scattered over a segment comprising more than one third of the fruit surface.

(6) Sunburn, when the area affected exceeds 25 percent of the fruit surface, or when the affected portion is appreciably flattened, dry, darkened, or hard.

“Fairly well colored” means that the yellow or orange color predominates on the fruit.

“Fairly firm” means that the fruit may be slightly soft but is not decidedly flabby.

“Badly misshapen” means that the fruit is decidedly one-sided, sharply pointed, extremely elongated, or otherwise badly deformed.

“Excessively rough” means that the skin is decidedly rough, badly folded, badly ridged, or decidedly lumpy. Heavily “pebbled” skin shall not be considered as excessively rough.

“Serious damage” means any injury by the causes mentioned which seriously affects the appearance, or the edible, or shipping quality of the fruit. Any of the following defects shall be considered as serious damage:

(1) Any unhealed split or one well-healed split at each corner of irregular navels when any one is more than one half inch in length, or when aggregating more than 1 inch in length, or when more than four in number. Navel which protrude beyond the general contour of the orange to the extent as to be a likely source of mechanical injury during the process of proper grading, handling, and packing; or irregular-shaped navels when the opening is so wide, considering the size of the orange, and the navel growth so badly folded and ridged that it detracts seriously from the appearance of the orange.

(2) Freezing injury, when the fruit shows a water-soaked appearance or evidence of previous water-

soaking, or the presence of crystals or crystalline deposit, on the two surface membranes of each of two or more segments, as shown on the separation of the segments, one from another, of a section, not less than 1 inch or more than 1½ inches in thickness, of the central portion of the fruit, obtained by cutting off a portion of each end, the evidence of freezing injury to show for the entire length but not necessarily the entire area of the surface membranes.

(3) Spray burn, which materially changes the color of the affected portion, or when the scarring aggregates more than 1½ inches in diameter.

(4) Fumigation injury, when occurring as thinly scattered specks over a segment comprising more than one half of the fruit surface, or solid scarring aggregating more than 1 inch in diameter.

(5) Ammoniation, when occurring as thinly scattered specks over a segment comprising more than one half of the fruit surface, or solid scarring (not cracked) when aggregating more than 1¼ inches in diameter.

(6) Creasing, when severe and distributed over practically the entire fruit surface.

(7) Scars caused by any means other than spray burn, fumigation injury, or ammoniation, when rough, deep, and affecting more than 20 percent in the aggregate of the fruit surface, or black scars which detract seriously from the appearance of the orange.

(8) Scale, when concentrated as a ring or blotch, or when thinly scattered over more than 50 percent of the fruit surface.

(9) Sunburn, when the affected portion exceeds one third of the fruit surface, or is hard or discolored, or the fruit decidedly one-sided.

(10) Dryness, when extending into segments more than one half inch at the stem end, or more than the equivalent of this amount by volume, when occurring in other portions of the fruit.

## UNITED STATES STANDARDS FOR PARSLEY <sup>48</sup>

(Effective July 30, 1930)

### GRADES

**U.S. No. 1** shall consist of parsley of similar varietal characteristics and of good green color; which is

<sup>48</sup> These grades do not apply to parsley tops marketed with a part or the entire root attached.

free from decay, and from damage caused by seed stems, yellow or discolored leaves, wilting, freezing, dirt or other foreign material, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by weight, of any lot may be below the requirements of this grade but not more than 0.5 percent shall be allowed for parsley which is affected by decay.

**Unclassified** shall consist of parsley which is not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the parsley is all of the same general type. For example, the curly leaf type shall not be mixed with the flat-leaf type.

“Damage” means any injury which materially affects the appearance or edible or shipping quality of the product.

### UNITED STATES STANDARDS FOR PEACHES

(Effective Apr. 22, 1933)

#### GRADES

**U.S. Fancy** shall consist of peaches of one variety which are mature (1) but not soft or overripe, well formed (2)<sup>49</sup>; free from decay, bacterial spot, cuts which are not healed, growth cracks, hail injury, scab, scale, split pits, worms, worm holes, leaf, or limb-rub injury (3); and from damage (4) caused by bruises, dirt or other foreign materials, other disease, insects, or mechanical or other means.

Each peach shall meet its varietal color requirement as follows, which is expressed in terms of percentage of the fruit surface showing red color characteristic of the variety.

*Fifty percent or more.*—Carman, Early Crawford, Early Rose, Early Wheeler (Red Bird), Hiley, Mayflower, St. John, Triumph, Tuskena (Tuscan cling), and other similar varieties.

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<sup>49</sup> Numbers and letters in parentheses following grade terms indicate where such terms are defined on pp. 114 and 115, inclusive, under Definitions of Terms.

*Twenty-five percent or more.*—Belle, Cumberland, Elberta, J. H. Hale, Jubilee, Late Crawford, Orange Cling, Paloro, Stump, Uneeda, and similar varieties.

*Fifteen percent or more.*—Bilyeu, Champion, Eclipse, Greensboro, Levy, Phillips Cling, Salwey, Slaphey, Smock, and other similar varieties.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package<sup>50</sup> may be below the requirements of this grade other than for color but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one fifth of this amount, or 1 percent, shall be allowed for decay at shipping point. *An additional* tolerance of 2 percent shall be allowed for soft or overripe peaches or decay en route or at destination. In addition, not more than 10 percent, by count, of the fruit in any package<sup>50</sup> may be below the specified color requirement.

**U.S. Extra No. 1.**—Any lot may be designated "U.S. Extra No. 1" when the peaches meet the requirements of U.S. No. 1 grade provided that not less than 50 percent, by count, of the peaches in any lot also meets the color requirements of U.S. Fancy grade.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package<sup>50</sup> may be below the requirements of the No. 1 grade but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one fifth of this amount, or 1 percent, shall be allowed for decay at shipping point. *An additional* tolerance of 2 percent shall be allowed for soft or overripe peaches or decay en route or at destination. No part of any tolerance shall be used to reduce the percentage of peaches with U.S. Fancy color required for the lot as a whole but individual

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<sup>50</sup> Application of tolerances: The tolerances specified for the various grades are placed on a package basis. However, any lot of peaches shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that the defects in any package based on sample inspection do not exceed the following amounts: For a specified tolerance of 10 percent not more than  $1\frac{1}{2}$  times the tolerance shall be allowed for any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed for any 1 package.

packages may not have less than 40 percent which meets the color requirements of the U.S. Fancy grade provided that the entire lot averages not less than 50 percent. However, the 3-percent total tolerance for decay en route or at destination may be used to reduce this percentage provided there is no evidence that the decayed fruit did not meet the color requirements of U.S. Fancy at time of packing.

**U.S. No. 1** shall consist of peaches of one variety which are mature (1) but not soft or overripe, well formed (2), free from decay, growth cracks, cuts which are not healed, worms, worm holes, and from damage (4) caused by bruises, dirt or other foreign materials, bacterial spot (4a), scab (4b), scale (4c), hail injury (4d), leaf or limb rubs (4e), split pits (4f), other disease, insects, or mechanical or other means (4).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package<sup>51</sup> may be below the requirements of this grade but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage (5) and not more than one fifth of this amount, or 1 percent, shall be allowed for decay at shipping point. *An additional tolerance of 2 percent shall be allowed for soft or overripe peaches or decay en route or at destination.*

**U.S. No. 2** shall consist of peaches of one variety which are mature (1) but not soft or overripe, not badly misshapen (6), free from decay, cuts which are not healed, worms, worm holes, and from serious damage (5) caused by bruises, dirt or other foreign materials, bacterial spot (5a), scab (5b), scale (5c), growth cracks (5d), hail injury (5e), leaf or limb rubs (5f), split pits (5g), other disease, insects, or mechanical or other means (5).

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the peaches in any package<sup>51</sup> may be below the requirements of this grade, but not more than one tenth of this tolerance, or 1 percent, shall be allowed for decay at shipping point. *An additional tolerance of 2 percent, shall be allowed for soft or overripe peaches or decay en route or at destination.*

**Unclassified** shall consist of peaches which are not graded in conformity with any of the foregoing grades.

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<sup>51</sup> See footnote 50.

### MARKING REQUIREMENTS FOR SIZE

The minimum size, numerical count, or description of pack of the peaches in any package shall be plainly stenciled, labeled, or otherwise indicated on the package. Minimum size refers to the "diameter" (as hereinafter defined) of the smallest peach and shall be stated in terms of whole inches, whole and half inches, whole and quarter inches, or whole and eighth inches, as 2 inches minimum,  $2\frac{1}{4}$  inches minimum,  $1\frac{7}{8}$  inches minimum, etc., in accordance with the facts.

"Diameter" means the shortest distance measured through the center of the peach at right angles to a line running from the stem to the blossom end.

In order to allow for variations incident to proper sizing, not more than 10 percent, by count, of the peaches in any package<sup>52</sup> may be below the specified minimum size.

Description of pack refers especially to peaches packed in six-basket carriers. When used, it shall include the arrangement of the peaches in each layer in the *baskets* and also the total number of layers in the *carrier* and shall be indicated as follows: 2-1, 6 layers; 2-2, 6 layers; 3-2, 6 layers, in accordance with the facts.

### STANDARD PACK

Each package shall be packed so that the peaches in the shown face shall be reasonably representative in size, color, and quality of the contents of the package.

*Six-basket carriers*.—Peaches packed in the standard six-basket carrier shall be reasonably uniform in size and arranged in the individual baskets according to the approved and recognized methods:

	Bottom layer	Middle layer	Top layer	Total basket	Total carrier
2x1-6 layer	8	7	8	23	138
2x1-6 layer	9	9	9	27	162
2x2-6 layer	10	10	10	30	180
2x2-6 layer	10	12	12	34	204
3x2-6 layer	13	15	15	43	258

All baskets shall be well filled and packed with sufficient bulge to prevent any appreciable movement after lidding but the contents shall not show excessive or unnecessary bruising because of overfilled packages.

<sup>52</sup> See footnote 58.

*Baskets.*—Peaches packed in bushel or half-bushel round bottom baskets and tub baskets shall be ring faced and tightly packed with sufficient bulge to prevent any appreciable movement of the peaches within the packages when lidded.

*Boxes.*—Peaches packed in the standard western boxes shall be reasonably uniform in size and arranged in the packages according to the approved and recognized methods. Each wrapped peach shall be fairly well enclosed by its individual wrapper. All packages shall be well filled and tightly packed but the contents shall not show excessive or unnecessary bruising because of overfilled packages. The number of peaches in the box shall not vary more than four from the number indicated on the box.

In order to allow for variations incident to proper packing, not more than 10 percent of the packages in any lot may not meet these requirements.

#### DEFINITIONS OF TERMS

As used in these grades:

1. "Mature" means that the peach has reached the stage of growth which will insure a proper completion of the ripening process.

2. "Well formed" means that the peach has the shape characteristic of the variety.

3. "Leaf or limb-rub injury" means that the scarring is not smooth, not light colored, or aggregates more than one fourth inch in diameter.

4. "Damage" means any injury or defect which materially affects the appearance, edible or shipping quality of the peach. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(a) Bacterial spot when cracked, or when aggregating more than three eighths inch in diameter.

(b) Scab spots when cracked, or when aggregating more than three eighths inch in diameter.

(c) Scale when concentrated, or when scattered and aggregating more than one fourth inch in diameter.

(d) Hail injury which is unhealed, or deep, or when aggregating more than one fourth inch in diameter.

(e) Leaf or limb rubs when not smooth, or when not light colored, or when aggregating more than one half inch in diameter.

(f) Split pit when causing any unhealed crack, or when causing any crack which is readily apparent, or when affecting shape to the extent that fruit is not well formed.

5. "Serious damage" means any injury or defect which seriously affects the appearance, edible or shipping quality of the peach. Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(a) Bacterial spot when any cracks are not well healed, or when aggregating more than three fourths inch in diameter.

(b) Scab spots when cracked, or when healed and aggregating more than 1 inch in diameter.

