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Department of
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Programs

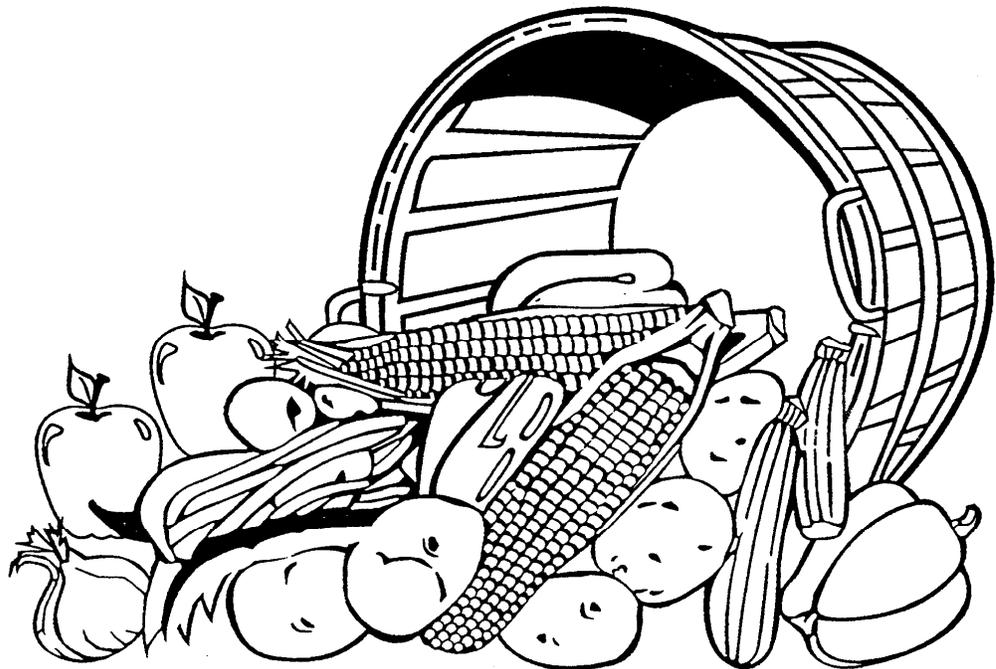
Fresh Products
Branch

May 2004

Previously
October 2001

Plums and Prunes

Shipping Point and Market Inspection Instructions



Shipping Point and Market Inspection Instructions for Fresh Plums and Prunes

These inspection instructions are specifically developed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Fresh Plums and Prunes, Section 51.1520.

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 the General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. that is not covered in this handbook. Reference to "General Inspection Instructions" in all Fresh Products 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 the section number §51.--- and followed by **bold** print are sections or portions of sections copied directly from U.S. standards. The U.S. Standards for Grades of Fresh Plums and Prunes are printed in the appendix of this handbook. All U.S. standards are available on the Internet under the USDA homepage.

May 2004

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This replaces Shipping Point and Market Inspection Instructions for Plums and Prunes dated October 2001.

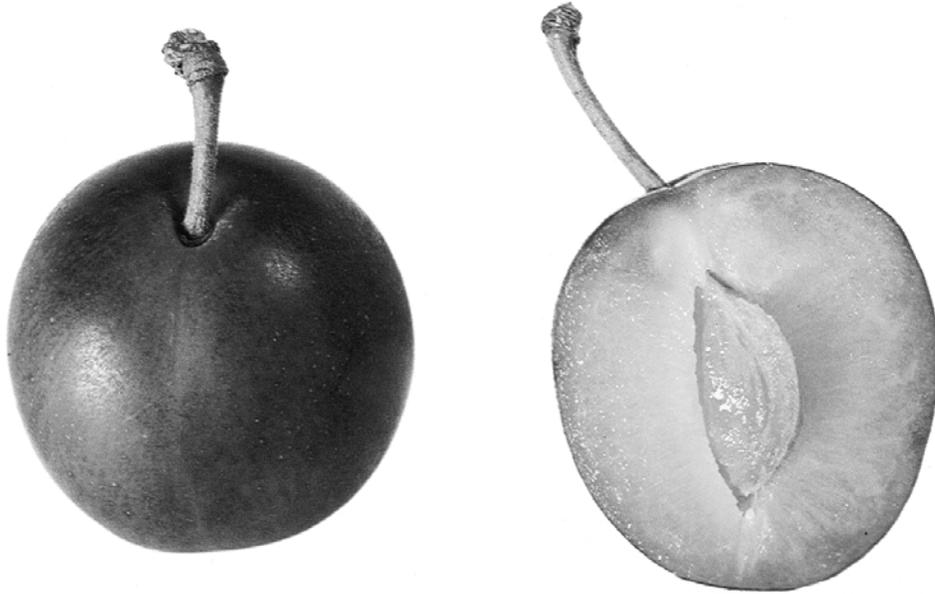
Factors noted with **(Q)** are considered quality only. Factors noted with **(C)** are considered condition at market. Factors noted with **(Q or C)** may be quality or condition depending on the circumstances. Factors not designated do not pertain to either category.

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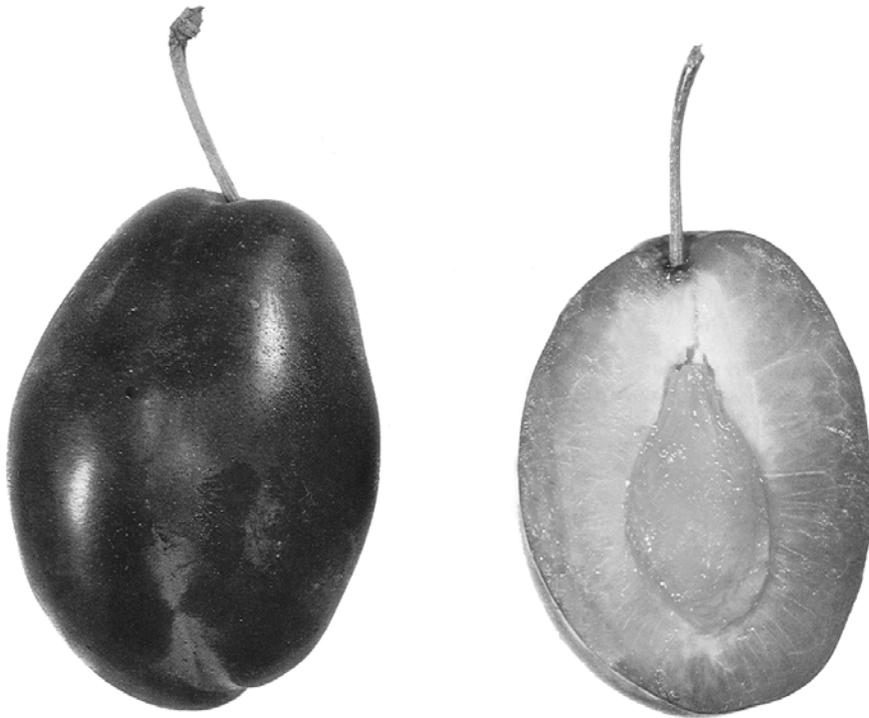
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Plums



Prunes



GENERAL

Several species of plums are grown in the United States, but only three are commercially important. These three, the Japanese, European and Japanese/American hybrid species, are grown primarily in California, Oregon, Washington, Idaho, and in the Great Lakes region of the northeast.

European plums are marketed as canned, dried or fresh. They range in color from green to yellow or red to purple. Common varieties are Italian Prune, Agen or French Prunes, Sugar Prune, Grand Duke, President, and Tragedy.

Japanese plums are those commonly marketed today as fresh plums. They range from yellow to a deep red color and are flat to oblong shaped. Popular varieties include Friar, Santa Rosa, Angelino, and Red Beaut.

The Japanese/American hybrids are grown in the Great Lakes region of the U.S. Two varieties from this group include Underwood and Monitor.

The terms “Plums” and “Prunes” were synonymous for many years, comprising of hundreds of varieties of about 15 species. Botanically, all prunes are plums.

Prunes

“Prune” or “Dried Plum” designates a variety of plum that can be, and normally is, dried into a firm, long keeping product. Prunes have a sufficiently high sugar content which allow them to be dried without fermenting around the pit. Prune pits usually separate from the flesh and lift out, much like those of a freestone peach. Distinguishing characteristics of prunes are fruit that are usually oval, sutured, blue or purple, with a heavy bloom. The flesh is firm and greenish yellow or golden color. The U.S. standards and instructions apply only to prunes classified as “Italian type,” where noted.

