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Fresh Products Branch

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Pineapples

Shipping Point and Market Inspection Instructions



Shipping Point and Market Inspection Instructions for Pineapples

These inspection instructions are specifically developed and designed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Pineapples, Section 51.1485.

These instructions do not establish any substantial rule not legally authorized by the official grade standards. This publication supersedes any previously issued inspection instructions.

Refer to General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. not covered in these instructions. Reference to "General Inspection Instructions" in all Fresh Product Branch publications refers to any one or all of the following - General Shipping Point Inspection Instructions, General Market Inspection Instructions, or Fresh Fruit and Vegetable Certificate Writing Handbooks.

Any portion of these instructions beginning with a section number such as §51.--- and followed with **bold** print is material copied directly from the U.S. standards. The U.S. Standards for Grades of Pineapples are printed in the appendix of this instruction. All of the U.S. standards are available on the Internet under the USDA homepage.

June 2008

This replaces Market Inspection Instructions for Pineapples dated February 1992.

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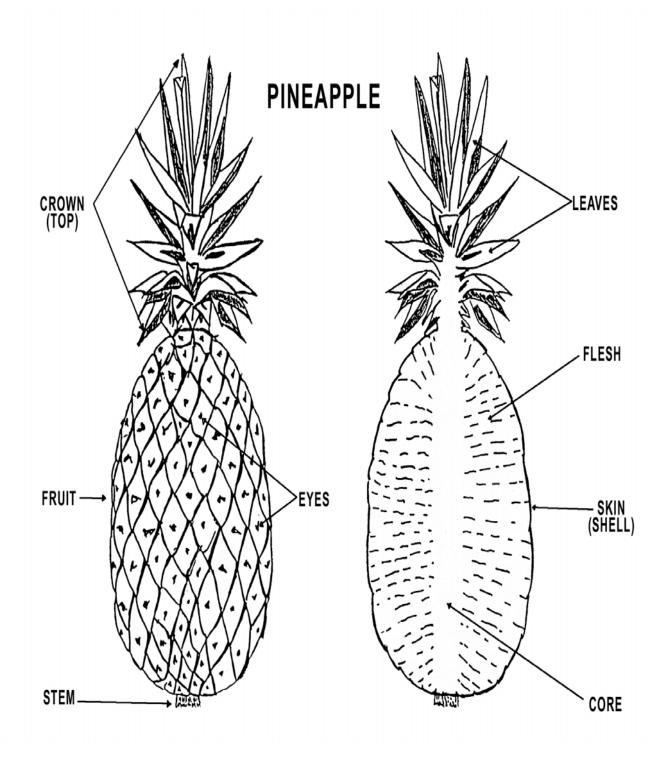
Factors noted with **(Q)** are considered quality only. Factors noted with **(C)** are considered condition at market. Factors noted with **(Q or C)** may be quality or condition depending on the circumstances. Factors not designated do not pertain to either category.

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PINEAPPLE ILLUSTRATION



GENERAL

Native to South America and the only bromeliad to produce edible fruit, the pineapple is grown worldwide in the tropics, with Thailand, Philippines, and Brazil leading in production. Other countries contributing to the pineapple industry include Mexico, Honduras, Dominican Republic, and Costa Rica. Hawaii, once the pineapple capital of the world, now only produces about 2% of the world's pineapples - down from 80% in the mid-twentieth century.

Commercial pineapple plants are only harvested for two or three years because additional years produce smaller fruit. The fruit will weigh between four and nine pounds on average but can reach up to twenty pounds. Depending on the variety, the outward color of mature/ripe pineapples can range anywhere from green to golden orange.

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots containing few specimens per carton/package, 1-1/2% to 2% of the lot must be examined. It is the inspector's responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot. A minimum of 3 samples must be obtained for all lots.

Size of Sample

The tolerances in the U.S. Standards for Grades of Pineapples are determined on the basis of count. The entire contents of the container shall be the sample.

If the pineapples are packed in bulk bins the sample shall consist of 25 fruit. If the application of tolerances for the sample is exceeded double the sample size to 50 fruit in at least one sample which has exceeded the tolerance.

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information that appears on the certificate must be properly recorded and supported by information on the notesheet. It is the responsibility of the inspector to ensure that all notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Your supervisor may give you additional information and instructions.

Product

"Pineapples" shall be used to describe this commodity in the product heading. Type, color, and size may be reported in conjunction with Pineapples in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market/FEIRS notesheets and certificates.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count."

If the number of containers available for inspection does not match the application, it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determined, the inspector may report the count on someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

Pineapples are usually packed and shipped in the half carton; it has largely replaced the large two-compartment crate. However, there are still some shippers using the two-compartment crate. Occasionally, pineapples are shipped in bulk.

Brands/Markings

At shipping point, the brand, size, PLI and other important information appearing on the container shall be reported on the notesheet and certificate in the appropriate section.

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspectors should not make a positive statement on their own authority, but when container markings list the State or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several States. The inspector can certify only to the marks and has no means of verifying what State or country the pineapples were grown.

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to precool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature. The location in the lot and/or load must be specified in greater detail when additional temperatures are taken.

Pineapples in the process of decaying may generate heat, raising not only the temperature of decaying fruit, but of the entire lot or load. Therefore it is important to exercise care in taking temperatures.

CONDITION OF PACK

Pineapples are usually packed with no bulge and smaller sizes are frequently slightly slack. In describing pack the following terms should be used with the meanings as indicated:

Very tight - packed so tightly that some injury to the fruit has resulted. A bulge may be apparent.

Tight - packed as to prevent movement within the package, but not so tightly that injury may result. Fruit may be in contact with the lid.

Slightly slack - the fruit is slightly loose in the container, but the contents do not average more than 1 inch below the top of the container.

Slack - the fruit is decidedly loose in the container and averages more than 1 inch below the top of the container. When reported as "Slack" the degree of slackness should be reported in inches and fractions thereof.

TOLERANCES AND APPLICATION OF TOLERANCES

- §51.1489 *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 grades -- (1) For defects at shipping point. 8 percent for fruit which fails to meet the requirements of the specified grade: Provided, that included in this amount not more than the following percentages shall be allowed for the defects listed: 4 percent for defects causing serious damage, including in the latter amount not more than 1 percent for decay.
- (2) For defects en route or at destination. 12 percent for fruit which fails to meet the requirements of the specified grade: Provided, that included in this amount not more than the following percentages shall be allowed for the defects listed:
- (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 decay.
- (b) U.S. No. 2 grade -- (1) For defects at shipping point. 8 percent for fruit which fails to meet the requirements of the specified grade: Provided, that included in this amount not more than 1 percent for decay.
- (2) For defects en route or at destination. 12 percent for fruit which fails to meet the requirements of the specified grade: Provided, that included in this amount not more than the following percentages shall be allowed for the defects listed:

- (i) 8 percent for permanent defects;
- (ii) 2 percent for decay.

