



United States
Department of
Agriculture

Agricultural
Marketing
Service

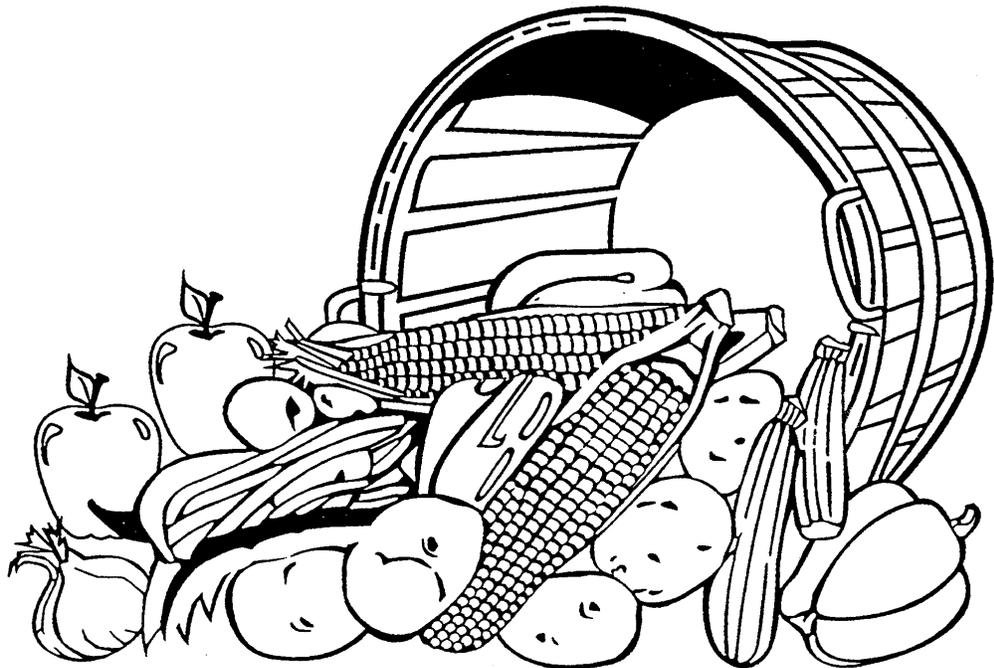
Fruit and
Vegetable
Programs

Fresh Products
Branch

October 1987

Kiwifruit

Shipping Point Inspection Instructions



Revised, January 1992, HU-113-8(a)
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Point Inspection Instructions, October 1987

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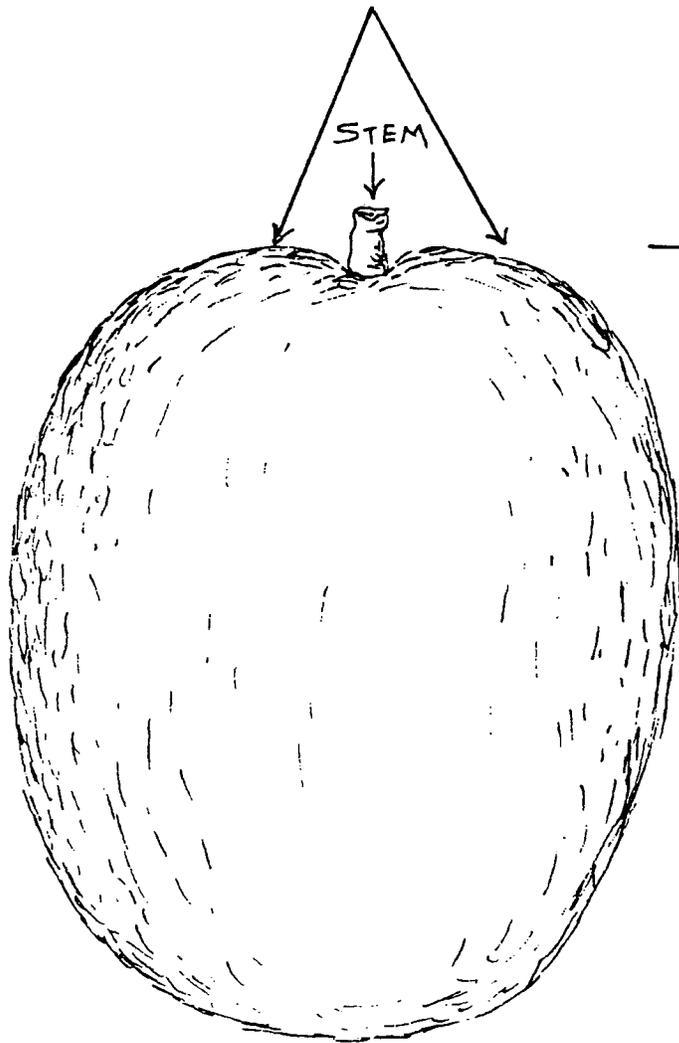
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STEM END

SHOULDERS

STEM



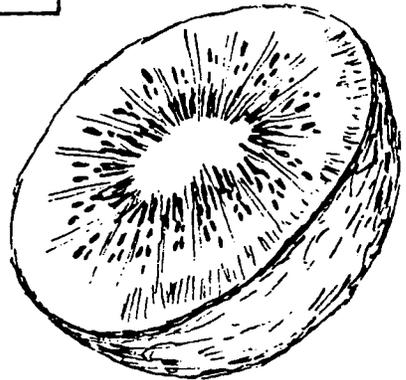
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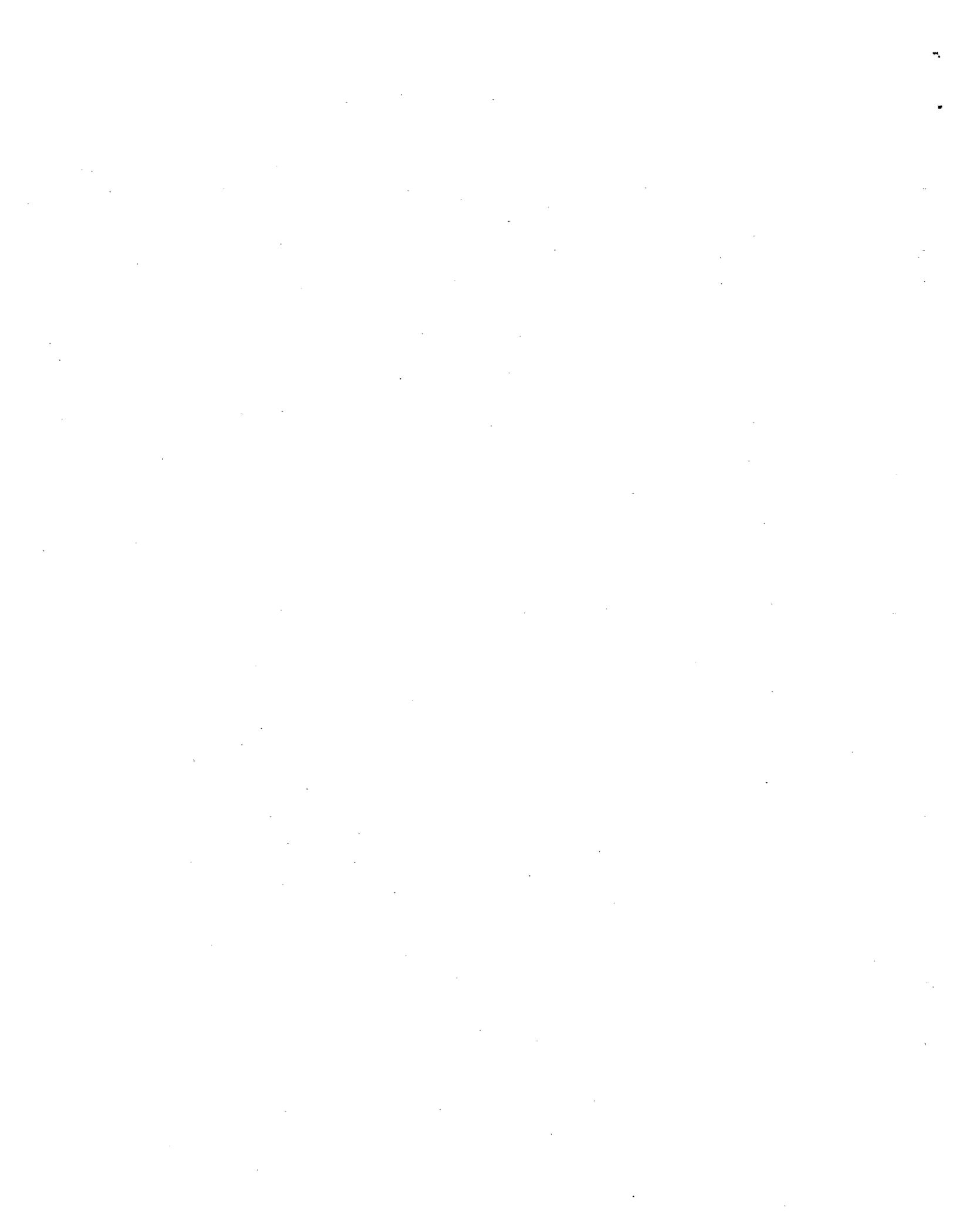
CALYX OR BLOSSOM

WIDTH

BLOSSOM END

KIWI FRUIT





UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL MARKETING SERVICE

FRUIT AND VEGETABLE DIVISION

FRESH PRODUCTS BRANCH

SHIPPING POINT INSPECTION INSTRUCTIONS

FOR

KIWIFRUIT

GENERAL

These instructions have been developed by the Fresh Products Branch to (1)
assist officially licensed inspectors in the interpretation and
application of the U.S. Standards for Grades of Kiwifruit, 7 CFR -
Sections 51.2335-41. They do not establish any new or revised
substantive rules and supersede instructions issued October 1982.