Interspecific Plums

Fruit which is marked “Interspecific Plums” or IS Plums” may be inspected using the applicable U.S. grade standards according to the external appearance of the fruit. If the fruit has the external appearance of a plum, use the U.S. Standards for Grades of Fresh Plums and Prunes. If the fruit has the external appearance of an apricot, use the U.S. Standards for Grades of Apricots.

Pluots

Pluots are cross between a plum and apricot that have predominantly plum parentage and smooth skins like plums. Fruit that is identified as “Pluots” and that have the same external appearance as plums shall be referred to on the notesheet and the certificate as “Pluots” and inspected using the U.S. Standards for Grades of Fresh Plums and Prunes.

Apriums

Apriums are a cross between an apricot and a plum that resemble apricots as their apricot parentage is more predominantly expressed. Fruit that is identified as “Apriums” and that have the same external appearance as apricots shall be referred to on the notesheet and the certificate as “Apriums” and inspected using the U.S. Standards for Grades of Apricots.

Plumcots

Fruit that is identified, as “Plumcots” shall be referred to on the notesheet and the certificate as “Plumcots” and is considered a product with “No Established U.S. Grade (NOG).”

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.

Samples for Grade Determination

The tolerances of the U.S. Standards for Grades of Fresh Plums and Prunes are determined on the basis of count.

§51.1525 Tolerances. In order to allow for variations incident to proper grading and handling in each of the following grades, the following tolerances, by count, based on a minimum 50-count sample, except when packages contain less than 50 fruit, a minimum 25-count sample shall be examined, (when packages contain less

than 25 fruit adjoining packages shall be opened to obtain the 25-count minimum sample).

SHIPPING POINT

In-line Certification.

The minimum sample size for grades of plums and prunes is 50 fruit for containers with 50 or more fruit. For containers with less than 50 fruit, a minimum of 25 fruit must be examined. If containers have less than 25 fruit, a 25 fruit sample must be examined. Therefore, the additional fruit to make up the 25 fruit minimum sample must be obtained from another container. The U.S. standard states, "When packages contain less than 25 fruit, adjoining packages shall be opened to obtain the 25-count minimum sample." For in-line sampling, the next container of the same type and size fruit shall be considered the "adjoining packages." For example, a 20-count pack is not to be combined with a 48-count pack. The next 20-count pack is to be used.

Stationary Lots.

The minimum sample size for grades of plums and prunes is 50 fruit for containers with 50 or more fruit. For containers with less than 50 fruit, a minimum of 25 fruit must be examined. If containers have less than 25 fruit, a 25 fruit sample must be examined. Therefore, the additional fruit to make up the 25 fruit minimum sample must be obtained from adjoining packages. Whenever defects exceed the container or lot tolerances in one or more samples, the entire contents of at least one of those packages must be examined.

MARKET

The minimum sample size for grades of plums and prunes is 50 fruit for containers with 50 or more fruit. For containers with less than 50 fruit, a minimum of 25 fruit must be examined. If containers have less than 25 fruit, a 25 fruit sample must be examined. Therefore, the additional fruit to make up the 25 fruit minimum sample must be obtained from adjoining packages. Whenever defects exceed the container or lot tolerances in one or more samples, the entire contents of at least one of those packages must be examined.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples 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.

Sampling for 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 number of specimens cut is discretionary and based on such factors as varietal characteristics (some varieties are more susceptible to internal discoloration than others), 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 50-count sample of plums, and after cutting 10 suspicious specimens finds 1 with an internal defect, the percentage of internal defects is 2%. (1 defective fruit out of the entire sample, 50 fruit in this case.)

When it is known or suspected that internal defects are present, but there are no external indications of possible internal defects a random sample shall be used to determine percentages. Select and cut 10 fruit free from external defects from each sample. When any cut sample exceeds the container tolerance the sample should be doubled to 20 fruit. At least one entire container or 100 count should be cut to determine if the application of tolerances have been exceeded. If the lot fails to meet container tolerances after an entire container (or 100 count) has been cut, revert back to the above-mentioned plan of cutting 10 fruit free from external defects. The percentages shall be based on the cut sample and not on the total grade sample. Each cut sample must be recorded so that a range and an average may be reported. A mixing of samples, commonly called a composite sample, is not allowed. This is because of the limitation of individual container tolerances in the standard. If this sampling plan is used, remember to note on the certificate the fact that percentages of internal defects were based upon cut samples.

TOLERANCES AND APPLICATION OF TOLERANCES

Due to the lack of use of the U.S. Combination and U.S. No. 2 Grades for Plums and Italian type prunes, those tolerances are not listed below. Please refer to the standards in the back of this handbook for a complete listing of tolerances for these grades.

§51.1525 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:

Plums or Prunes, Other Than Italian Type Prunes

(a) U.S. Fancy and U.S. No. 1 – (1) For defects of plums or prunes other than Italian type prunes 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 4 percent shall be allowed for defects causing serious damage, including in this latter amount not more than one-half of 1 percent for fruit which is affected by decay.

(2) For defects of plums or prunes other than Italian type prunes 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 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 for decay.

Italian Type Prunes

(3) For defects of Italian type prunes at shipping point. Not more than a total of 12 percent of the fruit in any lot may 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 the defects listed:

(i) 10 percent for prunes which fail to meet the color requirement;

(ii) 10 percent for prunes which fail to meet the minimum diameter requirement;

(iii) 8 percent for prunes which fail to meet the remaining requirements of the grade: *Provided*, That not more than one-half of this amount, or 4 percent, shall be allowed for defects causing serious damage, including in the latter amount not more than one-half of 1 percent for decay.

(4) For defects of Italian type prunes en route or at destination. Not more than a total of 18 percent of the fruit in any lot may 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 the defects listed:

(i) 12 percent for permanent defects including therein not more than 10 percent which fail to meet the color requirement, 10 percent which fail to meet the minimum diameter requirement, and 8 percent which fail to meet the requirements of the grade because of other 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 decay.

Summary of Tolerances

Plums or Prunes, other than Italian type Prunes

	U.S. Fancy and U.S. No. 1	
	Shipping Point	En Route/ Destination
A. Total Defects	8%	12%
1. Permanent Defects (included in A)	8%	8%
2. Serious damage (included in A)	4%	6%
(a) Serious damage by permanent defects (included in 1)	4%	4%
(b) Decay (included in 2)	1/2%	2%

Italian type Prunes

	U.S. Fancy and U.S. No. 1	
	Shipping Point	En Route/ Destination
A. Total Defects	12%	18%
1. Permanent Defects (included in A)	12%	12%
2. Failing to meet minimum color requirements (included in 1)	10%	10%
3. Failing to meet minimum diameter requirements (included in 1)	10%	10%
4. Failing to meet remaining requirements of grade because of other permanent defects (included in A)	8%	8%
5. Serious damage (included in A)	4%	6%
(a) Serious damage by permanent defects (included in 4)	4%	4%
(b) Decay (included in 5)	1/2%	2%

A lot of U.S. No. 1 Italian type prunes at destination may show 8% quality defects (scars), 8% damage by bruising, and 2% decay, for a total of 18% defects. On the other hand, a lot of Italian type prunes with 8% quality defects (scars) and 5% undersize, and no decay, with a total of 13% defects, would fail to grade U.S. No. 1 account of quality. (Exceeds the total 12% tolerance for Permanent Defects.)

Application of Tolerances

§51.1526 Application of tolerances. The contents of individual packages in the lot, based on sample inspection, are subject to the following limitations:

(a) A package may contain not more than double any specified tolerance except that at least two defective and two off-size specimens may be permitted in any package: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade.

§51.1525 Tolerances. (b) (3) When applying the tolerance for the U.S. Combination grade individual packages may have not more than 10 percent less than the percentage of U.S. No. 1 required: *Provided*, That the entire lot averages within the required percentage. (See §51.1526.)

U.S. Combination Grade: The U.S. Combination grade specifies that at least 75% of the plums or prunes meet the requirements of U.S. No. 1 grade. Individual containers may have as low as 65% U.S. No. 1 Quality as long as the lot averages at least 75% U.S. No. 1 Quality.