Shipping Point

	U.S. Fancy & U.S. No. 1	U.S. No. 2
Total defects, including	8%	8%
Serious damage, including	4%	
Decay	1%	1%

En Route or At Destination

	U.S. Fancy & U.S. No. 1	U.S. No. 2
Total defects, including	12%	12%
Permanent defects,	8%	8%
Serious damage, including	6%	-
Serious damage by permanent defects,including	4%	
Decay	2%	2%

Application of Tolerances

The contents of individual samples in the lot, are subject to the following limitations:

(a) Individual samples shall have not more than double a specified tolerance except that at least two defective specimens may be permitted in any sample: Provided, That no more than one specimen affected by decay be permitted in any sample, and provided further, that the averages for the entire lot are within the tolerances specified for the grades.

SIZE AND MARKING REQUIREMENTS

The U.S. Standards for Grades of Pineapples require that the pineapples be "fairly uniform in size" in each container and the count must be plainly marked on the container. Size and marking requirements have no relation to grade, so it is possible for a lot to grade "U.S. No. 1" and fail to meet the size and marking requirements. However, there are length specifications for tops in the standard (see "Length of Tops" section for further instructions).

§51.1490 Size and marking requirements. (a) The pineapples in each container shall be fairly uniform in size and the count shall be plainly stamped, stenciled, or otherwise marked on the container.

(b) In order to allow for variations incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements pertaining to size and marking.

Reporting Size

Size which is determined by weight, refers only to the edible portion of the fruit (not the tops). Size should be reported according to the following terms:

Uniform - fruit in the individual containers does not vary more than 3/4 of a pound from the smallest to the largest;

Fairly Uniform - fruit in the individual containers does not vary more than 1-1/2 pounds from the smallest to the largest.

Irregular - fruit in the individual containers varies more than 1-1/2 pounds from the smallest to the largest.

Although the numerical count is marked on the container, no attempt should be made to show the range in weight except when the applicant specifically requests this information. However, when the sizing is irregular, the variation of weight of the fruit in the container should be shown to substantiate the lack of "fairly uniform size."

Each size as marked should be treated as a separate lot if irregular sizing is found in individual containers, if off-count is found, or when there is a distinct difference in the quality of the fruit.

Marking Requirements

Cartons/bins which have fruit that show a greater variation in weight than permitted under "fairly uniform size" should be scored against the tolerance for size and marking. Likewise, cartons/bins that are not marked with a count, or are mismarked

should be scored against this same tolerance. A single carton/bin cannot be scored more than once against this tolerance.

Inspectors should keep a column on their notesheet for cartons/bins, which fail to meet these requirements. If the size is found to be irregular or the count is mismarked/not marked, report a general size and/or count statement. Report the percentages of cartons/bins that are mismarked/not marked or with irregularly sized fruit as a narrative statement in the "Other" section of the certificate.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings. Scoring guides are based on a 10 size fruit (4 pound average). Accordingly larger or smaller fruit are permitted to have defects relative to their size.

Factors noted with (Q) are considered as QUALITY only. Factors noted with (C) shall be reported as CONDITION on market certificates. Those factors noted with (Q or C) may be considered as QUALITY or CONDITION, depending on the circumstances.

Bruising (C)

Bruising is characterized by a soft and/or depressed area with discolored underlying flesh. Bruising may occur due to rough handling, movement of pineapples in a slack pack, or excessively tight packs.

Scoring Guide

Score as injury when any bruise extends into flesh more than 1/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 1-1/4 inches in diameter.

Score as damage when any bruise extends into flesh more than 1/2 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 2-1/4 inches in diameter.

Score as serious damage when any bruise extends into the flesh more than 3/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 3 inches in diameter.

Crown Slips (Q)

This is a second growth which usually starts at the base of the fruit and grows upward and outward. In the market they are more commonly seen at the top of the fruit. Crown slips should not be considered as "tops" when determining whether the fruit has a single stem.

§51.1501 *Crown slips.* "Crown slips" means the small secondary top growths at the crown of the fruit.

Scoring Guide

Score as Injury when any crown slips are present.

Score as damage when more than 5 crown slips are present or when more than 2 crown slips are over 2-3/4 inches in length.

Crown slips are never scored as serious damage.

Discoloration (C)

Discoloration on the surface of pineapples is usually a dark brown to black color and results from varying causes such as diseases, abrasions, and dehydration. This defect is sometimes referred to as "staining" or "shading" in the pineapple industry. Inspectors should describe the color associated with the discoloration.

Scoring Guide

Score as injury when more than 5 percent of the surface is affected by discoloration.

Score as damage when more than 15 percent of the surface is affected by discoloration.

Score as serious damage when more than 25 percent of the surface is affected by discoloration.

Discoloration Affecting Tops (C)

After harvest the tops lose freshness, gradually turning lighter green to shades of yellow and brown and may become dry.

Scoring Guide

Score as injury when more than 10 percent of the crown leaves on an individual fruit are discolored.

Score as damage when more than 25 percent of the crown leaves on an individual fruit are discolored.

Score as serious damage when more than 50 percent of the crown leaves on an individual fruit are discolored.

Firmness and Color (C)

Pineapples are usually picked in the hard green stage, when the fruit is fully developed but still dark green to purple in color. As the fruit ripens the eyes flatten out,

and the color changes gradually to a reddish brown or orange color. The fruit becomes aromatic and less firm as ripening advances.

These factors should be reported in general terms, using the following descriptions:

<u>Hard</u> - Fruit is hard, unyielding to pressure. Color is usually dark green or purplish. It is suitable for long distance shipments, but not for consumption.

<u>Firm</u> - Fruit is firm but yields very slightly to moderate pressure. Color is turning, changing from green to bronze or reddish brown on 1/4 or more of surface, suitable for short shipment. It will be fully colored in two or three days at room temperature.