(c) Scale when aggregating more than one half inch in diameter.

(d) Growth cracks when unhealed, or more than one half inch in length.

(e) Hail injury when unhealed, or shallow hail injury when aggregating more than three fourths inch in diameter, or deep hail injury which seriously deforms the fruit or which aggregates more than one half inch in diameter.

(f) Leaf or limb rubs when smooth and light colored and aggregating more than 1½ inches in diameter, or dark or slightly rough and barklike scars aggregating more than three fourths inch in diameter.

(g) Split pit when causing any unhealed crack, or when healed and aggregating more than one half inch in length including any part of the crack which may be covered by the stem.

(h) Soft or overripe peaches.

(i) Wormy fruit or worm holes.

6. "Badly misshapen" means that the peach is so decidedly deformed that its appearance is seriously affected.

## UNITED STATES STANDARDS FOR PEARS

(Effective June 1, 1932)

### INTRODUCTION

Numbers and letters in parentheses following grade terms indicate where such terms are defined on pages 117, to 120, inclusive, under Definitions of Terms.

When the numerical count is marked on the container, percentages shall be calculated on the basis of count.

When the minimum diameter or minimum and maximum diameters are marked on the container, percentages shall be calculated on the basis of weight.

When the pears are in bulk, percentages shall be calculated on the basis of weight.

#### GRADE REQUIREMENTS

**U.S. No. 1** shall consist of pears of one variety which are mature (1) but not overripe (2), clean (3), fairly well formed (4), free from bruises (except those incident to proper handling and packing), decay, internal break-down, black end, scald, freezing injury, unhealed broken skins, worm holes, stings, and from damage (6) caused by russetting (6a), limb rubs (6b), hail (6c), drought spot (6c), scars (6c), sunburn (6d), spray burn (6d), hard end (6e), disease (6g), insects (6c), or mechanical or other means (6). (See Tolerances and Condition After Storage or Transit, p. 120 and 121.)

**U.S. No. 2** shall consist of pears of one variety which are mature (1) but not overripe (2), clean (3), not seriously deformed (5), and free from decay, internal break-down, scald, freezing injury, unhealed broken skins, worm holes and from damage caused by hard end (6e) or black end (6f). The pears shall also be free from serious damage (7) caused by bruises, russetting (7a), limb rubs (7b), hail (7c), drought spot (7c), scars (7c), sunburn (7d), spray burn (7d), disease (7e), stings (7f), or other insect injury (7c), or mechanical or other means (7). (See Tolerances and Condition After Storage or Transit, p. 120 and 121.)

**U.S. Combination grade.**—A combination of U.S. No. 1 and U.S. No. 2 pears may be packed. When such a combination is packed, at least 50 percent of the pears in any container shall meet the requirements of U.S. No. 1. (See Tolerances and Condition After Storage or Transit, p. 120 and 121.)

**Unclassified** shall consist of pears which are not graded in conformity with any of the foregoing grades.

**DEFINITIONS OF TERMS**

As used in these grades:

1. "Mature" means that the pear has reached the stage of maturity which will insure the proper completion of the ripening process.

Before a mature pear becomes overripe it will show varying degrees of firmness depending upon the stage of the ripening process. Therefore a statement of firmness should be given in order to indicate the stage of the ripening process. A description of the ground color should also be given.

The following terms should be used for describing the ground color: "Green", "light green", "yellowish green", and "yellow."

The following terms should be used for describing the firmness of pears:

"Hard" means that the flesh of the pear is solid and does not yield appreciably even to considerable pressure. Such pears are in suitable condition for long storage period for the variety.

"Firm" means that the flesh of the pear is fairly solid but yields somewhat to moderate pressure. The ripening process in firm pears is further advanced than in hard pears and they cannot be held in storage as long. Winter varieties at the firm stage may be held longer than the early varieties.

"Firm ripe" means that the flesh of the pear yields readily to moderate pressure. Such a pear is approaching the stage at which it is in prime eating condition but may be held for a brief period although winter varieties can be held longer than the early varieties.

"Ripe" means that the pear is at the stage where it is in its most desirable condition for eating.

2. "Overripe" means dead ripe, very mealy or soft, past commercial utility.

3. "Clean" means free from excessive dirt, dust, spray residue, or other foreign material.

4. "Fairly well formed" means that the pear may be slightly abnormal in shape but not to an extent which detracts materially from the appearance of the fruit.

5. "Seriously deformed" means that the pear is so badly misshapen that its appearance is severely affected.

6. "Damage" means any injury or defect which materially affects the appearance, edible, or shipping quality.

(a) Russetting which exceeds the following shall be considered as damage:

Russetting which in the aggregate covers an area of more than the following specified amounts for the varieties listed below and for similar varieties:

Excessively rough russetting (russetting which shows "frogging" or cracking) one half inch in diameter.

Slightly rough russetting three fourths inch in diameter.

Smooth solid or smooth netlike russetting 15 percent of the surface.

Anjou	Lawrence
Bartlett	Le Conte
Clapp Favorite	Lincoln
Columbia	Louise
Diel	Onondaga
Early Harvest	Ontario
Forelle	Summer Doyenne
Flemish Beauty	Vicar
Garber	White Doyenne
Glow Morceau	Wilder Early
Howell	Worden and similar varieties
Kieffer	

Excessively rough russetting (russetting which shows "frogging" or cracking) which covers an area of more than one half inch in diameter in the aggregate on any of the following and similar varieties but other forms of russetting shall not be considered as damage:

Angouleme	P. Barry
Bloodgood	Pound
Bosc	Rutter
Clairgeau	Sand
Comice	Seckel
Drouard	Sheldon
Easter Beurre	Winter Bartlett
Gansel Seckel	Winter Nelis and similar varieties
Gifford	
Hardy	

Any one of the following defects or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as damage:

(b) Any limb rubs which are more than slightly depressed.

Black discoloration, caused by limb rubs, which exceeds an area of three eighths inch in diameter in the aggregate.

Dark-brown discoloration or excessive roughness caused by limb rubs which exceeds an area of one half inch in diameter in the aggregate.

Slightly rough light-colored discoloration caused by limb rubs which exceeds an area of more than three fourths inch in diameter in the aggregate.

Smooth light-colored discoloration caused by limb rubs which exceeds an area of more than 1 inch in diameter in the aggregate.

(c) Hail marks, drought spots, blister mite or canker-worm injury, or other similar depressions or scars which are not shallow or superficial or where the injury affects an area of more than three eighths inch in diameter in the aggregate.

(d) Sunburn or spray burn where the skin is blistered or cracked or the normal color of the skin is materially changed, except that spray burn of a russet character shall be considered under the definition of russetting (6a).

(e) Hard end if the pear shows a distinctly constricted protrusion at the blossom end. The flesh of ripe pears so affected will be hard or woody around the calyx.

(f) Black end where the spots cover an aggregate area of more than one fourth inch in diameter.

(g) Disease.

Scab spots which are black and which affect an area of more than one eighth inch in diameter in the aggregate, except that scab spots of a russet character shall be considered under the definition of russetting (6a).

7. "Serious damage" means any injury or defect which seriously affects the appearance, edible or shipping quality.

(a) Russetting which exceeds the following shall be considered as serious damage:

Excessively rough russetting (russetting which shows "frogging" or cracking) which affects an area of more than three fourths inch in diameter in the aggregate.

Any one of the following defects or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(b) Excessively rough limb rubs or dark-brown or black discoloration caused by limb rubs which exceeds an area of more than three fourths inch in diameter in the aggregate.

Other limb rubs which affect an area of more than one tenth of the surface in the aggregate.

(c) Hail marks, drought spots, blister mite, or canker-worm injury or other similar depressions or scars if such defects affect an area of more than three fourths inch in diameter in the aggregate or if they materially deform or disfigure the fruit.

(d) Sunburn or spray burn which is blistered or cracked or where the appearance is severely affected.

(e) Disease.

Scab spots which are black and which affect an area of more than one half inch in diameter in the aggregate, except that scab spots of a russet character shall be considered under the definition of russetting (7a).

(f) Insect injury.

More than three healed codling moth stings.

#### TOLERANCES FOR PRECEDING GRADES

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent of the pears in any container may be below the requirements of the grade, provided that not more than 5 percent shall be seriously damaged by insects, and not more than two fifths of this amount or 2 percent shall be allowed for decay or internal breakdown.

When applying the foregoing tolerances to the combination grade no part of any tolerance shall be used to reduce the percentage of U.S. No. 1 pears required in the combination.

The tolerances specified for the various grades are placed on a container basis. However, any lot of pears shall be considered as meeting the requirements of a specified grade, if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts:

For a specified tolerance of 10 percent, not more than one and one half times the tolerance shall be allowed in any one package.

For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any one package.

**CONDITION AFTER STORAGE OR TRANSIT**

Decay, scald, or other deterioration which may have developed on pears after they have been in storage or transit shall be considered as affecting condition and not the grade.

**STANDARD PACK**

*Sizing.*—The numerical count, or the minimum size of the pears packed in closed containers shall be indicated on the package.

When the numerical count is marked on western standard or special pear boxes the pears shall not vary more than one half inch in their transverse diameter for counts 100 or less; three eighths inch for counts 110 to 150, inclusive; and one fourth inch for counts 165 or more.

When the numerical count is marked on western standard half boxes or special half boxes packed three tiers deep the pears shall not vary more than one half inch for counts 75 or less; three eighths inch for counts 80 to 90 inclusive; and one fourth inch for counts 100 or more.

When the numerical count is marked on western standard half boxes or special half boxes packed two tiers deep the pears shall not vary more than one half inch for counts 50 or less; three eighths inch for counts 55 to 60, inclusive; and one fourth inch for counts 65 or more.

When the numerical count is not shown the minimum size shall be plainly stamped, stenciled, or otherwise marked on the container in terms of whole inches, whole and half inches, whole and quarter inches, or whole and eighth inches, as  $2\frac{1}{2}$  inches minimum,  $2\frac{1}{4}$  inches minimum, or  $2\frac{5}{8}$  inches minimum, in accordance with the facts. It is suggested that both minimum and maximum sizes be marked on the container, as  $2\frac{1}{4}$  to  $2\frac{3}{4}$  inches,  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches, as such marking is especially desirable for pears marketed in the export trade.

“Size” means the greatest transverse diameter of the pear taken at right angles to a line running from the stem to the blossom end.

*Packing.*—Each package shall be packed so that the pears in the shown face shall be reasonably representative in size and quality of the contents of the package.

Pears packed in any container shall be tightly packed. All packages shall be well filled but the contents shall not show excessive or unnecessary bruising because of overfilled packages.

Pears packed in boxes shall be arranged in the containers according to the approved and recognized methods with the stems pointing towards the ends of the boxes, except when jumbled. Each wrapped pear shall be fairly well enclosed by its individual wrapper.

Pears packed in round stave bushel baskets, tubs, or in barrels shall be ring faced.

#### TOLERANCES FOR STANDARD PACK

In order to allow for variations incident to proper sizing, not more than 5 percent of the pears in any container may not meet the size requirements provided that when the maximum and minimum sizes are both stated an additional 10 percent tolerance shall be allowed for pears which are larger than the maximum size stated.

In order to allow for variations incident to proper packing not more than 5 percent of the containers in any lot may not meet these requirements.

### UNITED STATES STANDARDS FOR FRESH PEAS

(Effective Feb. 1, 1934)

#### GRADES

**U.S. No. 1** shall consist of pods of peas of similar varietal characteristics which are not excessively small, not badly misshapen, not watersoaked; which are fairly well filled, are fresh, tender, and firm; are free from decay and mildew injury; and from damage caused by freezing, splitting, hail, dirt, leaves, or other foreign matter, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the pods of peas in any container may be below the requirements of this grade but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage, and not more than one tenth of this tolerance, or 1 percent, shall be allowed for soft decay. (See Application of Tolerances.)