Summary of Application of Tolerances

Plums or Prunes, other than Italian type Prunes

	U.S. Fancy and U.S. No. 1	
	Shipping Point	En Route/ Destination
A. Total Defects	16%	24%
1. Permanent Defects (included in A)	16%	16%
2. Serious damage (included in A)	8%	12%
(a) Serious damage by permanent defects (included in 1)	8%	8%
(b) Decay (included in 2)	1%	4%

Italian type Prunes

	U.S. Fancy and U.S. No. 1	
	Shipping Point	En Route/ Destination
A. Total Defects	24%	36%
1. Permanent Defects (included in A)	24%	24%
2. Failing to meet minimum color requirements (included in 1)	20%	20%
3. Failing to meet minimum diameter requirements (included in 1)	20%	20%
4. Failing to meet remaining requirements of grade because of other permanent defects (included in A)	16%	16%

5. Serious damage (included in A)	8%	12%
(a) Serious damage by permanent defects (included in 4)	8%	8%
(b) Decay (included in 5)	1%	4%

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. 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. Additional information and instructions may be given by your supervisor.

Product

“**Plums,**” “**Prunes**” or “**Italian type Prunes,**” shall be used to describe this commodity in the product heading. Type may be reported in conjunction with “Plums,” or “Prunes” or may be reported in the “Product/Variety” section on the shipping point inspection certificates or in the “Lot ID” section on market notesheet and certificate.

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 at someone else’s authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product.)

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Brands and Markings

The brand, variety, size, count, point of origin, grade markings and other important information appearing on the container shall be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other pertinent information shall appear in this section of the certificate. If the containers bear no brand it shall be stated "No Brand."

Origin

The inspector 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 plum or prunes were grown.

CONDITION OF PACK

The following terms should be used to describe pack:

Volume Filled or Jumble Pack containers:

Well filled - means that the plums or prunes packed in loose or volume filled containers are packed within 1 inch of the top of the container.

**** **Fairly Well Filled** - the contents have some movement and may be slightly below the top edge of the container, but not more than 1 inch below the top edge.

Slack - the contents are loose and the fruit is more than 1 inch below the top edge of the container. This term must always be qualified by showing how much the fruit is below the top edge in fractions of an inch or inches.

Tray pack containers:

Very Tight - the pack is too tight and usually results in bruising.

Tight - means the plums or prunes are the proper size for the mold or cell compartments in which they are packed, and the molds or cells are filled in such a way that movement is not allowed.

Fairly Tight - there is only slight fruit movement in the cups.

Slack - there is free movement of the fruit in the cups. When this term is used, the amount of slackness must always be reported in fractions of an inch or inches.

Standard Pack

Standard pack is not a requirement of the grade(s), and shall only be determined when specifically requested by the applicant. When requested to determine standard pack, use the following requirements:

§51.1527 Standard pack. (a) Packing. (1) All packages shall be tightly packed or well filled, according to the approved and recognized methods.

(2) The plums or prunes in the top layer of any package shall be reasonably representative in quality and size of those in the remainder of the package.

(3) “Well filled” means that the plums or prunes packed in loose or volume filled containers are packed within 1 inch of the top of the container.

(4) “Tightly packed” means the plums or prunes are the proper size for the mold or cell compartments in which they are packed, and the molds or cells are filled in such a way that movement is not allowed.

(b) Marking. (1) The size of plums or prunes shall be marked on each package, and shall be indicated in terms of minimum diameter, or number of fruit per package, or in accordance with the arrangement of the top layer of fruit in the package or subcontainer. Size may also be shown in terms of maximum number of fruit for a specified weight, such as “8 per pound,” “6.4 per pound” or “7-2/3 per pound” or by a count-size designation based on the number of fruits contained in a 10 pound sample with the designation rounded to an applicable number which is divisible by 5 (example: 40 size, 45 size, 50, size, 55 size, etc.).

(i) California peach boxes, lug boxes and small consumer packages. In layer-packed California peach boxes or lug boxes, and in small layer packed consumer packages, the count of the entire contents shall be marked on the package. The number of plums or prunes in California peach boxes or lug boxes shall not vary more than 4 from the number indicated on the package. Loose filled consumer packs not in a master container shall have a count-size marked on the package or on a tag closure. Master containers of loose filled consumer packages shall have a count-size marked on the package describing the size of plums or prunes within the container.

(ii) Face and fill packs in cartons and lug boxes. In face and fill packs in cartons and lug boxes the number of rows in the face shall be marked on the packages, as "6 row," "8 row," etc.

(c) Sizing. (1) Not more than 5 percent, by count, of the plums or prunes in any package may vary more than one-fourth inch in diameter, except that not more than 5 percent, by count, of the plums or prunes 2-1/4 inches or larger in diameter and packed in loose or volume filled containers may vary more than three-eighths inch in diameter.

(2) When size is indicated in terms of minimum diameter, not more than 5 percent, by count, of the fruit in any package may be smaller than the size marked.

(d) Tolerance for standard pack. In order to allow for variations incident to proper sizing and packing, not more than 10 percent, by count, of the packages in any lot may fail to meet the requirements for standard pack.

Important points to remember when determining standard pack:

- The application of tolerances does not apply to standard pack. Not more than 10% of the containers in a lot may fail to meet the requirements of standard pack.
- A lot of Plums or Prunes can fail to meet standard pack and still meet grade. The grade statement would be as follows: "U.S. No. 1. Fails to meet the requirements of standard pack."
- Note in the "Remarks" section of the certificate and notesheet "Standard pack determined at applicant's request."

TEMPERATURE OF PRODUCT

Refer to the General Inspection Instructions for information not covered in this section.

Generally, inspectors do not determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables in transit or at destination, it is essential that the inspector accurately read and report the temperature or range in temperatures on each lot. Remember to pre-cool the thermometer in order to obtain true readings.

A minimum of three temperatures must be taken and recorded for each lot on the notesheet. More temperatures shall be taken if the lot is abnormally cold, heated, or there is a specific request for temperature.

SIZE

Plums or Prunes, Other Than Italian Type Prunes

There are no tolerances for offsize for plums or prunes (other than Italian type). If a minimum size is marked on the container, and you are asked to determine the percent of undersize, report the size range and the range and average of undersize, but there are no tolerances to apply.

The standards do not contain a size requirement for plums. However, size can be indicated in terms of minimum diameter, number of fruit per package, number of fruit for a specified weight or a description of the arrangement of the top layer fruit in the package.

When plums are shipped in jumble or volume filled packs, the size may be indicated in terms of minimum diameter or by various size designations. The following size designations indicate the number of fruit in a 10-pound sample **(at destination the sample is 9-3/4 pounds, due to shrinkage)**, for fruit packed in California.

WEIGHT-COUNT STANDARDS FOR ALL VARIETIES OF PLUMS

<u>Size</u>	<u>Maximum Number Of Plums Per Sample</u>
20	20
25	25
30	30
35	35
40	40
45	45
**** 50	50 ****
60	60
65	65
70	70
80	80
90	90
100	100
120	120
140	140
170	170

To determine compliance with size markings at **shipping point**, the inspector takes a 10-pound sample at random and counts the number of plums in the sample. To determine compliance with size markings at **destination**, the inspector takes a 9-3/4 pound sample at random and counts the number of plums in the sample. The sample size is reduced at destination by 1/4 pound because of the possibility of weight loss in storage or transit due to evaporation. If the count does not exceed the amount shown in the table for the size marked, the marking will be considered correct. For example, if a sample of plums marked "100" counts out no more than 100 plums, it complies with the size marked.

The above mentioned chart and sizing instructions are not applicable to plums grown in states other than California. Inspectors should contact their supervisors regarding the correct procedure to follow when sizes not shown in this table are encountered or when plums originate from states other than California.

Italian Type Prunes

Minimum Size: In the U.S. Fancy and U.S. No. 1 grades a minimum diameter of 1-1/4 inches is required unless otherwise specified. If a size other than 1-1/4 inches is specified it **must** also be reported in connection with the grade statement. In order to avoid problems with misbranding, if there is a grade mark on the container and the size specified is smaller than 1-1/4 inches, the minimum size must be marked on the container. A tolerance of 10% is provided for undersize. This tolerance is included with the tolerances for "Total Defects" and for "Permanent Defects." The notesheet must show a column for undersize.

The U.S. No. 2 grade has no requirements for minimum size. If a minimum size is specified in connection with this grade, report the size range and the range and average of undersize. The lot **shall not** be reported as failing to meet size requirements.