<u>Ripe</u> - Fruit is reasonably firm, but yields readily to moderate pressure. Usually fully colored or showing only traces of green color in some eyes. Color of Red Spanish will be light reddish brown, yellow, or orange. Smooth Cayenne will be light yellow or golden yellow, too ripe for shipment. It is ready for immediate use.

<u>Overripe</u> - Fruit is soft and past commercial use, yields readily to slight pressure. It is fully colored, with color often dull. Flesh may show watery discoloration under pressure bruises or at core. Overripe fruit should be reported as a defect, and scored against the serious damage tolerance in all grades.

Freezing or Freezing Injury (C)

The term "frozen" should only be used when ice crystals are present. Frozen pineapples will be "dark colored, watersoaked, and translucent" in comparison to unaffected pineapples.

"Freezing injury" is the term that should be used when it is evident that the pineapples have been frozen, but are not in a frozen condition at the time of inspection. Pineapples affected by freezing injury have a dull or darkened color, exhibiting watersoaked flesh, darkening at the core, and wilting of the tops. Freezing injury affecting the tops means the leaf tissue is glassy, water soaked and/or discolored.

Use the following procedures when reporting freezing or freezing injury:

- Record pulp temperatures taken at various locations throughout the load.
- Determine and record extent of the injury in the load.
- Determine and record extent of the injury in the containers.
- Determine and record the degree to which individual specimens are affected.
- Describe pattern of freezing or freezing injury in clear, concise terms.

When the location of injury indicates where or when the freezing occurred, this is to be stated. For example: "Freezing injury so located as to indicate freezing occurred after packing but not in present location."

Gummosis (Q)

Gummosis is gum deposits or exudation in the eyes or cracks between the eyes usually resulting from slight injuries.

Scoring Guide

Score as injury when gum deposits penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/4 inch in diameter.

Score as damage when gum deposits slightly penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/2 inch in diameter.

Score as serious damage when gum deposits readily penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1 inch in diameter.

Healed Cracks/Fresh Cracks (Q or C)

Healed cracks in the shell will usually appear brown, dried out, and can occur between the eyes or on the eyes of the fruit.

If the cracks are fresh, they should be scored as a condition defect and reported as "fresh cracks" against all grades (serious damage).

**Note: The guide for scoring healed cracks on the eyes is different than between the eyes for the U.S. No. 1 and No. 2 grades.

Scoring Guide

Score as injury when healed cracks more than slightly detract from the appearance, edible, or shipping quality of the fruit.

Score as damage when healed cracks on the eyes are more than 1/2 inch in width and not more than 1/2 inch in depth or which materially detract from the appearance, edible or shipping quality of the fruit; or when healed cracks between the eyes materially affect the appearance of the fruit shell.

Score as serious damage when healed cracks on the eyes are more than 3/4 inch in width and not more than 3/4 inch in depth or which seriously detract from the appearance, edible, or shipping quality of the fruit; or when healed cracks between the eyes seriously affect the appearance of the fruit shell.

Insect Injury (Q or C)

Insect injury may occur to pineapples in varying forms. Some injury occurs from insects chewing or burrowing on or into the rind of the pineapple.

Scoring Guide

Score as injury when an aggregate area more than 1/2 inch in diameter has any insects attached to the surface (i.e. scale), or any injury from insect feeding, which more than slightly detracts from the appearance, edible, or shipping quality of the fruit.

Score as damage when an aggregate area more than 3/4 inch in diameter has any insects attached to the surface (i.e. scale), or any injury from insect feeding, which materially detracts from the appearance, edible, or shipping quality of the fruit.

Score as serious damage when an aggregate area more than 1 inch in diameter has any insects attached to the surface (i.e. scale) or any injury from insect feeding which seriously detracts from the appearance, edible, or shipping quality of the fruit.

Internal Breakdown (C)

Internal breakdown is firm light brown water soaking of the flesh which appears around the base of the fruit. As it advances, the discoloration tends to move outward and upward until it involves most of the fruit. In most cases there is no external indication of the defect. The most extensive breakdown is generally associated with advanced stages of maturity.

§51.1506 *Internal breakdown*. "Internal breakdown" means a physiological deterioration which results in a watersoaked or brown or blackish discoloration.

Scoring Guide

Score as injury when more than 5 percent of the edible flesh has a distinct light to medium brown discoloration, which materially detracts from the appearance or edible quality of the fruit.

Score as damage when more than 10 percent of the edible flesh has a light to medium brown discoloration, which materially detracts from the appearance or edible quality of the fruit.

Score as serious damage when more than 20 percent of the edible flesh has a distinct medium to dark brown or brown-black discoloration, which seriously detracts from the appearance or edible quality of the fruit.

**NOTE: Internal breakdown can only be scored if there is at least a "light brown" discoloration present. If areas in question are only water soaked or translucent in appearance (with no discoloration present) they cannot be scored as internal breakdown.

Sampling and Cutting to Determine Internal Defects

During examination for external defects it may be difficult for inspectors to detect the presence of internal defects. Some fruit must be cut from every sample. The pineapples shall be cut lengthwise (top to stem end).

The number of specimens cut is discretionary and based on such factors as growing conditions, time of year, ripeness of fruit and any external characteristics of possible internal defects.

When there are external indications of possible internal defects, such as riper fruit may have internal discoloration; the percentage of internal defects is based upon the entire sample examined. It is not based upon the number of fruit cut. For example, if an inspector examines a 5-count sample of pineapples, and after cutting all the suspicious fruit finds 1 with an internal defect, the percentage of internal defects is 20% (1 defective fruit out of the entire sample, 5 fruit in this container).

When there are no external indications of possible internal defects, the inspector should randomly cut 1 - 2 fruit from each container to ensure no internal defects are present.

Leaking Eyes (C)

Leaking eyes are often found in association with other physical defects such as bruising and insect injury. If leaking eyes are not found in association with any other defect, score as "leaking eyes" using the general definitions of injury, damage, or serious damage.

Scoring Guide

Score as injury when leaking eyes slightly detracts from the appearance, edible, or shipping quality of the fruit.

Score as damage when leaking eyes materially detracts from the appearance, edible, or shipping quality of the fruit.

Score as serious damage when leaky eyes seriously detracts from the appearance, edible, or shipping quality of the fruit.

Maturity (Q)

Pineapples must be "mature" in order to meet the requirements of the U.S. Grades.

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§51.1492 *Mature*. "Mature" means the pineapple has reached the stage of development where ripening has progressed to a degree where the fruit is usable and edible.

