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§4-41-51

STANDARDS FOR HAWAII-GROWN ORANGES*

This UNOFFICIAL COPY of standards for oranges, rewritten for easy interpretation, is based on Chapter 4-41, Hawaii Administrative Rules, Standards for Fresh Fruits and Vegetables. The general provisions of this Chapter, summaries of standards for other fruits and vegetables, and official copies of the complete chapter are available in each county.

<u>HAWAII FANCY (GRADE AA)</u>	<u>HAWAII NO. 1 (GRADE A)</u>	<u>HAWAII NO. 2 (GRADE B)</u>
<u>Basic Requirements</u>	<u>Basic Requirements</u>	<u>Basic Requirements</u>
Similar varietal characteristics (1)	Similar varietal characteristics (1)	Similar varietal characteristics (1)
Firm (2)	Firm (2)	Firm (2)
Well formed (3)	Well formed (3)	Fairly well formed (4)
Clean (5)	Clean (5)	Clean (5)
Well colored (6)	Fairly well colored (7)	Reasonably well colored (8)
Mature (9)	Mature (9)	Mature (9)
Smooth texture (10)	Fairly smooth texture (11)	Not more than slightly rough texture (12)
Well trimmed (13)	Well trimmed (13)	Well trimmed (13)
<u>Free From</u>	<u>Free From</u>	<u>Free From</u>
Bruises	Bruises	Bruises
Unhealed cuts	Unhealed cuts	Unhealed cuts
Buckskin or similar typed discoloration	Buckskin or similar type discoloration	Decay
Decay	Decay	Growth cracks
Growth cracks	Growth cracks	Undeveloped or sunken segments
Sprayburn	Sprayburn	Sprouting
Undeveloped or sunken segments	Undeveloped or sunken segments	
Sprouting	Sprouting	
<u>Free From Injury (14)</u>	<u>Free From Damage (15)</u>	<u>Free From Serious Damage (16)</u>
<u>Caused By</u>	<u>Caused By</u>	<u>Caused By</u>
Ammoniation	Ammoniation	Ammoniation
Bird pecks	Bird pecks	Bird pecks
Creasing	Creasing	Creasing
Discoloration	Discoloration	Discoloration
Green spots or oil spots	Green spots or oil spots	Green spots or oil spots
Pitting	Pitting	Pitting
Scab	Scab	Scab
Scale	Scale	Scale
Scars	Scars	Scars

*Numbers in parentheses following grade terms indicate where such terms are defined under "Definitions".

Split, rough or protruding navel
Thorn scratches

Free From Damage (15)

Caused By

Dryness or mushy condition
Sunburn
Ricey or woody flesh
Disease
Insects
Mechanical or other means

Split, rough or protruding navel
Thorn scratches
Sunburn
Dryness or mushy condition
Ricey or woody flesh
Disease
Insects
Mechanical or other

Split, rough or protruding navel
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Disease
Insects
Buckskin
Sprayburn
Mechanical or other means

Soluble Solids (17) and Acid (18) Requirements

Lot average shall be not less than 10% soluble solids and 0.5% acid.

Soluble Solids (17) and Acid (18) Requirements

Lot average shall be not less than 9% soluble solids and 0.5% acid.

Soluble Solids (17) and Acid (18) Requirements

Lot average shall be not less than 8.5% soluble solids and 0.5% acid.

Size Requirement for All Grades. Oranges in any one container shall meet the requirements of one of the size classes listed below:

Small	Less than 2-1/2 inches in diameter (19)
Medium	2-1/2 to 3 inches in diameter (19)
Large	Over 3 inches in diameter (19)

Tolerances (count basis)

Defects: Total 10%; provided not more than 5% serious damage, including 1% decay.
Off-size: Total 10%; provided not more than 3% are under the specified size.

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HAWAII NO. 1 BRONZE (GRADE A BRONZE). The requirements for this grade are the same as for Hawaii No. 1 (Grade A) except for discoloration. In this grade at least 90 percent, by count, of the oranges shall show more than 10 percent discoloration. The discoloration meant here does not include dark, rough or deep scars; green spots; caked melanose or ammoniation; pitting; or similar defects. The tolerances for this grade are also the same as for Hawaii No. 1 (Grade A).