The U.S. Combination grade requires that at least 75% of the prunes must not be less than 1-1/4 inches in diameter or another minimum size specified, as well as meeting the requirements of U.S. No. 1 for color and being free from other grade defects of the U.S. No. 1. grade.

Reporting the Range in Size: Lots are occasionally packed to meet a specific size. If the fruit in a container does not vary by more than 1/4 inch, the size may be described as "fairly uniform."

If more than 5% of the fruit in the container varies by more than 1/4 inch the size should be described as "irregular" and the range reported.

An overall range in size should be reported for fruit not packed to meet a specific size. If the range is greater than 1/2 inch from the smallest fruit to the largest, a "mostly" range should be stated. In most cases, 1/8-inch increments or larger are adequate for reporting size. Measurements smaller than this are usually impractical, and should not be used.

Measuring Diameter

The procedure for measuring the diameter is the same for plums and Italian type prunes.

§51.1537 Diameter. "Diameter" means the greatest dimension measured at right angles to a line from the stem to blossom end of the fruit. This is done by passing the fruit through a round sizing ring of a known diameter.

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.

Factors noted with **(Q)** are considered as **QUALITY** only (**Quality**, sometimes referred to as "**permanent**" **defects**, means defects which do not change during storage or shipment (shape, scars, etc.).

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. (**Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay).

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Broken Skins and Cuts (Q or C)

All **unhealed** skin breaks and cuts are to be scored as defects of the U.S. Fancy and U.S. No. 1 grades. Unhealed skin breaks aggregating an area more than 1/8 inch in diameter, length, or depth are scored as **serious damage**. Skin breaks caused by pulled stems, where the skin is torn, the flesh is visible and is readily noticeable should be considered a defect. The inspector should ignore skin breaks that are caused by pulled stems where the skin is only slightly torn within the stem basin.

§51.1536 Serious damage. (a) Broken skins which are unhealed when aggregating more than one-eighth inch in diameter, length or depth.

All **healed** skin breaks and cuts will be scored on the same basis as scars and reported as a quality defect. They shall be reported as "healed skin breaks."

Bruising (C)

Bruising is caused by careless or rough handling, or an excessively tight pack. Fruit that show only slight flattening on one side due to pressure of the pack and show no internal or external discoloration should be ignored. However, when the underlying flesh is discolored due to bruising, the fruit should be scored according to the general definitions of damage and serious damage. The inspector should be careful when differentiating between decay and bruising. Remember, for the fruit to be considered as

decay, the affected tissue should disintegrate when rubbed between your thumb and fingers.

Cleanness (Q)

All grades require plums and prunes to be clean. This means the fruit is practically free from dirt and other foreign material. This factor should be scored on the basis of the extent to which the individual fruit is affected. Plums and prunes may develop a natural bloom. Bloom will appear as a white frosty-looking film, which can easily be removed from the fruit by handling and should not be confused with spray residue or foreign material. Bloom is never scored as a defect.

§51.1529 Clean. "Clean" means that the fruit is practically free from dirt and other foreign material.

Color (Q or C)

The degree of purple color should be reported on the certificate, using general terms, in conjunction with the firmness statement. It is desirable to show how far the coloring has advanced or darkened. Dark color usually indicates advanced ripeness. Terms such as "purple," "dark purple," "black," etc., should be used according to the facts. For example: "Mostly firm to firm ripe, some ripe, with mostly purple, some dark purple to black color." The inspectors should also report the ground color of the fruit. Terms such as green, light green, yellowish green or yellow should be used to describe the ground color.

Plum or Prunes, Other Than Italian Type Prunes

Although there are no minimum color requirements for plums, in conjunction with reporting the firmness, the degree of blush or red color should be shown when it is present, because it indicates that plums are some stage beyond the minimum maturity.

Italian Type Prunes

The U.S. Fancy grade requires Italian type prunes to be "well colored." This means that 95% of the surface of the prune is purple color. The U.S. No. 1 grade requires Italian type prunes to be "fairly well colored."

§51.1534 Fairly well colored. "Fairly well colored," as applied to Italian type prunes, means that at least three-fourths of the surface of the prune is purple color.

When minimum color is being determined, always view the specimens under natural lighting conditions. Inspectors should refer to the visual aids (Models No. 6 and 7) illustrating the minimum color considered “fairly well colored.”

There is no minimum color requirement for the U.S. No. 2 grade. Although no color is required, prunes must be mature to grade U.S. No. 2.

When reporting color, it is permissible to report the lot as being “well colored,” or “fairly well colored,” when those requirements are met. If undercolor is present, qualifying terms, such as “generally” or “mostly” well colored or fairly well colored should be used to compliment the presence of undercolor. The inspector is also permitted to report the range and “mostly” of color being reported: “Generally 33% to full color, mostly 50 to 75% of surface purple color.”

In the U.S. Fancy and U.S. No. 1 grades there is a tolerance of 10% for undercolored Italian type prunes. In addition, there is a 10% tolerance for undersize and an 8% tolerance for other grade defects. The total of undersize, undercolor and other permanent grade defects may not exceed 12%. The notesheet must show a separate column for undercolor.

Drought Spot (Q)

Drought spots appear as slight depressions with underlying flesh being light brown to brown in color. Drought spots may occur as brown spots scattered throughout the flesh. In order to determine the severity of this defect, the fruit must be cut. Score as **damage** when the spots aggregate an area more than 1/4 inch in diameter and score as **serious damage** when the spots aggregate an area more than 1/2 inch in diameter.

External Gum Spots (Q)

Gum spots may be the result of early freezing, hail, or insect stings. Gum spots with an aggregate area more than 1/4 inch in diameter should be scored as **damage**. If the spots are excessively raised and hard, a lesser area is permitted. If the gum spots have been rubbed off, they should not be scored. If the spots aggregate more than 1/2 inch in diameter, they should be scored as **serious damage**. Gum spots found internally (usually around the pit) are not scored against any grade.

Firmness (C)

Firmness must be described accurately because it is an important factor when determining the overall condition of the fruit. The following terms shall be used to

describe the degree of firmness of plums or prunes and should be reported on the certificate:

Hard - means the fruit is unyielding to moderate pressure. Beauty and Santa Rosa plums may yield slightly at the blossom end and varieties such as Kelsey may have a slight spring, but all are still considered "hard." Prunes will usually show slight springiness because of the separation of the flesh from the pit.

Firm - means the flesh yields slightly to moderate pressure, especially around the blossom end. The flavor is still tart and the fruit is not ordinarily considered desirable for eating.

Firm ripe - means the flesh yields readily to moderate pressure. Most of the tartness will have disappeared and the fruit will have fair edible quality.

Ripe - means the flesh yields readily to slight pressure. It is sweet and juicy and ready for immediate consumption.

Soft - means the flesh has very little resistance to slight pressure. The flesh is mushy. **Soft fruit shall be scored as serious damage against all grades.** Ripe fruit showing damage or serious damage by soft bruises shall be scored as bruising and not as soft. Fruit having only soft blossom ends are not to be scored as soft, but shall be scored as damage or serious damage by soft ends if enough of the flesh is affected.

Form (Q)

In the U.S. Fancy and U.S. No. 1 grades, plums and prunes are required to be "well formed."

§51.1528 Well formed. "Well formed" means that the fruit has the shape characteristic of the variety. Doubles shall not be considered well formed.

In the U.S. No. 2 grade, plums and prunes are required to be "not badly misshapen."

§51.1535 Badly misshapen. "Badly misshapen" means that the fruit is so malformed or rough that its appearance is seriously affected. Doubles shall be considered badly misshapen, except that doubles of Italian type prunes, which have approximately equal halves, shall not be considered badly misshapen.

Freezing and Freezing Injury (C)

The term “frozen” should only be used when ice crystals are present. Frozen plums and prunes will be darker in color and glassy in comparison to unaffected plums and prunes.

“Freezing injury” is the term that should be used when it is evident that the plums and prunes have been frozen, but are not in a frozen condition at the time of inspection. The affected fruit may be soft, glassy and or translucent.

When reporting freezing or freezing injury, it is important to give the following information:

Record pulp temperatures taken at various locations.

- 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 the **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.”

Growth Cracks (Q)

Healed growth cracks detract from the appearance of the fruit and unhealed growth cracks provide an entrance for mold and decay. Growth cracks may occur as concentric cracks, usually in or around the stem cavity, or may occur as longitudinal cracks anywhere on the fruit.