When immature, the eyes are light green, the small bracts which cover about half of each eye are gray or almost white, which gives the fruit a grayish appearance. In mature green fruit, the eyes are a darker green or purplish color.

Scoring Guide

Immature pineapples shall be scored as serious damage against all grades.

Mold (C)

On occasion, a white to gray mold growth will form on the tops and/or fruit. Even though the mold does not affect the flesh it may affect the appearance of the fruit. Mold growth on the cut stem end of the fruit is not scorable, but may be reported on the certificate. The location of the mold should also be noted on the certificate using general quantity terms (e.g. most mold affecting tops, some affecting fruit).

Scoring Guide

Score as injury when more than 10 percent of the top or fruit is affected.

Score as damage when more than 25 percent of the top or fruit is affected.

Score as serious damage when more than 50 percent of the top or fruit is affected.

Overripe (C)

All grades require pineapples to be free from "overripe."

§51.1493 *Overripe*. "Overripe" means the fruit is soft and past commercial utility.

Scoring Guide

Score as serious damage against all grades.

Shape (Q)

The U.S. Fancy and U.S. No. 1 grades requires that pineapples be "well formed."

§51.1495 *Well formed*. "Well formed" means the fruit shows good shoulder development and is not lopsided or distinctly pointed, and that the sides are not noticeably flattened.

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**** The U.S. No. 2 grade requires that the pineapples be "fairly well formed."

§51.1496 Fairly well formed. "Fairly well formed" means the fruit is not excessively lopsided, or excessively flattened at the shoulders or sides.

Scoring Guide

For U.S. Fancy and U.S. No. 1 grades score as damage when pineapples are not "well formed" and report as "not well formed."

Score as serious damage when pineapples are excessively lopsided or excessively flattened at the shoulders or sides and report as "not fairly well formed."

Similar Varietal Characteristics (Q)

The U.S. Standards for Grades of Pineapples provide that the fruit shall be of "similar varietal characteristics." Smooth Cayenne is the variety most commonly seen. However, there are many different types of hybrid clone varieties present throughout the markets. No attempt to determine varieties shall be made by inspectors while inspecting a lot of pineapples.

Pineapples must have "similar varietal characteristics" and tops must have "similar varietal color" in order to meet the requirements of the U.S. Grades.

§51.1491 *Similar varietal characteristics*. "Similar varietal characteristics" means the pineapples in any lot are similar in type and character of growth.

Scoring Guide

Pineapples that fail to meet the requirements for "similar varietal characteristics" or tops that fail to meet the requirements for "similar varietal color" shall be reported as "dissimilar varietal characteristics" and scored against the total tolerance for the grade being applied.

Stems (Q)

The U.S. Fancy and U.S. No. 1 grades require that the stems at the base be removed.

§51.1494 Stems removed. "Stems removed" means the stem at the base of the fruit has been removed so that it does not extend more than one inch beyond the outermost bottom portion of the butt of the fruit.

Scoring Guide

Pineapples that fail to meet the requirements for "stems removed" shall be reported as "excessively long stems" and scored as damage against the total tolerance for the grade. There is no requirement in the U.S. No. 2 grade.

Sunburn (Q)

Sunburn is usually caused when the pineapples are exposed to direct sunlight. The affected area will appear bleached, yellow, or brown in color and cause slight to severe softening of the shell. In severe cases the underlying flesh may be dry and pithy.

Scoring Guide

Score as injury when there is discoloration present and a slight softening of the shell affecting an aggregate area more than 1-1/2 inches in diameter.

Score as damage when there is discoloration present and a moderate softening of the shell affecting an aggregate area more than 2-1/4 inches in diameter.

Score as serious damage when there is discoloration present and severe softening of the shell affecting an aggregate area more than 3 inches in diameter.

Sunken Discolored Areas (C)

Sunken discolored areas can develop due to numerous causes such as disease or improper temperature handling. These areas are often dark, discolored, and sharply sunken. The flesh in these areas usually remains firm.

Scoring Guide

Score as injury when there is a distinct sunken area with discoloration affecting an aggregate area more than 1-1/2 inches in diameter.

Score as damage when there is a distinct sunken area with discoloration affecting an aggregate area more than 2-1/4 inches in diameter.

Score as serious damage when there is a distinct sunken area with discoloration affecting an aggregate area more than 3 inches in diameter.

Tops (Q or C)

This is sometimes referred to as the crown by some sectors of the industry. Freshly harvested pineapples have bright green or reddish-green colored tops.

The U.S. Fancy and the U.S. No. 1 grades require that the tops have a single main "stem" (crown), while the U.S. No. 2 grade requires the tops have not more than 2 fairly well developed main "stems" (crowns).

Condition of Tops (C)

The pineapple standard specifies that the tops shall be of "similar varietal characteristic color for tops."

§51.1504 Similar varietal characteristic color for tops. "Similar varietal characteristic color for tops" means the tops in a lot may vary from a characteristic green to reddish-green color.

The following terms should be used to describe the tops:

Good green or good reddish-green color.

Fairly good green or fairly good reddish-green color.

Light green to turning yellow (or brown) color.

Brown (or discolored) and dry.

Freshness of the tops is not a requirement of any grade. However, it is often used in connection with reporting color. The term "fairly fresh" can be used to report the condition of tops, which while not as ideal as "fresh," will still meet the "fairly good green color designation. For "Discoloration Affecting Tops" please see the "Discoloration" section of this handbook.

Length of Tops (Q)

The maximum length of the tops should be determined based on the average length of the top leaves. Do not base the top length on a single leaf blade or two that may be considerably longer than the majority of the leaves.

Tops are required to be no more than 1-1/2 times the length of the fruit in the U.S. Fancy grade and no more than twice the length of the fruit in the U.S. No. 1 grade. There is no requirement for length of tops in the U.S. No. 2 grade.

Scoring Guide

Tops which are too long should be scored as damage against the total tolerance for the grade and reported as "over length tops." There is no minimum length requirement for tops.

Crooked Tops (Q)

Tops which are crooked or irregularly shaped are usually caused by several growing factors. It is important that the inspector determine if the tops are crooked due

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to growth factors and not because of a very tight pack which could also cause injury to the fruit.

Scoring Guide

Score as injury when the tops are "not moderately straight," or have grown at an angle which slightly detracts from the appearance of the fruit.

Score as damage when the tops have grown at an angle that exceeds 30 degrees.

