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Official Grades for the  
Standardization of  
**Colorado Fruits**  
and  
**Vegetables**



STATE OF COLORADO  
DIVISION OF AGRICULTURE

DIRECTOR OF MARKETS  
Fruit and Vegetable Inspection Service  
547 Custom House  
Phone KE. 4151 Ext. 211  
Denver, Colo.

1941

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**Official  
Fruit and Vegetable  
Grades  
for  
COLORADO**

To Whom It May Concern: By virtue of Chapter 69, Section 6, of the Colorado statutes Annotated, 1935, I hereby declare the following grades, standards, packing and certification rules and regulations contained herein to be the standard for the State of Colorado.

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 per cent 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 per cent, 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 Drug Administration.

**BEN H. KING,**  
Director of Markets.



**DIRECTORY  
OF  
HEADQUARTERS**

**Fruit and Vegetable Inspection Service  
U. S. Department of Agriculture  
Colorado Director of Markets  
Cooperating**

Central Headquarters for the State—  
547 Custom House, Denver, Colo.

E. F. McKune, Supervising Inspector.  
In charge inspection for State.

N. D. Sanborn, Associate Supervising Inspector.

W. J. Tobin, in charge Finance and Supplies.

San Luis Valley District—

P. O. Building, Monte Vista, Colo.  
Virsh Robb, Inspector in Charge.

Western Colorado District—

P. O. Building, Grand Junction, Colo.  
G. N. Lynch, Inspector in Charge.

Arkansas Valley District—

Rocky Ford, Colo.  
Howard Warren, Inspector in Charge.

Platte Valley District—

P. O. Building, Greeley, Colo.  
Herbert Jensen, Inspector in Charge.

**COLORADO STANDARDS FOR APPLES**

**Colorado Extra Fancy or First Grade**

Colorado Extra Fancy shall consist of clean (1), mature (2), well-formed (3), hand-picked (4), apples of one variety, which are free from damage (12) caused by limb-rub, frost, hail, sunscald, visible water-core (7), spray burn, skin punctures, except those necessarily caused in proper packing and handling, russeting (14), except that the russeting at the basin of the stem shall be permitted, or from disease, insects, or mechanical or other means, slight blemishes shall be permitted in this grade (17).

Each apple shall have the amount of color designated for apples of this grade in table of color requirements.

**Colorado Fancy or Second Grade**

Colorado Fancy shall consist of apples of one variety which conform to the requirements of Colorado Extra Fancy, except that slight leaf-rubs, scratches, or russeting (14), up to a total of 10 per cent of the surface, limb-rub (15), slight hail marks (6), heavy russeting up to one-half inch in diameter (10), scab spots not to exceed one-fourth inch in diameter (9), and apples which are slightly misshapen (5), and which have not to exceed two small healed stings (8), shall be permitted, slight blemishes shall be permitted in this grade (17).

Each apple shall have the amount of color designated for apples of this grade in table of color requirements, except that apples which have any small healed stings shall have the color required for the Colorado Extra Fancy Grade.

**Colorado "C" or Third Grade**

Colorado "C" Grade shall consist of apples of one variety which are fairly well formed (5), free from worm holes (11), scale and broken skins, except those necessarily caused in proper packing and from serious damage (13), caused by disease,



insects, bruises, or other means, but not more than five healed stings shall be permitted on any apple in this grade, slight blemishes shall be permitted in this grade (17).

#### **Colorado Combination Grades**

When **Colorado Extra Fancy and Fancy** apples are packed together, the packages may be marked "**Colorado Combination Extra Fancy and Fancy.**" This grade must contain at least 25 per cent of apples of the higher grade.

When **Colorado Fancy and "C" Grade** apples are packed together, the packages may be marked "**Colorado Combination, Fancy and 'C' Grade.**" This grade must contain at least 35 per cent of apples of the higher grade.

When **Colorado Extra Fancy, Fancy and "C" Grade** apples are packed together, the packages may be marked "**Colorado Extra Fancy, Fancy and 'C' Grade.**" Any package so marked must not contain any fruit that will not meet the requirements of Colorado "C" Grade and must contain at least 15 per cent Colorado Extra Fancy and 50 per cent Colorado Fancy apples.

#### **Colorado No. 1 (Bulk)\***

Colorado No. 1 (Bulk)\* shall consist of the combination of Extra Fancy, Fancy and "C" Grade apples. A lot so designated must contain at least 15% of apples that meet the Extra Fancy Grade; 20% or more apples that meet the Fancy Grade. The balance shall meet the "C" Grade requirements.

#### **Colorado No. 2 (Bulk)\***

Colorado No. 2 (Bulk)\* shall consist of apples of one variety which are free from worm holes,

\*Whenever apples are packed in containers to meet the above grades, the containers are to be stamped "Colorado No. 1" or "Colorado No. 2." Whenever shipped in bulk to meet the above requirements they are to be designated as "Colorado No. 1 Bulk" or "Colorado No. 2 Bulk."

scale and serious damage caused by disease or other means.

#### **Colorado Hail Grade**

**Colorado Hail Grade** shall consist of apples which meet the requirements of Colorado Fancy Grade 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.

#### **Tolerance for All Apple Grades**

In order to allow for variations incident to proper grading and handling, not more than 10 per cent, by count, of the apples in any lot may be below the requirements of the grade or the lowest grade, as in combination or Colorado No. 1 or No. 2 grades, but not to exceed one-half of this 10 per cent tolerance shall be allowed for worm holes and not more than one-tenth or one per cent of this tolerance shall be allowed for decay.

**Unclassified** shall consist of apples which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### **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**

Containers packed with apples of the standard grades, either diagonal or straight packs, shall be marked with the numerical count or with the minimum size of the fruit contained therein. If either Jumble or Face and Fill packs are used in any container, the face shall fairly represent the average quality and size of the contents of the



package, and the package shall be marked with the minimum size of the fruit contained therein, (16) as—"Colorado Fancy 2¼-inch min.," or "Colorado Fancy 2½-inch min."

In order to allow for variations incident to proper grading and handling not more than 5 per cent, by count, of the apples in any lot may vary from the minimum size stated.

#### TABLE OF COLOR REQUIREMENTS

Apples shall be admitted to the first and second grades subject to the following color specifications. The percentage stated refers to the area of the surface which must be covered with a good shade of red characteristic of the variety.

##### Solid Red Varieties

	Extra Fancy	Fancy
Arkansas Black.....	75%	25%
Baldwin .....	75%	25%
Black Ben Davis.....	75%	25%
Gano .....	75%	25%
King David.....	75%	25%
Red June.....	75%	25%
Vanderpool .....	75%	25%
Winesap .....	75%	25%

##### Striped or Partial Red Varieties

	Extra Fancy	Fancy
McIntosh Red.....	66⅔%	25%
Delicious .....	66⅔%	25%
Stayman Winesap .....	66⅔%	25%
Jonathan .....	66⅔%	25%
Black Twig.....	50%	25%
Fameuse .....	50%	15%
Geniton .....	50%	15%
Hubbardston .....	50%	15%
Missouri Pippin .....	50%	15%
Northern Spy.....	50%	15%
Red Astrachan .....	50%	15%
Rome Beauty.....	50%	*15%
Salome .....	50%	15%

\*No color requirements on Fancy Rome Beauty of 96 and larger.

#### Striped or Partial Red Varieties (Continued)

	Extra Fancy	Fancy
Stark .....	50%	15%
Sutton .....	50%	15%
Willow Twig.....	50%	15%
Wealthy .....	50%	15%
York Imperial .....	50%	15%
Ben Davis.....	50%	15%
Alexander .....	25%	10%
Chenango .....	25%	10%
Gravenstein .....	25%	10%
Jeffries .....	25%	10%
Oldenburg .....	25%	10%
Twenty Ounce.....	25%	10%

##### Red Cheeked or Blush Varieties

Extra Fancy—Perceptibly blushed cheek.  
 Fancy—No color requirements.  
 Hydes King  
 Maiden Blush  
 Red Cheek Pippin  
 Winter Banana

##### Green and Yellow Varieties

Extra Fancy—Characteristic color.  
 Fancy—No color requirements.  
 Grimes Golden  
 Ortley  
 Yellow Newtown  
 Yellow Bellefleur  
 White Winter Pearmain  
 Rhode Island Greening  
 Cox's Orange Pippin

#### DEFINITIONS OF TERMS

(1) "Clean" means reasonably free from dust or dirt and free from excessive visible spray residue.

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

(3) "Well formed" means having the shape characteristic of the variety in the locality where grown.

(4) "Hand-picked" means the careful removal of the fruit from the tree by hand, implying also careful transfer, by the use of proper equipment, to the packing house.

(5) "Fairly well-formed" means that the apple may be of slightly abnormal shape but not to an extent that will cause loss in paring.

(6) "Slight hail marks" means only those where the injury is superficial and the skin has not been broken or discolored.

(7) "Visible water-core" is an accumulation of water in the fleshy part of the apple extending to the skin, giving it a translucent appearance.

(8) "Small healed stings." The term "worm sting" means a thoroughly healed worm sting, as the healing of the sting is the only evidence which shows that it is not infected. "Small healed stings" are further defined as those in which the diameter of the dark discoloration caused by the sting exclusive of any encircling green ring shall not be more than one-eighth inch.

(11) "Worm hole" means any codling moth worm injury other than covered by the term "healed sting."

(12) "Free from damage" means that the apple shall not be injured to an extent apparent in the process of proper grading and handling.

(13) "Free from serious damage" means that the apple shall not be injured so as to cause a loss of over 20 per cent in the ordinary process of preparation for use, or bruised to an extent affecting more than 10 per cent of the surface.

(14) "Russet netting" means any defects caused by frost injury, spray injury, and similar blemishes from other causes, and shall be computed in the aggregate when computing the per-

centage of the total defect, that is to say, when all russet netting on the specimen is added together it shall not exceed the percentage allowed for the grade.

(15) "Leaf-rubs" means any light surface discoloration caused by rubbing, which are not blackened, as contrasted with blackened or deformed limb-rubs.

(16) "Minimum size" means the greatest transverse diameter of the smallest fruit at right angles to a line running from the stem to the blossom end. Minimum size shall be stated in terms of whole and quarter inches, as 2 inches, 2¼ inches, 2½ inches, and so on, in accordance with the facts.

(17) "Slight blemishes" means slight handling bruises and box bruises, such as are incident to good commercial handling in the preparation of a tight pack.

#### Marking Packages

All packages of apples shall be stamped in a conspicuous place with the correct name of the variety contained, or "variety unknown," the grade, and the number of apples, or with the minimum size (16) of the fruit contained therein.

Any marks may be printed on the label, but in case they are not they must be stamped on the end of the box in a space 1½ inches wide above the label except as noted below.

In marking the grade "Fancy" on the end of the box, it should be placed close enough to the left hand edge of the box so that an unscrupulous dealer cannot put the word "Extra" in front of it. In case the word is not so placed, the grade "Fancy" should be preceded by a heavy line at least ½ inch long.

For basket or crate packs the grade, variety, minimum size or numerical count shall be plainly stamped on the lids or on a conspicuous place on



the sides in letters of not less than one-fourth inch in height.

#### **Miscellaneous Marking**

Whenever a lot of apples which meets the requirements of the boxed grades are shipped in bulk, it is possible to quote such a lot with the boxed grade followed with the word "bulk," as Colorado "C" Grade Bulk.

#### **Colorado-U. S. Apple Grades**

The use of the U. S. Apple grades in lieu of the Colorado State grades are permissible. Copies of the U. S. Grades may be secured from your local inspector or the District office.

#### **COLORADO-U. S. STANDARDS FOR APRICOTS 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 limbrubs, russeting, 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 per cent, by count, of any lot may be below the requirements of this grade but not more than one-half of this tolerance or 5 per cent, shall be allowed for defects causing serious damage and not more than one-fifth of this amount or 1 per cent, 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 limbrubs, 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 per cent, by count, of any lot may be below the requirements

of this grade, and not more than one-tenth of this amount or 1 per cent 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  $1\frac{1}{2}$ " min.,  $1\frac{1}{8}$ " min., etc. in accordance with the facts.

"Description of pack" refers especially to apricots packed in 4-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 per cent, by count, of the apricots in any package may be below the minimum size specified.

