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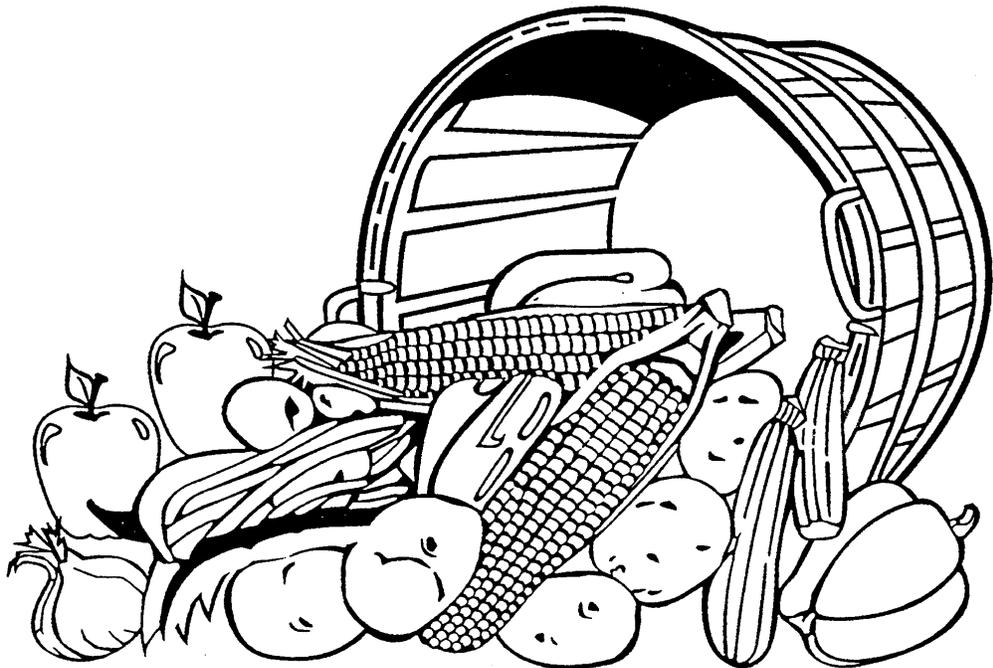
Fruit and
Vegetable
Programs

Fresh Products
Branch

October 1978

Oranges and Grapefruit

Shipping Point Inspection
Instructions for Citrus Grown in
Texas and States Other Than
Florida, California and Arizona



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Page I, Table of Contents, Oranges and Grapefruit, Shipping Point
Inspection Instructions for Citrus Grown in Texas and States
Other Than Florida, California and Arizona, October 1978

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FRUIT AND VEGETABLE DIVISION
FRESH PRODUCTS BRANCH

SHIPPING POINT INSPECTION INSTRUCTIONS

FOR
CITRUS

(TEXAS AND STATES OTHER THAN FLORIDA,
CALIFORNIA AND ARIZONA) 1/

TYPES

There are numerous types of citrus fruits grown in Texas, chiefly of which are sweet oranges, comprising of standard varieties, seedlings, blood oranges, etc: Mandarin oranges (Tangerines, Satsumas, Temples, and King oranges); and Grapefruit. However, oranges and grapefruit make up most of the inspection work. The Marsh Seedless, Marsh Pink, "Red Blush" or "Ruby Red" and "Star Ruby" are the most important grapefruit varieties. Also, a small quantity of Foster Pink and Duncan are shipped. Hamlin, Pineapple and Valencia are the principal varieties of oranges. A few Navels and various seeded varieties are shipped early in the season. (1)

1/ These Instructions do not establish a new or revised substantive rule (United States Standards for Grades of Grapefruit and Oranges, Texas and States other than Florida, California and Arizona, CFR §§ 51.653 and §§ 51.714.)

PRODUCING AREAS

- (2) The main citrus producing area is in the lower Rio Grande Valley. This section consists mainly of Cameron, Hidalgo and Willacy Counties. North of these, Brooks and Jim Wells Counties produce a small amount of grapefruit and oranges. The Laredo and Winter Garden sections have scattered citrus groves, but there are no commercial shipments made from these areas.

FEES

- (3) For the purpose of assessing fees for inspection, each commodity shall be considered a separate lot. For example: oranges, grapefruit, tangerines, limes, and lemons shall be considered as different lots.
- (4) When a shipment contains mixed citrus fruits, all lots shall be reported in the body of a single certificate. If it is impractical to cover all products in a shipment on a single certificate, two or more certificates may be issued with a cross reference under "Remarks" to tie the certificates to the same lot.

DATE, APPLICANT, LOADING, CARRIER INITIALS AND NUMBER,
KIND OF CARRIER, WHERE INSPECTED AND CONDITION OF
CARRIER

- (5) Detailed instructions concerning the above factors can be found in the General Shipping Point Inspection Instructions.

Added, July 1997, HU-137-14(b)
Page 3, Para. 7a, Oranges and Grapefruit, Shipping Point
Inspection Instructions for Citrus Grown in Texas and States
Other Than Florida, California and Arizona, October 1978

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NOTESHEET

Entries on the notesheet must be neat and clearly legible so that anyone familiar with inspection procedure could interpret them. The information must be so complete that a typed certificate can be prepared from them. (6)

Defects shall be segregated on the notesheet into four classes: Total defects including very serious damage and decay, very serious damage including decay, decay and Discoloration. Also, there should be a column for offsize. (7)

Marketing Order 906 for Oranges and Grapefruit Grown in Lower Rio Grande Valley in Texas have grades that may be marked on the containers. If they are marked on the container they must meet the following requirements or it could be considered misbranded and PACA should be notified. (7a)

Texas Fancy Grapefruit - meets all the requirements for a U.S. No. 1 except the allowance for discoloration is reduced so that not more than 40 percent of the surface of the individual grapefruit, in the aggregate, may be affected by discoloration. See "Tolerances" for number of fruit permitted per sample and per load or lot.

Texas Choice Grapefruit - meets all the requirements for a U.S. No. 2 except the allowance for discoloration is reduced so that not more than 60 percent of the surface of the individual grapefruit, in the aggregate, may be affected by discoloration. See "Tolerances" for number of fruit permitted per sample and per load or lot.

Texas Choice Oranges - meets all the requirements for U.S. No. 2 except the definition for "reasonably well colored" is redefined to mean that the yellow or orange color predominates over the green color on at least 75 percent of the fruit surface in the aggregate which is not discolored.

For more complete instructions see Marketing Order 906.

PART I - ORANGES

PRODUCTS INSPECTED AND DISTINGUISHING MARKS

- (8) The following information should be shown under this heading:
- Commodity, (type or variety)
 - Type of container
 - Identifying marks
 - Quantity inspected
- (9) Commodity, type or variety: The Inspection Service has no authority to certify "variety" alone. The Act under which we operate states that inspection may be made for "Quality and Condition." If a statement of "variety" is made, it is to identify the product inspected and is secondary on the certificate.
- (10) When containers are marked with the name of the variety, the variety should be quoted rather than making a positive statement as to variety.
- (11) As a general policy the inspector shall not attempt to certify the variety of oranges. It is difficult to definitely identify Pineapples from Valencias, whose characteristics are influenced by root stock, type and drainage of soil, and by fertilization, cultivation and cultural methods. Requests for variety certification only, shall be declined with an explanation that the law under which the Inspection Service operates does not cover variety certification. However, seed count and color of flesh may be certified in accordance with the facts, and on Navel oranges the inspector can certify the percentage of fruit that show navel formation (internally and externally), all at applicant's request.
- (12) Texas oranges may be classified under the following types:
- (13) "Early type" are oranges which have a normal maturing season corresponding to the maturing period for Parson Brown or Hamlin varieties.
- (14) "Mid-Season type" are those having a normal maturing season corresponding to that of Pineapples and Seedlings.

"Late type" oranges are those having a normal maturing period (15)
corresponding to that of Valencia, Lue Gim Gong and Pope Summer
varieties.

The following list of orange varieties are classified as Early, (16)
Mid-Season and Late types:

<u>Early</u>	<u>Mid-Season</u>	<u>Late</u>
Boones' Early	Acme	Nonpareil
Conner's Seedless	Arcadia	Old Vini
Early Oblong	Centennial	Osceola
Enterprise	Circassian	Paper Rind
Foster	Dummitt	Pineapple
Hamlin	Exquisite	Prata
Heards	Homosassa	Ruby
Hick	Indian River	Sanford Blood
Parson Brown	Jaffa	Saul Blood
Sixteen to One	Joppa	Seeding
Walker's Early	Madma Vinous	Star Calyx
	Magnum Bonum	Stark
	Majorca	St. Michael
	Marquis	Whitaker
	May	White
		Bessie
		Du Roi
		Lamb's Late
		Lue Gim Gong
		Maltese Oval
		Pope Summer
		Valencia

- (17) The U.S. Standards for Grades of Oranges (Texas and States other than Florida, California and Arizona) apply to the common or sweet oranges, and varieties and hybrids of varieties belonging to the Mandarin group, except Tangerines. Mandarin varieties and hybrids, other than tangerines, include but are not restricted to Temple, Satsuma, King, Wilking, Ponkan, Minneola, Kara, Kinnow, Page, Lee, Osceolo, Nova and K-Early.
- (18) Type of Container: The 7/10 bushel carton is the most common type of citrus container. Other containers used include 7/10 bushel wire-bound crate, 1-2/5 bushel wire-bound crate, and bags having a capacity of 5, 8, and 20 pounds net.
- (19) The type of container shall always be mentioned under this heading without giving too much detail, except in the case of odd sizes which should be described in detail.
- (20) Identifying Marks: The certificate should always show identifying brands, labels, growers or shippers names and addresses, size, weight, grades and variety when shown. When "color added" is stamped on the container or fruit, it also shall be reported under this heading.
- (21) Quantity Inspected: The number of containers must be shown on the certificate, either as a statement on authority of the inspector, or as "storage record," "checker's count," "applicant's count," or "manifested as."

PACK

Pack shall be judged according to both bulge and tightness of the pack. (22)

When Biphenyl or other treated wraps, pads or liners are specified in the contract and the inspector can definitely determine this factor without any question or doubt, it will be satisfactory to report this information under the Pack heading. Thus: "Cartons lined with Biphenyl liners." (23)

In addition to the statement concerning condition of pack, it will sometimes be desirable to mention the bulge. As a rule when the bulge is sufficiently high to indicate a satisfactory pack, it need not be mentioned. An usual condition, such as excessively high bulge, shall be reported. Some packs may have a high bulge, but the pack will be loose; on the other hand, flat packs will at times be found with the fruit tight in the box. (24)

Description of Pack: The following terms shall be used to describe the filling of cartons: (25)

Well filled: means that the carton is filled so that the fruit is in contact with the cover. (26)

- (27) Level full: Means that the fruit is level with the top edge of the container.
- (28) Fairly well filled: Means that the carton is filled so that the fruit is slightly below the top edge but not more than 1/2 inch (12.7 mm).
- (29) Slack: Means that the fruit is more than 1/2 inch (12.7 mm) below the top edge of the carton. This term shall also be qualified by showing how much the fruit is below the top edge in inches (mm) or fractions of an inch.
- (30) The following terms shall be used to describe the tightness of pack within the layers in the carton:
- (31) Tight: Means that the fruit is tight enough in layers to prevent the fruit from moving materially within the package.
- (32) Fairly tight: Means a condition between "tight" and "loose" in which there is excess space within the layers but not sufficient space that an additional row of fruit can be properly added.
- (33) Loose: Means that there is sufficient space so that an additional row can properly be added to each layer within the container.

Proper description of pack requires the use of terms for both fill- (34)
ing and tightness as for example, "Well filled, tight in layers,"
"fairly well filled, loose in layers" or other combinations in
accordance with the facts.

Cartons which are to be certified as meeting Standard Pack must (35)
be level full at time of packing.

The following terms shall be used in describing the tightness of (36)
a pack within the layers in wire-bound crates:

Very tight: Means that the pack is too tight and tends to (37)
cause injury to the fruit.

Tight: Means that both pack and bulge are satisfactory. (38)

Fairly tight: Means the condition between "tight" and "slack," (39)
that is, tight enough to prevent the fruit from moving with-
in the container.

Slack: Means that the package is not full. This statement (40)
shall be qualified by showing how much the fruit is below the
level of the lid in fractions of an inch or inches.

(41) Examples:

(42) Most cartons tight and well filled, many cartons tight and fairly well filled to level full.

(43) Fairly tight, lids showing 1/2 to 1 inch (12.7 to 25.4 mm) bulge.

(44) Most cartons tight and well filled, many tight and fairly well filled.

(45) Tightness of Wire-bound Crates: In determining the tightness of wire-bound crates, the inspector should take into consideration whether the package is on a rigid surface, such as a car or pier floor or whether it is resting on ends of other crates of fruit which might permit the bottom side to become convex. This would make the crate appear slack at the top while in reality it is fairly tight.

(46) Bulge: In reporting the height of the bulge, the measurement is the distance of the highest part of the curve of the lid above the level of the top edge of the ends of the container or the top side slats when they are flush with the tops of the ends.

(47) Standard Pack: The U.S. Standards for Oranges (Texas and States other than Florida, California and Arizona) have defined the term "Standard Pack." It is satisfactory to certify on the basis of "Standard Pack" as well as on the U.S. Grades. A lot may meet the requirements of the U.S. Grades and not meet the requirements of "Standard Pack," or vice versa.

The actual certification of Standard Pack shall be made under the Grade heading in connection with the grade statement, but the tightness of pack and uniformity of sizing which are part of the requirements of Standard Pack shall be shown under the Pack and Size headings. As a general policy Standard Pack certification will be made only on specific request. (48)

The standards define uniformity of sizing in connection with Standard Pack. To meet Standard Pack requirements fruit must be "fairly uniform in size." (49)

Standard Sizing and Fill: Boxes or cartons which are not place-packed according to a definite pattern but which are volume filled or jumble packed cannot be certified as Standard Pack because the fruit is not arranged according to the approved and recognized methods. However, such cartons of fruit may be certified as meeting Standard Sizing and Fill if the fruit is fairly uniform in size and they have been properly shaken down and the container is at least level full at time of packing. As with Standard Pack, Standard Sizing and Fill certification will be made only on specific request and certified under the grade heading in connection with the grade statement. (50)

Consumer Bags: When consumer bags are used, even though these bags are packed in master containers, the pack heading should be blocked out. (51)

SIZE

- (52) Each inspector should have a caliper to check each size to see if it is "fairly uniform" or "irregular." Size should be checked closely when the pack is slack or the fruit is irregular in appearance.
- (53) In making inspections for size only, each size shall be considered separately and treated as a separate lot. When quality or condition differs according to sizes, see General Shipping Point policy in describing "Defects and Irregular Conditions."
- (54) Measuring Diameter: In measuring fruit for diameter, the greatest dimension measured at right angles to a line from stem to blossom end of the fruit shall be used. These measurements shall be made with a caliper which has rigid jaws. Turn the fruit in the caliper to make sure that the greatest dimension is obtained. Pliable fruit which has been squeezed out of shape account of a tight pack shall not be used in the sample for measurement.
- (55) Size Marks on Containers: The size marks on the containers shall be reported under the Size heading on the FV-184 certificate. The actual certification of size and counts shall be made on the notesheet even though fairly uniform may or may not be shown on the certificate.
- (56) Describing Size: In describing size use the terms "uniform" or "fairly uniform" when the fruit meets these requirements. Report as "irregular" when they fail to meet these requirements. The applicant shall be notified of any lot that fails to meet the requirements of fairly uniform..

"Uniform in size" means that not more than the number of fruits (57)
permitted in the Tolerance Tables for the number of samples ex-
amined vary more than the following amounts:

163 size or smaller - not more than 4/16 inch in diameter.

125 size or larger - not more than 5/16 inch in diameter.

"Fairly uniform in size" means that not more than the number of (58)
fruits permitted in the Tolerance Tables for the number of sam-
ples examined are outside the ranges of diameters for the various
pack sizes. Refer to the applicable table of pack sizes in the
standards.

"Irregular:" When it is necessary to report a size or lot as (59)
"irregular," the number of fruit and the percentage which fails to
meet the requirements of "fairly uniform" shall be shown to justify
the use of the term "irregular."

Bulk shipments or Consumer bag packs: Determining size of bulk (60)
shipments or consumer bag packs will require the measurement
of sufficient fruit to accurately determine the number of fruit
below or above a specified minimum and maximum diameter. When
a size is specified, as for example, 163 size, determine the
number of fruit less than 2-15/16 inches and above 3-5/16 inches
in diameter. When the number of fruit below the minimum and
above the maximum diameter exceeds the number of fruit permitted

in the Tolerance Tables, the lot fails to meet the requirements of "fairly uniform." However, the size description shall be given by stating the diameter range in inches and fractions thereof. In addition, report the number of fruit and percentage above the specified minimum and maximum diameters. No statement of box size is required on a certificate certifying imported fruit.

TOLERANCES FOR ORANGES

(61) Tolerances are specified in the standards under Table 1, a & b (Shipping Point) as acceptance numbers. The total maximum or minimum number of defective or off-size fruit are specified for individual samples as well as for the Total number of samples examined in the lot. No Tolerances shall apply to wormy fruit.

(62) Individual sample limitation: The individual 50-count orange sample is limited to a maximum number of defective or off-size oranges permitted, or to a minimum number of oranges having the amount of discoloration required in certain grades. This limitation is specified in the Tolerance Table under the (AL) absolute limit heading and replaces the Application of Tolerances section which existed in the old standards.