**U.S. Fancy** shall consist of pods of peas which are well filled and which meet the requirements of the U.S. No. 1 grade in all other respects.

**Unclassified** shall consist of peas which are not graded in conformity with either of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the pods of peas in any container are of the same color and general type.

"Excessively small" means pods with less than three fairly well and/or well-developed peas.

"Badly misshapen" means that the pods are badly constricted, crooked, or badly twisted.

"Fairly well filled" means that more than one half of each pod shall be filled with fairly well and/or well-developed peas.

"Well filled" means that more than two thirds of each pod shall be filled with fairly well and/or well-developed peas.

"Damage" means any injury which materially affects the appearance or edible or shipping quality.

"Serious damage" means any injury which seriously affects the appearance or edible or shipping quality. Badly misshapen pods or pods affected with downy mildew injury shall be considered as being seriously damaged.

#### APPLICATION OF TOLERANCES

The tolerances specified for the various grades are placed on a container basis. However, any lot of pods of peas shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that the defective pods of peas in any container, based on sample inspection, do not exceed the following amounts:

For a specified tolerance of 10 percent, not more than one and one half times the tolerance shall be allowed for any one container.

For a specified tolerance of less than 10 percent, not more than double the tolerance shall be allowed for any one container.

## UNITED STATES STANDARDS FOR SWEET PEPPERS

(Effective Sept. 30, 1929)

## GRADES

**U.S. Fancy** shall consist of sweet peppers of similar varietal characteristics which are green but not immature; which are well shaped, firm, and free from sunscald, freezing, decay, and from any defect or injury that has penetrated through the fleshy wall, and from damage caused by hail, scars, disease, insects, or mechanical or other means. *Unless otherwise specified*, the minimum size of peppers of long varieties shall be 4 inches in length and  $2\frac{3}{4}$  inches in diameter; the minimum size of peppers of short varieties shall be 3 inches in length and 3 inches in diameter.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot, may be below the specified size. In addition, not more than 10 percent, by count, may be below the remaining requirements of this grade, but not more than one twentieth of this amount or one half of 1 percent shall be allowed for peppers affected by decay.

**U.S. No. 1** shall consist of sweet peppers of similar varietal characteristics which are green but not immature, which are firm and free from decay and from any defect or injury that has penetrated through the fleshy wall, and from damage caused by sunscald, freezing, hail, scars, disease, insects, or mechanical or other means. Not less than 60 percent of the peppers in any lot shall be well shaped and the remainder shall be fairly well shaped. *Unless otherwise specified*, the minimum size of peppers of long varieties shall be  $3\frac{1}{2}$  inches in length and  $2\frac{1}{4}$  inches in diameter; the minimum size of peppers of short varieties shall be  $2\frac{1}{2}$  inches in length and  $2\frac{1}{2}$  inches in diameter.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot, may be below the specified size. In addition, not more than 10 percent, by count, may be below the remaining requirements of this grade, but not more than one twentieth of this amount, or one half of 1 percent shall be allowed for peppers affected by decay.

**U.S. No. 2** shall consist of sweet peppers of similar varietal characteristics which are green but not immature; which are fairly well shaped, firm and free from decay and from any defect or injury that has penetrated through the fleshy wall, and from serious damage caused by sunscald, freezing, hail, scars, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot, may be below the requirements of this grade, but not more than one twentieth of this amount or one half of 1 percent shall be allowed for peppers affected by decay.

**Unclassified** shall consist of sweet peppers which are not graded in conformity with any of the foregoing grades.

#### RED OR MIXED PEPPERS

Peppers which conform to the requirements of U.S. Fancy, U.S. No. 1, or U.S. No. 2, except as to color, if uniformly red or turning red shall be designated "U.S. Fancy Red", or "U.S. No. 1 Red", or "U.S. No. 2 Red", or if mixed red and green peppers shall be designated "U.S. Fancy Mixed", "U.S. No. 1 Mixed", or "U.S. No. 2 Mixed."

#### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the peppers shall be alike as to type and general characters of the fruit.

"Immature" means that the seeds are not fully developed and that the pepper has not reached the stage of maturity which will insure a proper completion of the ripening process.

"Well shaped" means that the pepper may be only slightly curved or slightly indented.

"Fairly well shaped" means that the pepper is indented or curved in form but is not badly misshapen.

"Badly misshapen" means that the pepper is of the type commonly known as "buttons", or is decidedly crooked, constricted, or otherwise so seriously deformed as to detract materially from the appearance of the pepper.

"Firm" means that the pepper is not soft, shriveled, limp, or pliable, although it may yield to slight pressure.

"Damage" means any injury which materially affects the appearance or the edible or shipping quality of the pepper.

"Serious damage" means surface blemishes covering more than 15 percent of the surface of the pepper in the aggregate, or any injury which seriously affects the shipping quality of the pepper.

"Diameter" means the greatest dimension at right angles to the longitudinal axis.

"Length" means the greatest over-all length of the pepper, exclusive of the stem, measured in a straight line.

## SUGGESTED TENTATIVE UNITED STATES GRADES FOR PINEAPPLES<sup>53</sup>

(Effective Dec. 4, 1931)

**U.S. No. 1** shall consist of pineapples of similar varietal characteristics which are firm, mature, well formed, free from excessive moisture, and free from damage caused by sunburn, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of any lot may be below the requirements of this grade.

**U.S. No. 2** shall consist of pineapples which do not meet the requirements of U.S. No. 1 grade, and which are free from serious damage from any cause.

In order to allow for variations incident to proper grading and handling not more than 5 percent, by count, of any lot may be below the requirements of this grade.

### MARKING REQUIREMENTS FOR SIZE

The pineapples shall be of fairly uniform size in any package and the count shall be marked on the package.

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<sup>53</sup> These grades do not apply to Puerto Rican pineapples.

**DEFINITIONS OF TERMS**

As used in these grades:

“Similar varietal characteristics” means that the pineapples in any container shall be of the same type as regards shape, eyes, crown, and similar factors. For example, types like Red Spanish and Smooth Cayenne shall not be mixed.

“Firm” and “mature” means that the fruit is not soft or shriveled and has reached such a stage of maturity that it will ripen properly without shriveling and turning yellow.

“Well formed” means that the fruit shall not be curved or lop-sided and that it has a crown which is single and reasonably straight.

“Free from excessive moisture” means that the fruit shall be reasonably dry, and if picked while wet, it shall be allowed to properly dry before being packed.

“Free from damage” means that the pineapples shall not be injured to an extent readily apparent upon examination. Fruit having holes or “plugs” in base of core caused by improper harvesting are not free from damage.

“Free from serious damage” means that the fruit shall not be injured in such a way as to affect the keeping quality.

**UNITED STATES STANDARDS FOR PUERTO RICAN PINEAPPLES**

(Effective Oct. 27, 1931)

**GRADES**

**U.S. Fancy** shall consist of pineapples of one variety which are mature, dry, and free from decay, bruising, sunscald, sunburn, gummosis, and from damage caused by disease, insects, rodents, mechanical, or other means. The fruit shall be firm, well formed, and eyes well developed. The butts shall be well trimmed, well cured, and free from damage by cracks. The tops shall be single and free from crown slips. The tops shall be of good green color, straight, well attached to the fruit, and not less than 5 inches in length nor more than one and one half times the length of the fruit.

**U.S. No. 1** shall consist of pineapples of one variety which are mature, fairly dry, and free from decay, bruising, sunscald, and free from damage caused by sunburn, gummosis, disease, insects, rodents, mechanical, or other means. The fruit shall be firm, well formed, and eyes well developed. The butts shall be well trimmed and not bleeding or badly cracked. The tops shall be single and shall have not more than 5 crown slips but not more than 2 crown slips shall be over  $2\frac{3}{4}$  inches in length. The tops shall be of good green color, reasonably straight, well attached to the fruit, and not less than 4 inches in length nor more than twice the length of the fruit.

**U.S. No. 2** shall consist of pineapples of one variety which are mature and free from decay, bruising, sunscald, and free from serious damage caused by sunburn, gummosis, disease, insects, rodents, mechanical, or other means. The fruit shall be firm, fairly well formed and eyes fairly well developed. The butts shall be free from bleeding. The tops shall consist of not more than two fairly well-developed stems but any number of crown slips shall be permitted. The tops shall be of good green color, well attached to the fruit, and not completely curved over.

**Unclassified** shall consist of pineapples which are not graded in conformity with any of the foregoing grades.

#### TOLERANCES FOR PRECEDING GRADES

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the pineapples in any lot shall be below the requirements of the grade but not more than one tenth of this tolerance or 1 percent shall be allowed for decay. However, individual containers in any lot may be permitted to exceed the tolerances specified, by not more than one half of the amount allowed, except that not more than one pineapple in any container may be seriously damaged; provided that the entire lot averages within the tolerances specified.

#### SIZE AND MARKING REQUIREMENTS

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

## DEFINITIONS OF TERMS

As used in these grades:

“Mature” means that the pineapple has reached the stage of development which will insure a proper completion of the ripening process.

“Damage” means any injury or defect which materially affects the appearance, edible, or shipping quality of the fruit. Sunburn which will not materially affect the appearance of the fruit when ripe, or gummosis which is slight or does not materially discolor the eyes, shall not be considered as “damage.”

“Firm” means that the fruit does not yield to slight pressure.

“Well formed” means that the fruit shows good shoulder development and is not lop-sided, distinctly pointed, or noticeably flattened at the sides of the fruit.

“Well developed” means that the eyes have developed normally.

“Well trimmed” means that the bracts on the stem next to the base of the fruit have been removed and the stem has been cut off so that the fruit will stand up straight when placed on the butt end on a horizontal plane.

“Single tops” means that the fruit does not have more than one prominent main stem at the crown of the fruit.

“Crown slips” means the small secondary growths at the crown of the fruit.

“Good green color” means the green color characteristic of a healthy, normal, well-grown plant.

“Serious damage” means any injury or defect which severely affects the appearance, or edible or shipping quality of the fruit. Decay or injury to the flesh shall be considered as “serious damage.”

“Fairly well formed” means that the fruit is not excessively lop-sided or excessively flattened at the shoulders or sides.

“Fairly well developed” means that the eyes show a fairly normal development and are not badly misshapen.

UNITED STATES STANDARDS FOR PLUMS  
AND PRUNES (FRESH)

(Effective May 15, 1931)

## GRADES

**U.S. Fancy** shall consist of plums or prunes of one variety which are well formed; mature but not soft, overripe, or shriveled; which are free from decay, hail marks, sunburn, cuts, and skin breaks (except those caused by pulled stems where the skin is not torn beyond the stem basin), and from damage caused by dirt or other foreign material, growth cracks, drought, russetting, scars, disease, insects or mechanical or other means. Italian type prunes shall be well colored and, *unless otherwise specified*, the minimum size of such prunes shall be not less than  $1\frac{1}{8}$  inches in diameter.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the plums or prunes in any container<sup>54</sup> may not meet the requirements of this grade for defects other than color and size of Italian type prunes but not more than 5 percent, by count, may be allowed for defects causing serious damage and not more than 1 percent may be allowed for decay. In addition, not more than 10 percent, by count, of the Italian type prunes in any container<sup>54</sup> may not meet the color requirements, and not more than 10 percent, by count, may not meet the size specifications, but the combined tolerance for all defects shall not exceed 15 percent.