#### **DEFINITION 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  $\frac{3}{8}$  of an inch in length or smooth shallow limbrubs not more than one-fourth of an inch in diameter or russeting 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.—1928.

## **COLORADO-U. S. STANDARDS FOR SNAP BEANS**

### **GRADES**

**U. S. Fancy** shall consist of beans of similar varietal characteristics which are of reasonable and fairly uniform size, well formed, bright, clean, fresh, young and tender, firm, and free from damage caused by leaves, leaf stems, other 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 a total of 10 per cent, by weight, of the beans in any container may be below the requirements of this grade, but not more than 5 per cent shall be allowed for defects causing serious damage, and not more than 1 per cent shall be allowed for beans affected by soft rot.

**U. S. No. 1** shall consist of beans of similar varietal characteristics which are of reasonable size, fairly well formed, fairly bright, fresh, fairly young and tender, firm, and free from dam-

age caused by dirt, leaves, leaf stems, other 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 a total of 10 per cent, by weight, of the beans in any container may be below the requirements of this grade, but not more than 5 per cent shall be allowed for defects causing serious damage, and not more than 1 per cent shall be allowed for beans affected by soft rot.

**U. S. Combination** shall consist of a combination of U. S. No. 1 and U. S. No. 2 snap beans, provided that at least 75 per cent, by weight, meet the requirements of U. S. No. 1 grade.

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by weight, of the beans in any container may be below the requirements of U. S. No. 2 grade, but not more than 1 per cent shall be allowed for beans affected by soft rot. No part of this tolerance shall be allowed to reduce for the lot as a whole, the percentage of U. S. No. 1 beans required in the combination but individual containers may have not more than 10 per cent less than the percentage of U. S. No. 1 beans required.

**U. S. No. 2** shall consist of beans of similar varietal characteristics which are fairly fresh, firm and not overmature and free from serious damage caused by dirt, leaves, leaf stems, other 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 a total of 10 per cent, by weight, of the beans in any container may be below the requirements of this grade, but not more than 1 per cent shall be allowed for beans affected by soft rot.



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

#### DEFINITIONS OF TERMS

As used in these standards:

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

"Reasonable size" means that the pods are not spindly or excessively short for the variety and have not been prematurely picked.

"Well formed" means that the pods have the normal typical shape for the variety.

"Firm" means that the pods are not wilted or flabby.

"Damage" means any injury or defect which materially affects the appearance or the edible or shipping quality. Pods having spots due to Blight or Anthracnose, and similar spots caused by other diseases shall be considered as damaged.

"Fairly well formed" means that the pods are not badly crooked, curled, twisted or otherwise badly misshapen for the variety. Excessively tapered pods caused by unfavorable pollinating or growing conditions shall not be considered as fairly well formed.

"Overmature" means that the walls of the pods are distinctly woody or fibrous.

"Serious damage" means any injury or defect which seriously affects the appearance or the edible or shipping quality. 1936.

#### COLORADO-U. S. STANDARDS FOR BUNCHED ITALIAN SPROUTING BROCCOLI

##### GRADES

**U. S. Fancy** shall consist of bunched stalks (1) of Italian Sprouting Broccoli. Each bunch (2) shall be closely trimmed (3), free from decay, and

from damage (6), caused by overmaturity (6a), discoloration of bud clusters (6b), freezing, wilting, dirt or other foreign material, disease, insects, mechanical or other means. The bud clusters in each bunch shall be generally compact (7). (See Tolerances.)

The minimum diameter (10) of each stalk (1) shall be not less than 2½ inches. A larger minimum diameter may be specified in accordance with the facts.

The length (11) of each stalk shall be not less than 6 inches or more than 8½ inches. (See Tolerances.)

**U. S. No. 1** shall consist of bunched stalks (1) of Italian Sprouting Broccoli. Each bunch (2) shall be well trimmed (4), free from decay, and from damage (6) caused by overmaturity (6a), discoloration of bud clusters (6b), freezing, wilting, dirt or other foreign material, disease, insects, mechanical or other means. The bud clusters in each bunch shall be generally fairly compact (8). (See Tolerances.)

There are no requirements for diameter (10) but diameter may be specified for any lot as shown under "Size Specifications."

**Unless otherwise specified**, the length (11) of each stalk (1) shall be not less than 5 inches nor more than 9 inches. (See Tolerances.)

**U. S. No. 2** shall consist of bunched stalks (1) of Italian Sprouting Broccoli. Each bunch (2) shall be fairly well trimmed (5), free from decay, and from damage (6) caused by overmaturity (6a), insects, and from serious damage (9) caused by discoloration of bud clusters (9a), freezing, wilting, dirt or other foreign material, disease, or mechanical or other means. (See Tolerances.)

There are no requirements for diameter (10) or length (11), but size may be specified for any lot in connection with the grade, as shown under "Size Specifications." (See Tolerances.)



**Unclassified** shall consist of broccoli which has not been classified in accordance with any of the foregoing grades. The term "Unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### SIZE SPECIFICATIONS

**Diameter.** The terms "heads" (1a) and "shoots" (1b) may be used to designate size of stalks in connection with U. S. No. 1 and U. S. No. 2 grades. If heads and shoots are mixed, the percentage, by weight, of heads contained in the lot may be specified.

The minimum or maximum diameter (10) or both, in terms of inches and quarter inches, may be specified for the lot as a whole or for a certain percentage, by weight, of the lot; for example: "2 inches minimum," or "50 percent  $3\frac{1}{4}$  inches or larger," or "75 percent  $2\frac{1}{2}$  inches or larger."

**Length.** The minimum or maximum length (11) or both, may be specified in connection with U. S. No. 1 or U. S. No. 2 grade in accordance with the facts expressed in terms of inches and half inches; for example: "7 inches minimum length," or " $6\frac{1}{2}$  to  $8\frac{1}{2}$  inches long."

#### TOLERANCES

In order to allow for variations, other than size, incident to proper grading and handling, not more than 10 percent of the bunches (2) in any container may be below the requirements of the grade specified, but not more than one-fifth of this amount, or 2 percent, shall be allowed for bunches affected by decay. Percentages shall be determined on the basis of count, except that when bunches are not fairly uniform in size, percentages shall be determined on the basis of weight.

In addition, not more than 10 percent, by weight, of the stalks (1) in any container may fail to meet the size requirements of the grade or any sizes specified for length (11) and diameter (10).

When a percentage of the broccoli in a lot is specified to be "heads" (1a) or of a certain diameter (10) 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 to exceed 15 percent less than the percentage specified, provided that the entire lot averages within the percentage specified.

#### DEFINITIONS OF TERMS

As used in these standards:

1. "Stalk" means a portion of the broccoli plant including the stem, bud clusters and any attached leaves. Individual stalks may be designated as "heads" or "shoots" as follows:

(a) "Head" means a stalk of broccoli having a cluster of closely associated buds which is  $2\frac{1}{4}$  inches or larger in diameter (10).

(b) "Shoot" means a stalk of broccoli having bud clusters which fail to meet the requirements for a head.

2. "Bunch" means stalks bound together to form a unit. A single stalk may be considered a bunch if it is approximately as large as other bunches in the lot.

3. "Closely trimmed" means that not more than 5 percent, by weight, of any bunch shall consist of leaves and leaf stems, and that they are folded or clipped back so that they do not extend noticeably above the top of the bunch, and that damaged leaves which materially affect the appearance of the bunch have been removed. The bunch shall be neatly and fairly evenly cut off at the base so that not more than  $1\frac{1}{2}$  inches of the stems, measured from the base, are tough or fibrous.

4. "Well trimmed" means that the bunch meets the requirements for "closely trimmed" (3) except that not more than 10 percent, by weight, of any bunch shall consist of leaves and leaf stems.



5. "Fairly well trimmed" means that not more than 20 percent, by weight, of any bunch shall consist of leaves and leaf stems, and that damaged leaves which seriously affect the appearance of the bunch have been removed. The bunch shall be cut off at the base so that not more than 2½ inches of the stems, measured from the base, are tough or fibrous.

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

(a) Overmaturity, when the appearance of the bunch is materially affected by the presence of open flower buds, or buds which are enlarged and on the verge of opening.

(b) Discoloration of bud clusters when the appearance of the bunch is materially affected by buds which have a noticeably yellowish, brownish or reddish cast in contrast to the desirable good green color. A bluish or purplish cast over the green is often characteristic of good broccoli and shall not be considered as damage.

7. "Compact" means that the individual buds in the bud cluster are generally small, tightly crowded together and the bud clusters on the stalk are generally close together, and feel fairly firm and moderately resistant to pressure.

8. "Fairly compact" means that the individual buds and bud clusters on the stalk are generally close together so that the top of the clusters do not have a ragged appearance or feel very soft.

9. "Serious damage" means any injury or defect which seriously affects the appearance, or the edible or shipping quality of the bunch. The following defect or any combination of defects, the seriousness of which exceeds the maximum al-

lowed for this defect shall be considered as serious damage:

(a) Discoloration of bud clusters when the buds have a decidedly yellowish, brownish or reddish cast which seriously detracts from the appearance of the bunch. A bluish or purplish cast over the green is often characteristic of good broccoli and shall not be considered as serious damage.

10. "Diameter" means the average measurement across the bud cluster at the top of the stalk.

11. "Length" means the total length of the stalk measured from the base of the stem to the top of the bud cluster. 1940.

#### **COLORADO-U. S. STANDARDS FOR CABBAGE GRADES**

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

Unless otherwise specified, each head shall be well trimmed. However, cabbage may be specified as "U. S. No. 1 Green" when the cabbage in each container generally has fairly good green color. When specified as "U. S. No. 1 Green," each head may have not more than 7 leaves which do not unfold the head fairly tightly more than two-thirds the distance from the base to the top.

In order to allow for variations, other than excess number of outer leaves on "U. S. No. 1 Green" cabbage, incident to proper grading and handling, not more than a total of 10 per cent, by weight, of the heads in any container may not meet the requirements of this grade, but not more than one-fifth of this amount, or 2 per cent, may be allowed for soft decay. In addition, when a lot of cabbage is specified as "U. S. No. 1 Green," not more than



10 per cent may not meet the requirements as to number of outer leaves.

**U. S. Commercial** shall consist of heads of cabbage which meet the requirements of U. S. No. 1 grade except for the increased tolerance for defects specified below.

Unless otherwise specified, each head shall be well trimmed. However, cabbage may be specified as "U. S. Commercial Green" when the cabbage in each container generally has fairly good green color. When specified as "U. S. Commercial Green," each head may have not more than 7 leaves which do not enfold the head fairly tightly more than two-thirds the distance from the base to the top.

In order to allow for variations, other than excess number of outer leaves on "U. S. Commercial Green" cabbage, incident to proper grading and handling, not more than a total of 25 per cent, by weight, of the heads in any container may not meet the requirements of this grade, but not more than two-fifths of this amount or a total of 10 per cent, shall be allowed for defects causing serious damage, but not more than 2 per cent may be allowed for soft decay. In addition when a lot of cabbage is specified as "U. S. Commercial Green" not more than 15 per cent may not meet the requirements as to number of outer leaves.

**Unclassified** shall consist of cabbage which has not been classified in accordance with the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### SIZE

The minimum size or minimum and maximum sizes may be specified in connection with the grades as "U. S. No. 1, 1 pound min.," or "U. S. No. 1, 2 to 4 pounds," 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 lbs.	1½ to 3 lbs.	Over 3 lbs.
Domestic	under 2 lbs.	2 to 5 lbs.	Over 5 lbs.
Danish	under 3 lbs.	3 to 6 lbs.	Over 6 lbs.

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

#### DEFINITIONS OF TERMS

As used in these standards:

"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, Winningstadt, 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, tightleaved, 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 Enhuizen 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. "Reasonable solidity" as applied to Savoy cabbage means not soft or puffy; Savoy type cabbage is characteristically loosely formed and rather light in weight.

"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.

"Damage" means any defect or injury which materially affects the appearance, or the edible or shipping quality. Worm injury on the outer head leaves or wrapper leaves which materially affects the appearance of the head, or worm holes which extend deeply into the compact portion of the head shall be considered as damage.