Table (a) for 1 through 20 samples

Factor	Grade	AL ^a	Number of 50-count samples ^b																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			Acceptance number (maximum permitted) ^c																			
Decay	U.S. Fancy	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U.S. No. 1		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U.S. No. 2		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U.S. Combination		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Very serious damage including decay	U.S. Fancy	2	0	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
	U.S. No. 1		0	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
	U.S. No. 2		0	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
	U.S. Combination		0	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
Total defects including decay and very serious damage	U.S. Fancy	6	7	12	17	20	27	30	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. No. 1		7	12	17	20	27	30	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. No. 2		7	12	17	20	27	30	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. Combination (U.S. No. 2's permitted)		7	12	17	20	27	30	36	41	45	50	54	59	63	68	72	76	81	85	89	94
Off-size		10	7	13	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	89	94
Discoloration	U.S. No. 1	10	7	13	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. No. 1 Bright		7	13	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. No. 2		7	13	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	89	94
	U.S. Combination		7	13	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	89	94
			Acceptance number (minimum required) ^c																			
	U.S. No. 1 Fancy	1	3	8	13	18	23	28	34	40	45	51	56	62	67	74	79	85	91	97	102	108
	U.S. No. 2		3	8	13	18	23	28	34	40	45	51	56	62	67	74	79	85	91	97	102	108
	U.S. No. 2 Home		3	8	13	18	23	28	34	40	45	51	56	62	67	74	79	85	91	97	102	108

Table (b) for 21 through 40 samples.

Factor	Grade	AL ¹	Number of 20-count samples ²																												
			21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40									
Decay	U.S. Fancy	1	Acceptance numbers (maximum permitted) ³																												
	U.S. No. 1		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
	U.S. No. 2		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Very serious damage including decay	U.S. Fancy	6	Acceptance numbers (maximum permitted) ³																												
	U.S. No. 1		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	
	U.S. No. 2		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Total defects including decay and very serious damage	U.S. Fancy	8	Acceptance numbers (maximum permitted) ³																												
	U.S. No. 1		86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
	U.S. No. 2		29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Off-size	U.S. Fancy	30	Acceptance numbers (maximum permitted) ³																												
	U.S. No. 1		88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116
	U.S. No. 2		29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Demerits	U.S. No. 1	30	Acceptance numbers (minimum required) ⁴																												
	U.S. No. 2		114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142
	U.S. No. 2		1	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141

¹ Shipping point, as used in Drive standards, means the point of origin of the shipment in the production area or at port of loading for at-sea stevedores, or oceanic shipments, or in the case of shipments from outside the continental United States, the port of entry into the United States.

² Sample size—20 count.
³ Acceptance number—maximum or minimum number of defective or off-size fruit permitted.
⁴ Referred number of samples for this acceptance number.

SAMPLING

Representative sampling is fully as important as grade interpretation. (63)

If the samples are not representative of the lot, the results of the inspection may be incorrect regardless of how accurate the grade interpretation may be. Samples selected should cover all portions of the lot. Samples shall be selected proportionally from each size, grower's lot, grade or brand.

Added, September 1991, HU-110-8(a)
 Page 15a, Para. 63a, Oranges and Grapefruit
 (Texas and States Other Than Florida, California and Arizona)
 Shipping Point Inspection Instructions
 October 1978

15a

63a) Number of Samples. The following table gives the minimum number of 50 count samples to be drawn from various size lots. The number of containers listed represents lot sizes for unrestricted inspections. When determining the number of 50 count samples for restricted inspections, figure only the total number of containers involved in that portion of the lot covered by the restriction.

Number of 50 count Samples	Number of 4/5 bu. containers
4	100 or less
6	101 - 500
10	501 - 1,000
15	1,001 - 2,000
25	2,001 - 4,000
40	4,001 - 6,000
50	6,001 - 9,000
60	9,001 - 12,000
70	12,001 - 15,000
80	15,001 - 19,000
90	19,001 - 23,000
100	over 23,000

Added, September 1991, HU-110-8(b)
 Page 15b, Table I,, Oranges and Grapefruit
 (Texas and States Other Than Florida, California,
 and Arizona), Shipping Point Inspection
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15b

TABLE I — SHIPPING POINT¹
For 50, 60, 70, 80, 90, and 100 Samples
 [See footnotes at end of Table I]

Factor	Grades	AL ²	Number of 50-count samples ³							
			50	60	70	80	90	100		
Decay	U.S. Fancy.	1	10	12	14	16	18	20	26	29
	U.S. No. 1.									
	U.S. No. 2.									
Very serious damage including decay.	U.S. Combination.	2	15	18	20	23	26	29	35	43
	U.S. No. 3.									
	U.S. Fancy.									
Total defects including decay and very serious damage.	U.S. No. 1.	6	102	121	142	160	180	198	222	264
	U.S. No. 2.									
	U.S. Combination.									
Off-size	U.S. Fancy.	8	222	264	308	350	392	434	1040	1244
	U.S. No. 1.									
	U.S. No. 2.									
Discoloration	U.S. No. 3.	29	1040	1244	1452	1616	1860	2064	222	264
	U.S. Combination (U.S. No. 2's permitted).									
	U.S. No. 1.									
Acceptance number (minimum required) ⁴	U.S. No. 1. Bright.	10	222	264	308	350	392	434	285	345
	U.S. No. 2.									
	U.S. Combination.									
	U.S. No. 1 Bronze.	1	285	345	404	464	522	582	285	345
	U.S. No. 2 Russet.									

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

² AL — Absolute limit permitted in individual 50-count sample.

³ Sample size — 50-count.

⁴ Acceptance number — maximum or minimum number of defective or off-size fruit permitted.

(64) Sample for Grade Determination: Each sample shall consist of 50 oranges, regardless of the size of the container. When individual packages contain at least 50 oranges, the 50 orange sample is taken from one package. When individual packages contain less than 50 oranges (such as 5 or 8 lb. consumer bags), a sufficient number of adjoining packages are opened to form the 50-count sample. It may be necessary in the case of 5 or 8 lb. packages packed in master containers to open as many as 3 or 4 units within the master in order to obtain the 50 count sample. The notesheet shall show whether the samples were taken from closed containers or bins.

(65) Sampling During Packing: The Federal Supervisor will issue instructions as to the minimum number of samples required for each size lot. However, the inspector should examine samples as rapidly as possible so that he/she can keep the applicant posted at all times regarding conformity with the intended grade, and so that the size of the lot to be regraded may be kept as small as possible, if regrading becomes necessary.

QUALITY AND CONDITION

(66) The following factors are discussed under this heading:

- Maturity
- Cleanness
- Color
- Shape
- Texture
- Thickness of skin
- Firmness
- Defects
- Decay

Maturity: The U.S. Standards specify that the fruit must be mature. (67)

No maturity requirements are outlined in the grades, but the fruit must meet the minimum acid ratio test according to standards set forth in the Texas Department of Agriculture Fresh Fruit and Vegetables Inspection Laws.

The minimum acid ratio for oranges is 9 to 1. The Texas Department of Agriculture Citrus Maturity regulations shall be consulted for further information regarding the acid ratio test. (68)

As a general policy no mention should be made on the certificate with reference to maturity. (69)

Cleanness: Cleanness will seldom be a factor in the inspection of oranges as they are generally washed before packing. Normally, all oranges will be reported as clean on the certificate. (70)

Color: In reporting color the inspector shall bear in mind that true color refers to the degree of yellow or orange color and not to discoloration caused by rust mite, Melanose, and other blemishes. A lot may be classified as russets and still be certified as well colored. In other words, well colored in russets would be the same as well colored in brights. (71)

Color must be judged in normal daylight as fruit appears greener under artificial light or in a poorly lighted carrier. When there is any doubt regarding color, the fruit must be judged under daylight. (72)

- (73) The various color terms defined in the standards shall be used to describe the color of oranges. In the U. S. No. 1 grade oranges of the early and mid-season varieties must be fairly well colored. For Valencia and other late varieties not less than 50%, by count, of the oranges shall be fairly well colored and the remainder reasonably well colored. When Valencia and other late varieties are packed to meet the U. S. Combination grade, not less than one-half of the percentage of U. S. No. 1 quality required shall be fairly well colored. "Fairly well colored" means that except for one inch, in the aggregate, of green color the yellow or orange color predominates over the green on that part of the fruit which is not discolored. The one inch (area of a circle one inch in diameter) specified for green color may be any shade of green color from light green to dark green. On the remaining area of the fruit, which is not discolored, the yellow or orange color must predominate over the green. For example, a fruit with the area of a circle one inch in diameter of green color shall not have any other area in which the green color predominates.
- (74) Color Added Fruit: After reaching a certain stage of maturity oranges are frequently colored by placing the fruit in a coloring room and releasing ethylene gas. Oranges may also be colored by passing them through a warm solution to which a dye has been added.
- (75) Under the Federal Food, Drug and Cosmetic Act, artificial color may be used on fruit that meets the state maturity standards.

Color added processes are not sufficiently standardized to warrant any mention on the certificate of degree of color attained. Therefore, no attempt shall be made to describe color more than is done with uncolored fruit, but it should be mentioned under the "Brand or Stamping" heading that the fruit or containers are stamped "Color Added." (76)

No attempt shall be made to certify the exact percentage of fruit with the color added treatment since it is impossible in all cases to determine accurately whether all the fruit in a lot have been color added. Fruits with stem buttons missing at the time of the color added treatment or those with stem buttons which remain attached after the treatment can be detected by a light brown or orange color of the stem scar or stem button caused by the dye. However, if the stem button becomes detached after the treatment it is difficult to determine whether the fruit has been artificially colored. (77)

Shape: The normal shape for the variety must be considered in determining the correct term or terms in describing shape. Certain varieties are characteristically flat while other varieties tend to be oblong in shape. For example, the Hamlin variety is slightly oval while the Valencia variety tends to be oblong. A fruit of a given shape may be well formed for one variety and only slightly misshapen for another variety. (78)

The following terms from the standards shall be used in describing shape: (1) Well formed; (2) Slightly misshapen; and, (3) Misshapen. Refer to plaster models illustrating the lower limits for the definitions covering shape. (79)

- (80) Texture: Texture refers to the smoothness or roughness of the skin. This varies considerably with the size and variety of the fruit. Larger sizes are normally rougher than smaller sizes for the same variety. Therefore, in reporting texture the size of fruit and variety must be considered in determining the proper descriptive term. Fruit having a smooth texture is generally thin skinned while rough fruit is generally thick skinned. In describing texture, the following terms shall be used: (1) Smooth; (2) Fairly smooth; (3) Slightly rough; and, (4) Rough. Inspectors shall carefully study the models on texture.
- (81) Thickness of skin: This is closely associated with texture and in most cases it is not necessary to make any mention of this factor on the certificate. This is especially true for those standards in which thickness of skin is included in the definition of the texture term. In most cases texture and thickness of the skin are comparable, such as fairly smooth texture and fairly thin skin. However, when there is a material difference in the texture and thickness of skin report both separately.
- (82) Firmness: Report firmness under the Quality and Condition heading in conformity with the firmness terms and definitions in the standards. Inspectors shall become familiar with these terms as used in the standards before making an inspection, and use the proper term or terms to accurately describe firmness in accordance with the definitions in the standards. If the fruit only shows signs of "puffy" skins, then score as damage (when the skin separates from more than half of the fruit) and report as "badly puffy." If all the skin has separated from the fruit, then score as serious damage and report as "extremely puffy." However, in the No. 3 grade, the fruit would have to be soft and extremely puffy, report very serious damage as "extremely puffy and soft." If only extremely puffy, then do not score against the No. 3 grade. ****
- (83) Fruit may feel soft and pliable due to thinness of skin and yet be properly described as firm. Such fruit may be in prime condition and kept for a long period of time before becoming soft.

Reporting Firmness of Fruit Affected by Decay: In describing (84)
firmness of citrus fruits, all decay shall be considered in deter-
mining the quantitative term or terms to be used. All stages
of decay shall be considered as affecting the firmness. For
example, a lot of oranges with 5% decay shall be reported as
"Generally firm, " provided that fruit not affected by decay
meets the requirements of firm.

Defects: Reference to defects and absence or presence of decay (85)
shall be made on all certificates covering grade. Defects may
be reported with the usual statement, such as "within limitation,"
or by showing the average percentage found. When reporting defects
on a lot out of grade, the range in number of fruit and average
percentage of defects must be shown regardless of the number and
size of samples scored or how small the range. The more common
orange defects encountered are described in these instructions
and shall be reported under this heading when serious enough to
affect the grade in question.

Creasing: In determining whether creasing is severe enough (86)
to affect the grade in question, refer to the definitions of
damage and serious damage in the standards.

The term damage as applied to creasing means that which causes (87)
the skin to be materially weakened. Creasing which causes the
skin to be materially weakened, in most cases, will crack in
a tight pack during handling and the packing process.

- (88) Discoloration: The standards provide for additional grades based on discoloration caused by rust mite, superficial smooth or fairly smooth scars, Melanose or other means. Discoloration is defined in the standards and is based on the aggregate area of russeting of a light shade of golden brown. Discoloration of a lighter shade of color maybe permitted on a greater area and darker shades of color shall be restricted to a lesser area, provided, that no discoloration caused by scars or other means shall be permitted which affects the appearance to a greater extent than the specified area of a light shade of golden brown.
- (89) Smooth or fairly smooth superficial scars or discoloration caused by other means which do not blend or which are in contrast with the normal color shall be restricted to the extent that the appearance is not affected to a greater extent than the designated shade of color for the specified area.
- (90) The term "excessive discoloration" shall be used to describe discoloration which affects the appearance more than the amount permitted for the grade. This is advisable because a fruit may be scored against the U.S. No. 1 grade because of the intensity or kind of discoloration, and yet not be in excess of 1/3 of the surface. Light smooth scars which do not cover more than 1/4 of the surface of an orange may affect the appearance more than 1/3 of the surface of a light shade of golden brown and, therefore, are scored as excessive discoloration against U.S. No. 1 grade.

Excessive discoloration shall be reported separately from other grade defects except in the U.S. Fancy grade. (91)

Granulation (Tree Dryness): Dryness resulting from freezing on the tree is discussed under "Freezing injury." Dryness may occur, however, where there has been no freezing and is then to be regarded either as a varietal peculiarity or the result of the conditions under which the fruit was grown. This kind of dryness is known as granulation. Valencia oranges harvested late in the season or from young trees even early or in midseason, especially after a drought, are quite likely to show granulation particularly in the larger sizes. Thompson Navel oranges may show granulation no matter when they are harvested. In both varieties, the granulated condition sometime appears throughout all of the pulp of affected fruits, but more often only in the upper or stem-end portion. Even in fruits showing the latter condition, the granulation if seen in cross section affects all of the pulp and not merely spots in two or three segments, as so often happens in freezing injury. (92)

The standards permit a definite amount of dryness or mushy condition under the definition of damage, serious damage and very serious damage. The depth specified is for all segments at the stem-end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit. These definitions are based on the average depth for all segments at the stem-end. Therefore, when the dryness or mushy condition is of irregular depth in different segments, the average depth should be used as the basis for scoring. For example, if in 1/2 of the segments the dryness extended to a depth of 1 inch and in the remainder to a depth of 1/2 inch, the average depth would be 3/4 inch. (93)

- (94) In tree-frozen fruit, the juice sacs in the affected portions collapse, wither, and separate from each other and from the segment walls. The fruit feels light in weight.
- (95) In granulated fruit, the juice sacs do not separate from each other or from the segment walls. They also remain turgid, the juice being displaced by solid matter, which is yellow to grayish-white in color. Such fruit feels firm but is light in weight.
- (96) Frequently fruit will show a large percentage of tree dryness in the large sizes and none in the smaller sizes. In such cases dryness should be reported according to sizes or by stating the number of fruit and percentage in the large sizes and giving the sizes which show no dryness. This may result in reporting certain sizes below grade on account of dryness. In such cases the grade statement shall indicate that the entire lot failed to grade and why. The following statement will usually suffice. "Fails to grade U.S. No. 1 account of grade defects in sizes 125 and 163." However, if the applicant prefers it, the following is permissible: "200's and smaller, grade U.S. No. 1; 163's and larger fail to grade U.S. No. 1 only account of dryness in few samples."
- (97) If inspectors encounter fruit which feels abnormally light during periods when no freezing damage has been reported in the shipping areas, they should set aside all such specimens for cutting. If the suspected specimens cut dry enough to affect the grade in question, they shall be scored with the other grade defects.