**U.S. No. 1** shall consist of plums or prunes of one variety which are well formed; mature but not soft, overripe, or shriveled; which are free from decay, cuts, and skin breaks (except those caused by pulled stems where the skin is not torn beyond the stem basin) and from damage caused by dirt or other foreign material, growth cracks, sunburn, hail, drought, russetting, scars, disease, insects, or mechanical or other means. Italian type prunes shall be

<sup>54</sup> The tolerances specified for the various grades are placed on a container basis. However, any lot of plums or prunes shall be considered as meeting the requirements of a specified grade, if upon inspection, no sample from the containers in any lot is found to exceed the tolerances specified by more than one half the amount allowed, provided that the entire lot shall average within the tolerances specified.

fairly well colored and, *unless otherwise specified*, the minimum size of such prunes shall be not less than  $1\frac{1}{8}$  inches in diameter.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by count, of the plums or prunes in any container<sup>55</sup> may not meet the requirements of this grade for defects other than color and size of Italian type prunes but not more than 5 percent, by count, may be allowed for defects causing serious damage and not more than 1 percent may be allowed for decay. In addition, not more than 10 percent, by count, of the Italian type prunes in any container<sup>55</sup> may not meet the color requirements and not more than 10 percent, by count, may not meet the size specifications, but the combined tolerance for all defects shall not exceed 15 percent.

**U.S. No. 2** shall consist of plums or prunes of one variety which are mature but not soft, overripe, or shriveled, which are free from decay and from serious damage by any means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the plums or prunes in any container<sup>55</sup> may be below the requirements of this grade.

**Unclassified** shall consist of plums or prunes which do not meet the requirements of any of the foregoing grades.

#### STANDARD PACK

The plums or prunes shall be tightly packed and the top layer shall not be noticeably superior in quality and size to those in the remainder of the package.

The size of plums or prunes packed in four-basket crates shall be indicated as follows: 4 by 4, 4 by 5, 5 by 5, 5 by 6, and 6 by 6, in accordance with the facts. These packs shall not be more than three layers deep. The arrangement of the two upper layers shall be the same but the count in the bottom layer shall be one row less. For example, a 5 by 5 pack shall be 5 by 5 in the two upper layers but shall be 4 by 5 in the bottom layer, and a 5 by 6 pack shall be 5 by 6 in the two upper layers but shall be 5 by 5 in the bottom layer.

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<sup>55</sup> See footnote 54.

In order to allow for variations incident to proper packing, not more than 10 percent, by count, of the packages may vary from the specified requirements.

#### DEFINITIONS OF TERMS

As used in these grades:

"Well formed" means that the plums or prunes have the shape characteristic of the variety.

"Mature" means that the plums or prunes have reached the stage of maturity which will insure a proper completion of the ripening process.

"Damage" means any injury or defect which materially affects the appearance or keeping quality of the fruit. 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:

(1) Hail marks, when the injury is more than superficial, or superficial hail marks which exceed three eighths inch in the aggregate, or when the skin has been broken.

(2) Sunburn, when the normal color of the plum or prune is materially changed, or the skin is blistered or cracked.

(3) Growth cracks, when deep or not well healed, or well healed and shallow growth cracks when more than one in number or when more than one fourth inch in length.

(4) Russetting, when aggregating more than 10 percent of the fruit surface.

(5) Thorn and limb scratches, when not well healed, or when aggregating more than one half inch in length.

"Serious damage" means any injury or defect which seriously detracts from the appearance or keeping quality of the fruit. Plums or prunes with pulled stems where the skin has been torn beyond the stem basin, and all other unhealed cuts and skin breaks shall be considered as serious damage.

"Well colored" as applied to Italian type prunes means that 95 percent of the surface of the prune is covered with purple color except that portion which is permitted to be affected by russetting.

"Fairly well colored" as applied to Italian type prunes means that not less than three fourths of the surface of the prune shows purple color.

"Size" means the smallest diameter measured through the center of the plum or prune at right angles to a straight line running from the stem to blossom end.

## UNITED STATES STANDARDS FOR POTATOES

(Effective Sept. 15, 1933)

### INTRODUCTION

Numbers and letters in parentheses following grade terms indicate where such terms are defined on pages 137 to 139 under Definitions of Terms.

All percentages shall be calculated on the basis of weight.

The tolerances specified for the various grades shall be placed on a container basis. However, any lot of potatoes shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that the defects in any container based on sample inspection do not exceed the following amounts:

For a specified tolerance of 10 percent or more, not more than one and one half times the tolerance shall be allowed for any one container.

For a specified tolerance of less than 10 percent, not more than double the tolerance shall be allowed for any one container.

### GRADES

**U.S. No. 1** shall consist of potatoes of similar varietal characteristics which are fairly well shaped (1), free from freezing injury, blackheart, and soft rot or wet break-down (2), and from damage (3) caused by dirt (3a) or other foreign matter (3a), sunburn, second growth (3b), growth cracks (3b), air cracks (3c), hollow heart, cuts, shriveling (3d), sprouting (3e), scab (3f and g), blight, dry rot, rhizoctonia (3h), other diseases (3), insects or mechanical or other means (3).

*Unless otherwise specified* the diameter (4) of each potato shall be not less than 1 $\frac{1}{8}$  inches. (See Size Classification, pp. 135 and 136, and Tolerance for Size, pp. 136 and 137.)

## TOLERANCE FOR DEFECTS

In order to allow for variations other than size incident to proper grading and handling, not more than 6 percent of the potatoes in any container may be below the requirements of the grade but not to exceed one sixth of this amount or 1 percent shall be allowed for potatoes affected by soft rot or wet breakdown. In addition, not more than 5 percent may be damaged by hollow heart.

**U.S. Commercial** shall consist of potatoes which meet the requirements of U.S. No. 1 grade except that they shall be free from *serious damage* by dirt (5a) and except for the increased tolerance for defects specified below.

*Unless otherwise specified* the diameter (4) of each potato shall be not less than 1 $\frac{1}{8}$  inches. (See Size Classification, pp. 135 and 136, and Tolerance for Size, pp. 136 and 137.)

## TOLERANCE FOR DEFECTS

In order to allow for variations other than size incident to proper grading and handling, not more than a total of 20 percent of the potatoes in any container may be below the requirements of this grade, but not more than 5 percent may be seriously damaged by hollow heart and not over 6 percent may be below the remaining requirements of U.S. No. 2 grade, provided that not more than one sixth of this amount or 1 percent shall be allowed for potatoes affected by soft rot or wet break-down.

**U.S. No. 2** shall consist of potatoes of similar varietal characteristics which are free from freezing injury, blackheart, and soft rot or wet break-down (2) and from serious damage (5) caused by dirt (5a) or other foreign matter, sunburn, second growth, growth cracks, air cracks, hollow heart, cuts (5b), shriveling (5c), scab, blight, dry rot, other disease, insects, or mechanical or other means (5).

*Unless otherwise specified* the diameter (4) of each potato shall be not less than 1 $\frac{1}{2}$  inches. (See Size Classification, pp. 135 and 136, and Tolerance for Size, pp. 136 and 137.)

## TOLERANCE FOR DEFECTS

In order to allow for variations other than size incident to proper grading and handling, not more

than 6 percent of the potatoes in any container may be below the requirements of the grade, but not to exceed one sixth of this amount or 1 percent shall be allowed for potatoes affected by soft rot or wet break-down. In addition, not more than 5 percent may be seriously damaged by hollow heart.

**U.S. Fancy** shall consist of potatoes of one variety which are firm, mature (6), bright (7), well shaped (8), free from freezing injury, blackheart, shriveling, sprouting, soft rot, or wet break-down (2), and hollow heart, and free from injury (9) caused by dirt or other foreign matter, sunburn, second growth, growth cracks, air cracks, cuts, scab, blight, dry rot, rhizoctonia, other disease, insects, or mechanical or other means (9).

The size of the potatoes may be stated in terms of minimum diameter or minimum weight, or of range in diameter or weight, or of a certain percentage over a certain size, following the grade name but in no case shall the diameter (4) of each potato of this grade be less than 2 inches and in addition, for long varieties such as Burbank, Russet Burbank, Early Ohio, Pride of Wisconsin, or other similar varieties, not less than 40 percent of the potatoes in any lot shall be 6 ounces or larger in weight, and for round or intermediate shaped varieties such as Irish Cobbler, Bliss Triumph, Green Mountain, or other similar varieties, not less than 60 percent shall be  $2\frac{1}{4}$  inches or larger in diameter. (See Tolerance for Size, pp. 136 and 137.)

#### TOLERANCE FOR DEFECTS

In order to allow for variations other than size incident to proper grading and handling, not more than 6 percent of the potatoes in any container may be below the requirements of the grade but not to exceed one sixth of this amount, or 1 percent, shall be allowed for potatoes affected by soft rot or wet break-down.

**Unclassified** shall consist of potatoes which are not graded in conformity with any of the foregoing grades.

#### SIZE CLASSIFICATION FOR ALL GRADES EXCEPT U.S. FANCY

When potatoes are designated as "U.S. No. 1", "U.S. Commercial", or "U.S. No. 2" without speci-

fying a size classification, it is understood that the potatoes meet the minimum size specified in the grade but that no definite percentage of the potatoes is required to be larger than this minimum size.

When potatoes meet the requirements of either size A or size B as described below, the size classification may be specified in connection with the grade name as "U.S. No. 1, size A", "U.S. No. 1, size B", "U.S. Commercial, size A", "U.S. Commercial, size B", "U.S. No. 2, size A", or "U.S. No. 2, size B", in accordance with the facts. When size A or size B is used in connection with the grade it is not permissible to specify any other sizes than those specified under these designations.

*Size A.*—For long varieties such as Burbank, Russet Burbank, Early Ohio, Pride of Wisconsin, and other similar varieties, the minimum size shall be not less than  $1\frac{1}{8}$  inches and not less than 40 percent of the potatoes in the lot shall be 6 ounces or larger in weight.

For round and intermediate shaped varieties such as Irish Cobbler, Bliss Triumph, Green Mountain, and other similar varieties, the minimum size shall be not less than  $1\frac{1}{8}$  inches and not less than 60 percent of the potatoes in the lot shall be  $2\frac{1}{4}$  inches or larger in diameter.

*Size B.*—For all varieties the size shall be from  $1\frac{1}{2}$  inches to not more than 2 inches in diameter.

*Other sizes.*—When either of the above size designations is not used in connection with the grade statement it is permissible to specify any other minimum size such as "1 $\frac{1}{2}$  inches minimum", "2 inches minimum"; or both a minimum and a maximum size as "1 $\frac{1}{8}$  inches to 3 inches", "6 to 10 ounces"; or to specify a certain percentage over a certain size as "25 percent or more,  $2\frac{1}{4}$  inches and larger", "50 percent or more, 6 ounces and larger."

#### TOLERANCE FOR SIZE

In order to allow for variations incident to proper sizing, not more than 5 percent of the potatoes in any container may be below any specified minimum size except that, in order to meet the requirements of size A classification or U.S. Fancy grade any lot of potatoes shall have not more than 3 percent below the minimum size specified. In addition, not more than 15 percent may be above any specified maximum size.

When a percentage of the potatoes is specified to be of a certain size and larger, no part of any tolerance shall be used to reduce such a percentage for the lot as a whole but individual containers may have not more than 15 percent less than the percentage required or specified provided that the entire lot averages within the percentage specified. For example, a lot specified as 25 percent  $2\frac{1}{2}$  inches and larger may have containers with not less than 10 percent  $2\frac{1}{2}$  inches and larger provided the lot as a whole averages 25 percent  $2\frac{1}{2}$  inches and larger.

#### DEFINITIONS OF TERMS

As used in these grades:

1. "Fairly well shaped" means that the potato is not so pointed, dumbbell shaped, or otherwise ill-formed that its appearance is materially injured.

2. "Soft rot or wet break-down" means any soft, mushy, or leaky condition of the tissue such as slimy soft rot, leak, or wet break-down following freezing injury or sunscald.

3. "Damage" means any injury or defect which materially injures 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. Loss of outer skin (epidermis) shall not be considered as damage unless the skinned surface is materially affected by very 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) Dirt when the general appearance of the potatoes in the container is more than slightly dirty or stained, or when individual potatoes are badly caked with dirt or badly stained; or other foreign matter which materially affects the appearance of the potatoes.

(b) 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.

(c) 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.

(d) Shriveling when the potato is more than moderately shriveled, spongy, or flabby.