Webster's Dictionary defines "Kiwi" as a flightless New Zealand bird
(genus Apteryx) with rudimentary wings, stout legs, a long bill, and
grayish brown hairlike plumage.

Kiwifruit is grown on a plant known as yang-tao or Chinese gooseberry
(Actinidia Chinensis) and is a climbing vine native to China and
Taiwan. New Zealanders, the first to realize the value of this fruit
and until recently the only ones involved in commercial production,
adopted this fruit and called it kiwifruit.

Each inspector is expected to read and study these instructions, as well as the General Shipping Point Inspection Instructions. Detailed information concerning date, time of inspection, kind and condition of car or trailer, condition of load and containers, etc., which are not covered in these instructions may be found in the General Shipping Point Inspection Instructions.

Each inspector should be thoroughly familiar with the U.S. Standards for Grades of Kiwifruit. A copy of the standards is included at the end of these instructions.

SAMPLING

- (2) Representative sampling is just as important as correct grade interpretation. 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.

Sometimes inspectors are assigned more than one packing house and the applicant may continue to load a car or truck during one's absence. When this occurs, the inspector should always select representative samples from that portion of the car or truck that was loaded during their absence. This enables the inspector to make sure that the kiwifruit in the containers are of the same quality and condition as those previously inspected.

Where inspectors are located in packing houses, the actual inspection may start a day or more before the truck, trailer, or car is ready for loading. Naturally, if the certificate is to show a time and date preceding the placing of the car, truck, or trailer; the notesheet should contain complete information to justify this fact. For example: "Inspected during the packing process on October 25 and held overnight on the packing house floor."

The inspector should examine additional samples of the portion previously inspected in order to bring the inspection up to date, which will eliminate the necessity of showing the time that inspection began before the placing of the car or truck. In fact, all inspectors should make every effort possible to keep the inspection up to date. However, if it is not possible to examine additional samples at time of loading, the certificate must show the time of starting and completion of inspection, even if it extends over several days. The field notes should contain an explanation of why up-dating was not possible.

The grade standards specify how individual samples shall be obtained. They provide a method for sampling fruit packed in tray-pack containers and a separate method for sampling jumble packed containers, including film bags.

When the fruit is in place-pack containers, inspectors shall use the entire contents of the container as their sample. When the number of fruit per sample is variable, inspectors will need to determine the percent of defects in each sample and divide the total percent of defects by the number of samples. This will result in the average percent of defects for the lot (See Shipping Point Inspection Instructions, paragraph 195).

The sample shall consist of at least 50 specimens when the fruit is jumble packed in volume fill containers, including film bags. It may be necessary to obtain additional fruit from adjoining containers so the sample will be at least 50 fruit.

Inspectors should keep in mind that the application of tolerances for individual containers of 3 pounds or less allows only one fruit that may be frozen or decayed. Inspectors must account for the number of frozen or decayed fruit in each package when sampling small packages containing less than 50 fruit. Any package weighing 3 pounds or less that is sampled and found to contain more than one frozen and/or decayed fruit would exceed the application of tolerances for individual containers. The lot would fail to meet grade requirements because of excessive frozen and/or decayed fruit in an individual container or containers.

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Page 5, Paragraph 2, Kiwifruit, Shipping
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It is difficult to establish the number of samples to be inspected because of varying conditions. Representative sampling from all portions of the lot is the important point to keep in mind. However, it is the inspector's responsibility to examine enough samples to ensure an accurate picture of the entire lot. The number of individual samples to be examined per lot may vary according to conditions. ****

TOLERANCES

- (3) The following table gives the overall tolerances and restricted tolerances for serious damage and internal breakdown or decay for the various grades.

The tolerances in the U.S. Standards are applied on a count basis.

	<u>U.S. Fancy</u>	<u>U.S. No. 1</u>	<u>U.S. No. 2</u>
A. Total Defects (%)	8	8	8
1. Serious Damage			
(included in Total "A")	4	4	4*
(a) Internal Breakdown, Decay (included in serious damage "1")	1	1	1

*Includes not more than 4 percent for sunscald, insects.

APPLICATION OF TOLERANCES

- (4) The contents of individual containers in a lot, based on a sample inspection, are subject to the following limitations:

- (a) A container may contain not more than double any specified tolerance except that at least two defective specimens may be permitted in any container: Provided, that not more than one

fruit which is frozen or affected by decay be permitted in any container 3 pounds or less; and provided further, that the averages for the entire lot are within the tolerances specified for the grade.

HEADING ON NOTESHEET

Detailed instructions pertaining to date, inspection point, place of inspection, kind of carrier, lading, etc., which are not covered by these instructions may be found in the General Shipping Point Inspection Instructions. (5)

PRODUCTS INSPECTED

The following information shall be given under this heading: (6)

Commodity, Type or Variety.

Type of Container.

Distinguishing Marks.

State or Country of Origin.

Quantity Inspected.

Commodity, Type or Variety: This is the first item shown under "Products" heading on the certificate. The term kiwifruit should be used to identify the products. (7)

If variety or type such as "Hayward" is marked on the container, this should be shown as part of distinguishing marks.

- (8) Type of Container: The most common container used is a wood or fiberboard flat, sometimes referred to as a "tray," with the fruit packed in a molded plastic tray. Kiwifruit are also shipped in two or three layer tray type fiberboard cartons, volume fill fiberboard cartons, and in film bags packed in fiberboard cartons.
- (9) Distinguishing Marks: When a container is labeled, printed, or crayon marked with a brand or grade, it should be reported under this heading. This also includes name and address of shipper, variety, net weight, sizes, lot number, etc. If there are several brands or lots, list only the principal ones and state "various other brands or marks." If the containers bear no brand, grade, or any other marking, it should be stated "No Distinguishing Marks."
- (10) State or Country of Origin: When container markings list the State or country of origin, it should be quoted. If the containers are not marked, inquiries should be made as to origin and a statement made that the lot was invoiced or manifested from a certain State or country.
- (11) Quantity Inspected: The number of containers in a lot should always be stated on the certificate. This is reported either as a statement on authority of the inspector, as applicant's count, or as shipper's manifest. The count of large lots certified in a warehouse or on a platform may be reported on the authority of someone other than the inspector. However, it is advisable in such cases for the inspector to take a rough count and compare to the number of containers reported.

EXAMPLES: The following are "Products" statements for typewritten certificates:

Kiwifruit in trays labeled "Kiwi, Blue Anchor Inc., California" and stamped "Hayward" and to denote count (30, 42, 44, and 48 noted). Applicant states 4032 flats.

Kiwifruit in trays labeled "Lucky, United Packing Co., Fresno, California" and stamped "Hayward" and to denote count (40, 42, and 48 noted). Applicant states 3170 flats.

Kiwifruit in flats labeled "Paridise, Alkop Farms, Chico, California" and stamped "Hayward" and to denote count (25, 28, 30, and 33 noted). Applicant states 3050 flats.

LOADING

The description of the load should show the arrangement of packages by (12) number of stacks, rows, and layers. All other facts of importance pertaining to spacing, ventilation, bracing, stripping, tightness of load, and breakage should be reported under this heading.

Do not make a statement such as "Load in good order." A statement of this kind is interpreted by claim agents to mean that each package is in proper place and that the load is tight so that no end or side movement is possible. An inspector who sees a car or trailer only at certain intervals during the process of loading is not in a position to certify these points.

For further information pertaining to "Loading" refer to General Shipping Point Inspection Instructions.

EXAMPLES: (Intact Palletized Load)

Through palletized load. 2 pallets wide, 12 pallets long. 3 rows, 20 layers, lengthwise per pallet.

Through palletized load. 1-2 pallets wide, 11-12 pallets long. 3 rows, 20 to 24 layers, lengthwise per pallet.

CONDITION OF PACK

(13) Tightness: Kiwifruit is generally packed in molded tray packs.

Therefore, tightness of pack should be determined by the amount of movement or looseness of the kiwifruit in the individual cups in the tray. The following terms should be used to describe this type of pack:

Tight: When there is no movement of the kiwifruit in the cups.

Fairly Tight: When there is only slight movement of the fruit in cups.

Loose in Cups: When there is free movement of the fruit in cups.

Revised, January 1992, HU-113-8(c)
Page 11, Paragraph 13, Kiwifruit, Shipping
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When describing molded trays, do not use the term "panta pak" or any other trade name on the certificate.

When kiwifruit is packed in other types of packs, the following terms should be used to describe tightness:

Very Tight: This pack is too tight and can cause bruising.

Tight or Well Filled: This is the ideal condition of pack and means the container is properly packed and filled so there is practically no movement within the container. Well filled may also mean level full with the top edge of the container. In those containers where sides are lower than top of ends of containers, the lower edge is the determining side for level full. ****

Fairly Tight or Fairly Well Filled: This means the pack is not ideal and is the stage between tight or fairly well filled and slack. There may be slight movement of the fruit in the container.

Slack: This means that the pack is loose and there is free movement of the fruit in the container. The level of the fruit is below the top of the container. Whenever the term "slack" is used, the slackness must be reported in fractions of an inch or inches.

Presence of Wraps, etc: Net weight should also be reported under "Pack." Net weight may be certified without making a grade or condition inspection. (See General Shipping Point Inspection Instructions).