If the dryness or granulation is such that it cannot be determined with any degree of accuracy by weight of the fruit, the following procedure should be followed: (98)

The following plans are designed to provide efficient, accurate methods of determining internal defects in citrus. Internal defects consists of dryness or mushy condition (freezing injury), granulation (tree dryness), sprouted seeds, or any other defect that cannot be detected without cutting the fruit. Regional or Federal Supervisors may implement these plans anytime they deem them necessary. (99)

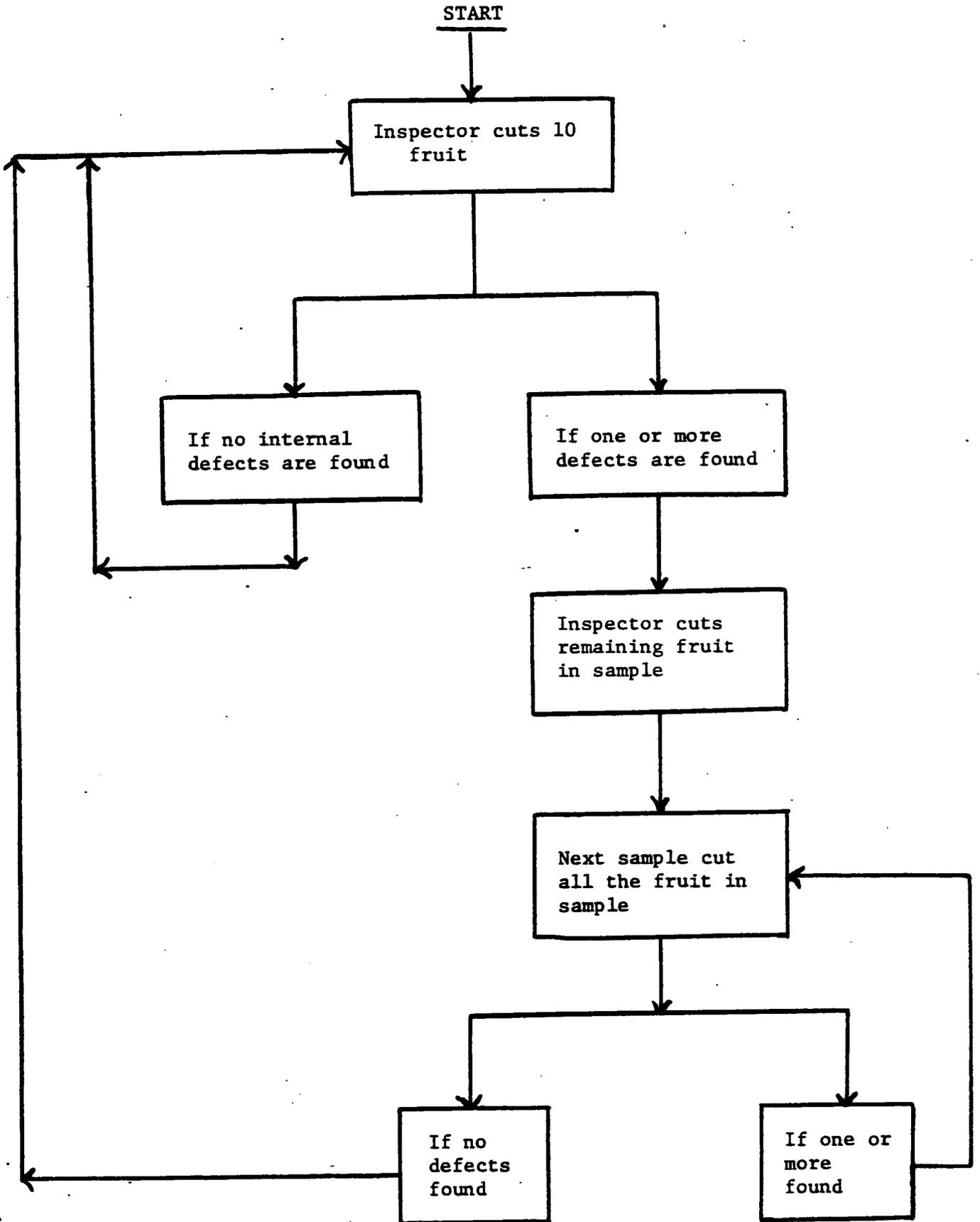
Plan A (Two-Level Sampling Plan): This plan should be used when internal defects are known to be present such as immediately following a freeze, and in the late spring and summer months when granulation is a problem. (100)

Plan A is basically the same as our present method of sampling. Presently the inspector randomly cuts fruit in some samples to detect internal defects. If internal defects are found, he/she cuts the entire sample. Plan A standardizes the procedure of sampling fruit to detect internal defects. (101)

After the sample has been graded externally, from the original sample select the 10 most suspicious fruit without regard to external defects and cut for internal defects. If no defects are found, do not cut any more fruit in the sample. Continue to cut 10 fruit per sample as long as no internal defects are found. If one or more internal defects (102)

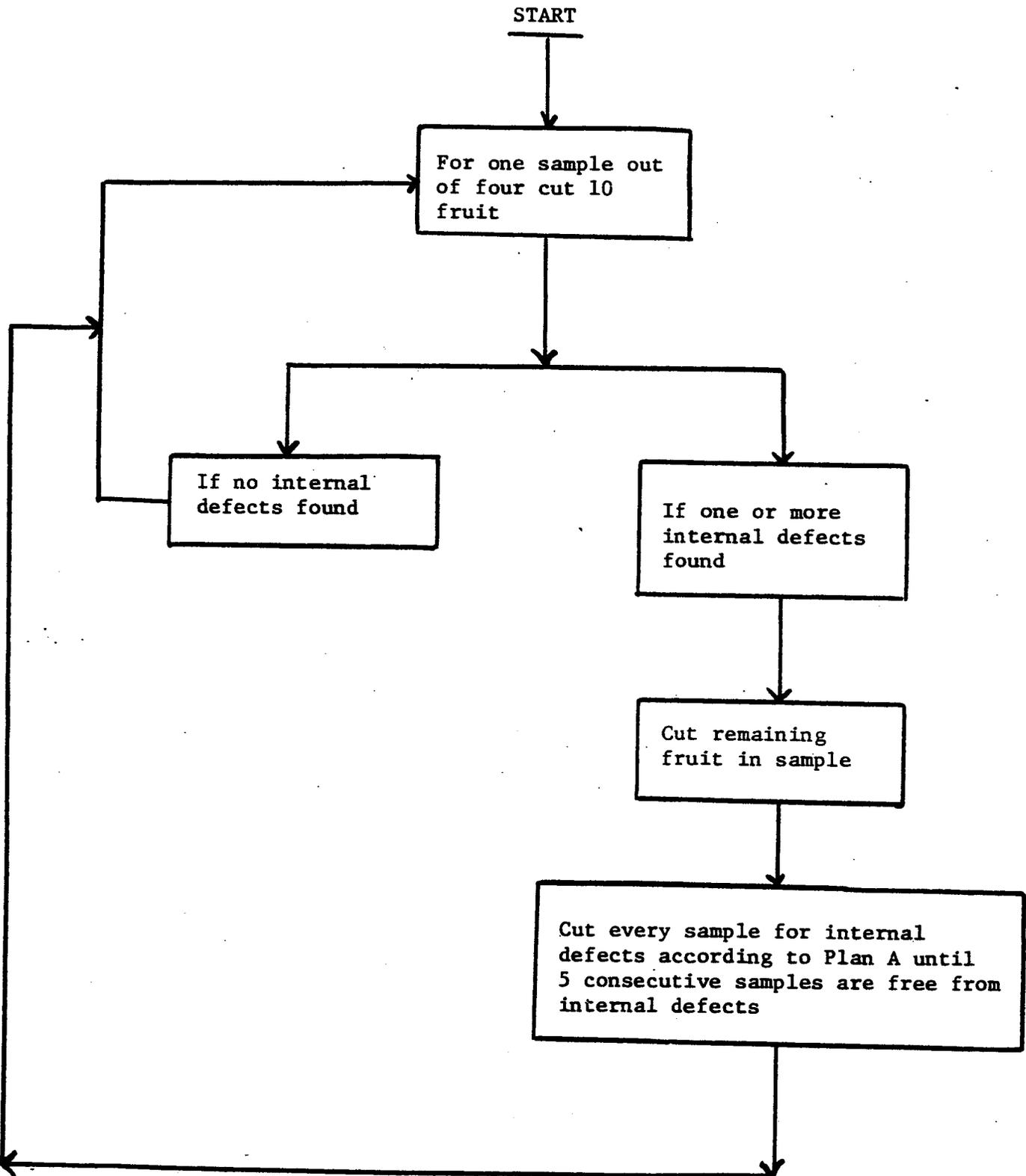
are found, cut the remaining fruit in the sample to determine the percentage of internal defects. Continue to cut all the fruit in every sample until a sample is found free from internal defects. Then revert to cutting only 10 fruit per sample as long as no internal defects are found.

- (103) The following flow chart (figure 1) explains the step by step procedure of how Plan A works.
- (104) Plan B ("Skip-Sample Plan"): This plan is designed to be used as a "spot check" for internal defects. Plan B detects internal defects if present, yet destroys a minimum amount of fruit.
- (105) Plan B is similar to Plan A. The only difference is if no internal defects are found, Plan B requires cutting 10 fruit from only every fourth sample.
- (106) From every fourth sample select the 10 most suspicious fruit without regard to external defects and cut them for internal defects. If no internal defects are found in the 10 fruit, continue to cut the 10 most suspicious fruit from every fourth sample. If one or more defects are found, cut the remaining fruit in the sample and begin using Plan A. Cut either 10 fruit or all the fruit in the sample according to Plan A until 5 consecutive samples are free from internal defects. Then revert to cutting 10 fruits from one out of every four samples.
- (107) The following flow chart (figure 2) explains the step by step procedure of how Plan B works.



PLAN B

FIGURE 2



POLICY AND PROCEDURE FOR CUTTING TO DETERMINING GRANULATION (108)
(TREE DRYNESS) IS THE SAME AS THAT USED IN REPORTING DRYNESS
AND MUSHY CONDITION DUE TO FREEZING. (See Pars. 120 to 133).

Scale: There are several types of scale which may be en- (109)
countered when inspecting oranges. The most common type is the
purple scale which has a brownish-purple covering and is
roughly the shape of an oyster shell. From an inspection
standpoint it is not necessary to identify the type of scale.
All types shall be reported as scale. In scoring scale, refer
to the definitions of injury, damage, serious damage and very
serious damage in the standards. Some of the definitions "pin
point" scale to a definite area for a specified size fruit. For
example, a 200 size orange may have a blotch area of a circle
5/8" in diameter without being considered as damage. The appear-
ance of this size fruit with a blotch 5/8" in diameter is used as
the basis in determining the area permitted on other size fruits.
If the scale affects the appearance of other size fruits more than
a 5/8" blotch on a 200 size orange, it shall be considered damaged.
Scattered scale on other size fruit shall be considered damaged
when the appearance is affected more than a 200 size orange
with a 5/8" blotch of scale.

- (110) As a guide in scoring scale for all sizes, the following charts show the maximum amounts permitted:

(111) U.S. No. 1 GRADE

<u>SIZE</u>	<u>BLOTCH</u>	<u>MAXIMUM DIAMETER IN INCHES</u>
125's	(Specified in grade)	3/4 inch
200's		5/8 inch
288's		1/2 inch

(112) U.S. No. 2 GRADE

<u>SIZE</u>	<u>BLOTCH</u>	<u>MAXIMUM DIAMETER IN INCHES</u>
125's	(Specified in grade)	7/8 inch
200's		3/4 inch
288's		5/8 inch

- (113) Green Spots or Oil Spots: Oil spots or green spots are usually found on fruit harvested early in the fall before they have lost their green color. The injury occurs as irregular shaped yellow, green or brown spots in which the oil glands of the skin stand out because of slight sinking of the tissue between them.

Field observations indicate that oil spotting is a form of bruising injury. It is more likely to occur on green fruit if it is handled while wet. Pressure incident to the picking and handling of green colored fruit is likely to cause green spots. Field freezing may also liberate oil and cause spotting. (114)

In scoring green spots or oil spots, refer to the definitions of injury, damage, serious damage and very serious damage in the standards. Some of the definitions "pin point" green spots or oil spots to a definite area for a specified size fruit. (115)

As a guide in scoring green spots or oil spots for all sizes, the following chart shows the maximum amount permitted. (116)

U. S. No. 1 GRADE (117)

<u>SIZE</u>	<u>MAXIMUM AGGREGATE AREA DIAMETER IN INCHES</u>
125's	1 inch
200's (Specified in grade)	7/8 inch
288's	3/4 inch

Scarring: Fruits are subject to scarring which may be caused by thrip or other insects, and injuries such as scratches and limb rubs while the fruit is still growing on the tree. Scars may be smooth and affect the shape and texture only slightly, or they may be rough and deep and materially affect both the shape and texture. (118)

GUIDE FOR SCORING SCARRING
(Areas based on 200 size orange)

Factor	Allowed in U. S. No. 1				Allowed in U. S. No. 2				
	Depth	deep	slight depth	slight depth	no depth	deep	slight depth	slight depth	slight depth
Texture	rough or hard	slightly rough	smooth or fairly smooth	smooth* or fairly smooth	rough	slightly rough	smooth or fairly smooth	smooth or fairly smooth	smooth or* fairly smooth
Aggregate	1/4 inch	7/8 inch	1-1/4 inches	Max. amt. discoloration (1/3 of surface)	1/2 inch	1-1/4 inches	10% of fruit surface	10% of fruit surface	Max. amt. discoloration (1/2 of surface)

* With no depth shall be scored against the discoloration tolerance.

Added, January 1994, HU-122-6(c)
Page 33, Para. 119a & 119b, Oranges and Grapefruit,
Shipping Point Inspection Instructions for Citrus
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In the standards scars are judged on the basis of depth, smoothness and appearance. The appearance is based on the extent and amount of discoloration allowed in the grade. Models are provided illustrating the limits for scars permitted in the various grades. (119)

**** Sooty Mold. This defect is caused by a fungus that adheres to excretions of the White Fly or other insects. It may occur as light deposits scattered over the surface of the fruit or as heavily concentrated areas at the stem end. Normal washing procedures usually do not remove all fungus deposits. It can be easily scraped with a finger or knife. (119a)

Score as injury when more than slightly affecting the appearance of the fruit; as damage when aggregating more than a circle 5/8 inch in diameter; as serious damage when aggregating more than a circle 3/4 inch in diameter; and, as very serious damage when aggregating more than 25 percent of the surface. (119b)

**** Freezing Injury or Dryness Associated with Freezing Injury: For a complete description of freezing injury refer to Miscellaneous Publication No. 498. (120)

Scoring of Dryness or Mushy Condition: The U.S. Standards permit a definite amount of dryness or mushy condition under the definitions of damage, serious damage, and very serious damage. In the definitions of these terms, the depth specified is for all segments at the stem-end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit. (121)

If segment partition walls show buckling, at a cross section cut near the stem-end of the fruit, the lot should be closely examined for further injury such as: (122)

- (1) Water soaked condition of core;
- (2) Mushy condition of segments or portions of segments;
- (3) Partly dry or dry portions of segments; and,
- (4) Open spaces in the pulp.

If any of the preceding conditions or any combination of these conditions is present to the extent that by interpretation it is the equivalent of more than the first 1/4 inch slice at the stem-end, the fruit is damaged. (123)

Revised, July 1998, HU-140-13(a)
Page 34, Par. 124 - 127, Oranges and Grapefruit, Shipping
Point Inspection Instructions for Citrus Grown in Texas
and States Other Than Florida, California and Arizona, October 1978

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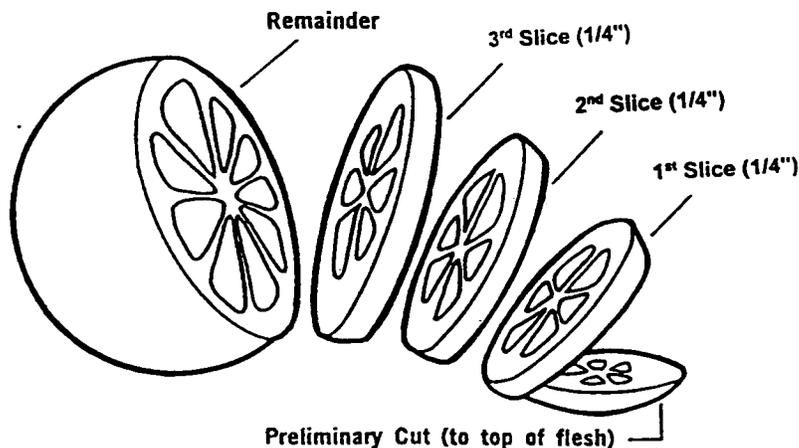
(124) The scoring guide for dryness or mushy condition for Texas citrus is as follows:

(125)

Type of Fruit	Damage	Serious Damage	Very Serious Damage
Oranges Grapefruit	1/4 inch	1/2 inch	3/4 inch

Deleted Paragraphs 126 and 127

CUTTING TO DETERMINE DRYNESS OR MUSHY CONDITION



Preliminary Cut: The "preliminary cut" is intended to remove only the rind portion of the fruit under the stem button end down to the fleshy portion. It will be varying depths depending on the thickness of the rind at this end of the fruit. (128)

1st Slice: 1/4 inch in width. This 1/4 inch slice may be totally dry or in any stage from mushy to dry in all segments. This represents the maximum volume permitted in the U.S. Fancy and U.S. No. 1 grades. If the total volume of that slice is affected, **any dryness or mushy condition in the remaining portion of the fruit will be considered damage.** (129)

2nd Slice: 1/4 inch in width. This 1/4 inch slice, plus the first 1/4 inch slice, for a total of a 1/2 inch slice, may be totally dry or in any stage from mushy to dry in all segments. This represents the maximum volume permitted in the U.S. No. 2 grade. If the total volume of the 1/2 inch slice is affected, **any dryness or mushy condition in the remaining portion of the fruit will be considered serious damage.** (130)

3rd Slice: 1/4 inch in width. This 1/4 inch slice, plus the first 1/4 inch slice and the second 1/4 inch slice, for a total of a 3/4 inch slice, may be totally dry or in any stage from mushy to dry in all segments. This represents the maximum volume permitted in the U.S. No. 3 grade. If the total volume of the 3/4 inch slice is affected, **any dryness or mushy condition in the remaining portion of the fruit will be considered very serious damage.** (131)

- (132) **Reminder:** If any portion of the segments in the slice are **not** mushy or affected by some degree of dryness or mushy condition, additional mushiness or dryness may be allowed in other portions of the fruit, but the total amount must not exceed the equivalent volume permitted. In this case, it will be necessary to cut several 1/4 inch slices to determine the total amount of dryness or mushiness that may be in the fruit. *****
- (133) Follow the same sampling policy and procedure for dryness or mushy condition due to freezing injury as outlined under granulation (tree dryness, pars. 92 to 108).
- (134) **Skin Injury (Skin Breakdown):** Fruits occasionally show drying, darkening, or sinking of the oil cells near the stem-end and at times on other portions of the fruit. These injuries are described in detail in the Miscellaneous Publication No. 498 under the heading Aging, Brown Stain, Coloring Room Injury, Heat Injury, Pitting and Rind Breakdown. While each of these skin injuries is described separately, at times it is impossible for inspectors to identify the specific injury. To avoid the possibility of inaccurate certification, it is necessary to designate some term which can be applied to all these injuries. Therefore, the term "skin

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breakdown" shall be used in reporting these injuries on the certificate, except when the injury has been diagnosed by a pathologist or the inspector is certain as to the specific injury. In that event, the specific injury may be certified. Generally, there will be no objections to using the term "pitting" to describe the abruptly sunken spots in the peel which vary from 1/4 inch in diameter, where they occur singly, to 1-1/2 to 2 inches or more where several pits coalesce. The term "pox" shall not be used.