§51.1532 Damage. (c) Growth cracks:

(1) When not healed;

(2) When more than one in number;

(3) When more than one-eighth inch in depth;

(4) When more than three-eighths inch in length if within the stem cavity; or,

(5) When more than one-fourth inch in length if outside of the stem cavity;

(6) When extending from within to outside the stem cavity, when more than three-eighths inch in length if the major portion of the crack

is within the stem cavity or when more than one-fourth inch in length if the major portion of the crack is outside the stem cavity;

§51.1536 Serious damage. (c) Growth cracks:

(1) When not healed and more than one-eighth inch in length or depth;

(2) When healed and more than three-sixteenths inch in depth;

(3) When healed and aggregating more than five-eighths inch in length if within the stem cavity; or,

(4) When healed and aggregating more than one-half inch in length if outside of the stem cavity;

(5) When extending from within to outside the stem cavity, when healed and aggregating more than five-eighths inch in length if the major portion of the crack is within the stem cavity or when healed and aggregating more than one-half inch in length if the major portion of the crack is outside the cavity;

Hail Marks (Q)

Hail marks, which are healed, should be scored on the same basis as scars. Hail marks, which are not healed, should be scored on the same basis as broken skins. The term "hail marks" should be used when describing this defect on the certificate.

****** Hollow Cavities (Q)**

Hollow cavities are to be scored under the general definition of damage and serious damage. Hollow cavities is considered characteristic for the Kelsey and Empress varieties and it is not to be scored as a defect. However, keep in mind if the hollow cavity in the Kelsey and Empress varieties is affected by internal discoloration it should be scored as such. See the section entitled "Internal Discoloration."

Internal Discoloration (C)

The flesh of Italian type prunes and several varieties of plums are subject to a brown discoloration, which is more of a problem in some seasons than in others. Certain varieties may show pithy or dry tissue around or near the pit. Scattered, mottled, whitish areas that are not dry or tough may be disregarded. Percentages of plums and prunes with flesh showing a translucent to golden brown appearance may be reported at the specific request of an applicant, followed by the words "not affecting grade."

Plums or Prunes, Other Than Italian Type Prunes

Visual aid PLU-CP-3 illustrates the darkest color and affected area considered for internal discoloration affecting plums.

Score as **damage**:

- 1) When the affected flesh is definitely darker than normal flesh color; or,
- 2) When definite dryness or pithiness of the flesh is readily apparent on a mid-section cut; or,
- 3) When whitish affected tissue that is dry or tough surrounds and extends more than 3/8 inch from the pit, or the equivalent of this amount when occurring in other portions of the fruit.

Score as **serious damage**:

- 1) When the affected flesh shows any dark discoloration or softening.

Italian Type Prunes

Prunes showing areas of flesh that are translucent or have a yellowish to golden brown tinge, and the flesh is not soft or off-flavor, should not be scored against any grade. Visual aid PRN-CP-1 illustrates the darkest color considered a golden brown tinge. This visual aid may be used as a guide for scoring internal discoloration on all varieties of prunes. Its use should not be limited to Italian type.

Because of the nature and severity of internal discoloration it is always scored as **“serious damage.”**

Internal discoloration is scorable when a midsection crosswise cut shows an area of flesh **over** 1/4 inch in diameter that is distinctly brown or darker in color, or when lighter shades of discoloration of the flesh are accompanied by a mushy condition or a distinct off-flavor or odor. In doubtful cases, it may be necessary to make an additional lengthwise cut to be sure that the internal discoloration in other portions of the flesh is equivalent to **more** than an area 1/4 inch in diameter at the crosswise midsection cut. However, any distinctly brown areas 1/4 inch in diameter or smaller with the flesh not mushy or off-flavor or odor are not scorable against any grade.

Maturity (Q)

§51.1530 Mature. "Mature" means that the fruit has reached the stage of maturity which will insure a proper completion of the ripening process.

All grades require plums and prunes to be mature. Immature fruit will become shriveled and never attain an appetizing state. No single factor is a positive indication of maturity but the following factors taken together, are indications of a mature plum or prune. Appendix I lists a number of plum varieties and the surface color indicating maturity.

Plums or Prunes, Other Than Italian Type Prunes

The most reliable indicators of maturity are the surface and/or flesh color of the plum. The ground color changes from a grass green to a yellow color as the plum matures. When the plum becomes fully ripe, the ground color is covered over by the red, mottled red, purple, or yellow color, depending on the variety. However, when the surface color has not begun to change, it may be necessary to check the flesh color, texture of the flesh and the juiciness to determine the maturity.

Italian Type Prunes

When mature, the skin has developed a degree of purple color, and any green color remaining has changed from a dark green to a light green. However, purple color is not always a reliable indicator of maturity. Prunes from the inside of the tree and, in some shaded areas from the outside of the tree, will often develop little purple color, even though mature.

The flesh color near the pit will change from a green to a partial amber yellow color. The flesh of the prune, while still far from being of a desired edible quality, has started to lose the extremely sour taste characteristic of immature fruit.

Even though still "hard," the fruit has developed a slight springy feel or "give." This is caused by a partial separation of the pit from the flesh. The stem tends to separate readily from the prune.

Pebbling (C)

Pebbling is characterized by a somewhat dimpled appearance of the plum. On certain varieties a small amount of pebbling is characteristic, but as the pebbling increases in depth and surface area, the affected areas may materially affect or may

seriously affect the appearance of the fruit. Visual aid PLU-CP-2 illustrates the amount of pebbling allowed before being considered as damage and serious damage.

Russeting and Scars (Including Scars Caused by Hail) (Q)

The scoring of scars and russeting is based on the depth, color, and/or texture of the defect. The following chart shows the area and depth for damage and serious damage by these defects according to the aggregate area of a circle or the amount of surface that is affected:

Plums or Prunes, Other Than Italian Type Prunes

Damage by Scars	2 inch diameter or smaller	Over 2 inch diameter
When depressed	over 1/16" depth	over 1/16" depth
Dark or rough	over 1/4"	over 3/8"
Fairly light colored, fairly smooth	over 1/2"	over 5/8"
Light colored, smooth	over 3/4"	over 7/8"

Damage by Russeting	2 inch diameter or smaller	Over 2 inch diameter
Rough	over 1/4"	over 1/2"
Slightly rough	over 5/8"	over 3/4"
Fairly smooth to smooth	over 3/4"	over 1"

Serious damage by Scars and Russeting	2 inch diameter or smaller	Over 2 inch diameter
When depressed	over 3/16" depth	over 3/16" depth
Dark or rough scars or rough russeting	over 3/4"	over 1"
Scars or russeting which are not dark or rough	over 25% surface	over 25% surface

Italian Type Prunes

These defects are scored the same for plums except for the following under the "Damage" definition:

Damage by Scars (regardless of size)

Fairly light colored, fairly smooth - over 1/2 inch.

Light colored, smooth - exceeds 1/12 of fruit surface.

Damage by Russeting (regardless of size)

Slightly rough, fairly smooth or smooth - over 1/12 of fruit surface.

Scale (Q)

Typical scale marks are small, reddish circular areas about 1/8 inch in diameter. At the center of each of these areas is usually a light colored spot, marking the place formerly occupied by the tiny scale insect before it was rubbed off in handling. The adult scale is less than 1/16 inch in diameter, gray to black in color.

Scale or scale marks should be scored as **damage** when they aggregate an area more than 1/4 inch in diameter; and should be scored as **serious damage** when they aggregate an area more than 3/8 inch in diameter.

Shriveling (C)

In general, shriveling that is more than slightly occurring around the stem end or any amount of shriveling elsewhere on the fruit shall be scored. However, on President plums, shriveling may be permitted which does not extend more than 1/2 inch from the stem or stem scar. Any amount in excess of 1/2 inch from the stem or stem scar would be considered a defect. **Shriveling is always considered serious damage.**

Split Pits (Q)

Split pits are caused by imperfect growing conditions, such as inconsistent weather conditions or high nitrogen content in the soil. When abnormal growth of the fruit occurs during the time when the pit hardens, the pit may be torn apart or split.

The U.S. Fancy grade specifies that plums and prunes be **free from** split pits.

The U.S. No. 1 grade specifies that plums and prunes be free from **damage** by split pits.

§51.1532 Damage. (d) Split pit when causing any unhealed crack, or when healed and aggregating more than one-fourth inch in length, or when affecting the shape to the extent that the fruit is not well formed;

The U.S. No. 2 grade specifies that plums and prunes be free from **serious damage** by split pits.