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SIZE

- (15) Diameter: The diameter of kiwifruit is defined as meaning the greatest dimension measured at right angles to a line from the stem to blossom end. This should be measured with a caliper.

There are no size requirements in any of the kiwifruit grades. Inspectors should report the lot as being "fairly uniform in size" according to the definition and tolerances shown in the Standard Pack section (§51.2338) of the grade standards.

When all or generally all of the containers meet the definition, the lot should be reported in general terms, as "fairly uniform in size" or "generally fairly uniform, few irregular in size." When more than 10 percent of the containers fail to meet the fairly uniform requirements, the range and average percent of containers failing should be reported in addition to the general statement. Inspectors should remember that a container is not considered "irregular" until more than 5 percent of the fruit exceed the allowable variation.

Height: The height is the greatest dimension of the fruit including the fleshy-woody stem button (but not the stem proper) to the blossom end protrusion, measured on a line parallel to that line which runs through the center of the fruit from the stem to blossom end.

Width: Width means the same as diameter which is defined in the grade standards. ****

Example:

Mostly fairly uniform, some irregular in size. From 3 to 25%, average 15% of containers with fruit that exceeds the variation permitted.

The number of kiwifruit which are packed in containers equipped with cell compartments, cardboard fillers, or molded trays shall exactly correspond to the count marked on the container. For other types of packs in lugs, cartons, or boxes, the number of kiwifruit in the container may not vary more than 2 from the marked number on the container.

If "Count per package" is in question on lots not certified for Standard Pack, the allowance in the Standard Pack requirements may be applied.

If lack of "uniformity in size" is also involved, the requirements of Standard Pack should be applied. It is permissible to use the term "irregular sizing" if the fruit fails to meet the "fairly uniform in size" requirement.

QUALITY AND CONDITION

The following factors should be reported under this heading:

(16)

Maturity.

Cleanness.

Shape.

Firmness.

Defects.

Decay.

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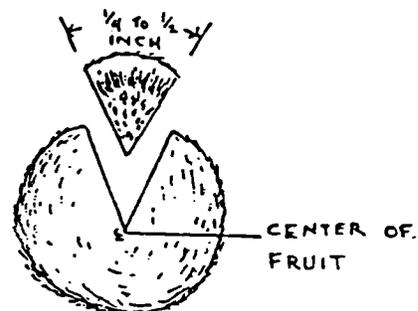
- (17) Maturity: Kiwifruit are considered mature when the soluble solids content is at least 6.5 percent, unless otherwise specified. Inspectors should randomly select 15 fruit from each lot. It is suggested that at least 1 fruit be selected from each sample inspected for grade analysis, however, it may be necessary to select more than 1 fruit from a portion of the samples. Fruit selected shall be tested according to the following procedures. Whether testing individual fruit or using a composite sample the average should be reported on the certificate. At the applicant's request, when testing individual fruit both the range and the average may be reported.
- (18) Determining Maturity: The following equipment is necessary to determine maturity correctly.
1. Temperature compensated hand refractometer.
 2. Knife to cut the fruit.
 3. Lime squeezer or similar instrument to extract juice from the wedge shaped piece.
 4. Distilled water to standardize and clean refractometer and other equipment.
 5. Clean towel or cheesecloth for drying.
 6. Small container to hold juice (composite sample).

Fruit shall be tested by removing a wedge shaped piece from between the stem and blossom end; a lengthwise cut parallel to a line running from stem to blossom end.

The wedge should measure between $\frac{1}{4}$ and $\frac{1}{2}$ inch wide at the surface (fuzzy side) and the cut side should converge at the center of the fruit (See figure next page). It does not matter whether the skin is left on or cut off the wedge before extracting the juice. The wedge should then be squeezed with enough force to extract a major portion of the

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juice it contains. If testing individual fruit squeeze the juice of each kiwifruit directly over the refractometer prism. If a composite juice sample is used the extracted juice should be combined in a single container and thoroughly mixed. This single juice sample would then be used to take a soluble solids reading. Close the



refractometer prism cover and read the soluble solids in the eyepiece. The prism should be rinsed after each test. If using a composite sample, as a precaution, after the first reading wipe the refractometer prism dry and take a second reading. If there is a difference of .2 brix or less use the first reading. If the second reading is higher than .2 brix but not higher than .4 brix, average the two readings. When the difference is greater than .4 brix disregard both readings and repeat the test.

Either procedure will be acceptable, however, the separate readings should be recorded on the inspectors notes. Inspectors should remember that a lot cannot meet a U.S. grade if the average soluble solids is less than 6.5 percent, unless otherwise specified.

- (19) Cleanness: In describing the cleanness of kiwifruit, the following terms shall be used:

Clean: This is a requirement of U.S. Fancy and U.S. No. 1 grade and means that the kiwifruit is practically free from dirt, dust, or other foreign material.

Fairly clean: This is a requirement of U.S. No. 2 grade and means that the kiwifruit is reasonably free from dirt or other foreign material.

Dirty: This term is not defined in the grade standards. It shall be used to describe fruit that does not meet the requirements of fairly clean.

- (20) Shape: In describing the shape of kiwifruit, the following terms shall be used:

Well formed: This is a requirement of U.S. Fancy grade and means that the kiwifruit has the shape characteristic of the variety and slight bumps or other roughness is permitted providing it does not detract from the appearance. An official kiwifruit model illustrating well formed has been issued to various shipping point and terminal market offices.

Fairly well formed: This is a requirement of U.S. No. 1 grade and means that the kiwifruit has the shape characteristic of the variety but slight bumps or other roughness is permitted providing it does not materially detract from the appearance. An official kiwifruit model illustrating fairly well formed has been issued to various shipping point and terminal market offices. Fruit that are thinner on the flat side than this model are considered "not badly misshapen."

Not badly misshapen: This is a requirement of U.S. No. 2 grade and means that the kiwifruit is not so decidedly deformed that its appearance is seriously affected.

A "flat" fruit is considered a U.S. No. 2. A "flat" is defined as the width being not more than the height and one side of the kiwifruit being flat. When the width exceeds the height, the fruit is badly misshapen.

Badly misshapen: This means that the kiwifruit is so decidedly deformed that its appearance is seriously affected and the kiwifruit is considered a cull.

Firmness: The firmness of kiwifruit shall be determined by placing the (21)
fruit in the palm of the hand and exerting pressure uniformly with the
inside of all the fingers. Never squeeze a fruit between the thumb and
fingertips to determine the firmness. In describing firmness of
kiwifruit, the following terms shall be used:

Hard: The flesh of the kiwifruit is solid and does not yield appreciably even to considerable pressure.

Firm: The flesh of the kiwifruit is fairly solid but yields somewhat to moderate pressure.

Firm ripe: The flesh of the kiwifruit yields readily to moderate pressure.

Ripe: The flesh of the kiwifruit yields readily to slight pressure and is in the most desirable stage for eating.

Soft: This is the final stage of maturity before complete deterioration. Soft fruit is scored as serious damage in all the grades. Ripe fruit showing damage or serious damage by soft bruises is to be scored as bruised and not as soft.

- (22) Pressure test: In addition to reporting firmness using these terms, inspectors may be requested to perform a pressure test on the lot. The applicant will use the results to determine storage time and shelf life. Inspectors should not speculate on what the results may indicate. The following procedure shall be used:

1. Select a random blind sample of 15 representative fruit from each lot to be tested.
2. Using a peeling knife (potato peeler), remove the peel only from two areas that are on opposite sides and halfway between the stem and blossom end of each fruit to be tested. Do not remove more than the peel. The removal of a large amount of flesh by making a deep cut when peeling can result in an inaccurate test.
3. Make and record a test in each of the areas peeled (two on each fruit) using a pressure tester fitted with a 5/16 inch head.
4. Show the range and average of all tests (30 total) on the certificate and note under "Remarks" that this test was done at the request of the applicant.

Other Defects: The following descriptions and scoring guides are of (23)
the more common defects affecting kiwifruit. The scoring guidelines
are based on fruit 2 inches in diameter and smaller. Correspondingly
larger guidelines should be allowed for fruit larger than this.

Leaf or Limbrubs: These marks are produced by fruit rubbing (24)
against limbs or leaves of a vine.

Other Defects (continued):

Score against U.S. Fancy when:

not smooth;
not light colored; or,
aggregating more than the area of a circle $\frac{3}{8}$ inch
(9.5 mm) in diameter.

Score against U.S. No. 1 when:

not smooth;
not light colored; or,
aggregating more than the area of a circle $\frac{1}{2}$
inch (9.5 mm) in diameter.

Score against U.S. No. 2 when:

smooth and light colored and aggregating more than
the area of a circle $1\frac{1}{2}$ inches (38.1 mm) in
diameter; or,
dark or slightly rough and bark-like scars
aggregating more than the area of a circle $\frac{3}{4}$
inch (19.1 mm) in diameter.

- (25) Hail Injury: All grades require that fruit be free from "broken skins which are not healed," which includes those caused by hail. Healed hail marks are scored against each grade when the marks are deep or

exceed an aggregate area specified. As a guide, deep hail marks should be scored against U.S. Fancy and U.S. No. 1 when the depth is greater than 1/8 inch, and against U.S. No. 2 when the depth is greater than 3/16 inch. Keep in mind that this guide is based on a fruit 2 inches in diameter or smaller.

Score against U.S. Fancy when:

unhealed; or deep; or, healed and aggregating more than the area of a circle 1/16 inch (1.6 mm) in diameter.