In scoring skin breakdown, refer to the definitions of damage, serious damage and very serious damage in the standards. The definitions "pin point" skin breakdown to a definite aggregate area for a 200 size orange. The area permitted for the various definitions is used as the basis in determining the amount of area permitted for smaller or larger size fruit. (135)

Bruising. Bruising may occur from poor harvesting practices, excessively filling the storage bins, or simply poor handling of the fruit. However, fruit that is thick skinned may have flattened sides that are not bruised and may regain their shape. (135a)

The U.S. Standards for Grades of Oranges (Texas and States other than Florida, California and Arizona) require the U.S. Fancy, U.S. No. 1, and U.S. No. 2 grades to be free from bruises. The U.S. No. 3 grade requires the fruit not be very seriously damaged by any other cause. (135b)

As a guide, score as **bruising** against the U.S. Fancy, U.S. No. 1, and U.S. No. 2 grades when segment walls are collapsed or rag is ruptured and juice sacs are ruptured or areas are flattened to a point where they are so sunken that they can never be restored into their original shape. (135c)

As a guide, score as **very serious damage** when the fruit has been split open, peel is badly watersoaked following bruising or rag is ruptured and juice sacs are ruptured causing a mushy condition affecting all segments more than 3/4 inch at bruised area or the equivalent of the amount, by volume, when affecting more than one area on the fruit. (Use the same cutting and scoring procedures used for dryness, mushy condition or granulation.) (135d)

NOTE: Description of bruised fruit, location in pack and load shall be recorded on the notesheet. ****

Decay: Decays are progressive in nature and seriously affect the shipping quality. Decay shall be tabulated separately on the notesheet and shall be reported separately on the certificate under the Quality and Condition heading. In all cases a definite decay statement should be made on all certificates. If there is no decay found in the samples examined, state "No decay" on the certificate. (136)

- (137) The Shipping Point Inspection Service is primarily interested in the amount and type present rather than the name of the decay. Therefore, inspectors generally should not attempt to name the decay. They may state whether the decay is firm or soft and watery, if so requested by the applicant. For a description of the various decays affecting citrus, refer to Miscellaneous Publication No. 398 titled "Market Diseases of Citrus and Other Subtropical Fruits."

GRADE

- (138) Under this heading a definite statement showing the grade of the lot or the percentage of U.S. No. 1 quality shall be reported. When the load inspected consists of different lots, part of which are up to grade and part of which fails to meet the grade requirements, it will be necessary to make separate statements for the different grades. In all cases indicate grade on each lot and avoid statements that are indefinite, or that tend to contradict what has been reported under the previous headings of the certificate. Remember that the grade statement is an interpretation of the facts previously given. Whenever any lot is reported as failing to meet the requirements of a certain grade, the reasons for its failure to grade must be given.

When Other Percentages of U.S. No. 1 Quality are Specified in Combination Grade: When lots are sold to containing a higher percentage of U.S. No. 1 Quality than the grade specifies, it will be satisfactory to report the grade thus: "U.S. Combination, with at least 60% U.S. No. 1 Quality."

(139)

Reporting Percentages of U.S. No. 1 Quality: Percentage of U.S. No. 1 quality in a lot refers to the stock which would meet the requirements of the U.S. No. 1 grade without considering any tolerance whatsoever. In reporting percentage of U.S. No. 1 quality, always use multiples of five, except that when reporting 86% or more U.S. No. 1 quality exact percentages shall be used. The percentage of U.S. No. 1 quality is determined by subtracting from 100 the total percentage of all grade defects. This procedure also applies when reporting percentage of U.S. Fancy quality.

(140)

When the percentage of decay and skin breakdown exceeds their tolerances these percentages must be shown after the grade percentage statement. However, decay and skin breakdown need not be mentioned when they are within the grade tolerance. For instance, if the decay is 1/2 of 1% in a lot showing approximately 85% U. S. No. 1 quality, the 1/2 of 1% decay is to be shown under the Quality and Condition Heading but not under the Grade heading. However, if the decay averaged 2% in a lot showing approximately 85% U. S. No. 1 quality, 2% decay is to be reported under the Grade following the percentage of U. S. No. 1 quality.

(141)

FV-184 CERTIFICATE AND NOTESHEETS

- (142) Paragraph 244 in the General Shipping Point Inspection Instructions states the minimum information for each commodity that must be shown on the FV-184. However, your supervisor may require or the applicant may request additional information to be shown on the certificate. Therefore, check with your local supervisor or keyman for the approved procedure to be followed in the particular area you are working. Following are some general examples of FV-184's and their respective notesheets.

A249979

FEDERAL-STATE INSPECTION CERTIFICATE

This certificate is issued in compliance with the regulations of the Secretary of Agriculture governing the inspection of various products pursuant to the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.), and the applicable statutes of the State in which issued, and is admissible as prima facie evidence in all courts of the United States and State courts where provided by law.

WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

APPLICANT NAME AND ADDRESS
*Mission Shippers, Inc.
Mission, Texas*

SHIPPER NAME AND ADDRESS
*Same
Mission, Texas*

INSPECTION POINT
Mission, Texas

INITIAL NO. OR LICENSE NO.
Texas 257-954

CARRIER:
 CAR TRUCK TRAILER

HOUR	INSPECTION BEGUN		MANNIFESTED	TYPE & SIZE OF CONTAINER	INSPECTION COMPLETED		DEFECTS, DECAY, SOFT ROT DECAY	GRADE
	DATE	DATE			DATE	DATE		
<i>1 PM</i>	<i>November 6, 1978</i>	<i>November 6, 1978</i>	<i>950</i>	<i>1/2 STD</i>	<i>80, 100, 125, 163, 200</i>	<i>November 6, 1978</i>	<i>Mechanical refrigeration unit operating.</i>	<i>U.S. No. 1</i>
							<i>Shade defects</i>	
							<i>within limitations</i>	
							<i>Less than 1/8 of 1% decay.</i>	

REMARKS: *Meets M.O. Requirements.*

WEIGHT: _____

FEE: \$ _____

EXPENSES: \$ _____

Anna Kewasale
(INSPECTOR)

ORIGINAL

TEXAS ORANGE — PRELIMINARY NOTE SHEET — 50 COUNT SAMPLE

Applicant <i>Mission Shippers Inc.</i>		Address <i>Mission, Texas</i>										Hr. and Date Began <i>1:00 PM November 16, 1978</i>								
Variety <i>Early ORANGES</i>		Grade <i>U.S. NO. 1</i>				Containers <i>1/2 CTB (3/10 bushel cartons)</i>						Brands <i>Red Moon</i>								
Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Maximum Decay - Fancy - #1 - #2																				
Ind	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0		
Cum	0	0	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3		
AL-1	0	1	1	1	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5	5
Maximum Very Serious Damage Including Decay - Fancy - #1 - #2																				
Ind	1	0	2BR	1L	2BR	3BR	4CT	3BR	2BR	4CT	3BR	2BR	2BR	1L	2	1CT	2BR	6T		
Cum	1	1	3	4	6	9	13	16	18	22	25	27	29	30	32	33	35	36		
AL-6	4	6	9	11	14	16	18	20	22	24	26	28	30	33	35	37	39	41	43	45
Maximum Total Defects - Fancy - #1 - #2																				
AL-8																				
Ind	3	4	6	3	2	5	4	4	3	6	7	5	5	8	3	4	3	4		
Cum	3	7	13	16	18	23	27	31	34	39	46	51	56	64	67	71	74	78		
AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94
Maximum Off-Size																				
Ind	4	3	4	5	3	2	8	7	4	5	6	6	3	2	5	3	2	5		
Cum	4	7	11	16	19	21	29	36	40	45	51	57	60	62	67	70	72	77		
AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94
Discoloration - (No. 1) No. 1 Bri., No. 2-1/ No. 1 Bronze 2/ No. 2 Russet 2/																				
Ind	0	2	0	2	3	2	2	1	4	3	5	3	3	4	2	3	4	4		
Cum	0	2	2	4	7	9	11	12	16	19	24	27	30	34	36	39	43	47		
1/AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94
2/AL-1	3	8	12	18	23	29	34	40	45	51	56	62	68	74	79	85	91	97	102	108
Time	11:00 AM	11:25 AM	11:50 AM	12:07 PM	12:25 PM	12:40 PM	1:00 PM	1:15 PM	1:30 PM	1:45 PM	2:00 PM	2:15 PM	2:30 PM	2:45 PM	3:00 PM	3:15 PM	3:30 PM	3:45 PM	4:00 PM	
Size	80	100	125	125	163	80	264	163	252	125	264	163	252	125	80	100	200			
Stamped																				
CA	Firmness <i>gen F</i>				Shape <i>gen well</i>				Color <i>FW</i>				Texture <i>S/FS</i>				Pack <i>Used plastic & taped in layers.</i>			

REMARKS: *Samples Taken from containers and bins.*

Emma Reesdale
Inspector

A249979

FEDERAL-STATE INSPECTION CERTIFICATE

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WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

APPLICANT NAME AND ADDRESS
*Edinburg Citrus Association
Edinburg, Texas*

SHIPPER NAME AND ADDRESS
*Same
Edinburg, Texas*

INSPECTION POINT
Edinburg, Texas

INITIAL NO. OR LICENSE NO.
128559 Texas

CARRIER: CAR TRUCK TRAILER

INSPECTION BEGUN		INSPECTION COMPLETED			DEFECTS, DECAY, SOFT ROT DECAY	GRADE	
DATE	BRAND OR STAMPING	MANIFESTED	TYPE & SIZE OF CONTAINER	DATE			SIZE, COUNT, RANGE, OTHER
9:00 AM June 1, 1978	NAVEL ORANGES Ringer	800	8-5 lb. film bag	June 1, 1978	103, 200, 250	Each lot: A and B defects within	U.S. No. 2
	NAVEL ORANGES Ringer	225	1/2 std ctn		10, 125, 163, 200, 252	Limitations for U.S. No. 2 grade.	U.S. No. 2
	NAVEL ORANGES Edinburg	125	std ctn		10, 125, 163, 200, 252	Rejection 1/2 of 190 decay.	U.S. No. 2

REMARKS: *Containers and most oranges stamped "color added."
Meets M.O. Requirements.*

WEIGHT: _____

FEE: \$ _____

EXPENSES: \$ _____

Nautil Thompson (INSPECTOR)

ORIGINAL

TEXAS ORANGE — PRELIMINARY NOTE SHEET — 50 COUNT SAMPLE

Applicant <i>Edinburg Citrus Association</i>										Address <i>Edinburg, Texas</i>										Hr. and Date Began <i>9:00 AM June 1, 1978</i>									
Variety <i>Navel ORANGES</i>					Grade <i>1. S. No. 2</i>					Containers <i>1/2 std, 2 std, 8 1/2 film bags</i>					Brands <i>Ringer, Edinburg's Best</i>														
Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
Maximum Decay - Fancy - #1 - (#2)																													
Ind	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0										
Cum	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3										
AL-1	0	1	1	1	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5	5									
Maximum Very Serious Damage Including Decay - Fancy - #1 - (#2)																													
Ind	2	1	4	2	2	0	2	1	2	0	3	2	0	1	0	2	2	2	1										
Cum	2	3	7	11	13	13	15	16	18	18	21	22	22	23	23	25	27	29	30										
AL-6	4	6	9	11	14	16	18	20	22	24	26	28	30	33	35	37	39	41	43	45									
Maximum Total Defects - Fancy - #1 - (#2)																													
Ind	3	5	4	4	5	4	3	5	4	3	4	5	5	5	7	8	5	3	4										
Cum	3	8	12	16	21	25	28	33	37	40	44	49	54	59	66	74	79	83	86										
AL-8	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94									
Maximum Off-Size																													
Ind	2	0	4	3	5	4	6	8	5	8	3	5	2	0	8	2	7	3	2										
Cum	2	2	6	9	14	18	24	32	37	45	48	53	55	55	63	65	72	75	77										
AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94									
Discoloration - No. 1, No. 1 Brt., (#2) 1/ No. 2, Bronze 2/ No. 2 Russet 2/																													
Ind	0	3	2	2	3	0	4	5	2	5	2	3	4	0	6	5	2	3	4										
Cum	0	3	5	7	10	10	14	19	21	26	28	31	35	35	41	46	48	50	54										
1/AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94									
2/AL-1	3	8	12	18	23	29	34	40	45	51	56	62	68	74	79	85	91	97	102	108									
Time	9:00A	9:15A	9:30A	9:45A	10:00A	10:15A	10:30A	10:45A	11:00A	11:15A	11:30A	11:45A	12:00P	12:15P	12:30P	12:45P	1:00P	1:15P	1:30P	1:45P									
Size	163	200	252	252	125	100	163	200	252	252	125	100	163	200	252	125	125	100	163										
Stamped	18	18	19	20	18	19	19	19	19	20	18	19	18	19	19	19	19	19	19	18									
C A	Firmness <i>gen F/puff</i>					Shape <i>well</i>					Color <i>well</i>					Texture <i>(FS) SB</i>					Pack <i>1/2 std, 2 std, 8 1/2 film bags</i>								

REMARKS: *Samples taken from bins and containers. Most oranges stamped "Color added"*

Navel Thompson
Inspector

A249979

FEDERAL-STATE INSPECTION CERTIFICATE

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WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

APPLICANT NAME AND ADDRESS: Mississin Shippers, Inc.
Mississin, Texas

SHIPPER NAME AND ADDRESS: Same
 INSPECTION POINT: Mississin, Texas

CARRIER: CAR TRUCK TRAILER

CONDITION OF CARRIER: Mechanical Reproduction Equipment operating

INITIAL NO. OR LICENSE NO.: 422070
Russian

PRODUCT	INSPECTION BEGUN		INSPECTION COMPLETED		SIZE, COUNT, RANGE, OTHER	DEFECTS, DECAY, SOFT ROT DECAY	GRADE
	DATE	HOUR	DATE	HOUR			
Late ORANGES	May 11, 1978	4:30 PM	May 8, 1978		125, 163, 200, 252	Each lot: Trade defects within	U.S. Combination
Late ORANGES	EL Key		1/2 800 Jm		125, 163, 200, 252	imitation for U.S. Combination grade. Less than 1/2 of 190 decay.	U.S. Combination

REMARKS: Meets M.O. Requirements. Containers printed and most covers stamped "Color aided"

WEIGHT: _____

FEE: \$ _____

EXPENSES: \$ _____

INSPECTOR: Keyby S. S. S. S. (INSPECTOR)

ORIGINAL

A249979

FEDERAL-STATE INSPECTION CERTIFICATE

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WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

APPLICANT NAME AND ADDRESS: Marvin Schwartz
Mercedes, Tex

SHIPPER NAME AND ADDRESS: Same
 INSPECTION POINT: Progress, Mexico
 INITIAL NO. OR LICENSE NO.: 87680 87687
 CARRIER: 87677 Mexico
 CAR TRUCK TRAILER

PRODUCT	INSPECTION BEGUN		INSPECTION COMPLETED		MANIFESTED	SIZE OF CONTAINER	SIZE, COUNT, RANGE, OTHER	DEFECTS, DECAY, SOFT ROT DECAY	GRADE
	DATE	TIME	DATE	TIME					
Rate ORANGES	May 24, 1978	5:00 pm	May 29, 1978		1489	1/2 8th ctn	252 one larger	Each lot: Trade defects within tolerance for	U.S. Combination
Rate ORANGES	Sol-mex				1400	8.5 ea. film bag	200, 176	U.S. Combination grade.	U.S. Combination
Rate ORANGES	Satellite				6150	10.4 lb. film bag	200, 252	No decay.	U.S. Combination

REMARKS: Meets U.S. Import Requirements under Section 8c of The Agricultural Marketing Act of 1937 as amended. This Certificate covers Shipments of Oranges - numbers 3140/41/42/43/44/45.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the above described products were inspected and the quality and/or condition as shown by said samples were as herein stated.