§51.1536 Serious damage. (d) Split pit when causing any unhealed crack, or when healed and aggregating more than three-eighths inch in length, or when affecting the shape to the extent that the fruit is badly misshapen.

Sunburn and Heat Injury (Q or C)

Sunburn is a common defect of plums and prunes. It usually occurs as a reddish discoloration of the skin. The color of the sunburned area is permanently affected, and the color contrast will be greater as the fruit ripens. Advanced stages of sunburn may appear as decidedly flattened areas of the fruit, the skin may blister or crack, or the flesh beneath the affected skin may show a noticeable brownish discoloration.

Heat injury is usually evident only as internal discoloration, often accompanied by a slight softening of the flesh. There also may be a slight discoloration of the skin. However, heat injury may be entirely within the flesh with little or no external indications. Because positively identifying this defect as “heat injury” may be difficult, the inspector shall describe this defect and report it as a condition defect if there is any doubt about its origin.

§51.1532 Damage. (b) Heat injury, sprayburn or sunburn:

- (1) When the skin is blistered, cracked or decidedly flattened;**
- (2) When the normal color of the skin or flesh has materially changed;**
- (3) When there is more than one indentation; or,**
- (4) When an indentation exceeds three-sixteenths inch in diameter;**

§51.1536 Serious damage. (b) Heat injury, sprayburn or sunburn:

- (1) When the skin is blistered, cracked or decidedly flattened;**
- (2) When causing any dark discoloration of the flesh;**
- (3) When there are more than two indentations;**

(4) When the aggregate area of indentations exceeds that of a circle three-eighths inch in diameter; or,

(5) When causing noticeable brownish or darker discoloration over more than one-fourth of the fruit surface;

In the above definitions, it should be noted that the description, "when the skin is blistered, cracked, or decidedly flattened," appears under both the "damage" and "serious damage" classifications. Therefore, this type is scored as serious damage and should be scored against the restricted tolerance in the U.S. Fancy and U.S. No. 1 grades.

Sunscald (Q)

Sunscald is a more severe type of heat related injury than sunburn, and is caused by more intense heat. It is always evident on the skin, and the flesh is soft, collapsed or broken down. **Sunscald is a "free from" defect and any amount should be scored as serious damage** and included in the 4% tolerance for serious damage.

§51.1531 Sunscald. "Sunscald" means injury caused by the sun in which softening or collapse of the flesh is apparent.

Surface Discoloration (C)

Plums and prunes may be affected by areas of light brown to dark brown skin discoloration found in loose packs at point of contact with adjacent fruit or with the container, and which is associated with bruising of the tender skin. These areas may encircle the fruit, may be found around the shoulders, or be irregularly shaped. In the trade, this condition is known as "roller injury," but this term should not be used on the certificate. When this defect is encountered, the inspector should describe the color of the discoloration. For example: "Brown to dark brown surface discoloration."

§51.1532 Damage. (j) Discoloration when definitely contrasting with the normal surface color of the fruit and affects more than 10 percent of the surface.

§51.1536 Serious damage. (l) Discoloration when definitely contrasting with the normal surface color and affects more than 25 percent of the surface.

Mottled Color

It is characteristic of Mariposa and several other varieties of plums to develop a somewhat muddy, brown, mottled color of the skin as it ripens. Inspectors should be careful not to confuse this characteristic color with the defect "brown surface discoloration."

Sutures (Q)

Plums are susceptible to a developmental formation of a longitudinal cleft or furrow. The furrow may extend in length, either partially or whole, from the stem to blossom end of the fruit. When this cleft or furrow exists it shall be referred to as a suture. Sutures that are of abnormal depth or cause the fruit to be misshapen, to the point that it could not be considered "well formed," should be scored as **damage**. Sutures that cause the fruit to be misshapen, to the point that it could be considered "badly misshapen," should be scored as **serious damage**. Sutures that are split should be scored on the same basis as growth cracks and are reported as open sutures.

Twig or Limb Scratches (Q)

These are a result of fruit rubbing against the limbs or twigs of the tree.

§51.1532 Damage. (4) Twig or limb scratches which are not well healed or which have an aggregate length of more than one-half inch;

As a guide, score as **serious damage** when twig or limb scratches which are not well healed and more than 1/8 inch in length, or when healed have an aggregate length of more than 5/8 inch.

Worm Injury (Q or C)

Plums and prunes showing the presence of worms, or wormholes, should be scored against all grades as **serious damage**. At destination, if live worms are present, or there is a combination of live and dead worms present, the defect shall be reported as a condition defect. Report as a quality defect if all of the worms are dead.

Decayed or Moldy Stems (C)

Plums or prunes that show mold and/or decay affecting the stems only (not the flesh of the fruit) **shall not be scored against any U.S. grade.** The decayed or moldy stems may be described on the certificate at the request of the applicant with the statement “not affecting grade.”

Decay (C)

All grades require that plums and prunes be free from decay. Decayed plums and prunes are scored against the decay tolerance of 1/2 of 1% at shipping point and against the 2% tolerance for decay en route or at destination. The most common types of decay affecting plums and prunes include Blue Mold Rot, Gray Mold Rot and Brown Rot.

At shipping point, do not mention the type of decay or severity (stages). At destination, do not report the type of decay on the certificate. However, when the decay is in excess of the tolerance report the degree of advancement as early, moderate or advanced stages.

Appendix I - U. S. Grade Standards

United States Standards for Grades of Fresh Plums and Prunes ¹

March 29, 2004

Grades

- 51.1520 U.S. Fancy.
- 51.1521 U.S. No. 1.
- 51.1522 U.S. Combination.
- 51.1523 U.S. No. 2.
- 51.1524 [Reserved].

Tolerances

- 51.1525 Tolerances.

Application of Tolerances

- 51.1526 Application of tolerances.

Standard Pack

- 51.1527 Standard pack.

Definitions

- 51.1528 Well formed.
- 51.1529 Clean.
- 51.1530 Mature.
- 51.1531 Sunscald.
- 51.1532 Damage.
- 51.1533 Well colored.
- 51.1534 Fairly well colored.
- 51.1535 Badly misshapen.
- 51.1536 Serious damage.
- 51.1537 Diameter.

Metric Conversion Table

- 51.1538 Metric conversion table.

Grades

§51.1520 U.S. Fancy.

“U.S. Fancy” consists of plums or prunes of one variety which are well formed, clean, mature but not overripe or soft or shriveled; which are free from decay, sunscald, heat injury, sunburn, split pits and hail marks, and free from damage caused by broken skins, growth cracks, drought spots, gum spots, russeting, scars, other disease, insects or mechanical or other means.

(a) Italian type prunes shall be well colored and, unless otherwise specified, shall be not less than 1-1/4 inches in diameter. (See §51.1525.)

§51.1521 U.S. No. 1.

“U.S. No. 1” consists of plums or prunes of one variety which are well formed, clean, mature but not overripe or soft or shriveled; which are free from decay and sunscald, and free from damage caused by broken skins, heat injury, growth cracks, sunburn, split pits, hail marks, drought spots, gum spots, russeting, scars, other disease, insects or mechanical or other means.

(a) Italian type prunes shall be fairly well colored and, unless otherwise specified, shall be not less than 1-1/4 inches in diameter. (See §51.1525.)

¹Packing of the product in conformity with the requirements 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.

§51.1522 U.S. Combination.

“U.S. Combination” consists of a combination of U.S. No. 1 and U.S. No. 2 plums or prunes: **Provided**, That at least 75 percent, by count, meet the requirements of U.S. No. 1 grade. (See §51.1525.)

§51.1523 U.S. No. 2.

“U.S. No. 2” consists of plums or prunes of one variety which are not badly misshapen, which are clean, mature but not overripe or soft or shriveled; which are free from decay and sunscald, and free from serious damage caused by broken skins, heat injury, growth cracks, sunburn, split pits, hail marks, drought spots, gum spots, russeting, scars, other disease, insects or mechanical or other means. (See §51.1525.)

§51.1524 [Reserved].

§51.1525 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the following grades, the following tolerances, by count, based on a minimum 50-count sample, except when packages contain less than 50 fruit, a minimum 25-count sample shall be examined, (when packages contain less than 25 fruit adjoining packages shall be opened to obtain the 25-count minimum sample), are provided as specified:

(a) U.S. Fancy and U.S. No. 1 -- (1) For defects of plums or prunes other than Italian type prunes at shipping point.² 8 percent for fruit which fails 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 one-half of 1 percent for fruit which is affected by decay.