Score against U.S. No. 1 when:

unhealed; or, deep; or, healed and aggregating more than the area of a circle 1/4 inch (6.4 mm) in diameter.

Score against U.S. No. 2 when:

unhealed; or, deep; or, healed and aggregating more than the area of a circle 1/2 inch (12.7 mm) in diameter.

- (26) Growth Cracks: These cracks detract from the appearance of the fruit and when unhealed are entrances for mold and decay.

Score against U.S. Fancy when:

not healed; or, when healed and exceeding the following:
more than one in number; or,
more than 1/8 inch (3.2 mm) in length or depth.

Score against U.S. No. 1 when:

not healed; or, when healed and exceeding the following:
more than one in number;
more than 1/8 inch (3.2 mm) in depth;
more than 3/8 inch (9.5 mm) in length if within
the stem or cavity; or,
more than 1/4 inch (6.4 mm) in length if outside
the stem cavity.

Score against U.S. No. 2 when:

not healed and more than 1/8 inch (3.2 mm) in length
or depth; or,
healed and more than 3/16 inch (4.8 mm) in depth;

Growth Cracks (continued):

healed and aggregating more than 5/8 inch (15.9 mm)
in length if within the stem cavity; or,
healed and aggregating more than 1/2 inch (12.7 mm)
in length if outside of the stem cavity.

Scab: This defect is scored on the basis of area and whether cracked. (27)

Score against U.S. Fancy when:

cracked; or,
aggregate area exceeds that of a circle 1/8 inch
(3.2 mm) in diameter.

Score against U.S. No. 1 when:

cracked; or,
aggregate area exceeds that of a circle 1/4 inch (6.4 mm)
in diameter.

Score against U.S. No. 2 when:

aggregate area exceeds that of a circle 1/2
inch (12.7 mm) in diameter.

(28) Scars: This defect is scored on the basis of color, degree of roughness, depth, and area.

	<u>Injury</u>	<u>Damage</u>	<u>Serious Damage</u>
Not Smooth	*	*	
Surface of fruit is depressed			
more than 1/32 inch (.8 mm)	*		
more than 1/16 inch (1.6 mm)		*	
more than 3/16 inch (4.8 mm)			*
Not light in color	*		
Exceeding any of the following aggregate areas, or a combination of two or more types of scars, the seriousness of which exceeds the maximum allowed for any type:			
Dark or rough scars area exceeds that of a circle			
1/8 inch (3.2 mm) in diameter	*		
1/4 inch (6.4 mm) in diameter		*	
3/4 inch (19.1 mm) in diameter			*

Scars (continued):

	<u>Injury</u>	<u>Damage</u>	<u>Serious Damage</u>
Fairly light colored, fairly smooth scars area exceeds that of a circle			
1/4 inch (6.4 mm) in diameter	*		
1/2 inch (12.7 mm) in diameter		*	
Light colored, smooth scars area exceeds that of a circle			
1/2 inch (12.7 mm) in diameter	*		
3/4 inch (19.1 mm) in diameter		*	
Not dark or rough when the area exceeds one-fourth of fruit surface			*

Heat Injury, Sprayburn and Sunburn: This group of defects is scored on (29) the basis of color, area, depth, and appearance of skin.

Score against U.S. Fancy when:

normal color of the skin or flesh is more than slightly changed; or, any indentation is present.

Heat Injury, Sprayburn, and Sunburn (continued):

Score against U.S. No. 1 when:

skin is blistered, cracked or decidedly flattened;
normal color of the skin or flesh has materially
changed;
more than one indentation; or,
indentation exceeds 3/16 inch (4.8 mm) in
diameter.

Score against U.S. No. 2 when:

skin is blistered, cracked or decidedly flattened;
causing any dark discoloration of the flesh;
more than two indentations are present;
aggregate area of indentations exceeds that of
a circle 3/8 inch (9.5 mm) in diameter; or,
causing a noticeable brownish or darker
discoloration over more than one-fourth of
surface.

- (30) Scale or Scale Marks: These defects are scored on the basis of number of scales or scale marks or area. The scale insect is a grayish or grayish brown color, less than 1/16 inch in diameter. It must be remembered that spots suggesting the presence of scale may also be caused by other factors.

Scale or Scale Marks (continued):

Score against U.S. Fancy when:

more than one large scale or scale mark; or,
more than three scales or scale marks of any
size are present.

Score against U.S. No. 1 when:

aggregate area exceeds that of a circle $1/4$ inch
(6.4 mm) in diameter

Score against U.S. No. 2 when:

aggregate area exceeds that of a circle $3/8$ inch
(9.5 mm) in diameter.

Insects:

(31)

Score against U.S. Fancy when:

feeding injury is evident on fruit or any
insect is present in fruit.

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Insects (continued):

Score against U.S. No. 1 when:

feeding injury materially detracts from appearance or any insect is present in fruit.

Score against U.S. No. 2 when:

feeding injury seriously detracts from appearance or any insect is present in fruit.

- (32) Sloping or Drop Shoulder: This defect is thought to be caused by poor pollination. One shoulder of the fruit drops away from the perpendicular line running through the center of the fruit from the stem to calyx end, causing an obvious slope from one shoulder to the opposite shoulder. This should be scored against the U.S. Fancy grade when the deviation from perpendicular line is more than ten degrees (10°); against U.S. No. 1 when more than fifteen degrees (15°); and against U.S. No. 2 when more than twenty-five degrees (25°) (See illustration on page 46).

- (33) Alligator skin: Alligator skin usually occurs in a checkered pattern on the stem end of the fruit as smooth to slightly rough, light scarring. It may also occur as concentric rings around the stem. It should be scored as follows:

Score against U.S. Fancy when: A checking pattern causes a noticeable change in appearance affecting more than 1/2" diameter circle aggregate area occurring outside a 1-1/4" diameter circle centered around the stem/stem scar.

Score against U.S. No. 1 when: A checking pattern causes a noticeable change in appearance affecting more than 10 percent aggregate surface area occurring outside a 1-1/4" diameter circle centered around the stem/stem scar.

Revised, May 1994, HU-123-7(b)
Page 28a, Para. 33, Kiwifruit, Shipping
Point Inspection Instructions, October 1987

-28a-

Score against U.S. No. 2 when: A checking pattern causes a noticeable change in appearance affecting more than 20 percent aggregate surface area occurring outside a 1-1/4" diameter circle centered around the stem/stem scar.

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-29-

Hayward Mark: This is a genetic defect of the Hayward variety appearing as scars running longitudinally part way to the full length of the fruit. The scars often end in a raised warty protrusion that may vary in size and length. The marks may also develop as a longitudinal furrow instead of a scar.

(34)

Hayward mark should be scored against the U.S. Fancy, U.S. No. 1, or U.S. No. 2 grade when the following conditions occur:

U.S. Fancy: When any mark or marks are readily apparent and aggregate more than the length of one mark extending $\frac{2}{3}$ the length of the fruit surface; or when any mark is not shallow; or when any mark has a raised warty protrusion.

U.S. No. 1: When any mark or marks are readily apparent and aggregate more than the length of one mark extending the length of the fruit surface; or when any mark is more than $\frac{1}{16}$ inch in depth; or when any mark has a raised warty protrusion more than $\frac{1}{8}$ inch in length.

U.S. No. 2: When any mark or marks are readily apparent and aggregate more than twice the length of one mark extending the length of the fruit surface; or when any mark is more than $\frac{3}{16}$ inch in depth; or when any mark has a raised warty protrusion more than $\frac{3}{16}$ inch in depth.

Sunscald: This is a free from defect in all of the grades. This defect is caused by intense heat and is more severe than sunburn. It always shows evidence on the skin, and the flesh is soft, collapsed or broken down. Sunscald is always scored as serious damage and scored against the restricted tolerance for serious damage.

(35)

- (36) Bruising: This is usually caused by careless or rough handling during packing operations. It is also caused by packing too tightly, too high, or too loosely in the container.

Score against U.S. Fancy when:

any slight indentation of the fruit or
discoloration of the flesh extend more than
1/16 inch (1.6 mm) in depth.

Score against U.S. No. 1 when:

surface of fruit is indented and discoloration of
the flesh extends deeper than 1/8 inch (3.2 mm); or,
causing slight discoloration exceeding the area of a
circle 3/8 inch (9.5 mm) in diameter; or,
an aggregate area of a circle 3/8 inch (9.5 mm) in
diameter of lesser bruises which materially
detract from the appearance, edible, or shipping
quality.

Bruising (continued):

Score against U.S. No. 2 when:

surface of fruit is indented and discoloration of the flesh extends deeper than 1/4 inch (6.4 mm); or, causing discoloration exceeding the area of a circle 1/2 inch (12.7 mm) in diameter; or, lesser bruises which seriously detract from the appearance, edible, or shipping quality.

Discoloration: Black or brown discoloration frequently results from (37) fruit rubbing against each other in the container or against the container itself. It also may be caused by rubbing against the belts of the sizing machines or sorting tables or excessive vibration at time of packing.

Score against U.S. Fancy when:

color and pattern causes a distinct noticeable appearance (except for water staining) affecting more than 5 percent of surface.

Score against U.S. No. 1 when:

color and pattern causes an unattractive appearance (except for water staining) affecting more than 10 percent of surface.

Discoloration (continued):

Score against U.S. No. 2 when:

color and pattern causes a distinct unattractive appearance (except for water staining) affecting more than 25 percent of surface.