Chuck Morales
(INSPECTOR)

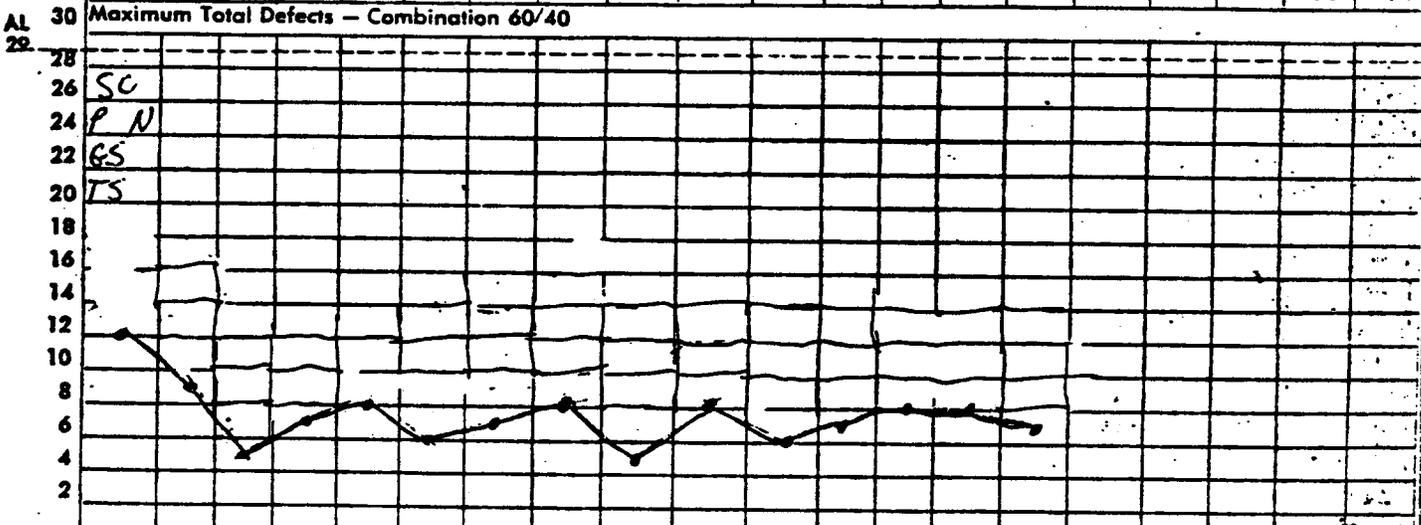
WEIGHT: _____
 FEE: \$ _____
 EXPENSES: \$ _____

ORIGINAL

TEXAS ORANGE — PRELIMINARY NOTE SHEET — 50 COUNT SAMPLE

Applicant: *L. Knisk Co.* Address: *McAllen, Texas* Hr. and Date Began: *8 AM May 24, 1973*
 Variety: *NAJ* Grade: *U.S. Com. B.* Containers: *1/2 gal, 8 5/8, 10-4 lb.* Brands: *Naevito, Bol-mex, Satelites*

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Maximum Decay - Fancy - *1 - *2 - Combination																			
Ind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AL-1	0	1	1	1	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5
Maximum Very Serious Damage Including Decay - Combination																			
Ind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AL-6	4	6	9	11	14	16	18	20	22	24	26	28	30	33	35	37	39	41	43
Maximum Serious Damage Including Very Serious Damage - Combination																			
Ind	2	1	1	0	2	3	0	2	1	2	1	2	2	0					
Cum	2	3	4	4	6	9	9	11	12	14	15	17	19	19					
AL-8	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90



Ind	12	9	5	7	8	6	7	8	5	8	6	7	8	7					
Cum	12	21	26	33	41	47	54	62	67	75	81	88	96	104	111				
	26	48	70	91	112	134	155	176	197	218	239	260	281	301	322	343	364	384	405

Discoloration - AL-10																			
Ind	0	1	2	0	2	1	2	3	2	0	2	0	2	0	2				
Cum	0	1	3	3	5	6	8	11	13	13	15	15	17	17	19				
	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90

Maximum Off-Size																			
Ind	0	1	0	0	2	0	2	1	0	1	0	2	0	2	0				
Cum	0	1	1	1	3	3	5	6	6	7	7	9	10	12	12				
AL-10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90
Time	8:00	8:20	8:40	9:00	9:30	10:00	10:45	11:00	11:30	1:00	1:30	1:45	2:15	3:00	3:30	4:00			
Size	100	176	100	175	175	80	80	80	200	100	200	200	200	250	200	250			

Stamped CA: Firmness *Firm* Shape *Well formed* Color *FW* Texture *S.F.S* Pack *1/2 gal Tight in bag, well filled*

REMARKS: *This note sheet covers Shipping Release numbers 31401 thru 31403. Meets requirements of 82 of AMA of 1967. Chuck more samples.*

Inspector

PART II - GRAPEFRUITPRODUCTS INSPECTED AND DISTINGUISHING MARKS

The following information should be shown under this heading:

(143)

Commodity, type or variety

Type of container

Identifying marks

Quantity inspected

Commodity: (Refer to pars. 9 - 11). As a general policy, the inspector should not attempt to certify the variety of grapefruit. Requests for varietal certification only should be declined with an explanation that the regulations under which the Inspection Service operates do not cover variety certification. However, seed count and color of flesh may be certified in accordance with the paragraphs headed "Number of Seeds and Color of Flesh."

(144)

The Marsh Seedless, Marsh Pink and "Red Blush" or "Ruby Red" and "Star Ruby" are the most important grapefruit varieties. Also, small quantities of Foster Pink and Duncan, which are seedy varieties, are shipped.

(145)

Grapefruit should be certified as SEEDY or PINK SEEDY or SEEDLESS or PINK SEEDLESS. (Foster Pinks are "Pink Seedy" and Thompson Pinks are "Pink Seedless.")

(146)

- (147) Do not certify grapefruit as "Red Seedless" or "Ruby Red" or "Star Ruby" or "Foster Pink" or "Thompson Pink." If containers are so stamped, state this under the "Products, Brand" heading on the certificate.
- (148) Type of Container: (Refer to pars. 18 and 19.)
- (149) Identifying Marks: The certificate should always show identifying brands, labels, growers or shippers names and addresses, size, weight, grades and variety when shown.
- (150) Quantity Inspected: Refer to par 21.

PACK

- (151) Refer to paragraphs 22 to 51.

SIZE

- (152) Refer to pars. 52 to 60.
- (153) Describing Size: The grapefruit standards contain size requirements based on a minimum and maximum diameter for the various pack sizes. The terms "uniform" and "fairly uniform" are defined in the standards and should be used in describing uniformity of sizing when the fruit meets the requirements. The term "irregular" shall be used in reporting uniformity when it fails to meet the requirements of "fairly uniform." When it is necessary to report a size or lot as irregular, the number of fruit and the percentage which fails to meet the requirements of fairly uniform shall be shown to justify the use of the term irregular.

"Uniform in size:" Means that not more than the number of fruit (154) Permitted in the tolerance tables vary more than the following amounts:

64 size and smaller-not more than 6/16 inch in diameter.

54 size and larger-not more than 9/16 inch in diameter.

"Fairly uniform in size" : Refer to par. 58 . (155)

"Irregular in size" : Refer to par 59 . (156)

Bulk Shipments or Consumer Packs: Request for inspection of (157) grapefruit for size when in bulk or packed in consumer bags will require the measurement of a sufficient number of samples to accurately determine the number of fruit below and above a specified minimum and maximum diameter. When a box size is specified as for example, 80 size, determine the number of fruit less than 3-10/16 inches and above 4-2/16 inches in diameter. No statement of box sizes shall be made on the certificate, but the size description shall be given by stating the diameter range in inches and fractions thereof. In addition, report the range as well as the total in both numbers of off-size fruit and percentages.

- (158) Examples:
- (159) "Fairly uniform size."
 "56, 64, and 70 sizes fairly uniform. Size 80 irregular with from 1 to 15 fruit (3 to 45%), totaling 55 fruit (17%) under minimum or over maximum diameters."
- (160) (Bulk) "Generally 3-2/16 to 3-14/16, mostly 3-9/16 to 3-12/16 inches in diameter. Ranges from 1 to 8 fruit per sample (3 to 24%), totaling 27 fruit (8%) under 3-6/16 inches or over 3-14/16 inches in diameter."

TOLERANCE FOR GRAPEFRUIT

- (161) Refer to pars. 61 - 62 . Keep in mind that the individual sample shall consist of 33 grapefruit regardless of the size of the container.

Table I (a) for 1 through 20 samples.

Factor	Grades	A.I. #	Number of 33 count samples #																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Decay.....	U.S. Fancy U.S. No. 1 U.S. Combination U.S. No. 2	1	Acceptance numbers (maximum permitted) #																			
	U.S. No. 3		0	0	1	1	2	2	2	2	2	2	2	3	3	3	3	3	4	4	4	4
Very serious damage including decay.	U.S. Fancy U.S. No. 1 U.S. Combination U.S. No. 2	4	Acceptance numbers (maximum permitted) #																			
	U.S. No. 3		3	5	7	8	10	11	13	14	16	17	18	20	21	23	24	25	27	28	30	31
Total defects including decay and very serious damage.	U.S. Fancy U.S. No. 1 U.S. No. 2 U.S. No. 3	5	Acceptance numbers (maximum permitted) #																			
	U.S. Combination (U.S. No. 2's permitted).		5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
Off-size.....		7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
Discoloration.....	U.S. No. 1 U.S. No. 1 Bright U.S. No. 2 U.S. Combination	7	Acceptance numbers (minimum required) #																			
	U.S. No. 1 Bronze U.S. No. 2 Russet		2	4	8	11	14	18	21	25	28	32	36	39	43	47	50	53	57	61	64	68

Table I (b) for 21 through 40 samples.

Factor	Grades	AL ²	Number of 33-count samples ¹																			
			21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Decay	U.S. Fancy U.S. No. 1 U.S. Combination U.S. No. 2	1	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	6	6	
	U.S. No. 3	1	5	6	6	6	6	6	7	7	7	7	7	8	8	8	8	9	9	9	9	
Very serious damage including decay.	U.S. Fancy U.S. No. 1 U.S. Combination U.S. No. 2	4	32	34	35	36	38	39	40	42	43	44	45	47	48	49	51	52	53	54	56	57
	U.S. No. 3	4	32	34	35	36	38	39	40	42	43	44	45	47	48	49	51	52	53	54	56	57
Total defects including decay and very serious damage.	U.S. Fancy U.S. No. 1 U.S. No. 2 U.S. No. 3	5	67	70	75	76	79	82	84	87	90	93	96	99	102	105	107	110	113	116	119	122
	U.S. Combination (U.S. No. 2's permitted)	21	298	312	326	339	353	367	380	394	408	421	435	449	462	476	489	503	517	530	544	557
Off-size		7	67	70	73	76	79	82	84	87	90	93	96	99	102	105	107	110	113	116	119	122
Discoloration	U.S. No. 1 U.S. No. 1 Bright U.S. No. 2 U.S. Combination	7	67	70	73	76	79	82	84	87	90	93	96	99	102	105	107	110	113	116	119	122
	U.S. No. 1 Bronze U.S. No. 2 Russet	0	72	76	80	84	88	92	96	99	103	107	110	114	118	122	126	130	134	137	141	145

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

² AL.—Absolute limit permitted in individual 33-count sample.

³ Same size 33-count.

⁴ Acceptance number—maximum or minimum number of defective or off-size fruit permitted.

⁵ Preferred number of samples for this acceptance number.

SAMPLING

Refer to pars. 63 to 65.

QUALITY AND CONDITION

(163) The following factors are discussed under this heading:

Maturity
Cleanness
Color
Shape
Texture
Thickness of Skin
Number of Seeds and Color of Flesh
Firmness
Defects
Decay

(164) Maturity: Refer to pars 67 - 68. The minimum acid ratio for grapefruit is 6.5 to 1.

(165) Cleanness: Cleanness will seldom be a factor in the inspection of grapefruit as they are generally washed before packing. Normally, all grapefruit will be reported as clean on the certificate.

(166) Color: In the U.S. No. 1 grade grapefruit must be fairly well colored. "Fairly well colored" means that except for one inch, in the aggregate, of green color the yellow color predominates over the green color on that part of the fruit which is not discolored. The one inch (area of a circle one inch in diameter) specified for green color may be any shade of green from light to dark green. On the remaining area of the fruit, which is not discolored, the yellow color must predominate over the green. For example, a fruit with

the area of a circle one inch in diameter of green color shall not have any other area in which the green color predominates.

(Refer to pars. 71 to 73 .)

Shape: The normal shape for the variety must be considered in determining the correct terms in describing shape. For example, the Marsh Seedless grapefruit is usually flat in shape while the Duncan variety tends to be oblong. A grapefruit of a given shape may be well formed for one variety and only slightly misshapen for another variety. (167)

The following terms shall be used in describing shapes in the standards: (1) Well formed; (2) slightly misshapen; and (3) misshapen. Refer to plaster models illustrating the lower limits for the definitions covering shape. (168)

Texture: Texture refers to the smoothness or roughness of skin which varies considerably with the size of the fruit and variety. Larger sizes are normally rougher than smaller sizes for the same variety. When determining texture, the size of fruit and variety must be considered in determining the proper descriptive term. In describing texture, the following terms shall be used: (1) Smooth; (2) fairly smooth; (3) slightly rough; (4) rough; and (5) seriously lumpy. Inspectors should study and refer to the models on texture. (169)

Thickness of Skin: Refer to par. 81. (170)

- (171) Number of Seeds and Color of Flesh: If variety is in question and the applicant requests it, the inspector may certify the range and average number of seed per fruit and/or the color of flesh, but shall not attempt to certify variety in such cases. To determine the number of seeds or color of flesh, cut a composite sample of 5 or 10 fruit from each sample and report the findings under the quality and condition heading. The number of seeds and color of flesh are not grade factors, and are never justifications for reversals.
- (172) There are a few varieties of grapefruit in which the number of seeds and color of flesh indicate the variety, but such indications are frequently not reliable. Some Marsh seedless grapefruit may have as many as 15 seeds per fruit. Also some pink or red flesh varieties may show a high percentage of fruit with little pink or red color during the fall season, and while most of the fruit will show colored flesh during the winter season, the pink or red color in some instances will fade in the late spring to an extent that the flesh will have only a cloudy or milky appearance and show no definite pink color.
- (173) Examples:
- (174) Range from 3 to 47, average 15 seeds per fruit. Flesh mostly faded red, some red color.
- (175) Remarks: "Number of seeds and color of flesh reported at applicants request."

Firmness: Refer to pars. 82 to 84. (176)

Defects: Refer to par. 85 (177)

Discoloration: Refer to pars. 88-91. When containers are stamped "Bright," "Bronze" or "Russet," the shipper has specified the degree and amount of discoloration permitted. (178)

Excessive discoloration shall be reported separately from other grade defects except in the U.S. Fancy grade. (179)

Granulation (tree dryness): Refer to pars. 92 to 108. (180)

Scale: There are several types of scale which you may encounter when inspecting grapefruit. The most common type is the purple scale which has a brownish-purple covering and is roughly the shape of an oyster shell. All types shall be reported as scale. In scoring scale, refer to the definitions of injury, damage, serious damage and very serious damage in the standards. Some of the definitions "pin point" scale to a diameter for a specified size fruit. (181)

As a guide in scoring scale for all sizes, the following chart shows the maximum amounts permitted: (182)

(183)

U. S. No. 1 Grade

<u>SIZE</u>	<u>BLOTCH</u> <u>Max. amount</u>	<u>RING</u> <u>Max. amount</u>
56's	7/8" dia.	1-5/8" dia.
70's	3/4" dia. (Specified in grade)	1-1/2" dia.
96's	5/8" dia.	1-3/8" dia.

(184) Green Spots or Oil Spots: Refer to pars. 113 to 117. As a guide in scoring green spots or oil spots for all sizes, the following chart shows the maximum amounts permitted.

(185)

U.S. No. 1 Grade

<u>Size</u>	<u>Maximum Aggregate Area</u> <u>Diameter in Inches</u>
56's	1-1/8" dia.
70's (Specified in grade)	1 inch dia.
96's	7/8" dia.

(186)

Scarring. Refer to pars. 118 to 119 .

GUIDE FOR SCORING SCARRING

(Area based on 70 size grapefruit)

Factor	Allowed in U. S. No. 1				Allowed in U. S. No. 2			
	very deep	deep	slight depth	no depth	very deep	deep	slight depth	no depth
Depth	very rough	rough	slightly rough	smooth* or fairly smooth	very rough	rough	slightly rough	smooth* or fairly smooth
Aggregate Area (dia.)	1/2 inch	1 inch	10% of surface	Max. amount discoloration (1/2 of surface)	1 inch	5% of surface	15% of surface	Max. amount discoloration (2/3 of surface)

* With no depth shall be scored against the discoloration tolerance.