Score as serious damage when the tops have completely curved over.

Decay (C)

Each grade of pineapples is required to be free from decay. The type of decay is not to be reported on the certificate. However, when the decay is in excess of the tolerance for the grade, report the degree of advancement as early, moderate, or advanced stages using general terms. The location of the decay should also be noted on the certificate using general quantity terms (e.g. most decay affecting tops, some affecting fruit).

Scoring Guide

Score any amount affecting tops or fruit against the 2% restricted decay tolerance.

Appendix I U.S. Grade Standards

United States Standards for Grades of Pineapples¹

Effective May 2, 2008

General

51.1485 General.

Grades

51.1486 U.S. Fancy.

51.1487 U.S. No. 1.

51.1488 U.S. No. 2.

Tolerances

51.1489 Tolerances.

Size and Marking Requirements

51.1490 Size and marking requirements.

Definitions

51.1491 Similar varietal characteristics.

51.1492 Mature.

51.1493 Overripe.

51.1494 Stems removed.

51.1495 Well formed.

51.1496 Fairly well formed.

51.1497 Fairly uniform in size.

51.1498 Freezing injury or Frozen (fruit).

51.1499 Freezing injury or Frozen (tops).

51.1500 Single top.

51.1501 Crown slips.

51.1502 Shell.

51.1503 Flesh.

51.1504 Similar varietal characteristic color for tops.

51.1505 Decay.

51.1506 Internal breakdown.

51.1507 Injury.

51.1508 Damage.

51.1509 Serious damage.

Classification of Defects

51.1510 Classification of defects.

General

§51.1485 General.

- (a) Compliance with the provisions of these standards shall not excuse failure to comply with provisions of applicable Federal or State Laws.
- (b) These standards are applicable to fresh pineapples with or without tops provided that pineapples with tops attached or with tops removed may not be commingled in the same container.

Grades

§51.1486 U.S. Fancy.

- "U.S. Fancy" consists of pineapples which meet the following requirements:
- (1) Basic requirements for fruit:
- (i) Similar varietal characteristics:
- (ii) Mature;
- (iii) Well formed; and,
- (iv) Stems removed.

¹ Compliance 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.

- (2) Basic requirements for tops:
- (i) Similar varietal characteristic color;
- (ii) Single stem;
- (iii) Moderately straight;
- (iv) Well attached to fruit; and,
- (v) Not more than 1-1/2 times the length of the fruit.
- (3) Fruit free from:
- (i) Fresh cracks;
- (ii) Evidence of rodent feeding;
- (iii) Freezing injury or frozen;
- (iv) Overripe; and,
- (v) Decay.
- (4) Tops free from:
- (i) Crown slips;
- (ii) Freezing injury or frozen; and,
- (iii) Decay.
- (5) Fruit free from injury by:
- (i) Bruising;
- (ii) Sunburn;
- (iii) Gummosis;
- (iv) Internal breakdown;
- (v) Insects;
- (vi) Healed cracks; and,
- (vii) Mechanical or other means.
- (6) Tops free from injury by:
- (i) Discoloration; and,
- (ii) Insects.
- (7) Tolerances. (See §51.1489)

§51.1487 U.S. No. 1.

- "U.S. No. 1" consists of pineapples which meet the following requirements:
- (1) Basic requirements for fruit:
- (i) Similar varietal characteristics;
- (ii) Mature;
- (iii) Well formed; and,
- (iv) Stems removed.
- (2) Basic requirements for tops:
- (i) Similar varietal characteristic color;
- (ii) Single stem;
- (iii) Not more than moderately curved:
- (iv) Well attached to fruit; and,
- (v) Not more than twice the length of the fruit.
- (3) Fruit free from:
- (i) Fresh cracks;
- (ii) Evidence of rodent feeding;
- (iii) Freezing injury or frozen;
- (iv) Overripe; and,
- (v) Decay.
- (4) Tops free from:
- (i) Freezing injury or frozen; and,
- (ii) Decay.
- (5) Fruit free from damage by:
- (i) Bruising;
- (ii) Sunburn;
- (iii) Gummosis;
- (iv) Internal breakdown;
- (v) Insects;

- (vi) Healed cracks; and,
- (vii) Mechanical or other means.
- (6) Tops free from damage by:
- (i) Discoloration:
- (ii) Crown slips; and,
- (iii) Insects.
- (7) Tolerances. (See §51.1489)

§51.1488 U.S. No. 2.

- "U.S. No. 2" consists of pineapples which meet the following requirements:
- (1) Basic requirements for fruit:
- (i) Similar varietal characteristics;
- (ii) Mature; and,
- (iii) Fairly well formed.
- (2) Basic requirements for tops:
- (i) Similar varietal characteristic color;
- (ii) Well attached to fruit;
- (iii) Not completely curved over; and,
- (iv) Not more than two fairly well developed stems.
- (3) Fruit free from:
- (i) Fresh cracks:
- (ii) Evidence of rodent feeding;
- (iii) Freezing injury or frozen;
- (iv) Overripe; and,
- (v) Decay.
- (4) Tops free from:
- (i) Freezing injury or frozen; and,
- (ii) Decay.
- (5) Fruit free from serious damage by:
- (i) Bruising;
- (ii) Sunburn;
- (iii) Gummosis;
- (iv) Internal breakdown;
- (v) Insects;
- (vi) Healed cracks; and,
- (vii) Mechanical or other means.
- (6) Tops free from serious damage by:
- (i) Discoloration; and,
- (ii) Insects.
- (7) Tolerances. (See §51.1489)

§51.1489 Tolerances.

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

- (a) U.S. Fancy and U.S. No. 1 grades -- (1) For defects at shipping point². 8 percent for fruit which fails to meet the requirements of the specified grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for the defects listed: 4 percent for defects causing serious damage, including in the latter amount not more than 1 percent for decay.
- **(2) For defects en route or at destination**³. 12 percent for fruit which fails to meet the requirements of the specified grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for the defects listed:
- (i) 8 percent for permanent defects:

² Shipping 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.

³ En route or at destination means any point other than shipping point as described in Footnote 2, Shipping point

- (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 decay.
- **(b) US No. 2 grade -- (1) For defects at shipping point**. 8 percent for fruit which fails to meet the requirements of the specified grade: **Provided**, that included in this amount not more than 1 percent for decay.
- **(2) For defects en route or at destination**. 12 percent for fruit which fails to meet the requirements of the specified grade: **Provided**, that included in this amount not more than the following percentages shall be allowed for the defects listed:
- (i) 8 percent for permanent defects;
- (ii) 2 percent for decay.