"Serious damage" means any defect or injury which seriously affects the appearance, or the edible or shipping quality. Cabbage which is affected by soft rot or which is seriously puffy, badly burst, or seriously injured by seedstems, discoloration, freezing, disease, insects, mechanical or other means shall be considered as seriously damaged. Worm injury on the outer head leaves or wrapper leaves which seriously affect the appearance of the heads, or worm holes which seriously affect the compact portion of the head shall be regarded as serious damage.

"Well trimmed" means that the heads shall have not more than four leaves which do not enfold the head fairly tightly more than two-thirds the distance from the base to the top, and that the stems do not extend more than one-half inch beyond the point of attachment of the outermost leaves.—1939.

#### **Standardization Act, Colorado Session Laws 1931**

Section 36. Provides that, Containers packed with cabbage of the grades established by the provisions of this Act shall be plainly marked with the grade contained therein.

### **COLORADO-U. S. STANDARDS FOR CABBAGE FOR SAUER KRAUT MANUFACTURE**

#### **Introduction**

Grades for cabbage for sauer kraut 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 per cent U. S. No. 1, remainder U. S. No. 2," or "85 per cent U. S. No. 1-2 per cent 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 report 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 seedstems, 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 seedstems 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 envelop 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.

"Seedstems" 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 trimming without a waste of more than 15 per cent, by weight, over that which would occur if the head of cabbage were perfect.—1939.

#### **COLORADO-U. S. STANDARDS FOR CANTALOUPS**

##### **GRADES**

**U. S. No. 1** shall consist of cantaloups of one variety which are firm, mature, well formed, well netted and free from aphid honey dew, 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 a total of 10 per cent, by count, of the cantaloups in any container may be below the requirements of this grade, but not over one-half of this tolerance



or 5 per cent, shall be allowed for defects causing serious damage, and not more than 1 per cent shall be allowed for cantaloups affected by soft rot.

**U. S. Commercial** shall consist of cantaloups which meet the requirements of U. S. No. 1 grade except for the increased tolerance for defects specified below.

In order to allow for variations incident to proper grading and handling, not more than a total of 20 per cent, by count, of the cantaloups in any container may be below the requirements of this grade, but not more than one-fourth of this amount, or 5 per cent, shall be allowed for defects causing serious damage, and not more than 1 per cent shall be allowed for cantaloups affected by soft rot.

**Unclassified** shall consist of cantaloups which have not been classified in accordance with either of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### DEFINITIONS OF TERMS

As used in these standards:

"Mature" means that 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 or defect which materially affects the appearance, or the edible, or shipping quality.

"Serious damage" means any injury or defect which seriously affects the edible or shipping quality. Cantaloups which are soft, immature,

or cracked shall be considered as being seriously damaged.—1937.

For marking requirements of all melons in containers see page 108.

#### COLORADO-U. S. STANDARDS FOR BUNCHED CARROTS

##### GRADES

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

Bunches shall have tops which are fresh and free from damage by any cause. **Unless otherwise specified** the bunches shall have full tops.

**Unless otherwise specified** the diameter of each carrot shall be not less than  $\frac{3}{4}$  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 per cent, by count, of the carrots in any container may be below the specified minimum diameter and not more than 5 per cent, by count, may not meet any maximum diameter which may be specified in connection with the grade. In addition, not more than 25 per cent of the bunches may have tops larger than the specified length, and not more than 10 per cent of the bunches may have tops which are badly wilted or otherwise damaged. In addition, not more than 5 per cent, by count, may fail to meet the color requirements, and not more than 5 per cent, by count, may be below the remaining requirements of this grade but not more than one-tenth of this amount, or one-half of one per cent shall be allowed for decay.

**Unclassified** shall consist of bunched carrots which have not been classified in accordance with



the foregoing grade. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### SIZE TERMS

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

For varieties similar to Emperor or Morse Bunching, "Small" means less than  $\frac{3}{4}$  inch; "Medium" means  $\frac{3}{4}$  to  $1\frac{1}{4}$  inches; "Large" means over  $1\frac{1}{4}$  inches.

For varieties similar to Chantenay, Danvers Half Long or Nantes, "Small" means less than 1 inch; "Medium" means 1 to  $1\frac{1}{2}$  inches; "Large" means over  $1\frac{1}{2}$  inches in diameter.

For varieties similar to Oxheart, "Small" means less than  $1\frac{1}{4}$  inches; "Medium" means  $1\frac{3}{4}$  to  $2\frac{1}{4}$  inches; "Large" means over  $2\frac{1}{4}$  inches in diameter.

#### 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 per cent of the bunches have tops longer than the maximum size specified.

Short	Medium	Long	Extra Long
Under 12 inches	12 to 16 inches incl.	Over 16 to 20 inches incl.	Over 20 inches

#### STANDARD BUNCHES

Each bunch of carrots including tops, shall weigh not less than 1 pound and contain at least 4 carrots.

When the diameter of the smallest carrot in the bunch is less than one and one-quarter inches not over one-fourth inch variation in the size of carrots in the bunch shall be permitted.

When the diameter of the smallest carrot in the bunch is one and one-quarter to one and three-fourths inches inclusive, not over three-eighths inch

variation in the size of carrots in the bunch shall be permitted.

When the diameter of the smallest carrot in the bunch is larger than one and three-fourths inches, not over one-half inch variation in the size of carrots in the bunch shall be permitted.

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

#### DEFINITIONS OF TERMS

As used in these standards:

1. "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.

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

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

4. "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.

5. "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.

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

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



8. "Tops—free from damage by any cause" means that the tops are free from any injury which materially affects the appearance of the bunch. When the tops have been trimmed to such an extent that the remaining leaves and leaf stems are so few in number that the appearance is materially injured, the bunch shall be regarded as damaged.

9. "Full tops" means that the leaf stems have not been cut back, but dried or damaged leaves or leaf stems may be removed.

10. "Diameter" means the greatest dimension of the root taken at right angles to the longitudinal axis.—1937.

## COLORADO-U. S. STANDARDS FOR CAULIFLOWER

### GRADE

**U. S. No. 1** shall consist of compact heads of cauliflower which are not discolored, ricey, or over-mature; which are free from soft or wet decay and from damage caused by wilting, fuzziness, enlarged bracts, dirt or other foreign matter, bruises, disease, insects, 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 per cent, 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 per cent, may be affected by soft or wet decay affecting the curd.

**Unclassified** shall consist of cauliflower which has not been classified in accordance with the foregoing grade. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

### 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 5 per cent, by count, of the heads in any container may be below the specified minimum size.

### DEFINITIONS OF TERMS

As used in these standards:

"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  $\frac{3}{8}$  inch in diameter in the aggregate, or any single spot which exceeds  $\frac{1}{4}$  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 neces-

sary 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.—1939.

#### **Standardization Act, Colorado Session Laws 1931**

Section 33. Provides that, Containers packed with cauliflower of the grades established according to the provisions of this Act shall be plainly marked with said grades contained therein.

### **COLORADO-U. S. STANDARDS FOR ROUGH CELERY**

#### **GRADES**

**U. S. Fancy** shall consist of stalks (1) of celery of similar varietal characteristics (2) which are fairly well developed (3) and have fairly good heart formation (4), which are clean (5), well blanched (6), well trimmed (7), not badly spread, and are free from blackheart, brown stem, decay, doubles and from damage (8) caused by wilting (8), cut worms (8a), freezing (8), growth cracks (8b), hollow crown (8), pithy branches (8c), seedstems (8d), disease (8), insects or mechanical or other means (8).

The average midrib length (9) of the outer whorl of branches on stalks in this grade shall be not less than 6 inches. The stalk length may be stated in terms of the nearest even inch as 20 inches, 22 inches, 24 inches, etc., in accordance with the facts but when tops have not been generally clipped back the length of stalks (10) shall be not less than 18 inches.

When the tops have been generally clipped back, this fact and the resulting stalk length, shall be

stated following the grade designation as, for example, "U. S. Fancy—clipped to 16 inches."

In order to allow for variations, other than lengths, incident to proper grading and handling, not more than 10 per cent, by count, of the stalks in any container may be below the requirements of this grade, but not more than one-fifth of this amount, or 2 per cent, shall be allowed for decay. In addition, not more than 5 per cent, by count, of the stalks in any container may not meet the requirements relating to stalk length, and not more than 5 per cent shall be allowed for stalks having an average midrib length shorter than that specified.

**U. S. No. 1** shall consist of stalks (1) of celery of similar varietal characteristics (2) which are fairly well developed (3) and have fairly good heart formation (4); which are well trimmed (7), which are not badly spread and are free from blackheart, decay, and from damage (8) caused by brown stem (8), wilting (8), cut worms (8a), freezing (8), growth cracks (8b), hollow crown (8), pithy branches (8c), seedstems (8d), dirt (8e), doubles (8f), disease (8), insects or mechanical or other means (8). Unless otherwise specified, stalks shall be fairly well blanched (11). However, any lot of celery which meets all the requirements of this grade except as to blanching may be designated as "U. S. No. 1 Mixed Blanch", provided that any lot of celery which has a dark green appearance shall be designated as "U. S. No. 1 Green."

Unless otherwise specified, the average midrib length (9) of the outer whorl of branches on stalks in this grade shall be not less than 5 inches.

Stalk length may be stated in terms of the nearest even inch as 20 inches, 22 inches, 24 inches, etc., in accordance with the facts but unless otherwise specified when tops have not been generally clipped back the length of stalks (10) shall be not less than 18 inches.



When the tops have been generally clipped back, this fact and the resulting stalk length, shall be stated following the grade designation as, for example, "U. S. No. 1—clipped to 16 inches."

In order to allow for variations, other than lengths, incident to proper grading and handling, not more than a total of 15 per cent, by count, of the stalks in any container may be below the requirements of this grade, provided that not more than two-thirds of this amount, or 10 per cent, shall be allowed for defects other than pith but not more than 2 per cent shall be allowed for decay. In addition, not more than 5 per cent, by count, of the stalks in any container may not meet the requirements relating to stalk length, and not more than 5 per cent, shall be allowed for stalks having an average midrib length shorter than that specified.

**U. S. Combination Grade.** Any lot of celery may be designated "U. S. Combination" when not less than 60 per cent, by count, of the stalks in each container meet the requirements of U. S. No. 1 grade and the remainder U. S. No. 2 grade.

In order to allow for variations other than lengths, incident to proper grading and handling, not more than 5 per cent, by count, of the stalks in any container may be below the requirements of U. S. No. 2 grade but not more than two-fifths of this amount, or 2 per cent, shall be allowed for decay. In addition, not more than 5 per cent, by count, of the stalks in any container may not meet the requirements relating to stalk length and not more than 5 per cent shall be allowed for stalks having an average midrib length shorter than that specified. No part of any tolerance shall be allowed to reduce, for the lot as a whole, the percentage of U. S. No. 1 required in the combination, but individual containers may have not more than 10 per cent less than the percentage of U. S. No. 1 stalks required.

**U. S. No. 2** grade shall consist of stalks (1) of celery of similar varietal characteristics (2) which are fairly well developed (3), have fairly good heart formation (4), which are well trimmed (7) and free from blackheart, decay, and from serious damage (12) caused by brown stem (12), wilting (12), cut worms (12a), freezing (12), growth cracks (12b), hollow crown (12), pithy branches (12c), seedstems (12d), dirt (12e), doubles (12f), disease, insects or mechanical or other means (12). Unless otherwise specified stalks shall be fairly well blanched. However, any lot of celery which meets all the requirements of this grade except as to blanching may be designated as "U. S. No. 2 Mixed Blanch," provided that any lot of celery which has a dark green appearance shall be designated as "U. S. No. 2 Green."

Unless otherwise specified, the average midrib length (9) of the outer whorl of branches on stalks in this grade shall be not less than 4 inches.

Stalk length may be stated in terms of the nearest even inch as 20 inches, 22 inches, 24 inches, etc., in accordance with the facts but unless otherwise specified when tops have not been generally clipped back the length of stalks shall be not less than 18 inches.

When the tops have been generally clipped back, this fact and the resulting stalk length, shall be stated following the grade designation as, for example, "U. S. No. 2—clipped to 16 inches."