OFF-GRADE. "Off-grade" is not a grade within the meaning of these standards, but is a descriptive term applicable to oranges which have a market value, and designates a quality lower than the lowest applicable Hawaii, other states or the United States grade for oranges.

APPLICATION OF TOLERANCES. Averages for the entire lot, based on examination of representative samples, shall be within the tolerances specified, but the contents of individual containers in any lot may vary from the specified tolerances subject to the following limitations:

When the tolerance specified is more than 5 percent, individual packages in any lot may contain not more than 1-1/2 times the tolerance, provided that at least one specimen which fails to meet the requirements shall be permitted in any container.

When the tolerance specified is 5 percent or less, individual packages in any lot may contain double the tolerance, provided that at least one specimen which fails to meet the requirements shall be permitted in any container.

APPLICABLE GRADE TERMS. Oranges shall be classified in accordance with the grading system designated below:

Wholesale Quantities - HAWAII FANCY, HAWAII NO. 1, HAWAII NO. 1 BRONZE or HAWAII NO. 2, whichever is applicable.

Consumer Packages
and Bulk Displays - HAWAII GRADE AA, HAWAII GRADE A, HAWAII GRADE A BRONZE or HAWAII GRADE B, whichever is applicable.

DEFINITIONS.

- (1) "Similar varietal characteristics" means the oranges are similar in color and shape.
- (2) "Firm" means the orange is not soft, or noticeably wilted or flabby.
- (3) "Well formed" means the orange has the shape characteristic of the variety.
- (4) "Fairly well formed" means the orange is not appreciably elongated, pointed, lopsided or otherwise deformed.
- (5) "Clean" means free from dirt or other foreign material.
- (6) "Well colored" means 50 percent of the area of the fruit that is not discolored is yellow or orange in color.
- (7) "Fairly well colored" means 10 percent of the area of the fruit that is not discolored is yellow or orange in color.
- (8) "Reasonably well colored" means a yellow or orange color predominates over the green color over 1/4 of that portion of the fruit surface that is not discolored.
- (9) "Mature" means the orange has reached the stage of development which will insure proper completion of the ripening process.
- (10) "Smooth texture" means the skin is thin and smooth for the variety and size of fruit.

(11) "Fairly smooth texture" means the skin is fairly thin and not coarse for the variety and size of fruit.

(12) "Slightly rough texture" means the skin is not materially ridged, grooved or wrinkled.

(13) "Well trimmed" means the buttons are attached and are shorter than 1/8 inch in length.

(14) "Injury" means any specific defect described in Table 1, Classification of Defects; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which appreciably detracts from the appearance, or the edible or shipping quality of the oranges.

(15) "Damage" means any specific defect described in Table 1, Classification of Defects; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which materially detracts from the appearance, or the edible or shipping quality of the oranges.

(16) "Serious damage" means any specific defect described in Table 1, Classification of Defects; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which seriously detracts from the appearance, or the edible or shipping quality of the oranges.

(17) "Soluble solids" means the refractometric sucrose value of the juice obtained in accordance with the refractometric method for sugar and sugar products.

(18) "Acid" means grams of acid calculated as anhydrous citric acid per 100 ml. of juice as determined by titration with sodium hydroxide solution using phenolphthalein as the indicator.

(19) "Diameter" means the greatest dimension measured at right angles to a line from the stem to the blossom end of the fruit.

Table 1. Classification of Defects

FACTOR	INJURY	DAMAGE	SERIOUS DAMAGE
Ammoniation	More than slightly affecting appearance.	Not occurring as light speck type similar to melanose.	Dark and aggregating an area more than 3/4 inch in diameter; light colored and aggregating an area more than 1-1/4 inches in diameter; or scars are cracked.
Creasing	Skin slightly weakened.	Skin materially weakened.	Deep and extensive so that skin is seriously weakened.