Added, January 1994, HU-122-6(d)
Page 60, Para. 186a & 186b, Oranges and Grapefruit
Shipping Point Inspection Instructions for Citrus
Grown in Texas and States Other Than Florida,
California and Arizona, October 1978

60

(186a) Sooty Mold. This defect is caused by a fungus that adheres to excretions of the White Fly or other insects. It may occur as light deposits scattered over the surface of the fruit or as heavily concentrated areas at the stem end. Normal washing procedures usually do not remove all fungus deposits. It can be easily scraped with a finger or knife.

(186b) Score as injury when more than slightly affecting the appearance of the fruit; as damage when aggregating more than a circle 3/4 inch in diameter; as serious damage when aggregating more than a circle 1-3/8 inches in diameter; as very serious damage when aggregating more than 25 percent of the surface.

(187) Freezing Injury (dryness or mushy condition associated with freezing injury:) Refer to pars. 120 to 133.

(188) Skin Injuries (Skin Breakdown): Refer to pars. 134 to 135.

(189) Sprouted Seeds: During the latter part of the season inspectors shall cut a few specimens through the center to determine whether the seeds are sprouted. Normally the seeds do not show sprouts before the early part of March. Sprouted seeds shall be treated like other grade factors. The following limits are specified for the various grades:

(190) U.S. No. 1: More than 6 seeds are sprouted, including not more than 1 sprout extending to the rind, and the remainder averaging not over 1/4 inch in length.

(191) U.S. No. 2: More than 6 seeds are sprouted, including not more than 2 sprouts extending to the rind, and the remainder averaging not over 1/2 inch in length.

(192) U.S. No. 3: More than 6 seeds are sprouted, including not more than 3 sprouts extending to the rind, and the remainder averaging not over 3/4 inch in length.

(193) Any fruit with sprouts exceeding those permitted in the U.S. No. 3 grade should be scored as very serious damage.

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In determining the percentages of sprouted seeds, follow the sampling plans for internal defects outlined in paragraphs 99 thru 107. (194)

Blossom End Clearing. This is a physiological disorder which appears as a watersoaked, translucent, blotchy area or areas occurring mostly around the blossom end, but may also appear elsewhere. It tends to be more prominent on thinner skinned seedless varieties. It is progressive and tends to occur late in the season, particularly following heavy rains that increase the water content of the fruit. It is frequently followed by decay. (194a)

As a guide, score as damage (36 size grapefruit) if the area affected exceeds 3/4 inch in diameter and as serious damage if the area affected exceeds 1 inch in diameter or if underlying flesh is discolored, or mushy.

Bruising. Bruising may occur from poor harvesting practices, excessively filling the storage bins, or simply poor handling of the fruit. However, fruit that is thick skinned may have flattened sides that are not bruised and may regain their shape. (194b)

The U.S. Standards for Grades of Grapefruit (Texas and States other than Florida, California and Arizona) require the U.S. Fancy, U.S. No. 1, and U.S. No. 2 grades to be free from bruises. The U.S. No. 3 grade requires the fruit not be very seriously damaged by any other cause. (194c)

As a guide, score as bruising against the U.S. Fancy, U.S. No. 1, and U.S. No. 2 grades when segment walls are collapsed or rag is ruptured and juice sacs are ruptured or areas are flattened to a point where they are so sunken that they can never be restored into their original shape. (194d)

As a guide, score as very serious damage when the fruit has been split open, peel is badly watersoaked following bruising or rag is ruptured and juice sacs are ruptured causing a mushy condition affecting all segments more than 3/4 inch at bruised area or the equivalent of the amount, by volume, when affecting more than one area on the fruit. (Use the same cutting and scoring procedures as used for dryness, mushy condition or granulation.) (194e)

NOTE: Description of bruised fruit, location in pack and load shall be recorded on the notesheet. ****

Decay: Refer to pars. 136 to 137. (195)

GRADE

Refer to pars. 138 to 141. (196)

FV-184 CERTIFICATES AND NOTESHEETS

Refer to par. 142. Following are some general examples of FV-184's and their respective notesheets. (197)

TEXAS GRAPEFRUIT — PRELIMINARY NOTE SHEET — 33 COUNT SAMPLE

Applicator: *McAllen Fruit & Vegetable Co. Inc. McAllen, Texas* Address: *McAllen, Texas* Hr. and Date Begun: *9:30 AM April 21, 1978*

Variety: *McAllen* Grade: *H.S. No. 2* Condition: *1/2 Srd. Red* Brand: *Texas Brand*

Sample 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

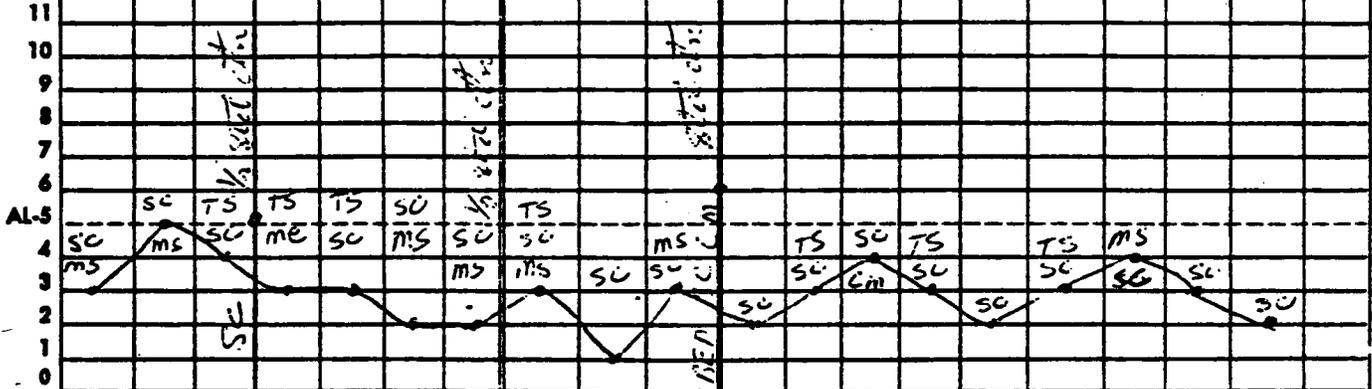
Maximum Decay - Fancy - #1 - #2

Ind	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Cum	0	0	0	0	0	0	0	0	0	0	1	2	2	2	2	2	2	2	2
AL-1	0	0	0	1	1	2	2	2	2	2	2	2	3	3	3	3	3	4	4

Maximum Very Serious Damage Including Decay - Fancy - #1 - #2

Ind	2	1	2	3	2	0	1	2	0	1	1	2	2	3	0	1	2	1	1
Cum	0	3	5	8	10	10	11	13	13	14	15	17	19	22	22	23	25	26	27
AL-4	3	5	7	8	10	11	13	14	16	17	18	20	21	23	24	25	27	28	30

Maximum Total Defects - Fancy - #1 - #2



Ind	3	5	4	3	3	2	2	3	1	0	2	3	4	3	2	3	4	3	2
Cum	3	8	12	15	19	21	23	26	27	30	32	35	39	42	44	47	51	54	56
	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61

Maximum Off-Size

Ind	2	3	4	3	2	6	3	2	3	2	1	3	4	3	4	2	3	2	3
Cum	2	5	9	12	14	20	23	25	28	30	31	34	38	41	45	47	50	52	55
AL-7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61

Discoloration - No. 1 No. 1 Brt., (No. 2/1/ No. 1 Bronze 2/ No. 2 Russet 2/

Ind	3	2	4	3	2	0	1	2	3	0	2	3	6	4	7	2	3	4	3
Cum	3	5	9	12	14	14	15	17	20	20	22	25	31	35	42	44	47	51	54
1/AL-7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61
2/AL-0	2	4	8	11	14	18	21	23	28	32	36	39	43	47	50	53	57	61	64

Time	9:30	9:50	10:10	10:30	10:50	11:10	11:30	11:50	12:10	12:30	12:50	1:10	1:30	1:50	2:10	2:30	2:50	3:10	3:30
Size	96	80	70	70	96	80	64	64	70	96	80	54	70	64	80	96	70	54	54
Stamped	26	27	26	26	25	27	25	27	26	26	26	25	26	25	27	25	27	25	25

Firmness: *gen F* Shape: *(PW-W) S.M* Color: *W/P-W* Texture: *(FS) SB* Peck: *fairly tight in layers, West field!*

REMARKS:

Sample taken from firm and closed containers.

Ruby Duncan
Inspector

A249979

FEDERAL-STATE INSPECTION CERTIFICATE

This certificate is issued in compliance with the regulations of the Secretary of Agriculture governing the inspection of various products pursuant to the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.), and the applicable statutes of the State in which issued, and is admissible as prima facie evidence in all courts of the United States and State courts where provided by law.

WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

APPLICANT NAME AND ADDRESS
Mc Allen Fruit & Vegetable Co., Inc.
Mc Allen, Texas

SHIPER NAME AND ADDRESS
Same

INSPECTION POINT
Mc Allen, Texas

INITIAL NO. OR LICENSE NO.
APP 19850 Nebraska

CARRIER:
 CAR TRUCK TRAILER

PRODUCT	INSPECTION BEGUN		INSPECTION COMPLETED		MANIFESTED	TYPE & SIZE OF CONTAINER	SIZE, COUNT, RANGE, OTHER	DEFECTS, DECAY, SOFT ROT DECAY	GRADE
	DATE	DATE	DATE	DATE					
<i>Pink Seedless GRAPE FRUIT</i>	<i>10:00 AM</i>	<i>May 8, 1978</i>	<i>8:30 PM</i>	<i>May 8, 1978</i>	<i>150</i>	<i>1/2 Std ctn</i>	<i>70, 80, 96, 112</i>	<i>Each lot: Handle</i>	<i>U.S. No. 1</i>
<i>Pink Seedless GRAPE FRUIT</i>					<i>1400</i>	<i>8-5 lb fiber bags</i>	<i>96, 112</i>	<i>Defects within limitations NO</i>	<i>U.S. No. 1</i>
<i>Pink Seedless GRAPE FRUIT</i>					<i>400</i>	<i>Std ctn</i>	<i>54, 70, 80, 96</i>	<i>Decay</i>	<i>U.S. No. 1</i>

REMARKS: *Meets M.O. Requirements*

WEIGHT: \$

FEE: \$

EXPENSES: \$

Fred W. A. [Signature]
(INSPECTOR)

ORIGINAL

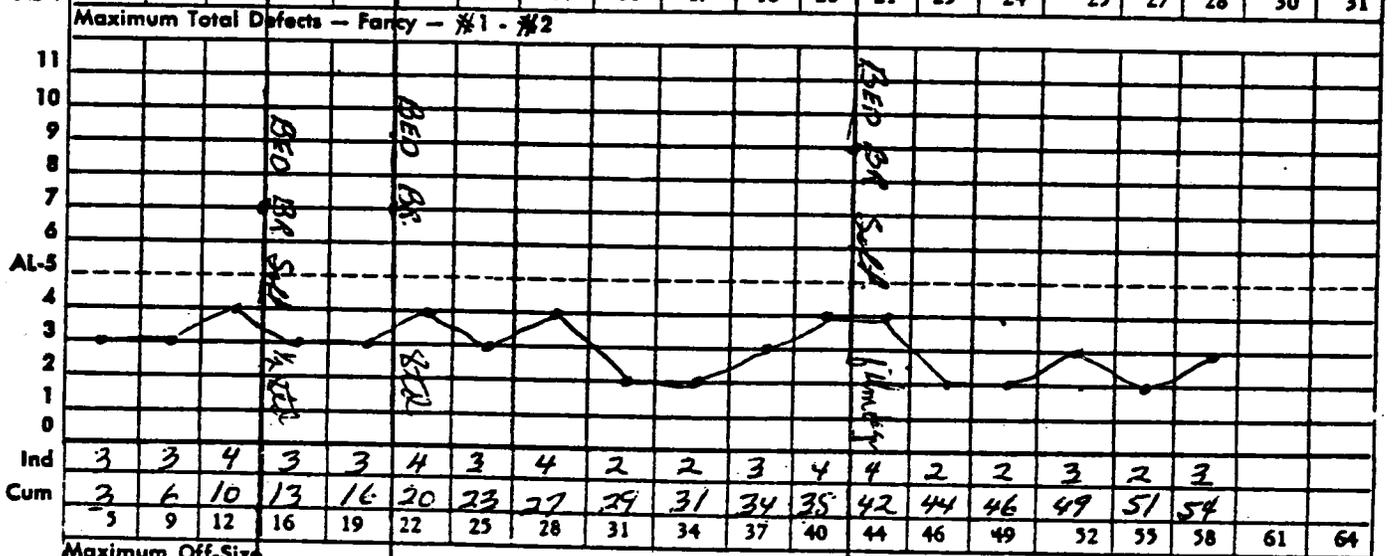
TEXAS GRAPEFRUIT — PRELIMINARY NOTE SHEET — 33 COUNT SAMPLE

Applicant: *McAllen Fruit & Vegetable Co., McAllen, Texas* Hr. and Date Began: *10⁰⁰ AM May 8-1978*

Variety: *Xoedrees* Grade: *915.761* Consignment: *2nd Stl. Stl. 8/5 lbs* Brand: *McAllen*

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Maximum Decay - Fancy - #1 - #2																				
Ind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AL-1	0	0	0	1	1	2	2	2	2	2	2	2	3	3	3	3	3	4	4	4

Maximum Very Serious Damage Including Decay - Fancy - #1 - #2																				
Ind	2 ⁶¹	2 ^{Br}	2 ⁶¹	1 ^{Br}	2 ^{Br}	2 ⁶¹	0	2 ^{Br}	1 ⁶¹	1 ⁶¹	2 ⁶¹	2 ⁶¹	2 ⁶¹	0	0	0	1 ⁶¹	2 ⁶¹		
Cum	2	4	6	7	9	11	11	13	14	15	17	19	21	21	21	21	22	24		
AL-4	3	5	7	8	10	11	13	14	16	17	18	20	21	23	24	25	27	28	30	31



Maximum Off-Size																				
Ind	3	2	3	0	3	4	0	0	0	0	0	3	5	0	0	3	0	3		
Cum	3	5	8	8	11	15	15	15	15	15	18	23	23	23	26	26	29			
AL-7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64

Discoloration - (No. 1, No. 1 Brt., No. 2 1/ No. 1 Bronze 2/ No. 2 Russet 2/																				
Ind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1/AL-7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
2/AL-0	2	4	8	11	14	18	21	25	28	32	36	39	43	47	50	53	57	61	64	68

Time	10 ¹⁰	10 ²⁵	11 ¹⁵	3 ⁰⁰	3 ²⁵	4 ¹⁰	4 ³⁵	4 ⁴⁰	4 ⁵⁵	5 ¹⁰	5 ²⁵	5 ⁴⁵	6 ⁰⁰	6 ⁴⁵	7 ⁰⁰	7 ²⁵	8 ⁰⁰	8 ³⁰		
Size	96	112	96	80	96	112	80	70	54	80	70	96	112	70	80	96	70	112		
Stamped	24	23	24	23	25	23	22	26	25	24	23	25	25	24	25	25	26	27		
Firmness	F																			
Shape/Color	FW																			
Color	W/FW																			
Texture	S/FS																			
Pack	1/2 size 5 lbs																			
Notes	Tight in layers, several full.																			

REMARKS: *Samples taken from closed containers.*

Rick Orange
Inspector



Appendix I U.S. Grade Standards

United States Standards for Grades of Oranges (Texas and States other than Florida, California and Arizona) ¹

Effective September 5, 2003

General

51.680 General.

Grades

51.681 U.S. Fancy.

51.682 U.S. No. 1.

51.683 U.S. No. 1 Bright.

51.684 U.S. No. 1 Bronze.

51.685 U.S. Combination.

51.686 U.S. No. 2.

51.687 U.S. No. 2 Russet.

51.688 U.S. No. 3.

Tolerances

51.689 Tolerances.

Sample for Grade or Size Determination

51.690 Sample for grade or size determination.

Standard Pack

51.691 Standard pack for oranges except Temple variety.

Standard Sizing

51.692 Standard Sizing.

Definitions

51.693 Mature.

51.694 Similar varietal characteristics.

51.695 Well colored.

51.696 Firm.

51.697 Well formed.

51.698 Smooth texture.

51.699 Injury.

51.700 Discoloration.

51.701 Fairly smooth texture.

51.702 Damage.

51.703 Fairly well colored.

51.704 Reasonably well colored.

51.705 Fairly firm.

51.706 Slightly misshapen.

51.707 Slightly rough texture.

51.708 Serious damage.

51.709 Misshapen.

51.710 Slightly spongy.

51.711 Very serious damage.

51.712 Diameter.

51.713 Classification of defects.

Metric Conversion Table

51.714 Metric conversion table.

¹Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State Laws and regulations.

General**§51.680 General.**

The standards in this subpart apply only to the common or sweet orange group and varieties belonging to the Mandarin group except tangerines for which separate U.S. Standards are issued.

Grades**§51.681 U.S. Fancy.**

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

(a) Basic requirements:**(1) Discoloration:**

(i) Not more than one-tenth of the surface, in the aggregate, may be affected by discoloration.

(See §51.700.)