- (38) Discoloration by water staining: Discoloration caused by water staining is not scorable in any of the grades. It is the result of overhead irrigation or early morning dew and occurs as light and uniformly colored streaks on the upper portion of the fruit. Inspectors should refer to visual aid KWI-1-IDENT for identification of discoloration caused by water staining.
- (39) Shriveling: Shriveling results from the evaporation of moisture from the surface of the fruit and generally occurs around the stem end. Fruit that has been freshly picked will seldom show shriveling, but fruit removed from storage may show a slight to moderate amount of shriveling around the stem. This may occasionally extend over the shoulders. This type of shriveling is caused by dehydration while the fruit is in storage.

Shriveling should be scored according to the following guides:

U.S. Fancy: When shriveling exceeds 5 percent of the surface.

U.S. No. 1: When shriveling exceeds 10 percent of the surface.

U.S. No. 2: When shriveling exceeds 20 percent of the surface, provided the affected areas are not soft or discolored.

All scorable shriveling in the U.S. Fancy and U.S. No. 1 grades should be scored against the serious damage tolerance.

Sunken Areas or Pitted Areas: This defect is a result of moisture loss (40) and may occur on fruit that has been in storage for an extended time. It appears as numerous, small, sunken areas or as a single, fairly large, sunken area. Affected fruits are scored under the general definitions of injury, damage, and serious damage. However, the following area guidelines, based on a fruit two inches in diameter or smaller, should be followed. Allow a correspondingly greater aggregate area for larger fruit.

U.S. Fancy: When an area or aggregate areas exceed a circle $\frac{3}{8}$ inch (9.5 mm) in diameter.

U.S. No. 1: When an area or aggregate areas exceed a circle $\frac{1}{2}$ inch (12.7 mm) in diameter.

U.S. No. 1: When an area or aggregate areas exceed a circle 5/8 inch (15.9 mm) in diameter.

- (41) Freezing or Freezing Injury: Freezing or freezing injury occurs under such a variety of conditions that they are among the most difficult factors to accurately describe on the inspection certificate. This injury, if of noticeable extent, detracts greatly from the commercial value of the lot, and should be carefully reported.

When reporting freezing or freezing injury several points are essential. They are as follows:

1. Record pulp temperatures taken in various locations.
2. Determine the extent of injury in load.
3. Determine the extent of injury in containers.
4. Determine the degree to which individual specimens are affected.
5. Describe the pattern of freezing or freezing injury in clear and concise terms.

For further information, the general policy as outlined in the General Shipping Point Inspection Instructions should be followed.

- 35 -

Surface Mold: Fruits that are in storage may sometimes develop a slight to moderate growth of surface mold. The mold seldom extends into the flesh, but it results in a serious marketing problem because it detracts from the appearance of the affected fruit. Inspectors should score surface mold against the U.S. Fancy grade when its color and pattern causes it to be distinctly noticeable over more than 5 percent of the fruit surface. A visual aid (KWI-CP-5) illustrates the amount of surface mold allowed in the U.S. No. 1 and U.S. No. 2 grades. When the mold detracts from the appearance more than that illustrated, it is considered scoreable. Surface mold is scored against the general lot tolerance in each of the grades. ****

(42)

Decay: Decays are progressive in nature and seriously affect the market value. The notesheet should show a separate column for decay and the amount should be shown on the certificate. When there is no decay, show "No decay." The following paragraphs describe the types of decays that can affect kiwifruit.

(43)

Gray Mold Rot (Botrytis cinerea): This is the most prevalent decay affecting kiwifruit. The first indication of an infection is the appearance of tiny tufts of white mycelium growing through the fruit skin. The flesh in the affected area is very soft, and in advanced stages may be nearly liquefied.

The white mycelium is capable of growing and spreading to adjacent fruits, causing a "nest" of decay. This is the usual mode of spreading in storage. In later stages, the mycelium may change from a whiter to a pronounced gray color.

Alternaria Rot: Alternaria produces a hard, dry rot, and is most often found on sunburned fruit. It is seldom seen in marketing channels because nearly all sunburned fruit is eliminated during the sorting and packing process. However, Shipping Point Inspectors should score any decay that they find in the pack.

Phomopsis Stem End Rot: Stem End Rot typically occurs at the stem end of the fruit, where wetness often results from exuding juice. A secondary invasion of yeast may cause frothing of the juice and will attract vinegar flies. The flesh in the affected area may become very soft.

Blue Mold Rot: This rot occasionally affects previously injured fruit. It develops slowly and is readily recognized by a blue-green growth.

GRADE

(44) Refer to General Shipping Point Inspection Instructions.

Under this heading should be a statement showing whether or not the lot(s) inspected meets the requirements of the grade or other specifications on which the application was based, percentage of U.S. No. 1 Quality, or the grade marked on the containers.

When the load inspected consists of different lots, some of which are up to grade and some of which fail to meet the grade requirements, it will be necessary to make separate statements for the different lots. In all such cases, indicate grade on each lot and avoid grade statements that are indefinite or that tend to contradict what has been reported under the previous headings on the certificate. Remember that the grade statement is an interpretation of the facts previously given.

REMARKS

Refer to General Shipping Point Inspection Instructions Paragraphs (45)
567-573.

At shipping point there is usually no need for a "Remarks" heading. However, in some instances it is necessary to make explanatory or qualifying statements that are necessary to complete the certificate. They may pertain to one or more of the following:

1. Car or trailer license number when the inspector does not see the lot being loaded.
2. Cross reference certificate numbers when two or more certificates are issued covering the same car.
3. Statements that the certificate has been corrected.

REMARKS (continued):

4. Storage or warehouse lot numbers and purchase order number supplied by applicant or storage company.
5. License numbers when a large lot being moved by various trailers is reported on one certificate and applicant requests the license numbers be reported.
6. Restrictive statements as to loading, condition, size, etc.

(46)

GENERAL EXAMPLES

Products: Kiwifruit in trays labeled "Kiwi, Blue Anchor Inc., California" and stamped "Hayward and to denote count (28, 30, 38, 40, 42 noted). Applicant states 4010 flats.

Loading: Through palletized load. 2 pallets wide. 3 rows. 20 to 25 layers, lengthwise per pallet.

Pack: Tight in molds. Film lined. Pad under lid.

Temperature of Product: Various locations: 32°, 34°F.

Size: Fairly uniform.

Quality and Condition: Mature, clean, fairly well formed. Mostly hard, some firm. Soluble solids from 13% to 17.5% average 15%. Defects average within tolerance. No decay.

Grade: U.S. No. 1.

Remarks: Soluble solids range reported at applicants request.

Products: Kiwifruit in trays labeled "Rosy, T & E Ranch, Gridley, California" and stamped "Hayward" and to denote count (38, 40, 44 noted). Applicant states 3960 flats.

Loading: Through palletized load. 2 pallets wide. 3 rows. 19 to 23 layers. Lengthwise per pallet.

Temperature
of Product: Various locations: 32°, 34°F.

Size: Fairly uniform.

Quality and
Condition: Mature, clean, mostly fairly well formed, some well formed. Mostly firm, some hard. Soluble solids average 13.5%. Defects average within tolerance. Less than 1/2 of 1% decay.

Grade: U.S. No. 1.

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 STATE OF CALIFORNIA DEPARTMENT OF AGRICULTURE

C

COPY

INSPECTION CERTIFICATE

FEE \$

This certificate is issued in compliance with the regulations of the Secretary of Ag. the United States and of California. WARNING: Any person who knowingly shall violate the regulations governing the inspection of various products pursuant to the Agricultural Marketing Act, 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.

INSPECTION POINT DELANO	TYPE OF CONVEYANCE FEDERAL-STATE LOT	CONVEYANCE NUMBER 115-E36
INSPECTION BEGUN (HOUR, DATE) 8:00 a.m. January 15, 19	INSPECTION COMPLETED (HOUR, DATE) 11:00 a.m. January 15, 19	
NAME OF APPLICANT KING KIWI INC.	ADDRESS OF APPLICANT DELANO, CA	
NAME OF SHIPPER SAME	ADDRESS OF SHIPPER SAME	

PRODUCT	LOADER'S COUNT	CONTAINERS		DECAY	GRADE
		TYPE	MARKINGS		
KIWI FRUIT	3,600	Flats	King Kiwi	None	U.S. No. 1 Standard Pack
			Mature, Mostly hard, many firm.		
			Mostly well some fairly well formed		
			Defects within tolerance.		
			Meets KAC Requirements		
Remarks: Soluble solids averages 7.2 percent, shown at applicants request.					

This certifies that I made personal inspection of samples believed by me to be representative of the lot of products herein described and that the quality and/or condition, at the time and date shown above, pertaining to such products as shown by said samples, were as stated herein.

PLEASE REFER TO THIS CERTIFICATE BY NUMBER

INSPECTOR

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 STATE OF CALIFORNIA DEPARTMENT OF AGRICULTURE

C

COPY

INSPECTION CERTIFICATE

FEE \$

This certificate is issued in compliance with the regulations of the Secretary of Agriculture of the United States and of California. **WARNING: Any person who knowingly shall violate the regulations 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 Statutes of such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.**

INSPECTION POINT: DELANO
 TYPE OF CONVEYMENT: CALIF. FEDERAL - STATE LOT
 CONVEYANCE NUMBER: 115-E36
 INSPECTION BEGUN (HOUR, DATE): January 15, 19
 INSPECTION COMPLETED (HOUR, DATE): 4:00 P.M. January 15, 19
 NAME OF APPLICANT: KING KIWI INC.
 ADDRESS OF APPLICANT: DELANO
 NAME OF SHIPPER: Same
 ADDRESS OF SHIPPER: Same

PRODUCT	LOADER'S COUNT	CONTAINER'S MARKINGS		GRADE
		TYPE	MARKINGS	
KIWIFRUIT	1,000	M/C with 20-1 lb. bags	Mr. Kiwi	1% 85% U.S. No. 2 quality
		Mature..	Mostly firm, some firmripe	
		Mostly fairly well formed,	some not badly misshapen.	
		Defects average	within tolerance.	
		Meets KAC	Requirements	
		Meets California Agri.	Code Requirements	

This certifies that I made personal inspection of samples believed by me to be representative of the lot of products herein described, and that the quality and/or condition, at the time and date shown above, pertaining to such products as shown by said samples, were as stated herein.