In order to allow for variations other than lengths incident to proper grading and handling, not more than 10 per cent, by count, of the stalks in any container may be below the requirements of this grade, but not more than one-fifth of this amount, or 2 per cent, shall be allowed for decay. In addition, not more than 5 per cent, by count, of the stalks in any container may not meet the requirements relating to stalk length and not more than 5 per cent shall be allowed for stalks having an average midrib length shorter than that specified.



**Unclassified** shall consist of stalks of celery which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### REQUIREMENTS AS TO COUNT

The number of stalks in the container shall be specified by numerical 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, incl.—4 stalk variation.

More than 70 stalks—5 stalk variation.

#### DEFINITIONS OF TERMS

As used in these standards:

1. "Stalk" means an individual plant.
2. "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.
3. "Fairly well developed" means that the outer branches are not spindly or abnormally short and thin.
4. "Fairly good heart formation" means that the inner heart branches are of reasonable number, length and stockiness.
5. "Clean" means that the stalk is practically free from dirt or other foreign materials. All celery which is washed may not be sufficiently free from dirt or other foreign materials to be considered clean, while other lots which have not been washed may meet this requirement.
6. "Well blanched" means that the midrib portions of the branches on the stalks are generally of a creamy white color.
7. "Well trimmed" means that the outside coarse and damaged branches have been removed

and the root or roots have been so trimmed that the remaining portion of the root or roots do not extend a distance of more than 3 inches below the point of attachment of the outer branches. The actual length of the root or roots shall not be measured but the distance through which they extend below the base of the branches shall be measured when the stalk is resting in an upright position on a solid surface.

8. "Damage" means any injury or defect which materially affects the appearance, or the edible or shipping quality. 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) Cut worms—when the worms are present, or when worm injury occurs on the heart branches, or when occurring on the midrib portions of more than two branches, or when aggregating more than two-thirds of a square inch on the midrib portion of the branch or branches.

(b) Growth cracks, when the stalk has more than two branches affected by growth cracks each of which is more than  $\frac{1}{2}$  inch long. Growth cracks of any length affecting not more than two branches shall be permitted.

(c) 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. When judging stalks for damage by pithiness the branches should be examined at about the center of the midrib length.

(d) Seedstems, when the stalk has a seedstem 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 seedstem shall be measured from the point of attachment of the outer branches at the base of



the seedstem to the top of the actual seedstem exclusive of any leaves or leaf stems attached to the top of the seedstem.

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

(f) Doubles when not separated and the appearance is seriously affected, or if separated and either of the stalks is badly curved, or when the heart branches are not fairly well protected.

9. "Midrib length" of a branch means the distance between the point of attachment to the root and the first node.

10. "Length of stalk" means the distance from where the main root is cut off to a point which represents the average length of the longest branches and leaves.

11. "Fairly well blanched" means that the midrib portion of the branches on the stalks are generally of a light greenish to creamy white color.

12. "Serious damage" means any injury or defect which severely affects the appearance, or the edible or shipping quality. 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) Cut worms—when the worms are present, or when worm injury occurs on the heart branches, or when occurring on the midrib portion of more than three branches, or when aggregating more than one square inch on the midrib portion of the branch or branches.

(b) Growth cracks, when the stalk has more than four branches affected by growth cracks each of which is more than  $\frac{1}{2}$  inch long.

(c) Pithy branches, when the stalk has more than four branches which are pithy, or when more than one-half of the outer branches (other than heart branches) are pithy. Pithy branches means those which have a distinctly open texture with air spaces in the central portion. When judging stalks for serious damage by pithiness the branches

should be examined at about the center of the midrib length.

(d) Seedstems, when the stalk has a seedstem the length of which is more than twice 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 seedstems shall be measured from the point of attachment of the outer branches at the base of the seedstem to the top of the actual seedstem exclusive of any leaves or leaf stems attached to the top of the seedstem.

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

(f) Doubles, when the heart branches are not fairly well protected.—1938.

## COLORADO-U. S. STANDARDS FOR SWEET CHERRIES

### 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, scars, limbrubs, 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 per cent, 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 per cent, shall be allowed for defects causing serious damage, and not more than one-fifth of this amount, or 1 per cent, 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 per cent, 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 doubled 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, limbrubs, russeting, 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. 1927.

## COLORADO-U. S. STANDARDS FOR HONEY DEW AND HONEY BALL TYPE MELONS

### GRADES

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

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

**U. S. Commercial** shall consist of Honey Dew or Honey Ball type melons which meet the requirements of U. S. No. 1 grade except for the increased tolerance for defects specified below.

In order to allow for variations incident to proper grading and handling, not more than a total of 20 per cent, by count, of the melons in any container may be below the requirements of this grade, but not more than one-fourth of this amount, or 5 per cent, shall be allowed for defects causing serious damage, and not more than 1 per cent shall be allowed for melons affected by soft rot.

**U. S. No. 2** shall consist of Honey Dew or Honey Ball type melons which are mature, firm, fairly well formed, 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 per cent, by count, of the melons in any container may be below the requirements of this grade, but not more than one-tenth of this amount, or 1 per cent, shall be allowed for melons affected by soft rot.



**Unclassified** shall consist of melons which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### DEFINITIONS OF TERMS

As used in these standards:

"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.—1937.

For marking requirements of all melons in containers see page 108.

## COLORADO-U. S. STANDARDS FOR LETTUCE

### 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 seedstems (8a), broken midribs (8b), freezing (5 and 8c), dirt (8d), sunburn (5 and 8e), discoloration (5 and 8), disease, aphid (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 per cent, 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 per cent, shall be allowed for decay affecting the compact portion of the head. Of this tolerance for decay, not more than two-fifths, or 2 per cent, 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), seedstems (8a), broken midribs (8b), freezing (5 and 8c), dirt (8d), sunburn (5 and 8e), discoloration (5 and 8), disease, aphid (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 per cent 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 per cent, 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 per cent, 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 per cent, 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 per cent of heads which are firm or fairly firm and free from defects, on the basis of a ratio of three firm heads to one 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 per cent, 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 per cent, 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 per cent shall be allowed for slimy decay. This tolerance shall not permit in any lot of U. S. Commercial Iceberg type lettuce fewer than 90 per cent of heads which are firm or fairly firm and free from defects, on the basis of a ratio of three firm heads to one 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 damage (8) caused by seedstems (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 per cent, 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 one or two 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 by 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, 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) Seedstems 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 due to 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 ten in number, not more than six of which may be excessively large and coarse such as are characteristic of No. 6 strain; and, provided fur-

ther, 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 3 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 per cent, 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 for a 4 dozen pack is that size which will pack tightly 4-4 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 per cent 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.—1934.

## COLORADO-U. S. STANDARDS FOR NORTHERN GROWN ONIONS

### GRADES

**U. S. No. 1** shall consist of onions of similar varietal characteristics which are mature, fairly firm, fairly well shaped, free from doubles, splits, bottlenecks, scallions, and from damage caused by seedstems, tops, roots, sunscald, sunburn, sprouting, freezing, peeling, dirt, foreign matter, disease, insects, or mechanical or other means. **Unless otherwise specified**, the minimum size shall be 1½ inches in diameter and in the case of yellow, brown, and red onions, 40 percent or more, and in the case of white onions, 30 percent or more, by weight, of the onions in any lot shall be 2 inches or larger in diameter.\*

In order to allow for variations other than size, incident to proper grading and handling, not more than 10 per cent, by weight, of the onions in any container may be damaged by peeling and not more than 5 per cent, may be below the remaining

\*Any lot of onions quoted as being of size smaller than 1½ inches minimum such as "U. S. No. 1, 1¼ inches minimum," is not required to meet the percentage which shall be 2 inches or larger as specified in the U. S. No. 1 grade.

requirements of this grade but not more than two-fifths of this tolerance or 2 per cent, may be allowed for onions which are affected by decay. In addition, not more than 5 per cent, by weight, may be below the minimum size specified and not more than 15 per cent may be above any specified maximum size. No part of any tolerance shall be allowed to reduce the percentage of onions which shall be 2 inches or larger in diameter or any other specified size or larger, but individual containers may have not more than 25 per cent less than the percentage specified, provided that the entire lot averages within the percentage specified.

**U. S. Commercial** shall consist of onions of similar varietal characteristics which are mature, not soft or spongy, not badly misshapen, free from doubles, splits, bottlenecks, scallions, and from damage caused by seedstems, tops, roots, sunscald, sunburn, sprouting, freezing, disease, insects, or mechanical or other means and from serious damage by dirt or other foreign matter. **Unless otherwise specified**, the minimum size shall be 1½ inches in diameter.

In order to allow for variations other than size, incident to proper grading and handling, not more than 5 per cent, by weight, of the onions in any container may be below the requirements of this grade but not more than two-fifths of this tolerance or 2 per cent, may be allowed for onions which are affected by decay. In addition, not more than 5 per cent, by weight, may be below the size specified and not more than 15 per cent may be above any specified maximum size.

**U. S. No. 1 Boilers** shall consist of onions which meet all requirements for U. S. No. 1 grade except for size. The size of onions of this grade shall be not less than 1 inch nor more than 1½ inches in diameter.

In order to allow for variations other than size, incident to proper grading and handling, not more than 10 per cent, by weight, of the onions in any



container may be damaged by peeling and not more than 5 per cent, by weight, of the onions, may be below the remaining requirements of this grade but not more than two-fifths of this tolerance or 2 per cent, may be allowed for onions which are affected by decay. In addition, not more than 5 per cent, by weight, may be below the minimum size, and not more than 15 per cent, 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. 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 10 per cent, by weight, of the onions in any container may be damaged by peeling and not more than 5 per cent, by weight, of the onions may be below the remaining requirements of this grade but not more than two-fifths of this tolerance or 2 per cent, may be allowed for onions which are affected by decay. In addition, not more than 15 per cent, by weight, may be above the maximum size specified for this grade.

#### **COLORADO GRADE STANDARD**

**Colorado Grade Standard** shall consist of onions of similar varietal characteristics which are mature, not soft or spongy, free from bottlenecks and scallions and from damage caused by seed-stems, tops, sunburn, sunscald, freezing, dirt, foreign matter, disease, insects or mechanical or other means. Roots and sprouts which have been clipped or are not more than one inch in length shall be permitted in this grade. **Unless otherwise specified** the minimum size shall be 1½ inches in diameter.

In order to allow for variations incident to proper grading and handling not more than 5 per cent of the entire lot may be under the prescribed

size and in addition not more than 15 per cent, by weight, of the entire lot may be below the quality requirements, but not more than a total of 2 per cent may be allowed for onions which are affected by perceptible decay\* and 5 per cent may be allowed for hidden decay in its initial stage.†

**Unclassified** shall consist of onions which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### **DEFINITIONS OF TERMS**

As used in these standards:

1. "Mature" means dry and well cured. Mid-season onions which are not customarily held in storage shall be considered mature when harvested in accordance with good commercial practice at a stage which will not result in the onions becoming soft or spongy.

2. "Fairly firm" means that the onion may yield slightly to moderate pressure but is not appreciably soft or spongy.

3. "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.

4. "Badly misshapen" means that the onion is so elongated or misshapen that its appearance is seriously affected.

\*Perceptible decay shall be interpreted as being a condition or stage of decay that can readily be determined upon casual examination of a lot.

†Hidden decay shall be interpreted as being decay which is not readily apparent upon casual examination of a lot. Any condition that merely causes discoloration of the scales not accompanied by a breaking down of the tissue shall not be considered as decay.



5. "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.

6. "Bottlenecks" are onions with abnormally thick necks.

7. "Scallions" are onions which have thick necks and relatively small and poorly developed bulbs.

8. "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":

(a) Sunscald which affects the shipping or market quality. Slight dry scald which is not readily apparent without peeling the onion shall not be considered as damage.

(b) "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."

(c) 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.

(d) 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, brown, and red onions, 20 per cent may be not more than appreciably stained before the lot is considered damaged but when the onions

are **badly** stained not more than 5 per cent shall be permitted. In a lot of white onions 15 per cent may be not more than appreciably stained, but not over 5 per cent 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 per cent tolerance allowed for other defects.

(e) "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 per cent 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 per cent of onions may have tops longer than 5 inches.

9. "Serious damage by dirt or other foreign matter." Onions shall not be considered seriously damaged by staining unless more than 10 per cent of the lot is badly stained.—1939.