(2) Firm;**(3) Mature;****(4) Similar varietal characteristics;****(5) Well colored;****(6) Well formed; and,****(7) Smooth texture.****(b) Free from:****(1) Ammoniation;****(2) Bruises;****(3) Buckskin;****(4) Caked melanose;****(5) Creasing;****(6) Cuts not healed;****(7) Decay;****(8) Growth cracks;****(9) Scab;****(10) Skin breakdown;****(11) Sprayburn;****(12) Undeveloped segments; and,****(13) Wormy fruit.****(c) Not injured by:****(1) Green spots;****(2) Oil spots;****(3) Split navels;****(4) Rough, wide or protruding navels;****(5) Scale;****(6) Scars; and,****(7) Thorn scratches.****(d) Not damaged by any other cause.****(e) For tolerances see §51.689.****§51.682 U.S. No. 1.**

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

(a) Basic requirements:**(1) Discoloration:**

(i) Not more than one-third of the surface, in the aggregate, may be affected by discoloration.

(See §51.700.)

(2) Firm;**(3) Mature;****(4) Similar varietal characteristics;****(5) Well formed;****(6) Fairly smooth texture; and,****(7) Color:**

(i) Early and midseason varieties shall be fairly well colored.

(ii) For Valencia and other late varieties, not less than 50 percent, by count, shall be fairly well colored and the remainder reasonably well colored.

(b) Free from:

- (1) Bruises;
- (2) Cuts not healed;
- (3) Caked melanose;
- (4) Decay;
- (5) Growth cracks;
- (6) Sprayburn;
- (7) Undeveloped segments; and,
- (8) Wormy fruit.

(c) Not damaged by any other cause.

(d) For tolerances see §51.689.

§51.683 U.S. No. 1 Bright.

The requirements for this grade are the same as for U.S. No. 1 except that no fruit may have more than one-tenth of its surface, in the aggregate, affected by discoloration.

(a) For tolerances see §51.689.

§51.684 U.S. No. 1 Bronze.

The requirements for this grade are the same as for U.S. No. 1 except that all fruit must show some discoloration. Not less than the number of fruits required in §51.689, Tables I and II, shall have more than one-third of their surface, in the aggregate, affected by discoloration. The predominating discoloration on these fruits shall be of rust mite type.

§51.685 U.S. Combination.

"U.S. Combination" consists of a combination of U.S. No. 1 and U.S. No. 2 oranges: **Provided**, That the number of U.S. No. 2 fruits specified in §51.689, Tables I and II, are not exceeded.

§51.686 U.S. No. 2.

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

(a) Basic requirements:

- (1) Discoloration:
 - (i) Not more than one-half of the surface, in the aggregate, may be affected by discoloration.

(See §51.700.)

- (2) Fairly firm;
- (3) Mature;
- (4) Similar varietal characteristics;
- (5) Reasonably well colored;
- (6) Not more than slightly misshapen, and,
- (7) Not more than slightly rough.

(b) Free from:

- (1) Bruises;
- (2) Cuts not healed;
- (3) Decay;
- (4) Growth cracks; and,
- (5) Wormy fruit.

(c) Not seriously damaged by any other cause.

(d) For tolerances see §51.689.

§51.687 U.S. No. 2 Russet.

The requirements for this grade are the same as for U.S. No. 2 except that not less than the number of fruits required in §51.689, Tables I and II, shall have more than one-half of their surface, in the aggregate, affected by discoloration.

§51.688 U.S. No. 3.

"U.S. No. 3" consists of oranges which meet the following requirements:

(a) Basic requirements:

- (1) Mature;

- (2) Similar varietal characteristics;
- (3) May be misshapen;
- (4) May be slightly spongy;
- (5) May have rough texture;
- (6) Not seriously lumpy or cracked; and,
- (7) May be poorly colored.
- (i) Not more than 25 percent of the surface may be of a solid dark green color.
- (b) Free from:
 - (1) Cuts not healed;
 - (2) Decay; and,
 - (3) Wormy fruit.
- (c) Not very seriously damaged by any other cause.
- (d) For tolerances see §51.689.

Tolerances

§51.689 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, based on sample inspection, the number of defective or off-size specimens in the lot, shall be within the limitations specified in Tables I and II. No tolerance shall apply to wormy fruit.

Table I -- Shipping Point¹
 (A) For 1 Through 20 Samples
 [See footnotes at end of Table I]

Factor	Grades	AL ²	Number of 50 - count samples ³																				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Decay.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. Combination.	1	0	1	1	2	2	2	3	3	3	3	4	4	4	5 ⁴	4	5	5	5	5	5	
		2	0	1	2	2	3	3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	
		6	4	6	9	11	14	16	18	20	22	24	26	28	30	33	35	37	39	41	43	45	
Very serious damage including decay.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. Combination.	8	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
		29	26	48	70	91	112	134	155	176	197	218	239	260	281	301	322	343	364	384	405	425	
		10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
Total defects including decay and very serious damage.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. No. 3.	10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
		10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
Off-size.	U.S. No. 1. U.S. No. 1 Bright U.S. No. 2. U.S. Combination.	10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
		10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94	
Discoloration.	U.S. No. 1 Bronze. U.S. No. 2 Russet	1	3	8	12	18	23	29	34	40	45	51	56	62	68	74	79	85	91	97	102	108	
		1	3	8	12	18	23	29	34	40	45	51	56	62	68	74	79	85	91	97	102	108	

Acceptance number (maximum permitted)⁴

Acceptance number (minimum required)⁴

Shipping Point¹
(B) For 21 Through 40 Samples
 (See footnotes at end of Table I)

Factor	Grades	Number of 50 - count samples ³																						
		AL ²	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Decay.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. Combination	1	⁵ 5	6	6	6	6	⁵ 6	6	7	7	7	7	⁵ 7	7	8	8	8	⁵ 8	8	8	9	9	
		2	8	8	⁵ 8	8	9	9	⁵ 9	9	10	10	10	⁵ 10	11	11	⁵ 11	11	12	⁵ 12	12	12	13	13
		6	47	49	51	53	54	56	58	60	62	64	66	68	70	72	74	76	78	80	81	81	83	83
		8	98	103	107	111	116	120	124	129	133	137	141	146	150	154	159	163	167	171	176	176	180	180
Very serious damage including decay.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. Combination.	29	446	467	487	508	529	549	570	590	611	631	652	672	693	713	734	754	775	795	816	836	836	
		10	98	103	107	111	116	120	124	129	133	137	141	146	150	154	159	163	167	171	176	180	180	
Total defects including decay and very serious damage.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. No. 3.	10	98	103	107	111	116	120	124	129	133	137	141	146	150	154	159	163	167	171	176	180	180	
		10	98	103	107	111	116	120	124	129	133	137	141	146	150	154	159	163	167	171	176	180	180	
Off-size.	U.S. No. 1. U.S. No. 1 Bright U.S. No. 2. U.S. Combination	1	114	119	125	131	137	143	149	155	161	166	172	178	184	190	196	202	208	214	220	226	226	
		1	114	119	125	131	137	143	149	155	161	166	172	178	184	190	196	202	208	214	220	226	226	

Acceptance number (minimum required)⁴

¹Shipping point, as used in these standards, means the point of origin of the shipment in the production area or at port of loading for ship stores or overseas shipments, or in the case of shipments from outside the continental United States, the port of entry into the United States.
²AL -- Absolute limit permitted in individual 50 - count sample.
³Sample size -- 50 count.
⁴Acceptance number -- maximum or minimum of defective or off-size fruit permitted.
⁵Preferred number of samples for this acceptance number.

Table II -- En Route or At Destination

Factor	Grades	AL ¹	Number of 50 - count samples ²																					
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Acceptance numbers (maximum permitted)																								
Decay.	All.	4	3	4	4	6	7	9	10	10	11	13	14	15	16	18	19	20	21	23	24	25	26	27
Very serious damage other than decay.	U.S. Fancy.	6	4	6	9	11	14	16	18	20	22	24	26	28	30	33	35	37	39	41	43	45		
	U.S. No. 1.																							
	U.S. No. 2.																							
	U.S. Combination.																							
Total defects including very serious damage other than decay.	U.S. Fancy.	8	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94		
	U.S. No. 1.																							
	U.S. No. 2.																							
	U.S. No. 3.																							
Off-size.	U.S. Combination (U.S. No. 2's permitted).	29	26	48	70	91	112	134	155	176	197	218	239	260	281	301	322	343	364	384	405	425		
		10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94		
Discoloration.	U.S. No. 1.	10	7	12	17	22	27	32	36	41	45	50	54	59	63	68	72	76	81	85	90	94		
	U.S. No. 1 Bright.																							
	U.S. No. 2.																							
	U.S. Combination.																							
Acceptance number (minimum required) ³																								
	U.S. No. 1 Bronze. U.S. No. 2 Russet.	1	3	8	12	18	23	29	34	40	45	51	56	62	68	74	79	85	91	97	102	108		

¹AL -- Absolute limit permitted in individual 50 - count sample.

²Sample size - 50 - count.

³Acceptance number - maximum or minimum number of defective or off-size fruit permitted.

Sample for Grade or Size Determination**§51.690 Sample for grade or size determination.**

Each sample shall consist of 50 oranges. When individual packages contain at least 50 oranges, the sample is drawn from one package; when individual packages contain less than 50 oranges; a sufficient number of adjoining packages are opened to form a 50-count sample. When practicable, at point of packaging, the sample may be obtained from the grading belt or bins after sorting has been completed.

Standard Pack**§51.691 Standard pack for oranges except Temple variety.**

(a) Fruit shall be fairly uniform in size. When packed in approved containers, fruit shall be arranged according to approved and recognized methods.

(b) "Fairly uniform in size" means that not more than the number of fruit permitted in §51.689, Tables I and II, are outside the ranges of diameters given in Table III:

Table III – 7/10 Bushel Carton

Pack Size/ Number of Oranges	Diameter in inches	
	Minimum	Maximum
24	3-12/16	5-1/16
32	3-6/16	4-9/16
36	3-4/16	4-6/16
40	3-2/16	4-4/16
48	2-15/16	4
56	2-13/16	3-13/16
64	2-11/16	3-10/16
72	2-9/16	3-8/16
88	2-8/16	3-4/16
113	2-7/16	3
138	2-6/16	2-12/16

(c) In order to allow for variations, other than sizing, incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements of standard pack.

Standard Sizing**§51.692 Standard sizing.**

(a) Boxes, cartons, bag packs, or bulk loads in which oranges are not packed according to a definite pattern do not meet the requirements of standard pack, but may be certified as meeting the requirements of standard sizing: **Provided**, That the ranges are fairly uniform in size as defined in §51.691.

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

Definitions

§51.693 Mature.

"Mature" shall have the same meaning currently assigned that term in the laws and regulations of the State in which the orange is grown; or as the definition of such term may hereafter be amended.

§51.694 Similar varietal characteristics.

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

§51.695 Well colored.

"Well colored" means that the fruit is yellow or orange in color with practically no trace of green color.

§51.696 Firm.

"Firm" as applied to common oranges, means that the fruit is not soft, or noticeably wilted or flabby; as applied to oranges of the Mandarin group (Satsuma, King, Mandarin), means that the fruit is not extremely puffy, although the skin may be slightly loose.

§51.697 Well formed.

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

§51.698 Smooth texture.

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

§51.699 Injury.

"Injury" means any specific defect described in §51.713, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality of the fruit.

§51.700 Discoloration.

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

§51.701 Fairly smooth texture.

"Fairly smooth texture" means that the skin is not materially rough or coarse and that the skin is not thick for the variety.

§51.702 Damage.

"Damage" means any specific defect described in §51.713, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the fruit.

§51.703 Fairly well colored.

"Fairly well colored" means that except for a one-inch circle in the aggregate of green color, the yellow or orange color predominates over the green color on that part of the fruit which is not discolored.

§51.704 Reasonably well colored.

"Reasonably well colored" means that the yellow or orange color predominates over the green color on at least two-thirds of the fruit surface in the aggregate which is not discolored.

§51.705 Fairly firm.

"Fairly firm" as applied to common oranges, means that the fruit may be slightly soft, but not bruised; as applied to oranges of the Mandarin group (Satsuma, King, Mandarin) means that the fruit is not extremely puffy or the skin extremely loose.

§51.706 Slightly misshapen.

"Slightly misshapen" means that the fruit is not of the shape characteristic of the variety but is not appreciably elongated or pointed or otherwise deformed.

§51.707 Slightly rough texture.

"Slightly rough texture" means that the skin is not smooth or fairly smooth but is not excessively rough or excessively thick, or materially ridged, grooved or wrinkled.

§51.708 Serious damage.

"Serious damage" means any specific defect described in §51.713, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.709 Misshapen.

"Misshapen" means that the fruit is decidedly elongated, pointed or flat sided.

§51.710 Slightly spongy

"Slightly spongy" means that the fruit is puffy or slightly wilted but not flabby.

§51.711 Very serious damage.

"Very serious damage" means any specific defect described in §51.713, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which very seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.712 Diameter.

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

§51.713 Classification of defects.

Table IV

Factor	Injury	Damage	Serious damage	Very serious damage
Ammoniation	-----	Not occurring as light speck type.	Scars are cracked or dark and aggregating more than a circle 3/4 inch in diameter or light colored and aggregating more than a circle 1-1/4 inches in diameter on a 200 size orange.	Aggregating more than 25 percent of the surface.
Buckskin	-----	Aggregating more than a circle 1 inch in diameter on a 200-size orange.	Aggregating more than 25 percent of the surface.	Aggregating more than 50 percent of the surface.
Caked melanose	-----	-----	Aggregating more than a circle 3/4 inch in diameter on a 200 size orange.	Aggregating more than 25 percent of the surface.
Creasing	-----	Materially weakens the skin, or extends over more than one-third of the surface.	Seriously weakens the skin, or extends over more than one-half of the surface.	Very seriously weakens the skin, or is distributed over practically the entire surface.
Dryness or mushy condition	-----	Affecting all segments more than 1/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 1/2 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 3/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.

Green spots or oil spots	More than slightly affecting appearance.	Aggregating more than a circle 7/8 inch in diameter on a 200-size orange.	Aggregating more than a circle 1-1/4 inches in diameter on a 200-size orange.	-----
Hail	Not well healed, or aggregating more than a circle 1/4 inch in diameter on a 200-size orange.	Not well healed, or aggregating more than a circle 3/8 inch in diameter on a 200-size orange.	Not well healed, or aggregating more than a circle 1/2 inch in diameter on a 200-size orange.	Not well healed, or aggregating more than a circle 3/4 inch in diameter on a 200-size orange.
Scab	-----	Materially detracts from the shape or texture, or aggregating more than a circle 5/8 inch in diameter on a 200-size orange.	Seriously detracts from the shape or texture, or aggregating more than a circle 3/4 inch in diameter on a 200 size orange.	Aggregating more than 25 percent of the surface.
Scale	More than a few adjacent to the "button" at the stem end, or more than 6 scattered on other portions of the fruit	Aggregating more than a circle 5/8 inch in diameter on a 200-size orange.	Aggregating more than a circle 3/4 inch in diameter on a 200 size orange.	Aggregating more than 25 percent of the surface.
Scars	Depressed, not smooth, or detracts from appearance more than the amount of discoloration permitted in the grade.	Deep, rough or hard aggregating more than a circle 1/4 inch in diameter; slightly rough with slight depth aggregating more than a circle 7/8 inch in diameter; smooth or fairly smooth with slight depth aggregation more than a circle 1-1/4 inches in diameter. All areas based on a 200-size orange.	Deep, rough aggregating more than a circle 1/2 inch in diameter; slightly rough with slight depth aggregating more than a circle 1-1/4 inches in diameter. All areas based on a 200-size orange.	Deep, rough or unsightly that appearance is very seriously affected.
Skin breakdown	-----	Aggregating more than a circle 1/4 inch in diameter on a 200 size orange.	Aggregating more than a circle 5/8 inch in diameter on a 200-size orange.	Aggregating more than 25 percent of the surface.

Sunburn	_____	Skin is flattened, dry, darkened or hard, aggregating more than 25 percent of the surface.	Affecting more than 1/3 of the surface, hard, decidedly one-sided, or light brown and aggregating more than a circle 1-1/4 inches in diameter on a 200 size orange.	Aggregating more than 50 percent of the surface.
Sprayburn	_____	_____	Hard or aggregating more than a circle 1-1/4 inches in diameter on a 200-size orange.	Aggregating more than 25 percent of the surface.
Split, rough or protruding navels	Split is unhealed; navel protrudes beyond general contour; opening is so wide, growth so folded and ridged that it detracts noticeably from appearance.	Split is unhealed, or more than 1/4 inch in length, or more than 3 well healed splits, or navel protrudes beyond the general contour, and opening is so wide, folded or ridged that it detracts materially from appearance.	Split is unhealed, or more than 1/2 inch in length, or aggregate length of all splits exceed 1 inch, or navel protrudes beyond general contour, and opening is so wide, folded and ridged that it seriously detracts from appearance.	Split is unhealed or fruit is seriously weakened.
Thorn scratches	Not slight, not well healed, or more unsightly than discoloration permitted in the grade.	Not well healed, or hard concentrated thorn injury aggregating more than a circle 5/8 inch in diameter on a 200 size orange.	Not well healed, or hard concentrated thorn injury aggregating more than a circle 3/4 inch in diameter on a 200-size orange.	Aggregating more than 25 percent of the surface.

Metric Conversion Table
§51.714 Metric conversion table.