INSPECTOR

PLEASE REFER TO THIS CERTIFICATE BY NUMBER

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 STATE OF CALIFORNIA DEPARTMENT OF AGRICULTURE

C

COPY

INSPECTION CERTIFICATE

FEE \$

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INSPECTION POINT DELANO	TYPE OF CONVEYANCE Federal-State Lot	CONVEYANCE NUMBER 116-E36
INSPECTION BEGUN (HOUR, DATE) 8:00 a.m. January 16	INSPECTION COMPLETED (HOUR, DATE) 11:00 a.m. January 16	
NAME OF APPLICANT KING KIWI INC.	ADDRESS OF APPLICANT DELANO, CA	
NAME OF SHIPPER Same	ADDRESS OF SHIPPER Same	

PRODUCT	LOADER'S COUNT	CONTAINERS		DECAY	GRADE
		TYPE	MARKINGS		
KIWIFRUIT	1,400	Flats	King Kiwi	Less than 1%	U.S. Fancy Standard Pack
			Mature, Mostly hard, some firm.		
			Generally well formed.		
			Defects average within tolerance.		
			Meets KAC requirements		
REMARKS: At applicants request, Pressure test ranged 6 to 14 average, 11 pounds.					

This certifies that I made personal inspection of samples believed by me to be representative of the lot of products herein described and that the quality and/or condition, at the time and date shown above, pertaining to such products as shown by said samples, were as stated herein.

INSPECTOR

PLEASE REFER TO THIS CERTIFICATE BY NUMBER

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 STATE OF CALIFORNIA DEPARTMENT OF AGRICULTURE

C

COPY

INSPECTION CERTIFICATE

FEE \$

This certificate is issued in compliance with the regulations of the Secretary of Agriculture of the United States and of California. WARNING: Any person who knowingly shall violate the regulations 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 Statutes of such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

INSPECTION POINT	DELANO	TYPE OF CONVEYANCE	FEDERAL-STATE LOT	CONVEYANCE NUMBER	103-E36
INSPECTION BEGUN (HOUR, DATE)	11:00 a.m. January 18	CALL	19	INSPECTION COMPLETED (HOUR, DATE)	1:00 p.m. January 18, 19
NAME OF APPLICANT	KING KIWI INC.				
NAME OF SHIPPER	Same				
ADDRESS OF APPLICANT	DELANO, CA				
ADDRESS OF SHIPPER	Same				

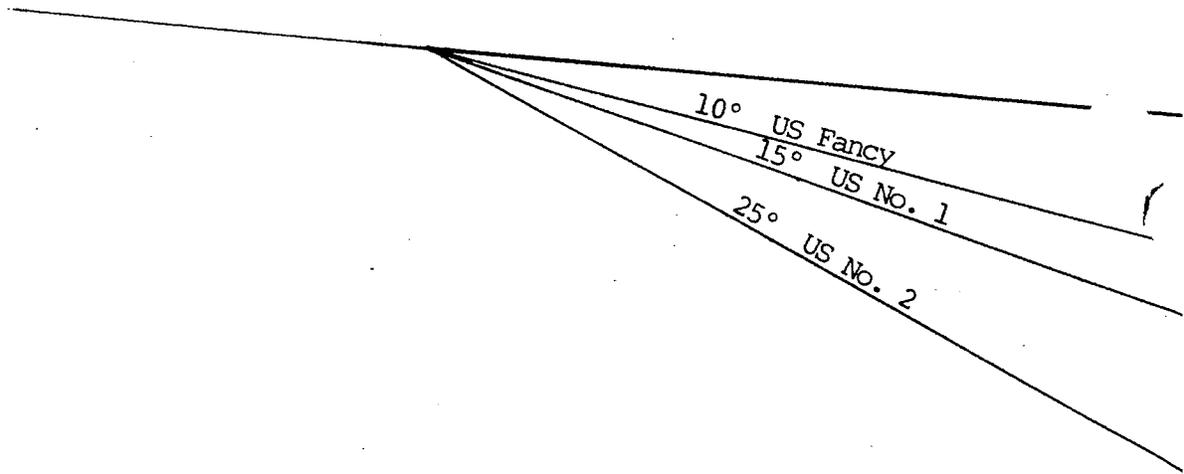
PRODUCT	LOADER'S COUNTY	CONTAINERS		DECAY	GRADE
		TYPE	MARKINGS		
Kiwifruit	700	Flats	King Kiwi	None	U.S. No. 1 Standard Pack
			MATURE, FIRM AND GENERALLY FAIRLY WELL FORMED		
			DEFECTS WITHIN TOLERANCE		
			MEETS KAC REQUIREMENTS		

This certifies that I made personal inspection of samples believed by me to be representative of the lot of products herein described and that the quality and/or condition, at the time and date shown above, pertaining to such products as shown by said samples, were as stated herein.

INSPECTOR

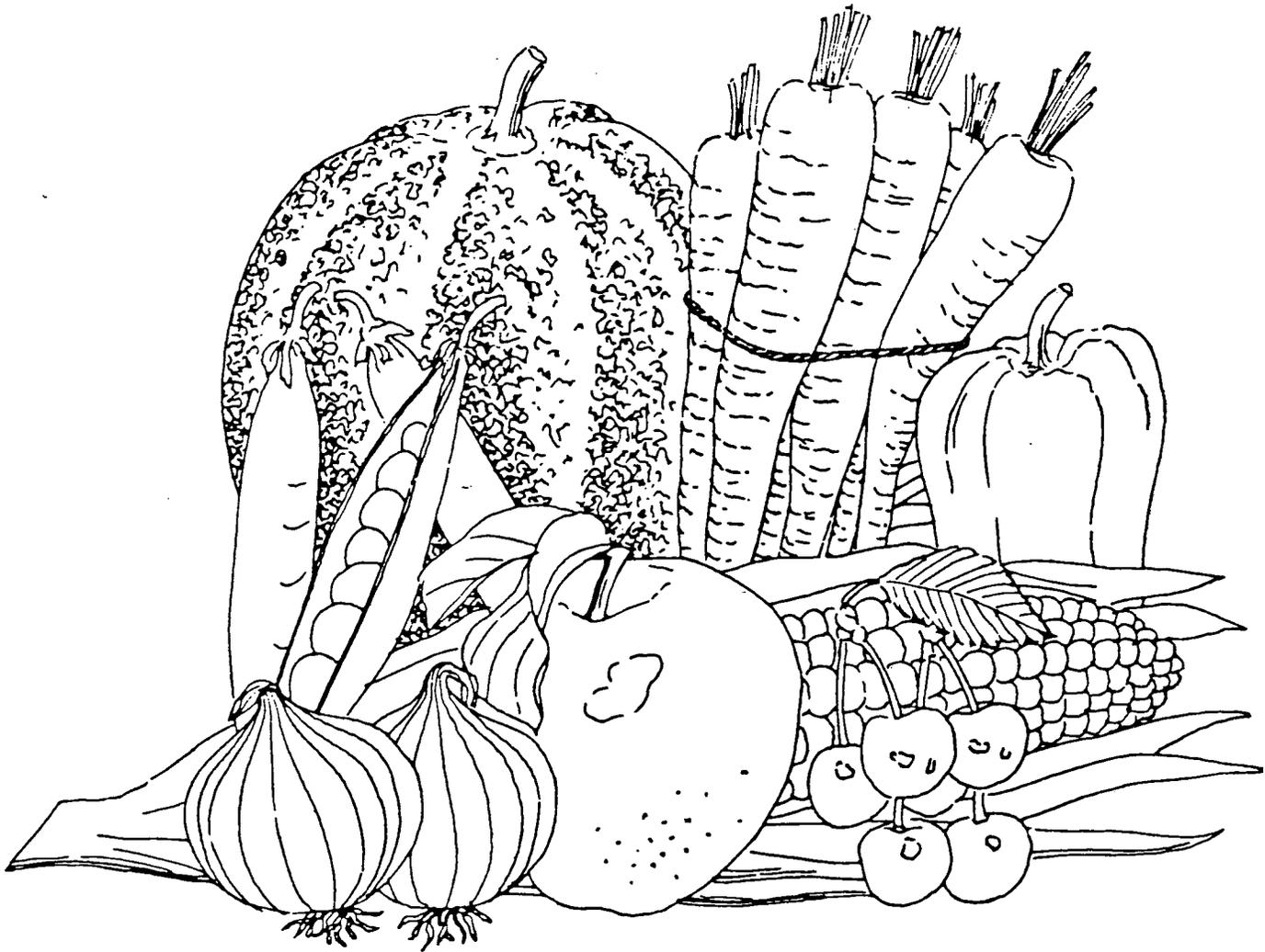
PLEASE REFER TO THIS CERTIFICATE BY NUMBER