(e) Sprouting when more than 10 percent of the potatoes have sprouts over three fourth inch long.

(f) Surface scab which covers an area of more than 5 percent of the surface of the potato in the aggregate.

(g) 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.

(h) Rhizoctonia when the general appearance of the potatoes in the container is materially injured or when individual potatoes are badly infected.

4. "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).

5. "Serious damage" means any injury or defect which seriously injures 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. 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 serious damage:

(a) Dirt when the general appearance of the potatoes in the container is seriously affected by tubers badly caked with dirt; or other foreign matter which seriously affects the appearance of the potatoes.

(b) "Cuts" when both ends are clipped or when more than an estimated one fourth of the potato is cut away from one end or when the remaining portion of the clipped potato weighs less than 6 ounces.

Other 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.

(c) Shriveling when the potato is excessively shriveled, spongy, or flabby.

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

7. "Bright" means practically free from dirt or other foreign matter, and that the outer skin (epidermis) has the attractive color normal for the variety.

8. "Well shaped" means the normal shape for the variety and that the potato is not pointed, dumbbell shaped, excessively elongated, or otherwise ill-formed.

9. "Injury" means any defect which more than slightly affects 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 2 percent of the total weight of the potato.

## UNITED STATES STANDARDS FOR BUNCHED RADISHES

(Effective Feb. 25, 1926)

### GRADES

**U.S. No. 1** shall consist of radishes of similar varietal characteristics which are well formed, smooth, firm, tender, crisp, and not pithy; free from decay, and from damage caused by growth cracks, dirt, disease, insects, or mechanical or other means. The tops shall be fresh, free from decay and from damage caused by dirt, insects, or mechanical or other means. *Unless otherwise specified* the minimum diameter of the radishes shall be five eighths inch.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot, may be below the specified minimum diameter. In addition, not more than 10 percent, by count, of any lot, may be below the remaining requirements of this grade, but not to exceed one tenth of this tolerance or 1 percent shall be allowed for decay.

**Unclassified** shall consist of radishes which are not graded in conformity with the foregoing grade.

### BUNCHING

Standard bunches of U.S. No. 1 radishes shall be fairly uniform in size and the radishes in the individual bunches shall not vary more than one fourth of an inch in diameter.

### SIZE TERMS

The following terms are provided for describing the diameters of any lot: Small means less than three fourths inch; medium means three fourths to one inch, inclusive; large means 1 to  $1\frac{1}{4}$  inches, inclusive; very large means over  $1\frac{1}{4}$  inches.

### DEFINITIONS OF TERMS

As used in these grades:

"Firm" means that the radishes are not soft, flabby, or shriveled.

"Tender" means that the radishes are not stringy or woody.

"Well formed" means that the radishes are not badly misshapen.

"Fresh" means that tops of radishes are not badly wilted or otherwise damaged.

"Damage" means any injury from the causes mentioned which materially affects the appearance or edible quality.

"Diameter" means the greatest dimension at the crown of the root taken at right angles to the longitudinal axis.

## UNITED STATES STANDARDS FOR RASPBERRIES

(Effective May 29, 1931)

### GRADES

**U.S. No. 1** shall consist of raspberries of one variety which are well colored, well developed, and not soft, overripe, or broken; which are free from cores, sunscald, mold, and decay, and from damage caused by dirt or other foreign matter, shriveling, moisture, disease, insects, mechanical, or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by volume, of the raspberries in any container<sup>56</sup> may be

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<sup>56</sup> The tolerances specified for the various grades are placed on a container basis. However, any lot of raspberries shall be considered as meeting the requirements of a specified grade, if upon inspection, no sample from the containers in any lot is found to exceed the tolerances specified by more than one half the amount allowed, provided that the entire lot shall average within the tolerances specified.

below the requirements of this grade, but not to exceed one half of this tolerance or 5 percent, shall be allowed for defects causing serious damage and not more than one fifth of this amount or 1 percent, may be affected by mold or decay.

**U.S. No. 2** shall consist of raspberries of one variety which are not graded in conformity with the foregoing grade and which do not contain more than 10 percent, by volume, of raspberries that have been seriously damaged from any cause, but not more than one fifth of this amount, or 2 percent, may be affected by mold or decay.

**Unclassified** shall consist of raspberries which are not graded in conformity with either of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well colored” means that the whole surface of the berry shows a color characteristic of a mature berry.

“Well developed” means that the berries shall not be misshapen owing to anthracnose injury, frost injury, lack of pollination, insect injury, or other causes.

“Overripe” means dead ripe or soft, necessitating immediate consumption.

“Damage” means any injury or defect which materially affects the appearance, edible or shipping quality.

“Serious damage” means berries which are badly deformed, crushed, leaky, moldy, decayed, or otherwise seriously injured. Berries which have poor color characteristic of immature berries or berries from which the core has not been removed shall be considered as seriously damaged.

### UNITED STATES STANDARDS FOR RHUBARB (FIELD GROWN)

(Effective Mar. 10, 1933)

#### GRADES

**U.S. Fancy** shall consist of stalks of rhubarb of similar varietal characteristics which are very well colored, fresh, tender, straight, clean, well trimmed, and not pithy; which are free from decay, and from

damage caused by scars, freezing, disease, insects, or mechanical or other means.

The diameter of each stalk shall be not less than 1 inch, and the length shall be not less than 10 inches.

**U.S. No. 1** shall consist of stalks of rhubarb of similar varietal characteristics which are well colored, fresh, tender, straight, clean, well trimmed, and not pithy; which are free from decay, and from damage caused by scars, freezing, disease, insects, or mechanical or other means.

*Unless otherwise specified* the diameter of each stalk shall be not less than three fourths of an inch, and the length shall be not less than 10 inches.

**U.S. No. 2** shall consist of stalks of rhubarb of similar varietal characteristics which are fairly well colored, fresh, fairly straight, clean, well trimmed, and not pithy; which are free from decay, and from serious damage caused by scars, freezing, disease, insects, or mechanical or other means.

*Unless otherwise specified* the diameter of each stalk shall be not less than one half of an inch, and the length shall be not less than 8 inches.

#### TOLERANCE

In order to allow for variations, other than size, incident to proper grading and handling in each of the foregoing grades, not more than 10 percent, by count, of the stalks in any container<sup>57</sup> may be below the requirements of the grade but not more than one tenth of this tolerance, or 1 percent, shall be allowed for stalks affected by decay. In addition, not more than 5 percent, by count, of the stalks in any container<sup>57</sup> may be below the specified diameter, and not more than 5 percent, by count, may be below the specified length.

**Unclassified** shall consist of rhubarb which is not graded in conformity with any of the foregoing grades.

<sup>57</sup> Application of tolerances: The tolerances specified for these grades are placed on a container basis. However, any lot of rhubarb shall be considered as meeting the requirements of the grade, if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than  $1\frac{1}{2}$  times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

## DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the rhubarb stalks are alike in general characteristics.

“Very well colored” means that a pink or red color predominates on three fourths or more of the length of the stalk.

“Well colored” means that a pink or red color predominates on one half or more of the length of the stalk.

“Fairly well colored” means that a pink or red color predominates on one fourth or more of the length of the stalk.

“Fresh” means not limp or wilted.

“Straight” means that the stalk has not more than a slight concave curvature of the face, and not more than slight twisting along the longitudinal axis of the stalk.

“Well trimmed” means that the top has been neatly knife-trimmed so that not more than 2 inches of the midribs and thin leaf tissue remains, and that most of the basal husk has been removed.

“Pithy” means that the stalk has an open texture with air spaces in the central portion.

“Damage” means any injury or defect which materially affects the appearance, edible or shipping quality.

“Diameter” means the greatest distance across the flat face of the stalk at the center of its length.

“Length” means the overall length after the stalk has been well trimmed.

“Fairly straight” means that the stalk is not badly twisted or crooked.

“Serious damage” means any injury or defect which seriously affects the appearance, edible or shipping quality. Broken, badly bruised, and crushed stalks shall be considered as serious damage.

## UNITED STATES STANDARDS FOR ROMAINE

(Effective Dec. 18, 1928)

## GRADES

**U.S. No. 1** shall consist of romaine plants which are fairly well headed, well trimmed, free from decay, and from damage caused by seed stems, broken,

bruised, or discolored leaves, tipburn, wilting, dirt, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade, but not to exceed a total of 5 percent shall be allowed for defects causing serious damage, and not more than two fifths of this amount or 2 percent shall be allowed for decay.

**Unclassified** shall consist of romaine which is not graded in conformity with the foregoing grade.

#### DEFINITIONS OF TERMS

As used in these grades:

“Fairly well headed” means that four or more inner leaves overlap each other at the top of the plant.

“Well trimmed” means that the stems shall be neatly cut close to the point of attachment of the outer leaf stems.

“Damage” means any injury from the causes mentioned which materially affects the appearance or the edible or the shipping quality of the individual plant or of the lot as a whole.

“Serious damage” means any injury from the causes mentioned which seriously affects the appearance or the edible or the shipping quality of the individual plant or of the lot as a whole.

#### UNITED STATES STANDARDS FOR BUNCHED SHALLOTS

(Effective Aug. 5, 1931)

#### GRADES

**U.S. Fancy** shall consist of shallots which are well formed, firm, crisp, young and tender, well blanched, well trimmed, and free from damage caused by dirt or other foreign matter, disease, insects, or mechanical or other means. The tops shall be fresh and green and free from damage caused by clipped, broken, bruised, or decayed leaves.

*Unless otherwise specified*, the minimum size of the shallots shall be not less than one fourth of an inch in diameter.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by

count, of the shallots in any container<sup>58</sup> may be below the specified minimum diameter. In addition, not more than 10 percent, by count, of the shallots in any container<sup>58</sup> may be below the remaining requirements of this grade but no part of this tolerance shall be allowed for decay.

**U.S. No. 1** shall consist of shallots which are fairly well formed, firm, crisp, young and tender, fairly well blanched, well trimmed, and free from damage caused by dirt or other foreign matter, disease, insects, or mechanical or other means. The tops shall be fresh and green and free from serious damage caused by clipped, broken, bruised, or decayed leaves.

*Unless otherwise specified*, the minimum size of the shallots shall be not less than one fourth of an inch in diameter.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of the shallots in any container<sup>58</sup> may be below the specified minimum diameter. In addition, not more than 10 percent, by count, of the shallots in any container<sup>58</sup> may be below the remaining requirements of this grade but no part of this tolerance shall be allowed for decay.

**U.S. No. 2** shall consist of shallots which are not badly misshapen, firm, crisp, fairly young and tender, reasonably well blanched, well trimmed, and free from damage caused by dirt or other foreign matter, disease, insects, or mechanical or other means. The tops shall be fresh and green and free from serious damage caused by clipped, broken, bruised, or decayed leaves.

*Unless otherwise specified*, the minimum size of the shallots shall be not less than one fourth of an inch in diameter.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by

<sup>58</sup> Application of tolerances: The tolerances specified for the various grades are placed on a container basis. However, any lot of shallots shall be considered as meeting the requirements of a specified grade if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than 1½ times the tolerance shall be allowed in any 1 package. For a specified tolerance of 5 percent, not more than double the tolerance shall be allowed in any 1 package.

count, of the shallots in any container <sup>59</sup> may be below the specified minimum diameter. In addition, not more than 10 percent, by count, of the shallots in any container <sup>59</sup> may be below the remaining requirements of this grade but no part of this tolerance shall be allowed for decay.

**Unclassified** shall consist of shallots which are not graded in conformity with any of the foregoing grades.

#### SIZE

The following terms are provided for describing the diameters of any lot: Small means less than three eighths inch; medium means three eighths to one half inch, inclusive; large means over one half inch.

#### BUNCHING

Bunches shall be fairly uniform in size and the shallots in the individual bunches shall also be of fairly uniform size.