Application of Tolerances.

The contents of individual samples in the lot, are subject to the following limitations:

(a) Individual samples shall have not more than double a specified tolerance except that at least two defective specimens may be permitted in any sample: **Provided**, That no more than one specimen affected by decay be permitted in any sample, and provided further, that the averages for the entire lot are within the tolerances specified for the grades.

§51.1490 Size and marking requirements.

- (a) The pineapples in each container shall be fairly uniform in size and the count shall be plainly stamped, stenciled, or otherwise marked on the container.
- (b) In order to allow for variations incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements pertaining to size and marking.

Definitions

§51.1491 Similar varietal characteristics.

"Similar varietal characteristics" means the pineapples in any lot are similar in type and character of growth.

§51.1492 Mature.

"Mature" means the pineapple has reached the stage of development where ripening has progressed to a degree where the fruit is usable and edible.

§51.1493 Overripe.

"Overripe" means the fruit is soft and past commercial utility.

§51.1494 Stems removed.

"Stems removed" means the stem at the base of the fruit has been removed so that it does not extend more than one inch beyond the outermost bottom portion of the butt of the fruit.

§51.1495 Well formed.

"Well formed" means the fruit shows good shoulder development and is not lopsided or distinctly pointed, and that the sides are not noticeably flattened.

§51.1496 Fairly well formed.

"Fairly well formed" means the fruit is not excessively lopsided, or excessively flattened at the shoulders or sides.

§51.1497 Fairly uniform in size.

"Fairly uniform in size" means the weight of the fruit within individual containers does not vary more than 1-1/2 pounds from smallest to largest.

§51.1498 Freezing injury or frozen (fruit).

"Freezing injury (fruit)" means the edible flesh is glassy, watersoaked, and/or discolored characteristic of having been frozen.

"Frozen (fruit)" means the fruit is affected by freezing so that some portion is in a hardened state with ice crystals present.

§51.1499 Freezing injury or frozen (tops).

"Freezing injury (tops)" means the leaf tissue is glassy, watersoaked, and/or discolored as is characteristic of having been frozen.

"Frozen (tops)" means the tops are to some degree, hardened by freezing with ice crystals present.

§51.1500 Single top.

"Single top" means the fruit has only one prominent main stem at the crown of the fruit.

§51.1501 Crown slips.

"Crown slips" means the small secondary top growths at the crown of the fruit.

§51.1502 Shell.

"Shell" means the external surface or rind of the fruit.

§51.1503 Flesh.

"Flesh" means the internal edible portion of the fruit.

§51.1504 Similar varietal characteristic color for tops.

"Similar varietal characteristic color for tops" means the tops in a lot may vary from a characteristic green to reddish-green color.

§51.1505 Decay.

"Decay" means breakdown or disintegration of the tops or breakdown, disintegration or fermentation of the pineapple caused by bacteria or fungi.

§51.1506 Internal breakdown.

"Internal breakdown" means a physiological deterioration which results in a watersoaked or brown or blackish discoloration.

§51.1507 Injury.

"Injury" means any defect listed in the Classification of Defects section or any other defect or combination of defects which more than slightly detracts from the appearance, edible, or shipping quality of the fruit. **§51.1508 Damage.**

"Damage" means any defect listed in the Classification of Defects section or any other defect or combination of defects which materially detracts from the appearance, edible, or shipping quality of the fruit.

§51.1509 Serious damage.

"Serious damage" means any defect listed in the Classification of Defects section or any other defect or combination of defects which seriously detracts from the appearance, edible, or shipping quality of the fruit.

§51.1510 Classification of Defects¹

Defects	Injury	Damage	Serious damage
Tops:			
Discoloration	When more than 10 percent of the crown leaves are discolored.	When more than 25 percent of the crown leaves are discolored.	When more than 50 percent of the crown leaves are discolored.
Crown slips	Free from.	When more than 5 crown slips or when more than 2 are over 2-3/4 inches in length.	
Mechanical or other means	When physical injury (cleanliness, mechanical damage) more than slightly affects the appearance of the pineapple.	When physical injury (cleanliness, mechanical damage) materially affects the appearance of the pineapple.	When physical injury (cleanliness, mechanical damage) seriously affects the appearance of the pineapple.
Fruit:			
Bruising	When any bruise extends into flesh more than 1/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 1-1/2 inches in diameter.	When any bruise extends into flesh more than 1/2 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 2-1/4 inches in diameter.	When any bruise extends into flesh more than 3/4 inch and when a bruise or combination of bruises affects an aggregate area of a circle more than 3 inches in diameter.
Sunburn	When there is bleaching and a slight softening of the shell affecting an aggregate area more than 1-1/2 inches in diameter.	When there is bleaching and a moderate softening of the shell affecting an aggregate area more than 2-1/4 inches in diameter.	When there is bleaching and severe softening of the shell affecting an aggregate area more than 3 inches in diameter.
Gummosis	When gum deposits penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/4 inch in diameter.	When gum deposits slightly penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1/2 inch in diameter.	When gum deposits readily penetrate into the flesh or causes discoloration of the shell affecting an aggregate area more than 1 inch in diameter.

¹ Classification of defects is based on a 10 size fruit (ten, 4-pound average fruit per 40 pound box). Accordingly larger or smaller fruit are permitted to have defects relative to their size.

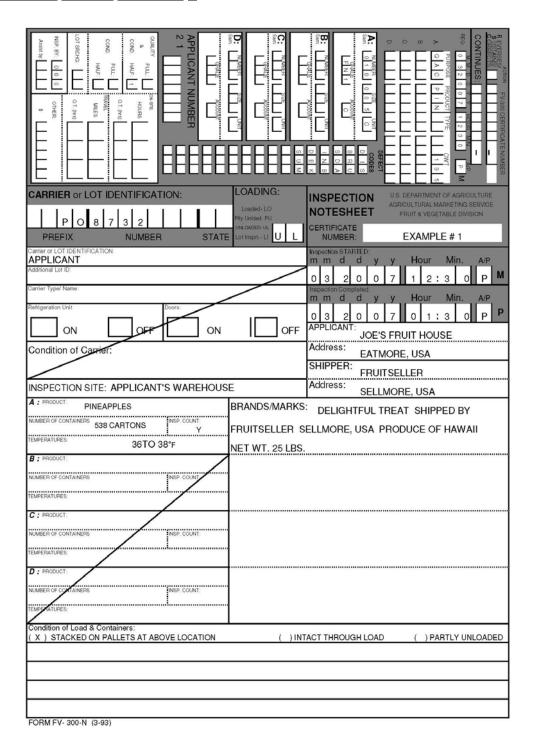
§51.1510 Classification of Defects¹ cont.