## COLORADO-U. S. STANDARDS FOR PEACHES GRADES

**U. S. Fancy** shall consist of peaches of one variety which are mature (1) but not soft or over-ripe, well formed (2); 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 diseases, insects or mechanical or other means (4).

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.



**50 per cent or more**

Carman	Red Bird
Early Crawford	(Early Wheeler)
Early Rose	St. John
Hiley	Triumph
Mayflower	Tuscan Cling
	Other similar varieties

**25 per cent or more**

Belle of Georgia	Orange Cling
Cumberland	Paloro
Elberta	Stump
J. H. Hale	Uneeda
Jubilee	Other similar varieties
Late Crawford	

**15 per cent or more**

Bilyeau	Phillips Cling
Champion	Salwey
Eclipse	Slappy
Greensboro	Smock
Levy	Other similar varieties

In order to allow for variations incident to proper grading and handling, not more than 10 per cent, by count, of the peaches in any package\*

\*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 per cent not more than one and one-half times the tolerance shall be allowed for any one package.

For specified tolerances of 5 per cent or less, not more than double the tolerances shall be allowed for any one package.

may be below the requirements of this grade other than for color but not more than one-half of this tolerance, or 5 per cent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount, or 1 per cent, shall be allowed for decay at shipping point. **An additional tolerance** of 2 per cent shall be allowed for soft or overripe peaches or decay enroute or at destination. In addition, not more than 10 per cent, by count, of the fruit in any package\* 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 per cent, 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 per cent, by count, of the peaches in any package\* may be below the requirements of the No. 1 grade but not more than one-half of this tolerance, or 5 per cent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount, or 1 per cent, shall be allowed for decay at shipping point. **An additional tolerance** of 2 per cent shall be allowed

\*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 per cent, not more than one and one-half times the tolerance shall be allowed for any one package.

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

for soft or overripe peaches or decay enroute 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 packages may have not less than 40 per cent which meets the color requirements of U. S. Fancy grade, provided that the entire lot averages not less than 50 per cent. However, the 3 per cent total tolerance for decay enroute 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 per cent, by count, of the peaches in any package\* may be below the requirements of this

**\*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 per cent, not more than one and one-half times the tolerance shall be allowed for any one package.

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

grade, but not more than one-half of this tolerance, or 5 per cent, shall be allowed for defects causing serious damage (5) and not more than one-fifth of this amount, or 1 per cent, shall be allowed for decay at shipping point. **An additional** tolerance of 2 per cent shall be allowed for soft or overripe peaches or decay enroute 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 per cent, by count, of the peaches in any package\* may be below the requirements of this grade, but not more than one-tenth of this tolerance, or 1 per cent, shall be allowed for decay at shipping point. **An additional** tolerance of 2 per cent shall be allowed for soft or overripe peaches or decay enroute or at destination.

**\*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 per cent, not more than one and one-half times the tolerance shall be allowed for any one package.

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



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

#### 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 sizes 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, 2¼ inches minimum, 1¾ 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 per cent, by count, of the peaches in any package\* 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

\*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 per cent, not more than one and one-half times the tolerance shall be allowed for any one package.

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

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 over-filled packages.

**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 over-filled 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 per cent 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  $\frac{1}{4}$  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  $\frac{3}{8}$  inch in diameter.

(b) Scab spots when cracked, or when aggregating more than  $\frac{3}{8}$  inch in diameter.

(c) Scale when concentrated, or when scattered and aggregating more than  $\frac{1}{4}$  inch in diameter.

(d) Hail injury which is unhealed, or deep, or when aggregating more than  $\frac{1}{4}$  inch in diameter.

(e) Leaf or limb rubs when not smooth, or when not light colored, or when aggregating more than  $\frac{1}{2}$  inch in diameter.

(f) Split pit when causing any unhealed crack, or when causing any crack which is readily ap-

parent, 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  $\frac{3}{4}$  inch in diameter.

(b) Scab spots when cracked, or when healed and aggregating more than one inch in diameter.

(c) Scale when aggregating more than  $\frac{1}{2}$  inch in diameter.

(d) Growth cracks when unhealed, or more than  $\frac{1}{2}$  inch in length.

(e) Hail injury when unhealed, or shallow hail injury when aggregating more than  $\frac{3}{4}$  inch in diameter, or deep hail injury which seriously deforms the fruit or which aggregates more than  $\frac{1}{2}$  inch in diameter.

(f) Leaf or limb rub when smooth and light colored and aggregating more than  $1\frac{1}{2}$  inches in diameter, or dark or slightly rough and barklike scars aggregating more than  $\frac{3}{4}$  inch in diameter.

(g) Split pit when causing any unhealed crack, or when healed and aggregating more than  $\frac{1}{2}$  inch in length, including any part of the cracks 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.—1933.

Containers packed with peaches of the grades established according to the provisions of this Act shall be marked with the variety name, or "variety unknown," when such is the case, the



grade, (when lots fail to meet the requirements of any grade, they shall be marked "Unclassified"), the numerical count, or the minimum size of the fruit contained therein.

**COLORADO-U. S. STANDARDS FOR SUMMER  
AND FALL PEARS SUCH AS BARTLETT,  
HARDY, AND OTHER SIMILAR  
VARIETIES**

**GRADES**

**U. S. No. 1** shall consist of pears of one variety which are mature (1), but not overripe (2), carefully handpicked (3), clean (4), fairly well formed (8), free from decay, internal breakdown, scald, freezing injury, worm holes, black end (6), and from damage (9) caused by hard end (9a), bruises (9b), broken skins (9c), russetting (9d), limbrubs (9e), hail (9f), scars (9f), drought spot (9h), sunburn (9i), sprayburn (9i), stings or other insect injury (9j), disease (9k), or mechanical or other means (9). (See Tolerances and Condition After Storage or Transit, page 5.)

**U. S. No. 2** shall consist of pears of one variety which are mature (1), but not overripe (2), carefully handpicked (3), clean (4), not seriously misshapen (10), free from decay, internal breakdown, scald, freezing injury, worm holes, black end (6), and from damage (9) caused by hard end (9a), or broken skins (9c). The pears shall also be free from serious damage (11) caused by bruises, russetting (11d), limbrubs (11e), hail (11f), scars (11f), drought spot (11h), sunburn (11i), sprayburn (11i), stings or other insect injury (11j), disease (11k), or mechanical or other means (11). (See Tolerances and Condition After Storage or Transit, page 5.)

**U. S. Combination Grade.** A Combination of U. S. No. 1 and U. S. No. 2 may be packed. When such a combination is packed, at least 50 percent of the pears in any container shall meet the re-

quirements of U. S. No. 1. (See Tolerances and Condition After Storage or Transit, page 5.)

**Unclassified** shall consist of pears which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards, but is provided as a designation to show that no definite grade has been applied to the lot.

**DEFINITIONS OF TERMS**

As used in these standards:

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.

"**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.

"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. "Carefully handpicked" means that the pears 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.

6. "Black end" is evidenced by an abnormally deep green color around the calyx, or black spots usually occurring on the one-third of the surface nearest to the calyx, or by an abnormally shallow calyx cavity.

8. "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.

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

(9a) Hard end, if the pear shows a distinctly constricted protrusion at the blossom end, or an abnormally yellow color at the blossom end, or an abnormally smooth rounded base with little or no depression at the calyx, or if the flesh near the calyx is abnormally dry and tough or woody.

(9b) Slight handling bruises and package bruises such as are incident to good commercial handling in the preparation of a tight pack shall not be considered damage.

(9c) Any pear with one skin break larger than  $\frac{3}{16}$  inch in diameter or depth, or with more than one skin break  $\frac{1}{8}$  inch or larger in diameter or depth, shall be considered damaged, and scored against the grade tolerance.

Small inconspicuous skin breaks, less than  $\frac{1}{8}$  inch in diameter or depth, shall not be considered damage. In addition, not more than 15 percent

of the pears in any container may have not more than one skin break from  $\frac{1}{8}$  inch to  $\frac{3}{16}$  inch inclusive in diameter or depth.

(9d) Russeting which exceeds the following shall be considered as damage:

On all varieties excessively rough russeting (russeting which shows "frogging" or slight cracking) when the aggregate area exceeds  $\frac{1}{2}$  inch in diameter.

On Bartlett and other smooth-skinned varieties, slightly rough russeting, or thick russeting such as is characteristic of frost injury, when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter.

On Bartlett and other smooth-skinned varieties, smooth solid or smooth netlike russeting when the aggregate area exceeds 15 percent of the surface.

On Hardy, Sand and other similar varieties, rough or thick russeting such as is characteristic of frost injury, when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter. On any of these varieties any amount of characteristic russeting is permitted whether due to natural causes such as weather or stimulated by artificial means; leaf whips or light limbrubs which resemble and blend into russeted areas shall be considered as russet.

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:

(9e) Any limbrubs which are cracked, softened, or more than slightly depressed.

Black discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{8}$  inch in diameter.

Dark brown discoloration or excessive roughness caused by limbrubs which exceeds an aggregate area of  $\frac{1}{2}$  inch in diameter.

Slightly rough, light colored discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{4}$  inch in diameter.



Smooth, light colored discoloration caused by limbrubs which exceeds an aggregate area of 1 inch in diameter.

(9f) Hail marks or other similar depressions or scars which are not shallow or superficial, or where the injury affects an aggregate area of more than  $\frac{3}{8}$  inch in diameter.

(9h) Drought spot when more than one in number, or when the external injury exceeds an aggregate area of  $\frac{3}{8}$  inch in diameter, or when the appearance of the flesh is materially affected by corky tissue or brownish discoloration.

(9i) Sunburn or sprayburn where the skin is blistered, cracked, or shows any light tan or brownish color, or the shape of the pear is appreciably flattened, or the flesh is appreciably softened or changed in color, except that sprayburn of a russet character shall be considered under the definition of russetting (9d).

(9j) Insects.

More than two healed codling moth stings, or any insect sting which is over  $\frac{1}{2}$  of an inch in diameter, or other insect stings affecting the appearance to an equal extent.

Blister mite or canker worm injury which is not shallow or superficial, or where the injury affects an aggregate area of more than  $\frac{3}{8}$  inch in diameter.

(9k) Disease.

Scab spots which are black and which cover an aggregate area of more than  $\frac{1}{8}$  inch in diameter, except that scab spots of a russet character shall be considered under the definition of russetting (9d).

Sooty blotch which is thinly scattered over more than 5 percent of the surface, or dark, heavily concentrated spots which affect an area of more than  $\frac{3}{8}$  inch in diameter.

10. "Seriously misshapen" means that the pear is excessively flattened or elongated for the

variety, or is constricted or deformed so it will not cut three fairly uniform good quarters, or is so badly misshapen that the appearance is seriously affected.

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

(11d) Russetting which in the aggregate exceeds the following shall be considered as serious damage:

On all varieties, excessively rough russetting (russetting which shows "frogging" or slight cracking) when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter.

On all varieties, thick russetting such as is characteristic of frost injury, 15 percent of the surface.

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

(11e) Limbrubs which are more than slightly cracked, or excessively rough limbrubs or dark brown or black discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{4}$  inch in diameter.

Other limbrubs which affect an aggregate area of more than one-tenth of the surface.

(11f) Hail marks or other similar depressions or scars which affect an aggregate area of more than  $\frac{3}{4}$  inch in diameter, or which materially deform or disfigure the fruit.

(11h) Drought spot when more than two in number, or where the external injury affects an aggregate area of more than  $\frac{3}{4}$  inch in diameter, or when the appearance of the flesh is seriously affected by corky tissue or brownish discoloration.

(11i) Sunburn or sprayburn where the skin is blistered, cracked or shows any brownish color, or where the shape of the pear is materially

flattened, or the flesh is softened or materially changed in color, except that sprayburn of a russet character shall be considered under the definition of russeting (11d).

(11j) Insects.

Worm holes.

More than three healed codling moth stings, of which not more than two may be over  $\frac{3}{8}$  inch in diameter, or other insect stings affecting the appearance to an equal extent.

Blister mite or canker worm injury which affects an aggregate area of more than  $\frac{3}{4}$  inch in diameter or which materially deforms or disfigures the fruit.