#### DEFINITIONS OF TERMS

As used in these grades:

“Well formed” means that the shallots are not noticeably curved or crooked, and that they have not reached a stage of development at which the bulbs have begun to form.

“Fairly well formed” means that the shallots are not so noticeably curved or crooked as to cause individual specimens to project from bunches, and that they have not reached the stage of development at which the bulbs have begun to form.

“Not badly misshapen” means that the shallots do not show more than slight bulb formation and that they are not so noticeably curved or crooked as to cause individual specimens to project from bunches.

“Firm” means that the shallots are not soft, withered, or wilted.

“Young and tender” means that the shallots are not tough or stringy, and that seed stems, if present, are not coarse or fibrous. Shallots often show flower buds while still tender. Such shallots are not objectionable if the flower buds have been removed.

“Fairly young and tender” means that the shallots are not tough, stringy, or advanced to the stage where

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<sup>59</sup> See footnote 58.

the necks are soft and flabby, and that seed stems, if present, are not excessively coarse or fibrous.

"Well blanched" means that the shallots have a clear white color (not tinged with green) from a point on the neck at least 4 inches from the roots.

"Fairly well blanched" means that the shallots have a clear white color (not tinged with green) from a point on the neck at least  $2\frac{1}{2}$  inches from the roots.

"Reasonably well blanched" means that the shallots have a clear white color (not tinged with green) from a point on the neck at least  $1\frac{1}{2}$  inches from the roots.

"Damage" means any injury or defect which materially affects the appearance or the edible or shipping quality. The tops of shallots are sometimes cut off or pinched back to remove discolored or otherwise injured leaves. In the U.S. Fancy grade such plants shall be considered as damaged when they show more than two cut or clipped leaves.

"Serious damage" means that the shallots are injured to such an extent that the appearance is seriously affected. Shallots which show more than half of the leaves cut back, broken, or badly bruised shall be regarded as seriously damaged.

"Fresh and green" means that the tops are not badly wilted; and are of the normal green color characteristic of healthy plants, not showing a light-green color characteristic of continued growth after harvesting.

"Well trimmed" means that the shallots are free from dead, discolored, or loose outer skins; that clusters are separated so that not more than two shallots shall be attached to each other, and that individual shallots are not broken above the point of root attachment.

## UNITED STATES STANDARDS FOR SPINACH<sup>60</sup>

(Effective Sept. 4, 1931)

### GRADES

**U.S. No. 1** shall consist of spinach plants of similar varietal characteristics which are well grown, well trimmed, free from decay, and from damage caused by

<sup>60</sup> These grades do not apply to the so-called "New Zealand spinach."

coarse stalks, seed stems, yellow or discolored leaves, second growths, wilting, freezing, dirt, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by weight, of the plants in any container<sup>61</sup> may be below the requirements of this grade, but not more than one fifth of this amount or 2 percent, shall be allowed for spinach which is affected by decay.

**U.S. Commercial** shall consist of spinach plants which meet all requirements of U.S. No 1 grade except as to the tolerances for defects. Not more than a total of 20 percent, by weight, of the spinach in any container<sup>61</sup> may be below the requirements of U.S. No. 1 spinach but not more than 10 percent shall be seriously damaged. Of this tolerance for serious damage not more than one fifth of this amount or 2 percent shall be allowed for spinach which is affected by decay.

**Unclassified** shall consist of spinach which is not graded in conformity with the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that spinach shall be generally of one type, as crinkly-leaf type or flat-leaf type. No mixture of varieties shall be permitted which materially affects the appearance of the lot.

"Well grown" means plants which are not stunted or poorly developed.

"Well trimmed" means that spinach plants are cut at the crown of the root or cut so that the roots are not longer than approximately 1 inch. No plants shall be admitted to U.S. No. 1 grade if the roots are long enough to damage the appearance of the lot.

"Damage" means any injury from the causes mentioned which materially affects the appearance, or the edible or shipping quality. Plants which have reached a stage of development where the flower buds are plainly visible, or where the plants have developed

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<sup>61</sup> Application of tolerances: The tolerances specified for the various grades are placed on a container basis. However, any lot of spinach shall be considered as meeting the requirements of a specified grade if, upon inspection, no sample from the containers in any lot is found to exceed the tolerances specified by more than one half the amount allowed, provided that the entire lot shall average within the tolerances specified.

coarse stalks that would cause more than 10 percent waste, shall be considered as damaged. "Stalks" refer to the *central* stalks of the plants and not to the leaf stems. Plants which have small dried, withered, or slightly yellowed leaves at the base of the plant shall not be considered as damaged unless the general appearance of the plant or of the lot as a whole is materially affected.

"Seriously damaged" means any defect or injury which severely affects the appearance or the edible or shipping quality. Seriously damaged plants include the following:

- (1) Plants which are badly affected by discolored leaves.
- (2) Plants which are severely affected by mildew.
- (3) Plants which are noticeably affected by insects.
- (4) Plants which are affected by decay.

## UNITED STATES STANDARDS FOR FRESH SPINACH FOR CANNING

(Effective Apr. 10, 1931)

### GRADES

**U.S. No. 1** shall consist of spinach which is free from decay, grass, weeds, yellow leaves, roots, and worms, and from damage caused by mildew, seed stems, seed buds, coarse stalks, wood, muck chips, insects, dirt, or other foreign material.

In order to allow for variations incident to proper handling, the following tolerances shall be permitted for grade defects:

For decay, grass, small weeds, and yellow leaves, not more than 15 pieces are permitted in a 100-ounce sample.

For damage by wood, muck chips, or other hard foreign material, no tolerance is permitted.

For roots, large weeds, and damage by mildew, seed stems, seed buds, coarse stalks, insects, dirt or other foreign material, not more than 5 ounces are permitted in a 100-ounce sample.

No tolerance is permitted for worms.

**U.S. No. 2** shall consist of spinach which meets all the requirements of U.S. No. 1 grade except that the following tolerances shall be permitted for grade defects:

For decay, grass, small weeds, and yellow leaves, not more than 40 pieces are permitted in a 100-ounce sample.

For damage by wood, muck chips, or other hard foreign material, not more than one piece over one half inch in length is permitted in a 100-ounce sample.

For roots, large weeds, and damage by mildew, seed stems, seed buds, coarse stalks, insects, dirt, or other foreign material, not more than 10 ounces are permitted in a 100-ounce sample.

No tolerance is permitted for worms.

**U.S. No. 3** shall consist of spinach which is free from worms and from damage caused by mildew, decay or insects.

A tolerance of 25 percent, by weight, shall be permitted for spinach which fails to meet the requirements of this grade but no part of this tolerance shall be allowed for spinach which contains worms.

**Unclassified** shall consist of spinach which does not conform to the requirements of any of the foregoing grades.

## UNITED STATES STANDARDS FOR STRAW-BERRIES

(Effective Mar. 1, 1928)

### GRADES

**U.S. No. 1** shall consist of strawberries of one variety, with the cap (calyx) attached, which are firm, not overripe, underripe, or undeveloped; and which are free from mold or decay and from damage caused by dirt, moisture, foreign matter, disease, insects, or mechanical or other means. *Unless otherwise specified* the minimum size shall be not less than three quarters of an inch in diameter.

In order to allow for variations other than size incident to proper grading and handling, not more than 10 percent, by volume, of the strawberries in any lot may be below the requirements of this grade, but not to exceed one half of this tolerance or 5 percent, shall be allowed for defects causing serious damage, and not more than one fifth of this amount, or 1 percent, shall be allowed for decay.

In addition, not more than 5 percent, by volume, of the strawberries in any lot, may be below the specified minimum size.

**U.S. No. 2** shall consist of strawberries which are free from decay and from serious damage caused by disease, insects, mechanical or other means. *Unless otherwise specified* the minimum size shall be not less than five eighths of an inch in diameter.

In order to allow for variations other than size incident to proper grading and handling, not more than a total of 10 percent, by volume, of the strawberries in any lot shall be allowed for defects causing serious damage but not to exceed three tenths of this amount or 3 percent, shall be allowed for strawberries affected by decay.

In addition, not more than 5 percent, by volume, of the strawberries in any lot may be below the specified minimum size.

**Unclassified** shall consist of strawberries which are not graded in conformity with either of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Overripe” means dead ripe, becoming soft, a condition unfit for shipment and necessitating immediate consumption.

“Underripe” means so immature that less than two thirds of the surface of the berry is of a pink or red color.

“Undeveloped” means not having attained a normal shape and development owing to frost injury, lack of pollination, insect injury, or other causes. “Button” berries are the most common type of this condition.

“Damage” means any injury from the causes mentioned which materially affects the appearance, or edible or shipping quality.

“Serious damage” means that the strawberries are soft, badly deformed, badly bruised, leaky, or otherwise seriously injured. Strawberries which are caked with dirt or which show no pink or red color shall be considered seriously damaged.

“Diameter” means the greatest dimension at right angles to a straight line running from the stem to the apex.

## UNITED STATES STANDARDS FOR SWEET-POTATOES

(Effective May 12, 1926)

## GRADES

**U.S. No. 1** shall consist of sweetpotatoes of similar varietal characteristics which are firm, not badly misshapen; which are free from black rot, decay, and freezing injury; and free from damage caused by dirt, secondary rootlets, bruises, cuts, scars, growth cracks, scald, scurf or other diseases, weevils or other insects, and by mechanical or other means.

*Unless otherwise specified* the diameter of each sweetpotato shall not be less than  $1\frac{3}{4}$  inches nor more than  $3\frac{1}{2}$  inches, and the length shall not be less than 3 inches nor more than 10 inches, but the length may be less than 3 inches if the diameter is 2 inches or more.

**TOLERANCES.**—In order to allow for variations other than size, incident to proper grading and handling, not more than 10 percent, by weight, of the sweetpotatoes in any lot may be below the requirements of this grade, but not to exceed a total of 5 percent, shall be allowed for defects causing serious damage, and not more than one fifth of this amount, or 1 percent, shall be allowed for sweetpotatoes affected with soft rot.

In addition, not more than 10 percent, by weight, of the sweetpotatoes in any lot may not meet the size requirements, but not more than one half of this tolerance, or 5 percent, shall be allowed for sweetpotatoes which are below the minimum size requirements.

**U.S. No. 2** shall consist of sweetpotatoes of similar varietal characteristics which are firm and which are free from black rot, decay, and freezing injury; and free from serious damage caused by dirt, bruises, cuts, scars, growth cracks, scald, disease, weevils or other insects, and mechanical or other means.

*Unless otherwise specified* the diameter of each sweetpotato shall not be less than  $1\frac{1}{2}$  inches nor more than 4 inches.

**TOLERANCES.**—In order to allow for variations other than size, incident to proper grading and handling, not more than 10 percent, by weight, of the sweetpotatoes in any lot may be below the requirements of

this grade, but not to exceed one tenth of this amount, or 1 percent, shall be allowed for sweetpotatoes affected with soft rot.

In addition, not more than 10 percent, by weight, of the sweetpotatoes in any lot may not meet the size requirements, but not more than one half of this tolerance, or 5 percent, shall be allowed for sweetpotatoes which are below the minimum size requirements.

**U.S. Fancy** shall consist of sweetpotatoes of similar varietal characteristics which are firm, smooth, and well shaped, which are free from black rot, decay, and freezing injury; and free from damage caused by dirt, secondary rootlets, bruises, cuts, scars, growth cracks, scald, scurf or other disease, weevils or other insects, and mechanical or other means.

The diameter of each sweetpotato shall not be less than 2 inches nor more than 3½ inches and the length shall be not less than 3 inches nor more than 6 inches, but the length may be less than 3 inches if the diameter is 2¼ inches or more.

**TOLERANCES.**—In order to allow for variations other than size, incident to proper grading and handling, not more than 10 percent, by weight, of the sweetpotatoes in any lot may be below the requirements of this grade, but not to exceed a total of 3 percent, shall be allowed for defects causing serious damage, and not more than one third of this amount or 1 percent, shall be allowed for sweetpotatoes affected with soft rot.