Inches	Millimeters (mm)
1/4 equals	6.4
5/16 equals	7.9
3/8 equals	9.5
1/2 equals	12.7
5/8 equals	15.9
3/4 equals	19.1
7/8 equals	22.2
1 equals	25.4
1-1/4 equals	31.8
2-3/16 ... equals	55.6
2-4/16 ... equals	57.2
2-7/16 ... equals	61.9
2-8/16 ... equals	63.5
2-9/16 ... equals	65.1
2-11/16 .. equals	68.3
2-12/16 .. equals	69.9
2-15/16 .. equals	74.6
3-1/16 ... equals	77.8
3-3/16 ... equals	81.0
3-5/16 ... equals	84.1
3-7/16 ... equals	87.3
3-9/16 ... equals	90.5
3-13/16 .. equals	96.8

Appendix II U.S. Grade Standards

United States Standards for Grades of Grapefruit (Texas and States other than Florida, California and Arizona)¹

Effective September 5, 2003

Grades

- 51.620 U.S. Fancy.
- 51.621 U.S. No. 1.
- 51.622 U.S. No. 1 Bright.
- 51.623 U.S. No. 1 Bronze.
- 51.624 U.S. Combination.
- 51.625 U.S. No. 2.
- 51.626 U.S. No. 2 Russet.
- 51.627 U.S. No. 3.

Tolerances

- 51.628 Tolerances.

Sample for Grade or Size Determination

- 51.629 Sample for grade or size determination.

Standard Pack

- 51.630 Standard pack.

Definitions

- 51.631 Mature.
- 51.632 Similar varietal characteristics.
- 51.633 Well colored.
- 51.634 Firm.
- 51.635 Well formed.
- 51.636 Smooth texture.
- 51.637 Injury.
- 51.638 Discoloration.
- 51.639 Fairly well colored.
- 51.640 Fairly well formed.
- 51.641 Fairly smooth texture.
- 51.642 Damage.
- 51.643 Fairly firm.
- 51.644 Slightly misshapen.
- 51.645 Slightly rough texture.
- 51.646 Serious damage.
- 51.647 Slightly colored.
- 51.648 Misshapen.
- 51.649 Slightly spongy.
- 51.650 Very serious damage.
- 51.651 Diameter.
- 51.652 Classification of defects.

Metric Conversion Table

- 51.653 Metric conversion table.

Grades

§51.620 U.S. Fancy.

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

(a) Basic requirements:

(1) Discoloration:

¹Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

(1) Discoloration:

(i) Not more than one-tenth of the surface, in the aggregate, may be affected by discoloration.

(See §51.638.)

(2) Firm;**(3) Mature;****(4) Similar varietal characteristics;****(5) Smooth texture;****(6) Well formed; and,****(7) Well colored.****(b) Free from:****(1) Ammoniation;****(2) Bruises;****(3) Buckskin;****(4) Cuts not healed;****(5) Skin breakdown;****(6) Decay;****(7) Growth cracks;****(8) Scab;****(9) Sprayburn; and,****(10) Wormy fruit.****(c) Not injured by:****(1) Green spots;****(2) Oil spots;****(3) Scale;****(4) Scars; and,****(5) Thorn scratches.****(d) Not damaged by any other cause.****(e) For tolerances see §51.628.****§51.621 U.S. No. 1.**

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

(a) Basic requirement:**(1) Discoloration:**

(i) Not more than one-half of the surface, in the aggregate, may be affected by discoloration.

(See §51.638.)

(2) Firm;**(3) Mature;****(4) Similar varietal characteristics;****(5) Fairly well colored;****(6) Fairly smooth texture; and,****(7) Fairly well formed.****(b) Free from:****(1) Bruises;****(2) Cuts not healed;****(3) Caked melanose;****(4) Growth cracks;****(5) Sprayburn;****(6) Decay; and,****(7) Wormy fruit.****(c) Not damaged by any other cause.****(d) For tolerances see §51.628.****§51.622 U.S. No. 1 Bright.**

The requirements for this grade are the same as for U.S. No. 1 except that no fruit may have more than one-tenth of its surface, in the aggregate, affected by discoloration.

(a) For tolerances see §51.628.**§51.623 U.S. No. 1 Bronze.**

The requirements for this grade are the same as for U.S. No. 1 except that all fruit must show some discoloration. Not less than the number of fruits required in §51.628, Tables I and II, shall have more than one-half of their surface, in the aggregate, affected by discoloration. The predominating discoloration on these fruits shall be of rust mite type.

(a) For tolerances see §51.628.

§51.624 U.S. Combination.

"U.S. Combination" consists of a combination of U.S. No. 1 and U.S. No. 2 grapefruit: Provided, That the number of U.S. No. 2 fruits specified in §51.628, Tables I and II, are not exceeded.

§51.625 U.S. No. 2.

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

(a) Basic requirements:

(1) Discoloration:

(i) Not more than two-thirds of the surface, in the aggregate, may be affected by discoloration.

(See §51.638.)

(2) Fairly firm;

(3) Mature;

(4) Similar varietal characteristics;

(5) May be slightly colored;

(6) Not more than slightly misshapen; and,

(7) Not more than slightly rough texture.

(b) Free from:

(1) Bruises;

(2) Cuts not healed;

(3) Growth cracks;

(4) Decay; and,

(5) Wormy fruit.

(c) Not seriously damaged by any other cause.

(d) For tolerances see §51.628.

§51.626 U.S. No. 2 Russet.

The requirements for this grade are the same as for U.S. No. 2 except that not less than the number of fruits required in §51.628, Tables I and II, shall have more than two-thirds of their surface, in the aggregate, affected by discoloration.

(a) For tolerances see §51.628.

§51.627 U.S. No. 3.

"U.S. No. 3" consists of grapefruit which meet the following requirements:

(a) Basic requirements:

(1) Mature;

(2) Similar varietal characteristics;

(3) May be misshapen;

(4) May be slightly spongy;

(5) May have rough texture;

(6) Not seriously lumpy or cracked; and,

(7) May be poorly colored.

(i) Not more than 25 percent of the surface may be of a solid dark green color.

(b) Free from:

(1) Cuts not healed;

(2) Decay; and,

(3) Wormy fruit.

(c) Not very seriously damaged by any other cause.

(d) For tolerances see §51.628.

Tolerances

§51.628 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, based on sample inspection, the number of defective or off-size specimens in the individual sample, and the number of defective or off-size specimens in the lot, shall be within the limitations specified in Tables I and II. No tolerance shall apply to wormy fruit.

TABLE I--SHIPPING POINT¹
(A) FOR 1 THROUGH 20 SAMPLES

Factor	Grades	AL ²	Number of 33 - count samples ³																				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Decay.	U.S. Fancy. U.S. No. 1. U.S. Combination. U.S. No. 2.	1	0	0	0	1	⁵ 1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	
			1	0	1	⁵ 1	2	⁵ 2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	4
			4	3	5	7	8	10	11	13	14	16	17	18	20	21	23	24	25	27	28	30	32
			5	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
Total defects including decay and very serious damage.	U.S. Fancy. U.S. No. 1. U.S. No. 2. U.S. No. 3.	21	18	33	47	62	76	90	104	119	133	147	161	174	188	202	216	230	244	257	271	285	
			7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
Off-size.	U.S. Combination (U.S. No. 2's permitted).	7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64	
			7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
Discoloration.	U.S. No. 1. U.S. No. 1 Bright. U.S. No. 2. U.S. Combination.	7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64	
			7	5	9	12	16	19	22	25	28	31	34	37	40	44	46	49	52	55	58	61	64
See footnotes at end of table.	U.S. No. 1 Bronze. U.S. No. 2 Russet.	0	2	4	8	11	14	18	21	25	28	32	36	39	43	47	50	53	57	61	64	68	
			0	2	4	8	11	14	18	21	25	28	32	36	39	43	47	50	53	57	61	64	68

Acceptance numbers (maximum permitted)⁴

Acceptance numbers (minimum required)⁴

See footnotes at end of table.

Sample for Grade or Size Determination**§51.629 Sample for grade or size determination.**

Each sample shall consist of 33 grapefruit. When individual packages contain at least 33 grapefruit, the sample is drawn from one package; when individual packages contain less than 33 grapefruit, a sufficient number of adjoining packages are opened to form a 33-count sample. When practicable, at point of packaging, the sample may be obtained from the grading belt or bins after sorting has been completed.

Standard Pack**§51.630 Standard pack.**

(a) Fruits shall be fairly uniform in size, unless specified as uniform in size. When packed in approved containers, fruit shall be arranged according to the approved and recognized methods.

(b) "Fairly uniform in size" means that not more than the number of fruits permitted in §51.628, Tables I and II, are outside the ranges of diameters given in Table III.

Table III – 7/10 Bushel Carton

Pack size/ Number of Grapefruit	Diameter in inches	
	Minimum	Maximum
18	4-5/16	5-9/16
23	4-5/16	5
27	4-2/16	4-12/16
32	3-15/16	4-8/16
36	3-13/16	4-5/16
40	3-10/16	4-2/16
48	3-9/16	3-14/16
56	3-5/16	3-10/16

(c) "Uniform in size" means that not more than the number of fruits permitted in §51.628, Tables I and II, vary more than the following amounts:

(1) 32 size and smaller -- not more than six-sixteenths inch in diameter; and,

(2) 27 size and larger -- not more than nine-sixteenths inch in diameter.

(d) In order to allow for variations, other than sizing, incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements of standard pack.

Definitions**§51.631 Mature.**

"Mature" shall have the same meaning currently assigned that term in the laws and regulations of the State in which the grapefruit is grown; or as the definition of such term may hereafter be amended.

§51.632 Similar varietal characteristics.

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

§51.633 Well colored.

"Well colored" means that the fruit is yellow in color with practically no trace of green color.

§51.634 Firm.

"Firm" means that the fruit is not soft, or noticeably wilted or flabby, and the skin is not spongy or puffy.

§51.635 Well formed.

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

§51.636 Smooth texture.

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

§51.637 Injury.

"Injury" means any specific defect described in §51.652, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality of the fruit.

§51.638 Discoloration.

"Discoloration" means russetting of light shade of golden brown caused by rust mite or other means. Lighter shades of discoloration caused by smooth or fairly smooth, superficial scars or other means may be allowed on a greater area, or darker shades may be allowed on a lesser area, provided no discoloration caused by speck type melanose or other means may detract from the appearance of the fruit to a greater extent than the shade and amount of discoloration allowed in the grade.

§51.639 Fairly well colored.

"Fairly well colored" means that except for a 1-inch circle in the aggregate of green color, the yellow color predominates over the green color on that part of the fruit which is not discolored.

§51.640 Fairly well formed.

"Fairly well formed" means that the fruit may not have the shape characteristic of the variety but is not elongated or pointed or otherwise deformed.

§51.641 Fairly smooth texture.

"Fairly smooth texture" means that the skin is not materially rough or coarse and that the skin is not thick for the variety.

§51.642 Damage.

"Damage" means any specific defect described in §51.652, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the fruit.

§51.643 Fairly firm.

"Fairly firm" means that the fruit may be slightly soft, but not bruised, and the skin is not spongy or puffy.

§51.644 Slightly misshapen.

"Slightly misshapen" means that the fruit is not of the shape characteristic of the variety but is not appreciably elongated or pointed or otherwise deformed.

§51.645 Slightly rough texture.

"Slightly rough texture" means that the skin is not smooth or fairly smooth but is not excessively rough or excessively thick, or materially ridged, grooved or wrinkled.

§51.646 Serious damage.

"Serious damage" means any specific defect described in §51.652, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.647 Slightly colored.

"Slightly colored" means that, except for a 2-inch circle in the aggregate of green color, the portion of the fruit surface which is not discolored shows some yellow color.

§51.648 Misshapen.

"Misshapen" means that the fruit is decidedly elongated, pointed or flat sided.

§51.649 Slightly spongy.

"Slightly spongy" means that the fruit is puffy or slightly wilted but not flabby.

§51.650 Very serious damage.

"Very serious damage" means any specific defect described in §51.652, Table IV; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which very seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.651 Diameter.

"Diameter" means the greatest dimension measured at right angles to a line from stem to blossom end.

§51.652 Classification of defects.

TABLE IV

Factor		Injury		Damage		Serious Damage		Very Serious Damage	
Ammoniation-----	-----	-----	-----	Not occurring as light speck type.	Scars are cracked or dark and aggregating more than a circle 3/4 inch in diameter on a 70 size grapefruit.	Aggregating more than 25 percent of the surface.			
Buckskin-----	-----	-----	-----	Aggregating more than a circle 1-1/4 inches in diameter on a 70 size grapefruit.	Aggregating more than 25 percent of the surface.	Aggregating more than 50 percent of the surface.			
Caked melanose-----	-----	-----	-----	-----	Aggregating more than a circle 1 inch in diameter on a 70 size grapefruit.	Aggregating more than 25 percent of the surface.			
Dryness or mushy condition	-----	-----	-----	Affecting all segments more than 1/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 1/2 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.	Affecting all segments more than 3/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.			
Green spots or oil spots.	-----	More than slightly affecting appearance.	-----	Aggregating more than a circle 1 inch in diameter on a 70 size grapefruit.	Aggregating more than 1 -1/2 inches in diameter on a 70 size grapefruit.				
Hail-----	-----	Not well healed, or aggregating more than a circle 3/8 inch in diameter on a 70 size grapefruit.	-----	Not well healed, or aggregating more than a circle 1/2 inch in diameter on a 70 size grapefruit.	Not well healed, or aggregating more than a circle 5/8 inch in diameter on a 70 size grapefruit.	Not well healed, or aggregating more than a circle 1 inch in diameter on a 70 size grapefruit.			

<p>Scab-----</p>	<p>-----</p>	<p>Materially detracts from the shape or texture, or aggregating more than a circle 3/4 inch in diameter on a 70 size grapefruit.</p>	<p>Seriously detracts from the shape or texture, or aggregating more than a circle 1 inch in diameter on a 70 size grapefruit.</p>	<p>Aggregating more than 25 percent of the surface.</p>
<p>Scale-----</p>	<p>More than a few adjacent to the "button" at the stem end or more than 6 scattered on other portions of the fruit.</p>	<p>Blotch aggregating more than a circle 3/4 inch in diameter, or occurring as a ring more than a circle 1-1/4 inches in diameter on a 70 size grapefruit.</p>	<p>Blotch aggregating more than a circle 1 inch in diameter, or occurring as a ring more than a circle 1-1/2 inches in diameter on a 70 size grapefruit.</p>	<p>Aggregating more than 25 percent of the surface.</p>
<p>Skin breakdown-----</p>	<p>-----</p>	<p>Aggregating more than a circle 3/8 inch in diameter on a 70 size grapefruit.</p>	<p>Aggregating more than a circle 5/8 inch in diameter on a 70 size grapefruit.</p>	<p>Aggregating more than a circle 1-1/4 inches in diameter on a 70 size grapefruit.</p>
<p>Scars-----</p>	<p>Depressed, not smooth, or detracts from appearance more than the amount of discoloration permitted in the grade.</p>	<p>Very deep or very rough aggregating more than a circle 1/2 inch in diameter; deep or rough aggregating more than 1 inch in diameter; slightly rough or of slight depth aggregating more than 10 percent of fruit surface. All areas based on a 70 size grapefruit.</p>	<p>Very deep or very rough aggregating more than a circle 1 inch in diameter; deep or rough aggregating more than 5 percent of the fruit surface; slight depth or slightly rough aggregating more than 15 percent of fruit surface. All areas based on a 70 size grapefruit.</p>	<p>Very deep or very rough or unsightly that appearance is very seriously affected.</p>
<p>Sprayburn-----</p>	<p>-----</p>	<p>-----</p>	<p>Hard or aggregating more than a circle 1-1/4 inches in diameter on a 70 size grapefruit.</p>	<p>Aggregating more than 25 percent of the surface.</p>

Sunburn-----	-----	Skin is flattened, dry, darkened, or hard, aggregating more than 25 percent fruit surface.	Skin is hard, fruit is decidedly one-sided, aggregating more than one-third of fruit surface.	Aggregating more than 50 percent of fruit surface.
Sprouting-----	-----	More than 6 seeds are sprouted, including not more than 1 sprout extending to the rind, remainder average not over 1/4 inch in length.	More than 6 seeds are sprouted, including not more than 2 sprouts extending to the rind, remainder average not over 1/2 inch in length.	More than 6 seeds are sprouted, including not more than 3 sprouts extending to the rind, remainder average not over 3/4 inch in length.
Thorn scratches-----	Not well healed, or more unsightly than discoloration permitted in the grade.	Not well healed, hard concentrated thorn injury aggregating more than a circle 3/4 inch in diameter, or slight scratches aggregating more than a circle 1 inch in diameter. All areas based on a 70 size grapefruit.	Not well healed, hard concentrated thorn injury aggregating more than a circle 7/8 inch in diameter, or slight scratches aggregating more than a circle 1-1/4 inches in diameter. All areas based on a 70 size grapefruit.	Aggregating more than 25 percent of the surface.

Metric Conversion Table
§51.653 Metric conversion table.

Inches	Millimeters (mm)
1/4	equals 6.4
3/8	equals 9.5
1/2	equals 12.7
9/16	equals 14.3
5/8	equals 15.9
3/4	equals 19.1
7/8	equals 22.2
1	equals 25.4
1-1/4	equals 31.8
1-1/2	equals 38.1
3	equals 76.2
3-2/16	equals 79.4
3-6/16	equals 85.7
3-8/16	equals 88.9
3-10/16	equals 92.1
3-13/16	equals 96.8
3-14/16	equals 98.4
3-15/16	equals 100.0
4-2/16	equals 104.8
4-5/16	equals 109.5
4-8/16	equals 114.3
4-12/16	equals 120.7
5	equals 127.0