(2) For defects of plums or prunes other than Italian type prunes 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 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 for decay.

(3) For defects of Italian type prunes at shipping point.² Not more than a total of 12 percent of the fruit in any lot may 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 the defects listed:

(i) 10 percent for prunes which fail to meet the color requirement;

(ii) 10 percent for prunes which fail to meet the minimum diameter requirement;

(iii) 8 percent for prunes which fail to meet the remaining requirements of the grade: **Provided**, That not more than one-half of this amount, or 4 percent, shall be allowed for defects causing serious damage, including in the latter amount not more than one-half of 1 percent for decay.

(4) For defects of Italian type prunes en route or at destination. Not more than a total of 18 percent of the fruit in any lot may 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 the defects listed:

(i) 12 percent for permanent defects including therein not more than 10 percent which fail to meet the color requirement, 10 percent which fail to meet the minimum diameter requirement, and 8 percent which fail to meet the requirements of the grade because of other 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 decay.

(b) U.S. Combination and U.S. No. 2 -- (1) For defects at shipping point.² 8 percent for fruit which fails to meet the requirements of the specified grade: **Provided**, That included in this amount not more than 4 percent shall be allowed for sunscald, decay or serious damage by insects or heat injury, including in this latter amount not more than one-half of 1 percent for decay.

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.

(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 defects listed:

- (i) 8 percent for permanent defects including therein not more than 4 percent for sunscald, or serious damage by insects or heat injury; and,
- (ii) 2 percent for decay.

(3) When applying the tolerance for the U.S. Combination grade individual packages may have not more than 10 percent less than the percentage of U.S. No. 1 required: **Provided**, That the entire lot averages within the required percentage. (See §51.1526.)

Application of Tolerances

§51.1526 Application of tolerances.

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

- (a) A package may contain not more than double any specified tolerance except that at least two defective and two off-size specimens may be permitted in any package: **Provided**, That the averages for the entire lot are within the tolerances specified for the grade.

§51.1527 Standard pack.

(a) Packing. (1) All packages shall be tightly packed or well filled, according to the approved and recognized methods.

(2) The plums or prunes in the top layer of any package shall be reasonably representative in quality and size of those in the remainder of the package.

(3) "Well filled" means that the plums or prunes packed in loose or volume filled containers are packed within 1 inch of the top of the container.

(4) "Tightly packed" means the plums or prunes are the proper size for the mold or cell compartments in which they are packed, and the molds or cells are filled in such a way that movement is not allowed.

(b) Marking. (1) The size of plums or prunes shall be marked on each package, and shall be indicated in terms of minimum diameter, or number of fruit per package, or in accordance with the arrangement of the top layer of fruit in the package or subcontainer. Size may also be shown in terms of maximum number of fruit for a specified weight, such as "8 per pound," "6.4 per pound" or "7-2/3 per pound" or by a count-size designation based on the number of fruits contained in a 10 pound sample with the designation rounded to an applicable number which is divisible by 5 (example: 40 size, 45 size, 50, size, 55 size, etc.).

(i) California peach boxes, lug boxes and small consumer packages. In layer-packed California peach boxes or lug boxes, and in small layer packed consumer packages, the count of the entire contents shall be marked on the package. The number of plums or prunes in California peach boxes or lug boxes shall not vary more than 4 from the number indicated on the package. Loose filled consumer packs not in a master container shall have a count-size marked on the package or on a tag closure. Master containers of loose filled consumer packages shall have a count-size marked on the package describing the size of plums or prunes within the container.

(ii) Face and fill packs in cartons and lug boxes. In face and fill packs in cartons and lug boxes the number of rows in the face shall be marked on the packages, as "6 row," "8 row," etc.

(c) Sizing. (1) Not more than 5 percent, by count, of the plums or prunes in any package may vary more than one-fourth inch in diameter, except that not more than 5 percent, by count, of the plums or prunes 2-1/4 inches or larger in diameter and packed in loose or volume filled containers may vary more than three-eighths inch in diameter.

(2) When size is indicated in terms of minimum diameter, not more than 5 percent, by count, of the fruit in any package may be smaller than the size marked.

(d) Tolerance for standard pack. In order to allow for variations incident to proper sizing and packing, not more than 10 percent, by count, of the packages in any lot may fail to meet the requirements for standard pack.

Definitions

§51.1528 Well formed.

"Well formed" means that the fruit has the shape characteristic of the variety. Doubles shall not be considered well formed.

§51.1529 Clean.

"Clean" means that the fruit is practically free from dirt and other foreign material.

§51.1530 Mature.

"Mature" means that the fruit has reached the stage of maturity which will insure a proper completion of the ripening process.

§51.1531 Sunscald.

"Sunscald" means injury caused by the sun in which softening or collapse of the flesh is apparent.

§51.1532 Damage.

"Damage" means any specific defect defined in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the fruit. The following specific defects shall be considered as damage:

- (a) Broken skins which are unhealed except those caused by pulled stems where the skin is torn only slightly within the stem cavity. (Healed skin breaks shall be considered scars);
- (b) Heat injury, sprayburn or sunburn:
 - (1) When the skin is blistered, cracked or decidedly flattened;
 - (2) When the normal color of the skin or flesh has materially changed;
 - (3) When there is more than one indentation; or,
 - (4) When an indentation exceeds three-sixteenths inch in diameter;
- (c) Growth cracks:
 - (1) When not healed;
 - (2) When more than one in number;
 - (3) When more than one-eighth inch in depth;
 - (4) When more than three-eighths inch in length if within the stem cavity; or,
 - (5) When more than one-fourth inch in length if outside of the stem cavity;
 - (6) When extending from within to outside the stem cavity, when more than three-eighths inch in length if the major portion of the crack is within the stem cavity or when more than one-fourth inch in length if the major portion of the crack is outside the stem cavity;
- (d) Split pit when causing any unhealed crack, or when healed and aggregating more than one-fourth inch in length, or when affecting the shape to the extent that the fruit is not well formed;
- (e) Scab or bacterial spot when cracked, or when the aggregate area exceeds that of a circle one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle three-eighths inch in diameter on a fruit larger than 2 inches in diameter;
- (f) Drought spots or external gum spots which have an aggregate area exceeding that of a circle one-fourth inch in diameter;
- (g) Scale or scale marks when the aggregate area exceeds that of a circle one-fourth inch in diameter;
- (h) Scars, including those caused by hail, when the surface of the fruit is depressed more than one-sixteenth inch, 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 one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle three-eighths inch in diameter on a fruit larger than 2 inches in diameter.
 - (2) Fairly light colored, fairly smooth scars when, in the case of Italian type prunes, the area exceeds that of a circle one-half inch in diameter; or when, in the case of other types of plums, the area exceeds that of a circle one-half inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle five-eighths inch in diameter on a fruit larger than 2 inches in diameter;
 - (3) Light colored, smooth scars when, in the case of Italian type prunes, the area exceeds one-twelfth of the fruit surface; or when, in the case of other types of plums, the area exceeds that of a circle three-fourths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle seven-eighths inch in diameter on a fruit larger than 2 inches in diameter;
 - (4) Twig or limb scratches which are not well healed or which have an aggregate length of more than one-half inch; and
- (i) Russeting which exceeds any of the following aggregate areas of any one type of russeting, or a combination of two or more types of russeting the seriousness of which exceeds the maximum allowed for any one type:
 - (1) Rough russeting when the area exceeds that of a circle one-fourth inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one-half inch in diameter on a fruit larger than 2 inches in diameter;

(2) Slightly rough russeting when, in the case of Italian type prunes, the area exceeds one-twelfth of the fruit surface; or when, in the case of other types of plums, the area exceeds that of a circle five-eighths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle three-fourths inch in diameter on a fruit larger than 2 inches in diameter;

(3) Fairly smooth or smooth russeting when, in the case of Italian type prunes, the area exceeds one-twelfth of the fruit surface; or when, in the case of other types of plums the area exceeds that of a circle three-fourths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle 1 inch in diameter on a fruit larger than 2 inches in diameter.

(j) Discoloration when definitely contrasting with the normal surface color of the fruit and affects more than 10 percent of the surface.

§51.1533 Well colored.

“Well colored,” as applied to Italian type prunes, means that 95 percent of the surface of the prune is purple color.