In addition, not more than 10 percent, by weight, of the sweetpotatoes in any lot may not meet the size requirements, but not more than one half of this tolerance, or 5 percent, shall be allowed for sweetpotatoes which are below the minimum size requirements.

**Unclassified** shall consist of sweetpotatoes which are not graded in conformity with any of the foregoing grades.

#### DEFINITIONS OF TERMS

As used in these grades:

“Similar varietal characteristics” means that the sweetpotatoes in the same container shall have skins of similar color, such as white, yellow, or red. Moist and dry types shall not be mixed.

“Firm” means that the sweetpotato shall not be flabby or shriveled.

“Badly misshapen” means that the sweetpotato is so misshapen as to cause a waste for ordinary use of more than 20 percent, by weight, of the sweetpotato.

"Damage" means any injury which materially affects the appearance of the lot or causes appreciable waste in the ordinary preparation for use.

"Serious damage" means any injury not including badly misshapen sweetpotatoes, which seriously affects the appearance of the lot, or causes a waste of more than 20 percent, by weight, in the ordinary preparation for use. Black rot shall be considered as serious damage.

"Diameter" means the greatest dimension at right angles to the longitudinal axis.

"Smooth" means that in addition to other defects which cause roughness, sweetpotatoes shall be free from prominent veining.

## UNITED STATES STANDARDS FOR CANNING TOMATOES

(Effective Mar. 1, 1926)

### INTRODUCTION

Grades for canning tomatoes which will provide a definite basis for contracts between the canner and the grower are meeting with increasing favor. Such grades must recognize variations in commercial value and still be simple enough to be practical in actual operation.

In recommending the attached United States grades the United States Department of Agriculture has attempted to formulate the views of leading representatives of both growers and canners and careful studies of present practices show them to be practical. However, as the idea of grading tomatoes for cannery purposes is new a further word of explanation seems desirable.

It should be understood at the outset that the only grading required of the grower is the removal of culs. Such tomatoes should be left in the field. It is not intended that the grower sort the tomatoes into U.S. No. 1 and U.S. No. 2 grades. The proposed grades provide a basis for sampling the tomatoes as they are delivered to the cannery.

The application of these grades requires the services of private or official inspectors to determine the amounts of each grade in the various loads of tomatoes. Such inspectors must be capable, efficient, and

above all, they must be absolutely neutral. The inspectors' reports should show the percentages of U.S. No. 1, U.S. No. 2, and cull tomatoes.

Buying and selling on grade will encourage better production and better handling. The present practice of paying a flat price for everything which is accepted, discriminates against the best growers. The grower should be paid a suitable premium for stock of high quality which will make a high-quality manufactured product. Such stock can be canned at a minimum cost. On the other hand there should be suitable penalties for the delivery of culls.

### GRADES

**U.S. No. 1** shall consist of tomatoes which are firm ripe, well colored, well formed; free from molds and decay and from damage caused by growth cracks, worm holes, catfaces, sunscald, freezing injury, or mechanical or other means. (See Minimum Size.)

**U.S. No. 2** shall consist of tomatoes which do not meet the requirements of the foregoing grade but which are ripe and fairly well colored and which are free from serious damage from any cause. (See Minimum Size.)

**Culls** are tomatoes which do not meet the requirements of either of the foregoing grades.

### MINIMUM SIZE

*The minimum size* may be fixed by agreement between buyer and seller. Tomatoes below this specified minimum size shall be classed as Culls.

### DEFINITIONS OF TERMS

As used in these grades:

“Firm” means that the tomato is not soft, puffy, shriveled, or water-soaked.

“Well colored” means that the tomato shows at least 90 percent good red color.

“Fairly well colored” means that the tomato shows at least two thirds good red color.

“Well formed” means that the tomato shall not be extremely flat or otherwise badly misshapen.

“Damage” means any injury which cannot be removed in the ordinary process of trimming and peeling without a loss of more than 10 percent (by

weight) of the tomato in excess of that which would occur if the tomato were perfect.

"Serious damage" means any injury which cannot be removed in the ordinary process of trimming and peeling without a loss of more than 20 percent (by weight) of the tomato in excess of that which would occur if the tomato were perfect.

## UNITED STATES STANDARDS FOR FRESH TOMATOES

(Effective Aug. 15, 1932)

### GRADES

**U.S. No. 1** shall consist of tomatoes of similar varietal characteristics which are mature but not overripe or soft; which are fairly well formed, fairly smooth, free from decay, freezing injury, and from damage caused by dirt, bruises, cuts, sunscald, sunburn, puffiness, catfaces, growth cracks, scars, insects, hail, or mechanical or other means, and free from visible disease at shipping point.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the tomatoes in any container<sup>62</sup> may be below the requirements of this grade but not more than one half of this tolerance, or 5 percent, shall be allowed for defects causing serious damage, and not more than one fifth of this amount, or 1 percent, may be allowed for decay at shipping point or for decay in tomatoes from Mexico when inspected at points of entry into the United States. In addition a total tolerance of not more than 5 percent shall be allowed for decay en route or at destination.

**U.S. No. 2** shall consist of tomatoes of similar varietal characteristics which are mature but not overripe or soft; not badly misshapen, free from decay, unhealed cuts, freezing injury, and from serious dam-

<sup>62</sup> Application of tolerances: The tolerances specified for these grades are placed on a container basis. However, any lot of tomatoes shall be considered as meeting the requirements of a specified grade, if the entire lot averages within the tolerances specified, provided that no sample from the containers in any lot is found to exceed the following amounts: For a specified tolerance of 10 percent, not more than 1½ times the tolerance shall be allowed in any 1 package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any 1 package.

age caused by bruises, sunscald, sunburn, puffiness, catfaces, growth cracks, scars, disease, insects, hail, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of the tomatoes in any container<sup>63</sup> may be below the requirements of this grade but not more than one tenth of this tolerance, or 1 percent, may be allowed for decay at shipping point or for decay in tomatoes from Mexico when inspected at points of entry into the United States. In addition a total tolerance of not more than 6 percent shall be allowed for decay enroute or at destination.

**Unclassified** shall consist of tomatoes which are not graded in conformity with either of the foregoing grades.

#### MARKING FOR SIZE

The minimum size, total count, or description of the arrangement of the tomatoes in the top layer in any package should be plainly stenciled or otherwise marked on the package.

“Minimum size” means the greatest diameter of the smallest fruit measured at right angles to a line running from the stem to the blossom end. It should be stated in terms of whole and quarter inches as 2 inches minimum, 2 $\frac{1}{4}$  inches minimum, 2 $\frac{1}{2}$  inches minimum, and so on in accordance with the facts.

In order to allow for variations incident to proper sizing, not more than 5 percent, by count, of the tomatoes in any container<sup>63</sup> may vary from the minimum diameter or the total count specified. (The tolerance for description of pack is given below.)

#### DESCRIPTION OF PACK

“Description of pack” applies particularly to packing in lugs and should be designated according to the number of rows in the top layer in a lug, as 5-5, 5-6, 6-6, and so on in accordance with the facts. The following terms shall be used to describe U.S. packs in lugs:

*U.S. straight pack.*—When specified as “U.S. straight pack” the tomatoes shall be fairly uniform in size and fairly tightly packed, and all layers in any lug shall have the same number of tomatoes, for

<sup>63</sup> See footnote 62.

example, in a 5-5 pack the tomatoes shall be packed 5 rows wide and 5 rows long in each layer or in an 8-8 pack the tomatoes shall be packed 8 rows wide and 8 rows long in each layer. *Unless otherwise specified* the net weight of the tomatoes in the lug shall be not less than 30 pounds.

*U.S. extra row pack.*—When specified as "U.S. extra row pack" the tomatoes shall be fairly uniform in size and fairly tightly packed, and the lower layers shall not contain more than one additional row one way of the lug, for example, in a 5-5 pack, the tomatoes in the lower layers may be packed 5-6 but not 6-6 or 5-7, or in a 7-7 pack, the tomatoes in the lower layers may be packed 7-8 but not 8-8. *Unless otherwise specified* the net weight of the tomatoes in the lug shall be not less than 30 pounds.

*U.S. bridge pack.*—When specified as "U.S. bridge pack" the tomatoes shall be fairly uniform in size and fairly tightly packed, and a part of one additional layer of tomatoes shall be packed in the lug and the remaining tomatoes in the lower layers shall not contain more than one additional row one way of the lug than is contained in the top layer. *Unless otherwise specified* the net weight of the tomatoes in the lug shall be not less than 30 pounds.

*U. S. double-wrap pack.*—When specified as "U.S. double-wrap pack" the tomatoes shall be fairly uniform in size and fairly tightly packed, and the tomatoes in the top layer shall be packed with not more than one tomato in a wrapper and the lower layer or layers shall be packed with not more than two tomatoes in a wrapper. *Unless otherwise specified* the net weight of the tomatoes in the lug shall be not less than 30 pounds.

In order to allow for variations incident to proper packing, not more than 5 percent, by count, of the containers in any lot may not meet the requirements for any described pack.

*Irregular pack.*—Lugs of tomatoes which are not packed in accordance with any of the foregoing methods of packing may be designated as "irregular pack."

#### DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the tomatoes are alike as to firmness of flesh and shade

of color, i.e., that soft-fleshed early maturing varieties are not mixed with firm-fleshed midseason or late varieties, or bright red varieties mixed with varieties having a purplish tinge.

“Mature” means that the contents of the seed cavities have begun to develop a jelly or gluelike consistency and the seeds are well developed.

“Fairly well formed” means that the tomato is not decidedly kidney shaped, lop-sided, elongated, angular, or otherwise deformed.

“Fairly smooth” means that the tomato is not conspicuously ridged or rough.

“Damage” means any injury which materially affects the appearance, edible or shipping quality. The following shall be considered as damage:

(1) *Puffy tomatoes*.—These tomatoes are usually angular and flat sided. They are damaged if one or more locules are materially open when the tomato is cut through the center at right angles to a line running from the stem to the blossom end.

(2) *Catfaces*.—These are irregular, dark, leathery scars at the blossom end of the fruit. Such scars damage the tomato when they are fairly smooth and greater in area than a circle three fourths inch in diameter, or when rough or deep, or when channels extend deeply into the fruit.

(3) Scars (except catfaces) when aggregating more than three eighths inch in diameter.

(4) *Growth cracks*.—These are ruptures or cracks radiating from the stem scar, or cracks concentric to the stem scar. They damage the tomato when not well healed, or when more than one half inch in length; except, that very narrow well-healed cracks concentric to the stem scar shall not be considered as damage unless they are so numerous as to damage the appearance of the fruit.

(5) Cuts which are not shallow, not well healed or more than one half inch in length.

“Badly misshapen” means that the tomato is so badly deformed that its appearance is seriously affected.

“Serious damage” means any injury which seriously affects the appearance, edible or shipping quality. The following shall be considered as serious damage:

(1) Fruit actually infested with worms.

(2) Decay.

- (3) Tomatoes showing any effects of freezing.
- (4) Fresh holes or cuts through the tomato wall.
- (5) Puffiness which causes the tomato to be distinctly light in weight.

“Fairly uniform in size” means that not more than 10 percent, by count, of the tomatoes in any layer may be more than one standard size larger or smaller than the standard size tomato for the count packed.

*Example of standard size tomato.*—The standard size tomato for a 5-6 layer is that size which will pack tightly tomatoes of uniform size 5 rows by 6 rows in that layer in the crate.

## UNITED STATES STANDARDS FOR TOMATOES FOR MANUFACTURE OF STRAINED TO- MATO PRODUCTS

(Effective Mar. 1, 1933)

### GRADES

**U.S. No. 1** shall consist of tomatoes which are fairly firm, ripe, well colored, and free from stems and from damage caused by badly discolored cracks, shriveling, molds, decay, sunburn, sunscald, freezing, or other means.