(11k) Scab spots which are black and which cover an aggregate area of more than  $\frac{1}{4}$  inch in diameter, except that scab spots of a russet character shall be considered under the definition of russeting (11d).

Sooty blotch which is thinly scattered over more than 15 percent of the surface, or dark, heavily concentrated spots which affect an area of more than  $\frac{3}{4}$  inch in diameter.

#### **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 grade, provided that not more than 5 percent shall be seriously damaged by insects, and not more than 1 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, but individual containers may have not more than 10 percent less than the percentage of U. S. No. 1 required, provided that the entire lot averages within the percentage specified.

#### **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. The number of pears in the box shall not vary more than 3 from the number indicated on the box.

When the numerical count is marked on western standard or special pear boxes the pears shall not vary more than  $\frac{3}{8}$  inch in their transverse diameter for counts 120 or less;  $\frac{1}{4}$  inch for counts 135 to 180 inclusive; and  $\frac{3}{16}$  inch for counts 193 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  $\frac{1}{4}$  inch for counts 90 or less, and  $\frac{3}{16}$  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  $\frac{3}{8}$  inch for counts 50 or less;  $\frac{1}{4}$  inch for counts 55 to 60 inclusive; and  $\frac{3}{16}$  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  $2\frac{3}{8}$  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 containers according to the approved and recognized methods with the pears packed lengthwise. A bridge shall not be allowed in any standard pack. When wrapped each 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 10 percent of the containers in any lot may not meet these requirements, but no part of this tolerance shall be allowed for bridge packs, or for packs with different sizes and arrangements such as layers of 195 size and arrangement, and layers of 180 size and arrangement packed in the same box. 1940.

## **COLORADO-U. S. STANDARDS FOR WINTER PEARS SUCH AS ANJOU, BOSCH, WINTER NELIS, COMICE, AND OTHER SIMILAR VARIETIES**

### **INTRODUCTION**

Numbers and letters in parentheses following grade terms indicate where such terms are defined 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.

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.

### **GRADES**

**U. S. Extra No. 1** shall consist of pears of one variety which are mature (1), but not overripe (2), carefully handpicked (3), clean (4), well

formed (5), free from decay, internal breakdown, scald, freezing injury, worm holes, black end (6), hard end, drought spot, and free from injury (7) caused by russeting (7d), limbrubs (7e), hail (7f), scars (7f), cork spot (7g), sunburn (7i), sprayburn (7i), stings or other insect injury (7j), or mechanical or other means (7), except that they shall be free from damage (9) caused by bruises (9b), broken skins (9c), or disease (9k). (See Tolerances and Condition After Storage or Transit, page 5.)

**U. S. No. 1** shall consist of pears of one variety which are mature (1), but not overripe (2), carefully handpicked (3), clean (4), fairly well formed (8), free from decay, internal breakdown, scald, freezing injury, worm holes, black end (6), and from damage (9) caused by hard end (9a), bruises (9b), broken skins (9c), russeting (9d), limbrubs (9e), hail (9f), scars (9f), cork spot (9g), drought spot (9h), sunburn (9i), sprayburn (9i), stings or other insect injury (9j), disease (9k), or mechanical or other means (9). (See Tolerances and Condition After Storage or Transit, page 5.)

**U. S. No. 2** shall consist of pears of one variety which are mature (1), but not overripe (2), carefully handpicked (3), clean (4), not seriously misshapen (10), free from decay, internal breakdown, scald, freezing injury, worm holes, black end (6), and from damage (9) caused by hard end (9a), or broken skins (9c). The pears shall also be free from serious damage (11), caused by bruises, russeting (11d), limbrubs (11e), hail (11f), scars (11f), cork spot (11g), drought spot (11h), sunburn (11i), sprayburn (11i), stings or other insect injury (11j), disease (11k), or mechanical or other means (11). (See Tolerances and Condition After Storage or Transit, page 5.)

**U. S. Combination Grade.** A Combination of U. S. No. 1 and U. S. No. 2 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, page 5.)

**Unclassified** shall consist of pears which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards, but is provided as a designation to show that no definite grade has been applied to the lot.

## DEFINITIONS OF TERMS

As used in these standards:

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. "Carefully handpicked" means that the pears 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. "Well formed" means having the shape characteristic of the variety. Slight irregularities of shape from type which do not appreciably detract from the general appearance of the fruit shall be considered well formed.

6. "Black end" is evidenced by an abnormally deep green color around the calyx, or black spots usually occurring on the one-third of the surface nearest to the calyx, or by an abnormally shallow calyx cavity.

7. "Injury" means any blemish or defect that more than slightly affects the appearance, edible or shipping quality. The following shall be considered as injury:

(7d) Russeting which exceeds the following shall be considered as injury.

On all varieties any excessively rough russeting (russeting which shows "frogging" or slight cracking).

On Comice, and on Anjou and other smooth-skinned varieties, slightly rough russeting, or thick russeting such as is characteristic of frost injury, when the aggregate area exceeds  $\frac{1}{2}$  inch in diameter.

On Anjou and other smooth-skinned varieties, smooth solid russeting when the aggregate area exceeds  $\frac{1}{2}$  inch in diameter and smooth netlike

russeting when the aggregate area exceeds 15 percent of the surface, and on Comice, smooth solid or smooth netlike russeting when the aggregate area exceeds one-third of the surface, except that, in addition, on these and similar varieties, any amount of characteristic smooth russeting shall be permitted on that portion of the calyx end not visible for more than  $\frac{1}{2}$  inch along the contour of the pear, when it is placed calyx end down on a flat surface.

On any of the following and other similar varieties, rough or thick russeting such as is characteristic of frost injury when the aggregate area exceeds  $\frac{1}{2}$  inch in diameter. On any of these varieties any amount of characteristic russeting is permitted whether due to natural causes such as weather or stimulated by artificial means; leaf whips or light limbrubs which resemble and blend into russeted areas shall be considered as russet:

Bosc	Pound
Clairgeau	Seckel
Easter Beurre	Sheldon
Kieffer	Winter Nelis and
P. Barry	other 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 injury:

(7e) Limbrubs which are cracked, softened, more than very slightly depressed, not light in color, or exceeding an aggregate area of  $\frac{3}{4}$  inch in diameter.

(7f) Hail marks or other similar depressions or scars which are not very shallow or superficial, or which affect an aggregate area of more than  $\frac{1}{4}$  inch in diameter.

(7g) Cork spot when a pear shows depressions or other external evidence of the disease.

(7i) Sunburn or sprayburn if the normal color of the fruit has been materially changed, or if

the skin is blistered or cracked, or the flesh softened or discolored.

(7j) More than two healed slight stings or depressions, or any stings which materially affect the general appearance of the fruit.

Blister mite or canker worm injury which is not very shallow and superficial or where the injury affects an aggregate area of more than  $\frac{1}{4}$  inch.

8. "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. Winter Nelis pears with characteristic slight sutures or with slight flattening on one side and/or other slight irregularities which do not materially detract from the general appearance of the pear shall be considered fairly well formed.

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

(9a) Hard end, if the pear shows an abnormally yellow color at the blossom end, or an abnormally smooth rounded base with little or no depression at the calyx, or if the flesh near the calyx is abnormally dry and tough or woody.

(9b) Slight handling bruises and package bruises such as are incident to good commercial handling in the preparation of a tight pack shall not be considered damage.

(9c) Any pear with one skin break larger than  $\frac{3}{8}$  inch in diameter or depth, or with more than one skin break  $\frac{1}{2}$  inch or larger in diameter or depth, shall be considered damaged, and scored against the grade tolerance.

Small inconspicuous skin breaks, less than  $\frac{1}{8}$  inch in diameter or depth, shall not be considered damage. In addition, not more than 15 percent of the pears in any container may have not more

than one skin break from  $\frac{1}{8}$  inch to  $\frac{3}{8}$  inch inclusive in diameter or depth.

(9d) Russeting which exceeds the following shall be considered as damage:

On all varieties excessively rough russeting (russeting which shows "frogging" or slight cracking) when the aggregate area exceeds  $\frac{1}{2}$  inch in diameter.

On Anjou and other smooth-skinned varieties, slightly rough russeting, or thick russeting such as is characteristic of frost injury, when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter.

On Anjou, smooth solid or smooth netlike russeting when the aggregate area exceeds one-third of the surface, and on other smooth-skinned varieties, 15 percent of the surface, except that, in addition, on Anjou and other smooth-skinned varieties, any amount of characteristic smooth russeting shall be permitted on that portion of the calyx end not visible for more than  $\frac{1}{2}$  inch along the contour of the pear, when it is placed calyx end down on a flat surface.

On any of the following and other similar varieties, rough or thick russeting such as is characteristic of frost injury, when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter. On any of these varieties any amount of characteristic russeting is permitted whether due to natural causes such as weather or stimulated by artificial means; leaf whips or light limbrubs which resemble and blend into russeted areas shall be considered as russet:

Bosc	Pound
Clairgeau	Seckel
Comice	Sheldon
Easter Beurre	Winter Nelis and
Kieffer	other similar varieties
P. Barry	

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:

(9e) Any limbrubs which are cracked, softened, or more than slightly depressed.

Black discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{8}$  inch in diameter.

Dark brown discoloration or excessive roughness caused by limbrubs which exceeds an aggregate area of  $\frac{1}{2}$  inch in diameter.

Slightly rough, light colored discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{4}$  inch in diameter.

Smooth, light colored discoloration caused by limbrubs which exceeds an aggregate area of 1 inch in diameter.

(9f) Hail marks or other similar depressions or scars which are not shallow or superficial, or where the injury affects an aggregate area of more than  $\frac{3}{8}$  inch in diameter.

(9g) Cork spot, when more than one in number visible externally, or when the visible external injury affects an area of more than  $\frac{3}{8}$  inch in diameter.

(9h) Drought spot when more than one in number, or when the external injury exceeds an aggregate area of  $\frac{3}{8}$  inch in diameter, or when the appearance of the flesh is materially affected by corky tissue or brownish discoloration.

(9i) Sunburn or sprayburn where the skin is blistered, cracked, or shows any light tan or brownish color, or the shape of the pear is appreciably flattened, or the flesh is appreciably softened or changed in color, except that sprayburn of a russet character shall be considered under the definition of russetting (9d).

(9j) Insects.

More than two healed codling moth stings, or any insect sting which is over  $\frac{3}{8}$  of an inch in diameter, or other insect stings affecting the appearance to an equal extent.

Blister mite or canker worm injury which is not shallow or superficial, or where the injury affects an aggregate area of more than  $\frac{3}{8}$  inch in diameter.

(9k) Disease.

Scab spots which are black and which cover an aggregate area of more than  $\frac{1}{8}$  inch in diameter, except that scab spots of a russet character shall be considered under the definition of russetting (9d).

Sooty blotch which is thinly scattered over more than 5 percent of the surface, or dark, heavily concentrated spots which affect an area of more than  $\frac{3}{8}$  inch in diameter.

10. "Seriously misshapen" means that the pear is excessively flattened or elongated for the variety, or is constricted or deformed so it will not cut three fairly uniform good quarters, or is so badly misshapen that the appearance is seriously affected.

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

(11d) Russetting which in the aggregate exceeds the following shall be considered as serious damage:

On all varieties, excessively rough russetting (russetting which shows "frogging" or slight cracking) when the aggregate area exceeds  $\frac{3}{4}$  inch in diameter.

On all varieties, thick russetting such as is characteristic of frost injury, 15 percent of the surface.

On Anjou, smooth solid or smooth netlike russetting when the aggregate area exceeds two-thirds of the surface, except that, in addition, any amount of characteristic smooth russetting shall be permitted on that portion of the calyx end not visible for more than  $\frac{1}{2}$  inch along the contour

of the pear, when it is placed calyx end down on a flat surface.

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

(11e) Limbrubs which are more than slightly cracked, or excessively rough limbrubs or dark brown or black discoloration caused by limbrubs which exceeds an aggregate area of  $\frac{3}{4}$  inch in diameter.

Other limbrubs which affect an aggregate area of more than one-tenth of the surface.

(11f) Hail marks or other similar depressions or scars which affect an aggregate area of more than  $\frac{3}{4}$  inch in diameter, or which materially deform or disfigure the fruit.