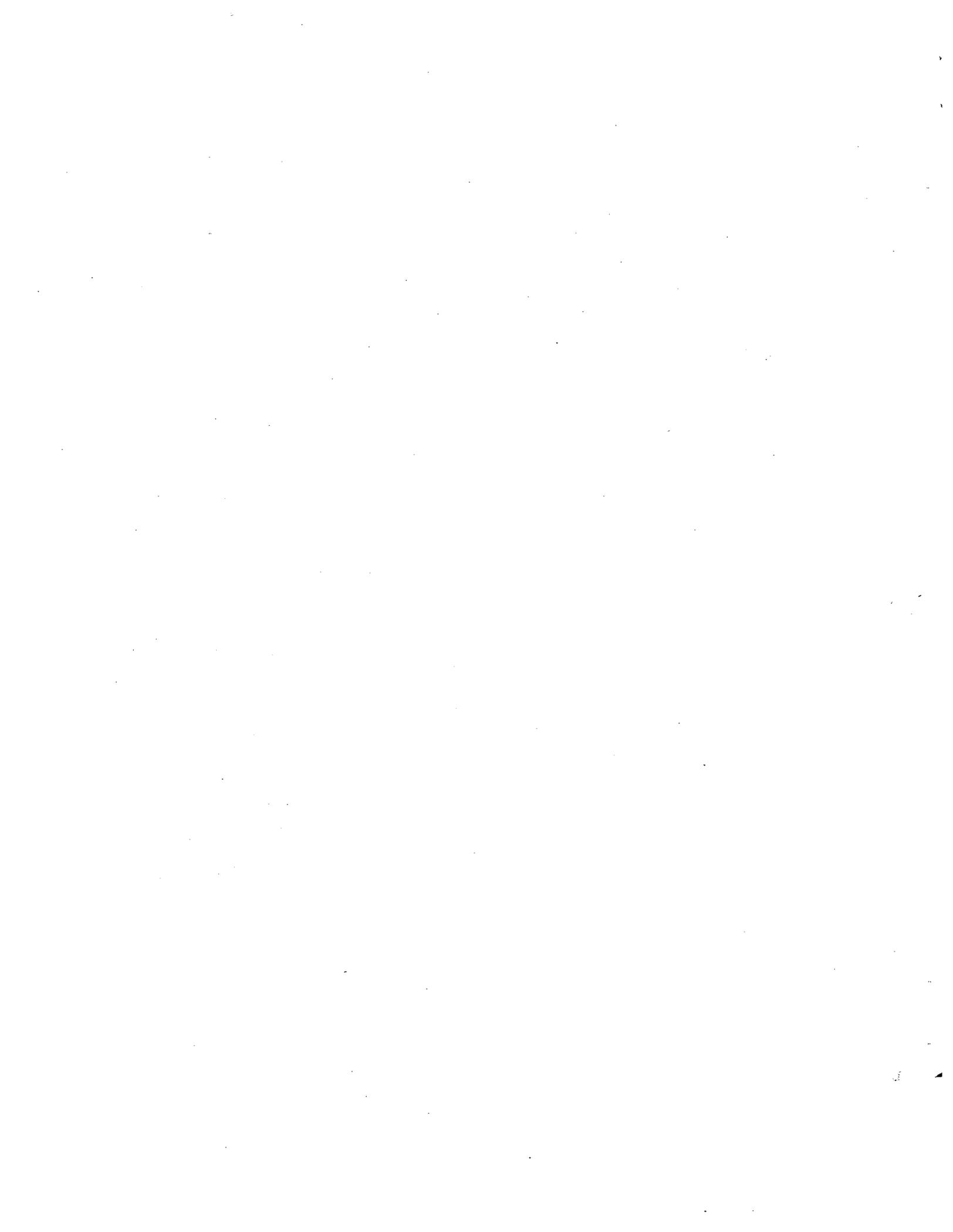
Sloping or Drop Shoulder



Appendix I

United States Standards





UNITED STATES STANDARDS FOR GRADES OF
KIWIFRUIT¹

Effective October 15, 1986

Sec.

- 51.2335 Grades.
51.2336 Tolerances.
51.2337 Application of tolerances.
51.2338 Standard pack.
51.2339 Definitions.
51.2340 Classification of defects.
51.2341 Sample size for grade determination.
- § 51.2335 Grades.
- (a) "U.S. Fancy" consists of kiwifruit which meet the following requirements:
- (1) Basic Requirements:
 - (i) Similar varietal characteristics;
 - (ii) Mature;
 - (iii) Not soft, overripe, or shriveled;
 - (iv) Carefully packed;
 - (v) Clean; and,
 - (vi) Well formed.
 - (2) Free From:
 - (i) Worm holes;
 - (ii) Broken skins which are not healed;
 - (iii) Sunscald;
 - (iv) Freezing injury;
 - (v) Internal breakdown; and,
 - (vi) Decay.
 - (3) Free From Injury By:
 - (i) Bruises;
 - (ii) Leaf or limbrubs;
 - (iii) Discoloration;
 - (iv) Hail;
 - (v) Growth cracks;
 - (vi) Scab;
- (vii) Scars;
(viii) Heat, sprayburn, or sunburn;
(ix) Scale;
(x) Insects;
(xi) Other diseases; and,
(xii) Mechanical or other means.
(4) Tolerances. (See § 51.2336)
- (b) "U.S. No. 1" consists of kiwifruit which meet the following requirements:
- (1) Basic Requirements:
 - (i) Similar varietal characteristics;
 - (ii) Mature;
 - (iii) Not soft, overripe, or shriveled;
 - (iv) Carefully packed;
 - (v) Clean; and,
 - (vi) Fairly well formed.
 - (2) Free From:
 - (i) Worm holes;
 - (ii) Broken skins which are not healed;
 - (iii) Sunscald;
 - (iv) Freezing injury;
 - (v) Internal breakdown; and,
 - (vi) Decay.
 - (3) Free From Damage By:
 - (i) Bruises;
 - (ii) Leaf or limbrubs;
 - (iii) Discoloration;
 - (iv) Hail;
 - (v) Growth cracks;
 - (vi) Scab;
 - (vii) Scars;
 - (viii) Heat, sprayburn, or sunburn;
 - (ix) Scale;
 - (x) Insects;
 - (xi) Other diseases; and,
 - (xii) Mechanical or other means.
 - (4) Tolerances. (See § 51.2336)
- (c) "U.S. No. 2" consists of kiwifruit which meet the following requirements:

¹ Compliance with the provisions of these standards shall not excuse failure to comply with provisions of applicable Federal or State laws.

- (1) Basic Requirements:
 - (i) Similar varietal characteristics;
 - (ii) Mature;
 - (iii) Not soft, overripe, or shriveled;
 - (iv) Carefully packed;
 - (v) Fairly clean; and,
 - (vi) Not badly misshapen.
- (2) Free From:
 - (i) Worm holes;
 - (ii) Broken skins which are not healed;
 - (iii) Sunscald;
 - (iv) Freezing injury;
 - (v) Internal breakdown; and,
 - (vi) Decay.
- (3) Free From Serious Damage By:
 - (i) Bruises;
 - (ii) Leaf or limb rubs;
 - (iii) Discoloration;
 - (iv) Hail;
 - (v) Growth cracks;
 - (vi) Scab;
 - (vii) Scars;
 - (viii) Heat, sprayburn, or sunburn;
 - (ix) Scale;
 - (x) Insects;
 - (xi) Other diseases; and,
 - (xii) Mechanical or other means.
- (4) Tolerances. (See § 51.2336)

§ 51.2336 Tolerances.

In order to allow for variations incident to proper grading and handling, the following tolerances by count, shall be permitted in any lot:

(a) U.S. Fancy and U.S. No. 1.

(1) For defects at shipping point,² 8 percent for fruit which fail to meet the requirements of the specified grade: *Provided*, That included in this amount not more than 4 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 1 percent for fruit affected by internal breakdown or decay.

(2) For defects en route or at destination, 12 percent for fruit which fail to meet the requirements of the specified grade: *Provided*, That included in this amount not more than the

following percentages shall be allowed for defects:

- (i) 8 percent for permanent defects;
- (ii) 6 percent for defects causing serious damage, including therein not more than 4 percent for serious damage by permanent defects and not more than 2 percent for fruit affected by internal breakdown or decay.

(b) U.S. No. 2

(1) For defects at shipping point,² 8 percent for fruit which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 4 percent shall be allowed for sunscald, insects, internal breakdown or decay, including in this latter amount not more than 1 percent for fruit affected by internal breakdown or decay.

(2) For defects en route or at destination, 12 percent for fruit which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects:

- (i) 6 percent for permanent defects including therein not more than 4 percent for sunscald, or insects; and,
- (ii) 2 percent for internal breakdown or decay.

§ 51.2337 Application of Tolerances.

The contents of individual containers in a lot, based on sample inspection, are subject to the following limitations:

(a) Individual samples shall not have more than double a specified tolerance except that at least two defective specimens may be permitted in any container: *Provided*, That not more than one fruit which is frozen or affected by decay be permitted in any container 3 pounds or less; and, *Provided further*, That the averages for the entire lot are within the tolerances specified for the grade.

§ 51.2338 Standard pack.

(a) Fruit shall be fairly uniform in size and shall be packed in boxes, flats, lugs, or cartons and arranged according to approved and recognized methods. Containers shall be well filled; contents tightly packed but not be excessively or unnecessarily bruised by overfilling or oversizing. Fruit in the shown face of the

²Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores or overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

container shall be reasonably representative in size and quality of the contents.