Discoloration	Light golden brown and affecting more than 10% of surface. Lighter shades caused by superficial scars or other means may affect a greater area and darker shades shall affect a lesser area, provided no discoloration caused by melanose or other means may affect appearance to a greater extent than the light golden brown discoloration allowed.	Light golden brown and affecting more than 25% of surface. Lighter shades caused by superficial scars or other means may affect a greater area and darker shades shall affect a lesser area, provided no discoloration caused by melanose or other means may affect appearance to a greater extent than the light golden brown discoloration allowed.	Light golden brown and affecting more than 50% of surface. Lighter shades caused by superficial scars or other means may affect a greater area and darker shades shall affect a lesser area, provided no discoloration caused by melanose or other means may affect appearance to a greater extent than the light golden brown discoloration allowed.
Green spots or oil spots	More than slightly affecting appearance.	More than 5 spots; or aggregating an area more than 3/4 inch in diameter on an orange 3 inches in diameter. Smaller fruits shall have a lesser number or lesser area of spots and larger fruits may have more, provided appearance is not affected to a greater extent than spots permitted on a 3-inch orange.	Seriously affecting appearance.
Scab	Not classifiable as discoloration and affecting shape or texture more than slightly.	Not classifiable as discoloration and appreciably affecting shape or texture.	Not classifiable as discoloration and materially affecting shape or texture.

Scales	<p>More than 10 scales on a fruit 3 inches in diameter. Smaller fruits shall have less scales and larger fruits may have more, provided appearance is not affected to greater extent than scales permitted on a 3-inch orange.</p>	<p>More than 20 scales on a fruit 3 inches in diameter. Smaller fruits shall have less scales and larger fruits may have more, provided appearance is not affected to greater extent than scales permitted on a 3-inch orange.</p>	<p>More than 40 scales on a fruit 3 inches in diameter. Smaller fruits shall have less scales and larger fruits may have more, provided appearance is not affected to greater extent than scales permitted on 3-inch orange.</p>
Scars	<p>Depressed; not smooth; or detracts from appearance more than the amount of discoloration permitted in the grade.</p>	<p>Not smooth; or shallow or fairly shallow and detracts from appearance more than the amount of discoloration permitted in the grade.</p>	<p>Not fairly smooth; very deep; or not very deep but detracts from appearance more than the amount of discoloration permitted in the grade.</p>
<p>Split, rough or protruding navel.</p>	<p>Navel protrudes beyond the general contour; or navel flush with the general contour but has opening so wide, folded and ridged that it detracts noticeably from the appearance.</p>	<p>Split is unhealed; more than 3 well healed splits; split is more than 1/4 inch long; 3-cornered, star shaped or other irregular shaped navel with opening so wide, folded and ridged that it detracts materially from appearance; or the navel flares, bulges or protrudes beyond the general contour to render it subject to mechanical injury during proper handling or packing.</p>	<p>Split is unhealed; one well healed split at each corner of an irregular navel and these aggregate more than 1 inch in length or exceed 4 in number or any one is more than 1/2 inch long; an irregular navel has opening so wide and so badly folded and ridged that it detracts seriously from appearance; or the navel protrudes beyond the general contour to render it subject to mechanical injury during proper grading, handling or packing.</p>

Thorn scratches	More than slight; not well healed; or more unsightly than discoloration allowed in the grade.	Not well healed; hard, light colored concentrated and aggregating an area more than 1/4 inch in diameter; slight, light colored, concentrated and aggregating an area more than 1 inch in diameter; or dark or scattered and detracts from appearance more than the amounts specified above.	Not well healed; hard, light colored, concentrated and aggregating an area more than 1/2 inch in diameter; slight, light colored, concentrated and aggregating an area more than 1-1/2 inches in diameter; or dark or scattered and detracts from appearance more than the amounts specified above.
Dryness or mushy condition		All segments of the fruit are affected more than 1/4 inch at the stem end or a greater area is affected in other portions of the fruit.	All segments of the fruit are affected more than 1/2 inch at the stem end or a greater area is affected in other portions of the fruit.
Sunburn		More than 25% of surface affected; or skin appreciably flattened, dry, darkened or hard.	More than 1/3 of surface affected; affected area hard; fruit decidedly one sided; or light brown and aggregating an area more than 1-1/2 inches in diameter.
Ricey or woody flesh		Fairly excessive hand pressure required to extract juice.	Excessive hand pressure required to extract juice.
Buckskin			More than 25% of surface affected; or fruit texture seriously affected.
Sprayburn			Seriously affecting appearance; affected area hard; or light brown and aggregating an area more than 1-1/4 inches in diameter.