(11g) Cork spot, when more than two in number visible externally, or when the visible external injury affects an aggregate area of more than  $\frac{1}{2}$  inch in diameter.

(11h) Drought spot when more than two in number, or where the external injury affects an aggregate area of more than  $\frac{3}{4}$  inch in diameter, or when the appearance of the flesh is seriously affected by corky tissue or brownish discoloration.

(11i) Sunburn or sprayburn where the skin is blistered, cracked or shows any brownish color, or where the shape of the pear is materially flattened, or the flesh is softened or materially changed in color, except that sprayburn of a russet character shall be considered under the definition of russetting (11d).

(11j) Insects.

Worm holes.

More than three healed codling moth stings, of which not more than two may be over  $\frac{3}{8}$  inch in diameter, or other insect stings affecting the appearance to an equal extent.

Blister mite or canker worm injury which affects an aggregate area of more than  $\frac{3}{4}$  inch in diameter or which materially deforms or disfigures the fruit.

(11k) Disease.

Scab spots which are black, and which cover an aggregate area of more than  $\frac{3}{4}$  inch in diameter, except that scab spots of a russet character shall be considered under the definition of russetting (11d).

Sooty blotch which is thinly scattered over more than 15 percent of the surface, or dark heavily concentrated spots which affect an area of more than  $\frac{3}{4}$  inch in diameter.

#### **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 grade, provided that not more than 5 percent shall be seriously damaged by insects, and not more than 1 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, but individual containers may have not more than 10 percent less than the percentage of U. S. No. 1 required, provided that the entire lot averages within the percentage specified.

#### **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. The number of pears in the box shall not vary more than 3 from the number indicated on the box.

When the numerical count is marked on western standard or special pear boxes the pears shall not vary more than  $\frac{3}{8}$  inch in their transverse diameter for counts 120 or less;  $\frac{1}{4}$  inch for counts 135 to 180 inclusive; and  $\frac{3}{16}$  inch for counts 193 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  $\frac{1}{4}$  inch for counts 90 or less, and  $\frac{3}{16}$  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  $\frac{3}{8}$  inch for counts 50 or less;  $\frac{1}{4}$  inch for counts 55 to 60 inclusive; and  $\frac{3}{16}$  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 containers according to the approved and recognized methods with the pears packed lengthwise. A bridge shall not be allowed in any standard pack. When wrapped each 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 10 percent of the containers in any lot may not meet these requirements, but no part of this tolerance shall be allowed for bridge packs, or for packs with different sizes and arrangements such as layers of 195 size and arrangement, and layers of 180 size and arrangement packed in the same box. 1940.

### COLORADO-U. S. STANDARDS FOR FRESH PEAS

U. S. No. 1 shall consist of pods of peas of similar varietal characteristics which are not excessively small, not badly misshapen, not water-soaked; 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 per cent, 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 per cent, shall be allowed for defects causing serious damage, and not more than one-tenth of this tolerance, or 1 per cent, 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 3 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 per cent, 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 per cent, not more than double the tolerance shall be allowed for any one container.—1934.

#### Standardization Act, Colorado Session Laws 1931

Section 34. Provides that, Containers packed with peas of the grades established according to the provisions of this Act shall be plainly marked with the grade contained therein.

#### TO WHOM IT MAY CONCERN:

Pursuant to the authority contained in Article IX of Chapter 69, Colorado Statutes Annotated, 1935, it is hereby ordered that, from and after July 1, 1940, all Fresh Peas grown in Colorado of the U. S. No. 1 grade, destined for resale outside of the district of production, shall be packaged only in new, unused, standard containers.

Given under my hand and seal at Denver, Colorado, this 15th day of June, 1940.

COLORADO DIRECTOR OF MARKETS

BEN H. KING, Director.



## COLORADO-U. S. STANDARDS FOR POTATOES

### Tolerance for Packages Containing Over 15 Specimens

When the tolerance specified is 10 per cent or more, not over one-tenth of the individual packages in the lot may contain more than one and one-half times the tolerance, but no package may contain more than four times the tolerance for soft rot or wet breakdown.

When the tolerance specified is less than 10 per cent, not over one-tenth of the individual packages in any lot may contain more than double the tolerance specified, but no package may contain more than four times the tolerance for soft rot or wet breakdown.

### Tolerance for Packages Containing 15 Specimens or Less

Not over one-tenth of the individual packages in any lot may contain more than double any tolerance specified, except that at least one defective specimen shall be permitted in a package.

## GRADES

**U. S. Fancy** shall consist of potatoes of one variety or similar varietal characteristics which are firm, mature (1), bright (2), well shaped (3), free from freezing injury, blackheart, shriveling, sprouting, soft rot or wet breakdown (4), and hollow heart, and free from injury (5) 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 (5).

The diameter (6) of each potato shall be not less than 2 inches.

For long varieties such as Burbank, Russet Burbank, Early Ohio, Pride of Wisconsin, or other similar varieties, not less than 40 per cent of the

potatoes in any lot shall be 6 ounces or more in weight.

For round or intermediate shaped varieties such as Irish Cobbler, Bliss Triumph, Green Mountain, or other similar varieties, not less than 60 per cent of the potatoes in any lot shall be  $2\frac{1}{4}$  inches or larger in diameter.

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 potatoes be below the sizes specified for this grade. (See Tolerance for Size, p. 91.)

**Tolerance for defects.**—In order to allow variations other than size incident to proper grading and handling, not more than 6 per cent 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 per cent, shall be allowed for potatoes affected by soft rot or wet breakdown.

**U. S. Extra No. 1** shall consist of potatoes of one variety or similar varietal characteristics which are fairly well shaped (7), fairly clean (8), free from freezing injury, blackheart, and soft rot or wet breakdown (4) and from damage (9) caused by sunburn, second growth (9a), growth cracks (9a), air cracks (9b), hollow heart, cuts, shriveling (9c), sprouting (9d), scab (9e and f), blight, dry rot, rhizoctonia (9g), other disease (9), insects or mechanical or other means (9).

Unless otherwise specified, size of potatoes (see Size Classification, p. 90, and Tolerance for Size, p. 91) shall be as follows:

The diameter (6) of each potato shall be not less than  $1\frac{1}{8}$  inches.

For long varieties such as Burbank, Russet Burbank, Early Ohio, Pride of Wisconsin, or other similar varieties, not less than 60 per cent of the



potatoes in the lot shall be 6 ounces or larger, of which not less than one-half, or 30 per cent, shall be 10 ounces or more in weight.

For round or intermediate shaped varieties such as Irish Cobbler, Bilss Triumphs, Green Mountain, or other similar varieties, not less than 60 per cent of the potatoes in the lot shall be 2¼ inches or larger, of which not less than one-half, or 30 per cent, shall be 2¾ inches or larger in diameter.

**Tolerance for defects.**—In order to allow for variations other than size incident to proper grading and handling, not more than 6 per cent 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 per cent, shall be allowed for potatoes affected by soft rot or wet breakdown. In addition not more than 5 per cent may be damaged by hollow heart.

**U. S. No. 1** shall consist of potatoes of one variety or similar varietal characteristics which are fairly well shaped (7), free from freezing injury, blackheart, and soft rot or wet breakdown (4), and from damage (9) caused by dirt (9h) or other foreign matter (9h), sunburn, second growth (9a), growth cracks (9a), air cracks (9b), hollow heart, cuts, shriveling (9c) sprouting (9d), scab (9e and f), blight, dry rot, rhizoctonia (9g), other disease (9), insects or mechanical or other means (9).

Unless otherwise specified the diameter (6) of each potato shall be not less than 1½ inches. (See Size Classification, p. 90, and Tolerance for Size, p. 91.)

**Tolerance for defects.**—In order to allow for variations other than size incident to proper grading and handling, not more than 6 per cent 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 per cent, shall be allowed for potatoes affected by soft rot or wet

breakdown. In addition, not more than 5 per cent 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 (10a) and except for the increased tolerance for defects specified below.

Unless otherwise specified the diameter (6) of each potato shall be not less than 1½ inches. (See Size Classification, p. 90, and Tolerance for Size, p. 91.)

**Tolerance for defects.**—In order to allow for variations other than size and sprouting incident to proper grading and handling, not more than a total of 20 per cent of the potatoes in any container may be below the requirement of this grade, but not more than 5 per cent may be seriously damaged by hollow heart and not over 6 per cent may be below the remaining requirements of U. S. No. 2 grade, provided that not more than one-sixth of this amount, or 1 per cent, shall be allowed for potatoes affected by soft rot or wet breakdown. In addition, not more than 10 per cent of the potatoes may be damaged by sprouting, provided, that if all of the 20 per cent tolerance is not used for other defects, the unused part of the tolerance may also be used for potatoes having sprouts over ¾ inch long but which are not seriously damaged by shriveling.

**U. S. No. 2** shall consist of potatoes of one variety or similar varietal characteristics which are free from freezing injury, blackheart, and soft rot or wet breakdown (4) and from serious damage (10) caused by dirt (10a) or other foreign matter, sunburn, second growth, growth cracks, air cracks, hollow heart, cuts (10b), shriveling (10c), scab (10d and e), blight, dry rot, other disease, insects, or mechanical or other means (10).

Unless otherwise specified the diameter (6) of each potato shall be not less than 1½ inches. (See



Size Classification, p. 90, and Tolerance for Size, p. 91.)

**Tolerance for defects.**—In order to allow for variations other than size incident to proper grading and handling, not more than 6 per cent 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 per cent, shall be allowed for potatoes affected by soft rot or wet breakdown. In addition, not more than 5 per cent may be seriously damaged by hollow heart.

**Unclassified** shall consist of potatoes which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### **SIZE CLASSIFICATION FOR ALL GRADES EXCEPT U. S. FANCY**

When the potatoes are designated as "U. S. No. 1", "U. S. Commercial", or "U. S. No. 2" without specifying 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 any of the U. S. grades except Fancy, as: "U. S. No. 1, size A"; "U. S. No. 1, 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 smaller sizes than those specified under these designations.

**Size A.**—For long varieties such as Burbank, Russet Burbank, Early Ohio, Pride of Wisconsin, or other similar varieties, the diameter of each potato shall be not less than  $1\frac{1}{8}$  inches and not

less than 40 per cent of the potatoes in the lot shall be 6 ounces or more in weight.

For round or intermediate shaped varieties such as Irish Cobbler, Bliss Triumph, Green Mountain, or other similar varieties, the diameter of each potato shall be not less than  $1\frac{1}{8}$  inches and not less than 60 per cent 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 U. S. No. 1, U. S. Commercial, or U. S. No. 2 grades, 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 per cent or more  $2\frac{1}{4}$  inches and larger", "50 per cent or more 6 ounces and larger."

**Tolerance for size.**—In order to allow for variations incident to proper sizing, not more than 5 per cent 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, U. S. Fancy or U. S. Extra No. 1 grades, any lot of potatoes shall have not more than 3 per cent below the minimum size specified. In addition not more than 15 per cent 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 per cent less than the percentage required or specified provided that the entire lot averages within the percentage specified. For example, a lot specified as 25 per cent  $2\frac{1}{2}$  inches and larger may have containers



with not less than 10 per cent 2½ inches and larger provided the lot as a whole averages 25 per cent 2½ inches and larger.

### DEFINITIONS OF TERMS

As used in these standards:

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

(2) "Bright" means practically free from dirt or other foreign matter, and that the outer skin (epidermis) has the attractive color normal for the variety.

(3) "Well shaped" means the normal shape for the variety and that the potato is not pointed, dumbbell-shaped, excessively elongated, or otherwise ill-formed.

(4) "Soft rot or wet breakdown" means any soft, mushy, or leaky condition of the tissue such as slimy soft rot, leak, or wet breakdown following freezing injury or sunscald.

(5) "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 per cent of the total weight of the potato including peel covering defective area.

(6) "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).

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

(8) "Fairly clean" means that from the viewpoint of general appearance the potatoes in the

container are reasonably free from dirt or other foreign matter and that individual potatoes are not materially caked with dirt or materially stained.

(9) "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 per cent of the total weight of the potato including peel covering defective area. 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) Second growth or growth cracks which have developed to such an extent as to materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.

(b) Air cracks which are deep, or shallow air cracks which materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.

(c) Shriveling when the potato is more than moderately shriveled, spongy, or flabby.