Defects	Injury	Damage	Serious damage
Fruit			
Internal breakdown	When more than 5 percent of the edible flesh has a distinct light brown to medium brown discoloration which more than slightly detracts from the appearance or edible quality of the fruit.	When more than 10 percent of the edible flesh has a light to medium brown discoloration, which materially detracts from the appearance or edible quality of the fruit.	When more than 20 percent of the edible flesh has a distinct medium to dark brown or brown-black discoloration, which seriously detracts from the appearance or edible quality of the fruit.
Insects and insect feeding	When an aggregate area more than 1/2 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which more than slightly detracts from the appearance, edible, or shipping quality of the fruit.	When an aggregate area more than 3/4 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which materially detracts from the appearance, edible, or shipping quality of the fruit.	When an aggregate area more than 1 inch in diameter has any insects attached to the surface (e.g. scale) or any injury from insect feeding, which seriously detracts from the appearance, edible, or shipping quality of the fruit.
Healed cracks	When healed cracks more than slightly detract from the appearance, edible, or shipping quality of the fruit.	When healed cracks on the eyes are more than 1/2 inch in width and not more than 1/2 inch in depth or which materially detract from the appearance, edible, or shipping quality of the fruit.	When healed cracks on the eyes are more than 3/4 inch in width and not more than 3/4 inch in depth or which seriously detract from the appearance, edible, or shipping quality of the fruit.
		When healed cracks between the eyes materially affect the appearance of the fruit shell.	When healed cracks between the eyes seriously affect the appearance of the fruit shell.
Mechanical or other means	When physical injury (cleanliness, mechanical damage) more than slightly affects the appearance or edible quality of the pineapple.	When physical injury (cleanliness, mechanical damage) materially affects the appearance or edible quality of the pineapple.	When physical injury (cleanliness, mechanical damage) seriously affects the appearance or edible quality of the pineapple.

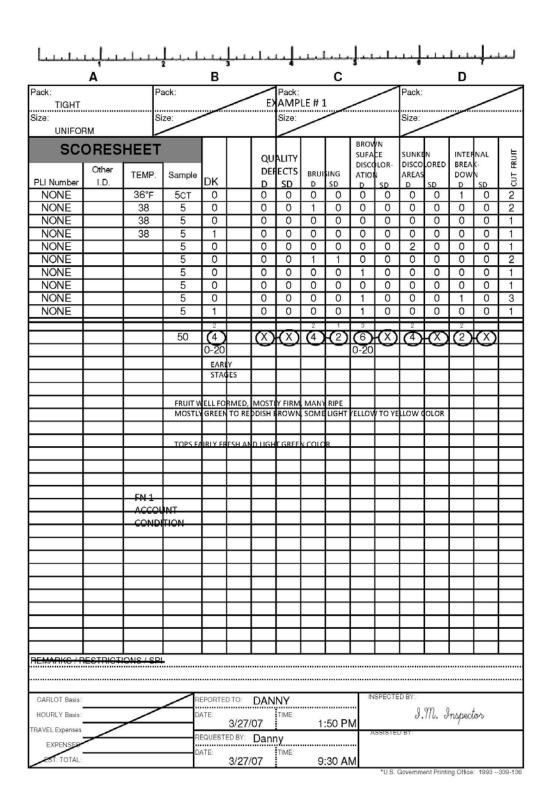
¹ Classification of defects is based on a 10 size fruit (ten, 4-pound average fruit per 40 pound box). Accordingly larger or smaller fruit are permitted to have defects relative to their size.