(b) When packed in closed containers the size shall be indicated by marking the container with the numerical count.

(c) Boxes, flats, lugs, or cartons:

(1) Fruit packed in containers with cell compartments, cardboard fillers or molded trays shall be of proper size for the cells, fillers, or molds in which they are packed, and conform to the marked count.

(2) In order to allow for variations incident to proper packing in other types of containers, for example, lugs, cartons, or boxes, the number of fruit shall not vary more than two from the marked count.

(d) "Fairly uniform in size" means that fruit in containers marked numerically to denote size may not vary in diameter more than $\frac{1}{2}$ inch (12.7mm) in sizes 30 or larger; $\frac{3}{8}$ inch (9.5mm) in sizes 31 through 38; and $\frac{1}{4}$ inch (6.4mm) in sizes 39 or smaller. Not more than 5 percent, by count, of the fruit in any container may exceed the diameter range specified.

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

(f) In order to allow for variations incident to proper sizing and packing, not more than 10 percent, by count, of containers in any lot may fail to meet these requirements.

§ 51.2339 Definitions.

"Similar varietal characteristics" means the fruit in any lot and container are similar in shape, color of skin and flesh.

"Mature" means the fruit has reached the stage of development which will ensure the proper completion of the ripening process. The minimum average soluble solids, unless otherwise specified, shall be not less than 6.5 percent.

"Clean" means the fruit is practically free from dirt, dust, or other foreign material.

"Fairly clean" means the fruit is reasonably free from dirt, dust, or other foreign material.

"Well formed" means the fruit has the shape characteristic of the variety and slight bumps or other roughness are permitted providing they do not detract from the appearance.

"Fairly well formed" means the fruit has the shape characteristic of the variety but slight bumps or other roughness are permitted providing they do not materially detract from appearance.

"Badly misshapen" means the fruit is so decidedly deformed that its appearance is seriously affected.

"Carefully packed" means the fruit shows no evidence of rough handling.

"Injury" means any defect described in § 51.2340, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which more than slightly detracts from the appearance, or the edible or marketing quality.

"Damage" means any defect described in § 51.2340 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.

"Serious damage" means any defect described in § 51.2340 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.

"Permanent defects" means those which are not subject to change during shipment or storage, for example, shape, scars, or growth cracks.

"Condition defects" means those defects which are subject to change during shipment or storage, for example, decay, soft, shriveling, discoloration, or bruises.

§ 51.2340 Classification of defects.

Defects	Injury	Damage	Serious damage
Bruises.....	When any slight indentation of the fruit or discoloration of the flesh extends more than $\frac{1}{8}$ inch (1.6 mm) in depth.	When surface of fruit is indented and discoloration of the flesh extends deeper than $\frac{1}{8}$ inch (3.2 mm), or causing slight discoloration exceeding the area of a circle $\frac{1}{8}$ inch (9.5 mm) in diameter, or lesser bruises aggregating an area of a circle $\frac{1}{8}$ inch (9.5 mm) in diameter which materially detract from the appearance, edible or shipping quality.	When surface of the fruit is indented and discoloration of the flesh extends deeper than $\frac{1}{8}$ inch (6.4 mm), or causing discoloration exceeding the area of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter, or lesser bruises which seriously detract from the appearance, edible or shipping quality.
Leaf or Limb rubs.....	When not smooth, or not light colored, or aggregating more than the area of a circle $\frac{1}{8}$ inch (9.5 mm) in diameter.	When not smooth, or not light colored, or aggregating more than the area of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter.	When smooth and light colored and aggregating more than the area of a circle $1\frac{1}{2}$ inches (38.1 mm) in diameter, or dark or slightly rough and barklike scars aggregating more than the area of a circle $\frac{1}{8}$ inch (19.1 mm) in diameter.
Discoloration.....	When color and pattern causes a distinct noticeable appearance (except for water staining) affecting more than 5% of surface.	When color and pattern causes an unattractive appearance (except for water staining) affecting more than 10% of surface.	When color and pattern causes a distinct unattractive appearance (except for water staining) affecting more than 25% of surface.
Hail Injury.....	When unhealed or deep, or aggregating more than the area of a circle $\frac{1}{8}$ inch (1.6 mm) in diameter.	When unhealed or deep, or aggregating more than the area of a circle $\frac{1}{8}$ inch (6.4 mm) in diameter.	When unhealed or deep, or aggregating more than the area of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter.
Growth Cracks.....	When not healed, or more than one in number, or more than $\frac{1}{8}$ inch (3.2 mm) in length or depth.	When not healed, or more than one in number, or more than $\frac{1}{8}$ inch (3.2 mm) in depth, or more than $\frac{1}{8}$ inch (9.5 mm) in length if within the stem cavity, or more than $\frac{1}{8}$ inch (6.4 mm) in length if outside the stem cavity.	When not healed and more than $\frac{1}{8}$ inch (3.2 mm) in length or depth, or healed and more than $\frac{1}{8}$ inch (4.8 mm) in depth, or healed and aggregating more than $\frac{1}{8}$ inch (15.9 mm) in length if within the stem cavity, or healed and aggregating more than $\frac{1}{8}$ inch (12.7 mm) in length if outside the stem cavity.
Scab.....	When cracked, or the aggregate area exceeds that of a circle $\frac{1}{8}$ inch (3.2 mm) in diameter.	When cracked, or the aggregate area exceeds that of a circle $\frac{1}{8}$ inch (6.4 mm) in diameter.	When the aggregate area exceeds that of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter.
Scars.....	When not smooth, or surface of the fruit is depressed more than $\frac{1}{8}$ inch (.8 mm), or not light in color, or when exceeding any of the following aggregate areas, or a combination of two or more types of which exceeds the maximum allowed for any one type: (1) Dark or rough scars when the area exceeds that of a circle $\frac{1}{8}$ inch (3.2 mm) in diameter; (2) Fairly light colored, fairly smooth scars when the area exceeds that of a circle $\frac{1}{8}$ inch (6.4 mm) in diameter; (3) Light colored, smooth scars when the area exceeds that of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter.	When not smooth, or surface of the fruit is depressed more than $\frac{1}{8}$ inch (1.6 mm), or when exceeding any of the following aggregate areas, or a combination of two or more types of scars, the seriousness of which exceeds the maximum allowed for any one type: (1) Dark or rough scars when the area exceeds that of a circle $\frac{1}{8}$ inch (6.4 mm) in diameter; (2) Fairly light colored, fairly smooth scars when the area exceeds that of a circle $\frac{1}{8}$ inch (12.7 mm) in diameter; (3) Light colored, smooth scars when the area exceeds that of a circle $\frac{1}{8}$ inch (19.1 mm) in diameter.	When the surface of the fruit is depressed more than $\frac{1}{8}$ inch (4.8 mm), or when exceeding any of the following aggregate areas, or a combination of two or more types of scars, the seriousness of which exceeds the maximum allowed for any one type: (1) Dark or rough scars when the area exceeds that of a circle $\frac{1}{8}$ inch (19.1 mm) in diameter; (2) Not dark or rough when the area exceeds one-fourth of the fruit surface.

Defects	Injury	Damage	Serious damage
Heat, Sprayburn and Sunburn.	When the normal color of the skin or flesh is more than slightly changed, or any indentation is present.	When the skin is blistered, cracked or decidedly flattened, or the normal color of the skin or flesh has materially changed, or more than one indentation, or indentation exceeds $\frac{1}{8}$ inch (4.8 mm) in diameter.	When the skin is blistered, cracked or decidedly flattened, or causing any dark discoloration of the flesh, or more than two indentations are present, or the aggregate area of indentations exceeds that of a circle $\frac{1}{4}$ inch (9.5 mm) in diameter, or when causing a noticeable brownish or darker discoloration over more than one-fourth of surface.
Scale or Scale Marks.	When more than one large scale or scale mark or more than three scales or scale marks of any size are present.	When the aggregate area exceeds that of a circle $\frac{1}{4}$ inch (6.4 mm) in diameter.	When the aggregate area exceeds that of a circle $\frac{1}{2}$ inch (9.5 mm) in diameter.
Insects	When feeding injury is evident on fruit or any insect is present in fruit.	When feeding injury materially detracts from appearance or any insect is present in fruit.	When feeding injury seriously detracts from appearance or any insect is present in fruit.

Classification of defects guidelines are based on fruit 2 inches or smaller in diameter. Accordingly, larger fruit are permitted to have defects relative to their size.

§ 51.2341 Sample size for grade determination.

For fruit place-packed in tray pack containers, the sample shall consist of the contents of the individual container. For fruit jumble-packed in volume filled containers, the sample shall consist of at least 50 fruit. When individual containers contain at least 50 fruit, each individual sample is drawn from one container. When individual containers contain less than 50 fruit, a sufficient number of adjoining containers are opened to form a 50 fruit sample.

METRIC EQUIVALENCY TABLE

Inches	Millimeters
1/32.....	.8
1/16.....	1.6
1/8	3.2
3/16.....	4.8
1/4.....	6.4
3/8.....	9.5
1/2.....	12.7
5/8.....	15.9
3/4.....	19.1
1	25.4
1-1/4.....	31.8
1-1/2.....	38.1
1-3/4.....	44.5
2	50.8
2-1/4.....	57.2
2-1/2.....	63.5
2-3/4.....	69.9
3.....	76.2

Authority: Secs. 203, 205, 60 Stat. 1087, as amended, 1090 as amended, 7 U.S.C. 1622, 1624.

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James C. Handley,
Administrator.

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