(d) Sprouting when more than 10 per cent of the potatoes have sprouts over three-fourths of an inch long.

(e) Surface scab which covers an area of more than 5 per cent of the surface of the potato in the aggregate.

(f) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 5 per cent of the total weight of the potato including peel covering defective area.

(g) Rhizoctonia when the general appearance of the potatoes in the container is materially



injured or when individual potatoes are badly infected.

(h) 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.

(10) "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 per cent of the total weight of the potato including peel covering defective area. 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 per cent of the total weight of the potato including peel covering defective area.

(c) Shriveling when the potato is excessively shriveled, spongy, or flabby.

(d) Surface scab which covers an area of more than 50 per cent of the surface of the potato in the aggregate.

(e) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 10 per cent of the total weight of the potato including peel covering defective area.—1940

### **COLORADO CERTIFIED SEED POTATO GRADES**

The certified seed potato grades as promulgated by the Colorado Certified Potato Growers Association, Inc., are hereby adopted as the Colorado standards for certified seed potatoes.

### **COLORADO-U. S. STANDARDS FOR SPINACH\***

**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 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 per cent, by weight, of the plants in any container† may be below the requirements of this grade, but not more than one-fifth of this amount, or 2 per cent, shall be allowed for spinach which is affected by decay.

\*These grades do not apply to the so-called New Zealand spinach.

†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.



**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 per cent, by weight, of the spinach in any container† may be below the requirements of U. S. No. 1 spinach but not more than 10 per cent shall be seriously damaged. Of this tolerance for serious damage not more than one-fifth of this amount, or 2 per cent, 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:

1. "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.

2. "Well grown" means plants which are not stunted or poorly developed.

3. "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.

†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.

4. "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 coarse stalks that would cause more than 10 per cent 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.

5. "Seriously damaged" means any defect or injury which severely affects the appearance or the edible or shipping quality. Seriously damaged plants include the following:

(a) Plants which are badly affected by discolored leaves.

(b) Plants which are severely affected by mildew.

(c) Plants which are noticeably affected by insects.

(d) Plants which are affected by decay.—1931.

#### Standardization Act, Colorado Session Laws 1931

Section 38. Provides that, Containers packed with spinach of the grades established according to the provisions of this Act shall be plainly marked with the grade contained therein.

#### COLORADO-U. S. STANDARDS FOR FRESH TOMATOES

##### GRADES

**U. S. No. 1** shall consist of tomatoes of similar varietal characteristics (1) which are mature (2) but not overripe or soft; which are fairly well formed (3), fairly smooth (4), free from decay,



freezing injury, and from damage (5) caused by dirt, bruises, cuts (5a), sunscald, sunburn, puffiness (5b), catfaces (5c), growth cracks (5d), scars (5e), insects, hail or mechanical or other means (5), and free from visible disease at shipping point.

In order to allow for variations incident to proper grading and handling, not more than 10 per cent, by count, of the tomatoes in any container may be below the requirements of this grade, but not more than one-half of this tolerance, or 5 per cent, shall be allowed for defects causing serious damage (7) and not more than one-fifth of this amount, or one per cent, may be allowed for soft ripe tomatoes or tomatoes affected by decay at shipping point or for soft ripe tomatoes or tomatoes affected by decay in shipments from Mexico when inspected at points of entry into the United States. In addition a total tolerance of not more than 5 per cent shall be allowed for soft ripe tomatoes and not more than a total of 5 per cent shall be allowed for tomatoes affected by decay enroute or at destination.

**U. S. No. 2** shall consist of tomatoes of similar varietal characteristics (1) which are mature (2) but not overripe or soft; not badly misshapen (6), free from decay, unhealed cuts, freezing injury, and from serious damage (7) caused by bruises, sunscald, sunburn, puffiness (7d), catfaces, growth cracks, scars, disease, insects (7e), hail or mechanical or other means (7).

In order to allow for variations incident to proper grading and handling, not more than 10 per cent, by count, of the tomatoes in any container may be below the requirements of this grade, but not more than one-tenth of this tolerance, or one per cent, may be allowed for soft ripe tomatoes or tomatoes affected by decay at shipping point or for soft ripe tomatoes or tomatoes affected by decay in shipments from Mexico when inspected at points of entry into the United States. In addition a total tolerance of not more

than 5 per cent shall be allowed for soft ripe tomatoes and not more than a total of 5 per cent shall be allowed for tomatoes affected by 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, 2¼ inches minimum, 2½ inches minimum, and so on in accordance with the facts.

In order to allow for variations incident to proper sizing, not more than 5 per cent, by count, of the tomatoes in any container may vary from the minimum diameter or the total count specified. (The tolerance for packs is given under "U. S. Standard Packs.")

#### **U. S. STANDARD PACKS**

"U. S. Standard Packs" apply particularly to packing in lugs and should be designated according to the number of rows in the top layer in a lug, as 5x5, 5x6, 6x6, and so on in accordance with the facts. The tomatoes in all layers shall show a uniform type of arrangement, e. g., square, offset, or diagonal. The following terms shall be used to describe U. S. Standard 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, provided that when a diagonal arrangement of tomatoes is used, a variation of not more than one tomato shall be permitted in different layers. For example, in a 5x5 pack the tomatoes shall be packed 5 rows wide and 5 rows long in each layer, or in an 8x8 pack the tomatoes shall be packed 8 rows wide and 8 rows long in each layer, or in a 4-5x9 diagonal pack the tomatoes shall be packed alternately 4 and 5 to the row the short way of the lug with 9 such rows in the layer and with either 40 or 41 tomatoes in each layer. **Unless otherwise specified**, the net weight of the tomatoes in the lug shall be not less than 30 pounds. Not more than one tomato shall be placed in a wrapper.

**"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 5x5 pack, the tomatoes in the lower layers may be packed 5x6 but not 6x6 or 5x7, or in a 7x7 pack, the tomatoes in the lower layers may be packed 7x8 but not 8x8. **Unless otherwise specified**, the net weight of the tomatoes in the lug shall be not less than 30 pounds. Not more than one tomato shall be placed in a wrapper.

**"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. Not more than one tomato shall be placed in a wrapper.

**"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 10 per cent, 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:

1. "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 mid-season or late varieties, or bright red varieties mixed with varieties having a purplish tinge.
2. "Mature" means that the contents of the seed cavities have begun to develop a jelly or glue-like consistency and the seeds are well developed.
3. "Fairly well formed" means that the tomato is not decidedly kidney shaped, lopsided, elongated, angular, or otherwise deformed.
4. "Fairly smooth" means that the tomato is not conspicuously ridged or rough.
5. "Damage" means any injury which materially affects the appearance or the edible or shipping quality. The following shall be considered as damage:
  - (a) Cuts which are not shallow, not well healed or more than  $\frac{1}{2}$  inch in length.
  - (b) Puffy tomatoes. These tomatoes are usually angular and flat sided. They are damaged if open space in one or more locules materially affects the appearance when the tomato is cut through the



center at right angles to a line running from the stem to the blossom end.

(c) 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  $\frac{3}{4}$  inch in diameter, or when rough or deep, or when channels extend deeply into the fruit.

(d) 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  $\frac{1}{2}$  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.

(e) Scars (except catfaces) when aggregating more than  $\frac{3}{8}$  inch in diameter.

6. "Badly misshapen" means that the tomato is so badly deformed that its appearance is seriously affected.

7. "Serious damage" means any injury which seriously affects the appearance, edible or shipping quality. The following shall be considered as serious damage:

(a) Soft ripe tomatoes or tomatoes affected by decay.

(b) Fresh holes, or cuts through the tomato wall.

(c) Tomatoes showing any effects of freezing.

(d) Puffiness which causes the tomato to be distinctly light in weight.

(e) Fruit actually infested with worms.

8. "Fairly uniform in size" means that not more than 10 per cent, by count, of the tomatoes in any container may vary more than one-half inch in diameter. "Diameter" means the greatest dimension taken at right angles to a line running from the stem to the blossom end.—1934.

## COLORADO-U. S. STANDARDS FOR CANNING TOMATOES

These standards are revised at this time so as to expand and clarify the definitions of "well colored" and "fairly well colored". Since the interpretation of these definitions has been the same in the U. S. Standards for Canning Tomatoes issued in 1926 and the U. S. Standards for Tomatoes for Manufacture of Strained Tomato Products issued in 1933, it is thought that wording the definitions alike in both sets of standards will clarify any misunderstandings which may have existed.

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 operations.

It should be understood at the outset that the only grading required of the grower is the removal of Culls. Such tomatoes should be left in the field. It is not intended that the grower sort the tomatoes into No. 1 and 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 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 standards:

"Firm" means that the tomato is not soft, puffy, shriveled or water soaked.

"Well colored" means that at least 90 per cent 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 per cent 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.

"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 per cent (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 per cent (by weight) of the tomato in excess of that which would occur if the tomato were perfect.—1939.

#### COLORADO-U. S. STANDARDS FOR WATERMELONS

##### GRADES

**U. S. No. 1** shall consist of watermelons of similar varietal characteristics which are mature but not overripe, well formed, and free from sunscald, decay, anthracnose and from damage caused by other disease, whiteheart, sunburn, hollow heart, hail, insects, or mechanical or other means. (See Size Requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by count, may be below the requirements of this grade but not more than ½ of this tolerance or 5 per cent may be badly misshapen or seriously damaged by any means, and not more than 1 per cent shall be allowed for decay.

**U. S. No. 2** shall consist of watermelons of similar varietal characteristics which are mature but not overripe, which are not badly misshapen



and which are free from sunscald, decay, and from serious damage caused by whiteheart, sunburn hollow heart, hail, anthracnose or other disease, insects or mechanical or other means. (See Size Requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by count, may be below the requirements of this grade but not more than 1 per cent shall be allowed for decay.

**U. S. No. 3** shall consist of watermelons of similar varietal characteristics which are mature but not overripe, free from sunscald, soft decay, and from serious damage by whiteheart or any other defect which seriously affects the internal quality of the watermelon. (See Size Requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by count, may be below the requirements of this grade but not more than 1 per cent shall be allowed for soft decay.

**Unclassified** shall consist of watermelons which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

#### 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 per cent, by count,

of the watermelons in any lot may be below the minimum size requirements.

#### TABLE OF WEIGHTS

Average Weight	Minimum Weight (Unless Otherwise Specified)	Tolerance
		Permitted for Melons Below the Minimum Weight
20	16	5%
22	18	"
24	20	"
26	22	"
28	24	"
30	24	"
32	26	"
34	28	"
36	30	"
38	32	"
40	34	"
42	36	"

#### DEFINITIONS OF TERMS

As used in these standards:

"Mature" means having reached the stage of development at which the melon is at least fairly sweet.

"Well formed" means having the characteristic shape but not necessarily the perfect type of the variety.

"Not badly misshapen" means that the melons are not bottlenecks or gourdnecks, 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 which detracts from the appearance to a greater extent than the 9 square inches of greenish yellow sunburn allowed 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.—1939.

#### Marking of Containers of All Melons and Cantaloupes

Section 32. H. B. 431, Session Laws 1931. All containers of melons and cantaloupes shall be marked in letters not less than three-eighths inch in height with the number of melons contained therein, or if not so marked shall be marked in letters not less than three-eighths inch in height, "**Irregular Pack.**"

All containers of melons and cantaloupes shall be plainly marked in letters not less than one-half inch in height with the grade of the contents according to the grades established by the Director under the provisions of this Act.

Containers of melons and cantaloupes, the contents of which do not conform to any grade or standard established by the Director, shall be plainly and conspicuously stamped "**Unclassified**" in letters not less than one-half inch in height. It shall be deemed unlawful to attempt to conceal such unclassified stamping by defacing, re-labeling or reslating any container so stamped.

**Misleading statements on packages** of fruit or vegetables which appear to describe quality are not permitted unless the package contains a product of as high or higher quality or grade as that inferred.

#### Definition of Some of the Terms as Used on Certificates

Occasional	Means	1 to 5% (Use only with reference to containers)
Few	"	5 to 10%
Some	"	10 to 25%
Many	"	25 to 45%
Approximately half	"	45 to 55%
Mostly	"	55 to 90%
Generally	"	90% or more (when used with reference to size)
Nearly all	"	95% or more



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