Appendix II Notesheets and Certificates

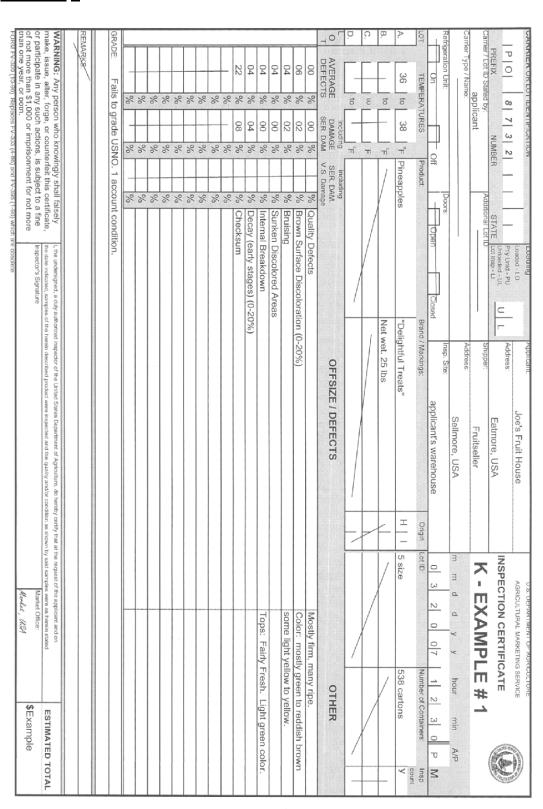
Notesheet (Front) Example 1



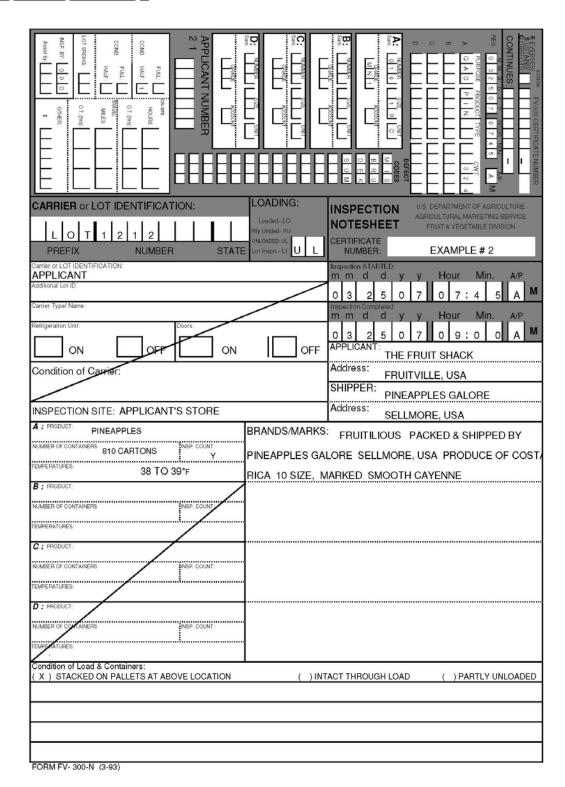
Notesheet (Back) Example 1



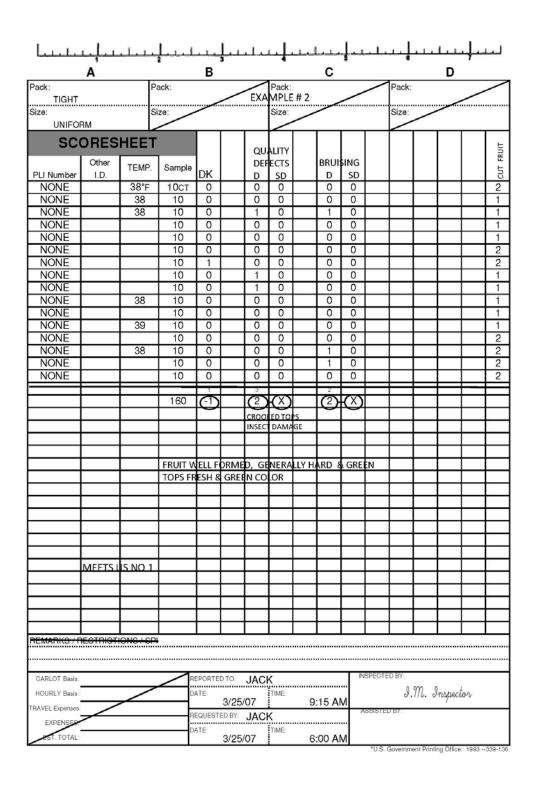
Certificate Example 1



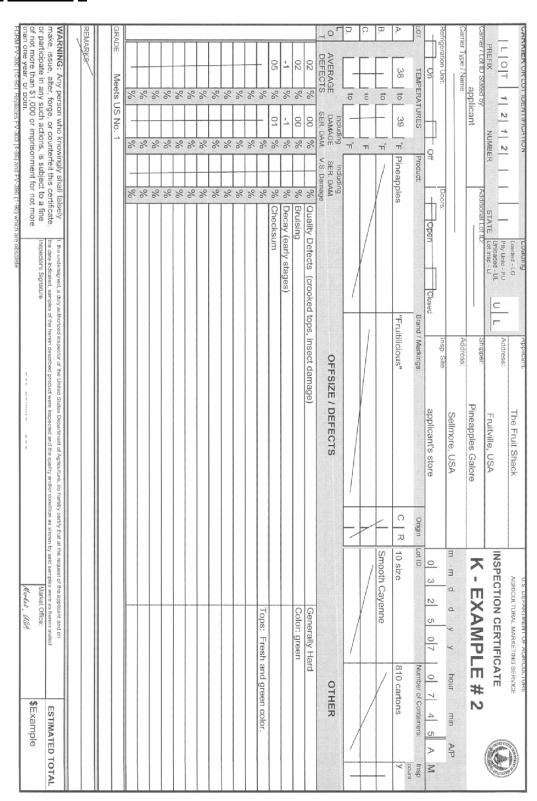
Notesheet (Front) Example 2



Notesheet (Back) Example 2



Certificate Example 2



Certificate Example 3

CARRIER		http://FF	BInspect	ions.ams.usda.gov	F	PAGE 1 of 1
OMNITIER (or LOT ID:		OID		000000)TEST APPLICANT	REQUESTED: 11/27/2007 11:57
LOADING S	STATUS:	LOT INSPEC	CTION	WASHINGTON, DC	;	STARTED: 11/27/2007 11:58
STATED B	Y: NA			SHIPPER: TEST AP	PLICANT	COMPLETED: 11/27/2007 1:08
ADDITIONA	L ID: NA			WASHINGTON, DC	;	PASSWORD FOR ONLINE ACC
CARRIER 1				MARKET OFFICE:	НО	KN6KN6ENXXKG3RKA
REFRIG UN		DC	OORS: NA		ANT'S WAREHOUSE	ESTIMATED FEE: NO CHAR
REMARKS:		(XXXXXXX	xxxxxx	(XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	×××××××××××××××××××××××××××××××××××××××	LINATED FEE. NO CHAR
				LOT A (QAC) -	PINEAPPLES	
TEMP : 3	7° to 39°F	INSP CT:	YES N	IUMBER OF CONTAINERS: 12	250 CARTON(S)	ORIGIN: H
	MANDE	D: NO BRANI		EAPPLES, 6 COUNT, PRODU	LICT OF HAWAII	
PLI: NONE	XXXXX	AAAAAAA	AND, TINE	~~~~~~~~~~~~~~~~~	OTHER ID:	***************************************
INJURY		CED DAM	V.S. DAM			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	DAM			OULLITY DEFENTS	OFFSIZE/DEFEC	,15
NA	0	0	NA NA	QUALITY DEFECTS	2 (0 to 17%)	
NA	3	0	NA NA	DISCOLORATION OF TOPS	5 (0 to 17%)	
NA NA	2	2	NA NA	MOLD (0 to 17%)		
NA NA	8	2	NA NA	DECAY (0 to 17%) CHECKSUM		
INA	0		INA I	CHECKSUM		
DADE.	MEETO					
GRADE: LOT DESC:	COLOR	U.S. NO. 1. GENERALL TION OF TOI ESS: GENERA S OF DECAY	PS: GOOD (******	***************************************
	COLOR	U.S. NO. 1. C: GENERALL TION OF TOE ESS: GENERA	PS: GOOD (
OT DESC:	COLOR CONDI FIRMNI STAGE	U.S. NO. 1. TION OF TOI ESS: GENERAL S OF DECAY	PS: GOOD (ALLY RIPE (; EARLY	GREEN		
OT DESC:	COLOR CONDI FIRMNE STAGE	U.S. NO. 1. TION OF TOI ESS: GENERAL S OF DECAY	PS: GOOD (ALLY RIPE (: EARLY	GREEN		uest of the applicant and on the date indicated,