**U.S. No. 2** shall consist of tomatoes which do not meet the requirements of the foregoing grade but which are ripe and fairly well colored and which are free from serious damage from any cause.

**Culls** are tomatoes which do not meet the requirements of either of the foregoing grades.

### DEFINITIONS OF TERMS

As used in these grades:

“Fairly firm” means that the tomato is not water-soaked.

“Well colored” means that at least 90 percent of the flesh of the tomato has *good red* color, provided that a tomato having flesh of a lighter shade of red shall be considered as “well colored” if enough additional area of the flesh has a shade of red color so that the tomato has a sufficient amount of red to be equivalent in color to that of a tomato which has 90 percent *good red* color.

"Fairly well colored" means that at least two thirds of the flesh of the tomato has *good red* color, provided that a tomato having flesh of a lighter shade of red shall be considered as "fairly well colored" if enough additional area of the flesh has a shade of red color so that the tomato has a sufficient amount of red to be equivalent in color to that of a tomato which has two thirds *good red* color.

"Damage" means any injury which appreciably affects the quality of the tomato for pulping. Any one of the following defects or any combination of defects which exceeds the maximum allowed for any one defect shall be considered as damage:

(1) Molds or decay, except that molds or very slight decay which can be removed in the ordinary process of washing without hand trimming shall not be considered as damage.

(2) Sunburn or sunscald which cannot be removed in the ordinary process of trimming without a loss of more than 10 percent, by weight, of the tomato in excess of that which would occur if the tomato were perfect.

(3) Tomatoes which show an appreciable amount of shriveling.

"Serious damage" means any injury which severely affects the quality of the tomato for pulping. Any one of the following defects or any combination of defects which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(1) Decay which has caused the tomato to become sour, or decay or disease, such as anthracnose spots, blossom-end rot, soil rot, or any other decay or disease which cannot be removed in the ordinary process of trimming without a loss of more than 20 percent, by weight, of the tomato in excess of that which would occur if the tomato were perfect.

(2) Sunburn or sunscald which cannot be removed in the ordinary process of trimming without a loss of more than 20 percent, by weight, of the tomato in excess of that which would occur if the tomato were perfect.

(3) Shriveling when the flesh of the tomato is tough and rubbery.

## UNITED STATES STANDARDS FOR BUNCHED TURNIPS

(Effective Aug. 9, 1927)

## GRADES

**U.S. No. 1** shall consist of turnips of similar varietal characteristics which are firm, fairly smooth, free from decay and from damage caused by growth cracks, dirt, disease, insects, or mechanical or other means. The tops shall be fresh and either full size or cut back to not less than 6 inches in length. *Unless otherwise specified* the minimum diameter shall be 1  $\frac{3}{4}$  inches.

In order to allow for variations incident to proper grading and handling, not more than 5 percent, by count, of any lot may be below the specified minimum diameter. In addition, not more than 5 percent, by count, of any lot may be below the remaining requirements of this grade but not more than one fifth of this amount, or 1 percent shall be allowed for decay.

**Unclassified** shall consist of turnips which are not graded in conformity with the foregoing grade.

## SIZE TERMS

The following terms are provided for describing the diameters of any lot: Small means less than 2  $\frac{1}{4}$  inches; medium means 2  $\frac{1}{4}$  to 3  $\frac{1}{4}$  inches, inclusive; large means over 3  $\frac{1}{4}$  inches.

## BUNCHING

Bunches shall be fairly uniform in size.

## DEFINITIONS OF TERMS

As used in these grades:

“Damage” means any injury which materially affects the appearance of the lot or causes appreciable waste in the ordinary preparation for use.

“Diameter” means the greatest dimension of the root taken at right angles to the longitudinal axis.

“Firm” means that the turnips are not soft, flabby, or shriveled.

“Fresh” means that tops of turnips are not badly wilted and are practically free from discolored or decayed leaves.

UNITED STATES STANDARDS FOR TURNIP GREENS<sup>64</sup>

(Effective Dec. 18, 1928)

## GRADES

**U.S. No. 1** shall consist of turnip greens which are fresh, free from decay, and from damage caused by seed stems, broken, bruised, spotted, or discolored leaves, wilting, dirt or other foreign matter, disease, insects, or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, of any lot may be below the requirements of this grade but not to exceed a total of 5 percent shall be allowed for defects causing serious damage and not more than two fifths of this amount or 2 percent shall be allowed for decay.

**Unclassified** shall consist of turnip greens which are not graded in conformity with the foregoing grade.

## DEFINITIONS OF TERMS

As used in these grades:

“Damage” means any injury from the causes mentioned which materially affects the appearance or the edible or shipping quality of the individual leaves or of the lot as a whole.

“Serious damage” means any injury from the causes mentioned which seriously affects the appearance or the edible or the shipping quality of the individual leaves or of the lot as a whole.

## UNITED STATES STANDARDS FOR TURNIPS OR RUTABAGAS (TOPPED)

(Effective May 15, 1933)

## GRADES

**U.S. No. 1** shall consist of turnips or rutabagas of similar varietal characteristics which are firm, fairly smooth, fairly well shaped, and well trimmed; which are free from soft rot and from damage caused by freezing, pithiness, water core, secondary rootlets, growth cracks, cuts, dirt, discoloration, disease, in-

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<sup>64</sup> These grades do not apply to Seven Top Turnip or so-called “broccoli” greens.

sects, or mechanical or other means. (See Size Explanation.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by weight, of the turnips or rutabagas in any container<sup>65</sup> may be below the requirements of this grade, but not more than one fifth of this amount or 2 percent shall be allowed for turnips or rutabagas affected by soft rot.

**Unclassified** shall consist of turnips or rutabagas which do not conform to the requirements of the foregoing grade.

#### SIZE EXPLANATION

In view of the size variations in different producing sections and because of market demands for turnips and rutabagas of various sizes, it is not considered advisable to require a minimum size in the grade. Shippers in some of the northern-producing districts find the best market outlets for rutabagas ranging from 3½ to 7 inches in diameter. In the Pacific Northwest producers find the best demand for rutabagas ranging from 2½ to 4½ inches. Turnips from the Southern States range from about 1¾ to 3½ inches. It is therefore suggested that a minimum diameter or a range in diameters be specified in connection with the grade as "U.S. No. 1, 3½ inches minimum", "U.S. No. 1, 2½ to 5 inches", in accordance with the facts.

In order to allow for variations incident to proper sizing, not more than 15 percent, by weight, of the turnips or rutabagas in any container<sup>65</sup> may vary from any specified size but not more than one third of this amount, or 5 percent, shall be allowed for turnips or rutabagas that are below any specified minimum size.

<sup>65</sup> Application of tolerances: The tolerances specified for the grades are placed on a container basis. However, any lot of turnips or rutabagas shall be considered as meeting the requirements of the grade if the entire lot averages within the tolerances specified, provided that the defects in any container based on sample inspection do not exceed the following amounts: For specified tolerances of over 5 percent, not more than 1½ times the tolerance shall be allowed for any 1 container. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed for any 1 container.

## DEFINITIONS OF TERMS

As used in these grades:

"Similar varietal characteristics" means that the turnips or rutabagas in any container shall be of similar color and shape, that is, that yellow-fleshed varieties shall not be mixed with white-fleshed varieties and that flat, globe, or long varieties shall not be mixed in the same container.

"Firm" means that the turnip or rutabaga is not soft, flabby, or shriveled.

"Fairly well shaped" means that the turnip or rutabaga is not misshapen to such an extent as to materially injure its appearance.

"Well trimmed" means that the tops are trimmed to not more than three fourths inch in length, that unattractive secondary rootlets have been removed, and that any objectionably long or coarse tail-like part of the root has been cut off.

"Soft rot" means any soft, mushy, or leaky condition of the tissue.

"Damage" means any injury which materially affects the appearance or the edible quality of the turnips or rutabagas, or causes appreciable waste in the ordinary preparation for use.

"Diameter" means the greatest dimension of the turnip or rutabaga taken at right angles to the longitudinal axis.

## UNITED STATES STANDARDS FOR WATER-MELONS

(Effective Aug. 12, 1925)

## GRADES

**U.S. No. 1** shall consist of watermelons of similar varietal characteristics which are mature but not overripe, well formed (fig. 1-A), and free from decay, white heart, anthracnose and from damage caused by other disease, sunburn, insects, or mechanical or other means. (See Size.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, may be below the requirements of this grade but no part of this tolerance shall be allowed for decay and not more than one fifth of the total tolerance or 2 percent may be badly misshapen or seriously damaged by any means.

U.S. No. 2 shall consist of watermelons of similar varietal characteristics which are mature but not overripe, which are not badly misshapen (fig. 1-B) and which are free from decay, white heart, and from serious damage caused by sunburn, disease, insects, or mechanical or other means. (See Size.)

In order to allow for variations incident to proper grading and handling, not more than 10 percent, by count, may be below the requirements of this grade but no part of this tolerance shall be allowed for decay.

**Unclassified.**—Watermelons which are not graded in conformity with either of the foregoing grades may be designated as unclassified.

#### SIZE

Where the size of watermelons is stated in terms of average weight, *unless otherwise specified*, the melons in any lot averaging less than 30 pounds shall not vary more than 4 pounds below the stated average, and the melons in any lot averaging 30 pounds or more shall not vary more than 6 pounds below the stated average.

Size may also be stated in terms of minimum weight.

In order to allow for variations incident to proper sizing, not more than 5 percent, by count, of the watermelons in any lot may be below the size requirements.

*Table of weights*

Average weight (pounds)	Minimum weight (unless otherwise specified)	Tolerance permitted for melons below the minimum weight	Average weight (pounds)	Minimum weight (unless otherwise specified)	Tolerance permitted for melons below the minimum weight
20-----	Pounds 16	Percent 5	32-----	Pounds 26	Percent 5
22-----	18	5	34-----	23	5
24-----	20	5	36-----	30	5
26-----	22	5	38-----	32	5
28-----	24	5	40-----	34	5
30-----	24	5	42-----	36	5

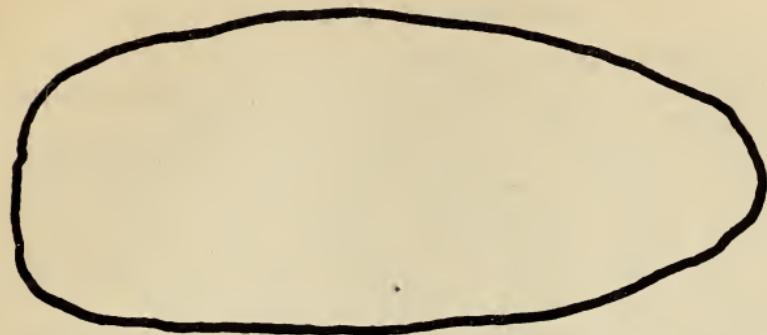
*A**B**C*

FIGURE 1.—Shapes of watermelons: *A*, Permissible in grade U.S. No. 1; *B*, permissible in grade U.S. No. 2; *C*, not permissible in grade U.S. No. 2.

## DEFINITIONS OF TERMS

As used in these grades:

"Mature" means having reached the stage of development at which the melon is palatable.

"Well formed" means having the characteristic shape but not necessarily the perfect type of the variety. (Note permissible shapes shown in fig. 1.)

"Not badly misshapen" means that the melons are not bottle necks or gourd necks, but may be tapered at the ends or slightly constricted.

"Free from damage" means that the melons are not injured to an extent readily apparent upon examination. Melons showing a greenish yellow sunburned spot not larger than 9 square inches shall not be considered as damaged, but melons showing sunburn in excess of this amount, or which show any pronounced golden-yellow color, shall be regarded as damaged.

"Serious damage" means any injury which affects the edible quality of the melon or which detracts materially from its appearance. Melons showing sunscald are regarded as seriously damaged. Melons showing not more than 15 flatly elevated anthracnose spots which are not cracked or pitted shall not be considered as seriously damaged.