§51.1534 Fairly well colored.

“Fairly well colored,” as applied to Italian type prunes, means that at least three-fourths of the surface of the prune is purple color.

§51.1535 Badly misshapen.

“Badly misshapen” means that the fruit is so malformed or rough that its appearance is seriously affected. Doubles shall be considered badly misshapen, except that doubles of Italian type prunes which have approximately equal halves shall not be considered badly misshapen.

§51.1536 Serious damage.

“Serious damage” means any specific defect defined in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which seriously detracts from the appearance, or the edible or marketing quality of the fruit. The following specific defects shall be considered as serious damage:

(a) Broken skins which are unhealed when aggregating more than one-eighth inch in diameter, length or depth. (Healed skin breaks shall be considered scars);

(b) Heat injury, sprayburn or sunburn:

(1) When the skin is blistered, cracked or decidedly flattened;

(2) When causing any dark discoloration of the flesh;

(3) When there are more than two indentations;

(4) When the aggregate area of indentations exceeds that of a circle three-eighths inch in diameter; or,

(5) When causing noticeable brownish or darker discoloration over more than one-fourth of the fruit surface;

(c) Growth cracks:

(1) When not healed and more than one-eighth inch in length or depth;

(2) When healed and more than three-sixteenths inch in depth;

(3) When healed and aggregating more than five-eighths inch in length if within the stem cavity; or,

(4) When healed and aggregating more than one-half inch in length if outside of the stem cavity;

(5) When extending from within to outside the stem cavity, when healed and aggregating more than five-eighths inch in length if the major portion of the crack is within the stem cavity or when healed and aggregating more than one-half inch in length if the major portion of the crack is outside the cavity;

(d) Split pit when causing any unhealed crack, or when healed and aggregating more than three-eighths inch in length, or when affecting the shape to the extent that the fruit is badly misshapen;

(e) Scab or bacterial spot, when the aggregate area exceeds that of a circle one-half inch in diameter on a fruit 2 inches in diameter or smaller; or when the aggregate area exceeds that of a circle three-fourths inch in diameter on a fruit larger than 2 inches in diameter;

(f) Drought spots or external gum spots which have an aggregate area exceeding that of a circle one-half inch in diameter;

(g) Scale or scale marks when the aggregate area exceeds that of a circle three-eighths inch in diameter;

(h) Russeting and scars, including those caused by hail, when the surface of the fruit is depressed more than three-sixteenths inch, or when exceeding any of the following aggregate areas, or a combination of two or more types of russeting or scars the seriousness of which exceeds the maximum allowed for any one type:

- (1) Dark or rough scars or rough russeting when the area exceeds that of a circle three-fourths inch in diameter on a fruit 2 inches in diameter or smaller; or when the area exceeds that of a circle one inch in diameter on a fruit larger than 2 inches in diameter;
- (2) Russeting and scars which are not dark or rough when the area exceeds one-fourth of the fruit surface.
 - (i) Soft or overripe or shriveled plums or prunes;
 - (j) Plums or prunes affected by decay; and
 - (k) Plums or prunes affected by sunscald.
- (l) Discoloration when definitely contrasting with the normal surface color and affects more than 25 percent of the surface.

§51.1537 Diameter.

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

Metric Conversion Table

§51.1538 Metric conversion table.

Inches	Millimeters (mm)
1/8 equals.....	3.2
1/4 equals.....	6.4
3/8 equals.....	9.5
1/2 equals.....	12.7
5/8 equals.....	15.9
3/4 equals.....	19.1
7/8 equals.....	22.2
1 equals.....	25.4
1-1/4 equals.....	31.8
1-1/2 equals.....	38.1
1-3/4 equals	44.5
2 equals	50.8
3 equals	76.2
4 equals	101.6

Appendix II

Example 1 -- Inspection Notesheet

R. F. GREENEY, ACTING CHIEF, U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL MARKETING SERVICE, FRUIT & VEGETABLE DIVISION FV-300 CERTIFICATE NUMBER: _____	
CONTRACTS: _____ U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FRUIT & VEGETABLE DIVISION REO: 051010110730AM COM: 05101011030AM	PURPOSE: _____ PRODUCT: _____ TYPE: _____ CWT: _____ DEFECT: _____
A: NUMBER: 006, SIZE: VHR, UNIT: E B: NUMBER: 006, SIZE: 70, UNIT: C C: NUMBER: MNL, SIZE: _____, UNIT: _____ D: NUMBER: _____, SIZE: _____, UNIT: _____	QUANTITY: _____ QUANTITY: _____ QUANTITY: _____ QUANTITY: _____
CARRIER or LOT IDENTIFICATION: PREFIX: X.P. 141792, NUMBER: VZ, STATE: _____ Carrier No. Stated by: Applicant Additional lot ID.: _____ Carrier Type / Name: _____ Refrigeration Unit: <input type="checkbox"/> ON <input type="checkbox"/> OFF, Doors: <input type="checkbox"/> OPEN <input type="checkbox"/> _____ Condition of Carrier: _____ Inspection Site: Applicant's Warehouse	
LOADING: Loaded - L O Pkg. Unloaded - P U Unloaded - U L Lot Insp. - L I U L	
INSPECTION NOTESHEET U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL MARKETING SERVICE, FRUIT & VEGETABLE DIVISION CERTIFICATE NUMBER: Example # 1 INSPECTION STARTED: 05/01/01 08:35 AM INSPECTION COMPLETED: 05/01/01 10:30 AM APPLICANT: Fresh Produce Inc, Address: Seattle, Wa SHIPPER: Laroda Farms Inc, Address: Exeter, Ca	
A: PRODUCT: Italian type PRUNES NUMBER OF CONTAINERS: 620 cartons N TEMPERATURES: 35° - 36° F	BRANDS / MARKS: in cartons printed "Red Rooster 30 lbs. Net Wt. Laroda Farms Inc, Exeter, Ca."
B: PRODUCT: PLUMS NUMBER OF CONTAINERS: 575 cartons N TEMPERATURES: 35° - 37° F	BRANDS / MARKS: in cartons printed "Blue Bell, Santa Rosa, 70 count, Blue Bell Farms, Exeter, Ca." stamped "Calif. Fed-State Insp. 175-41"
C: PRODUCT: _____ NUMBER OF CONTAINERS: _____ TEMPERATURES: _____	(Diagonal line through this section)
D: PRODUCT: _____ NUMBER OF CONTAINERS: _____ TEMPERATURES: _____	
Condition of Load & Containers: <input checked="" type="checkbox"/> STACKED ON PALLETS AT ABOVE LOCATION () INTACT THROUGH LOAD () PARTLY UNLOADED	

FORM FV-300-N (3-93)

Example 2 -- Inspection Certificate



U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 FRUIT AND VEGETABLE DIVISION

S- Example 2

FEDERAL-STATE INSPECTION CERTIFICATE

SUBLOT

INSPECTION STARTED:	M M D D Y Y	Hour	Min.	A.P.	This certificate is issued pursuant to the Agricultural Marketing Act of 1946, as amended and is admissible as prime facie evidence in all courts of the United States. WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.
	092001	08	15	A	
INSPECTION COMPLETED:	M M D D Y Y	Hour	Min.	A.P.	
	092001	11	10	A	
APPLICANT:	AGGIE PLUM CO WESTCO, CA			CITY/STATE:	PLI: FSL 920-001
INSPECTION POINT:	APPLICANT WAREHOUSE			OTHER ID:	N/A
CONVEYANCE NO.:	N/A			TYPE:	NOTESHEET NO.: N/A

PRODUCT/*VARIETY	*NUMBER AND SIZE OF CONTAINER	DESCRIPTION OF PRODUCT (Brand, Markings, Size, Quality/Condition, etc.)	GRADE
CASSEMAN PLUMS	982 CARTONS	"APC" CA WELL MATURE VARIOUS SIZES NOTED DEFECTS RANGE 6% TO 18%, AVERAGE 12%, CONSISTING OF 9% damage by STEM END GROWTH CRACKS and 3% SCARS. NO DECAY.	88% U.S. No. 1 QUALITY
/			

ABOVE PRODUCTS MEET REQUIREMENTS OF MARKETING ORDER

CPMB

* VARIETY OF PRODUCT AND NUMBER OF CONTAINERS ARE PROVIDED BY THE APPLICANT AND ARE NOT BEING CERTIFIED BY THE INSPECTOR UNLESS OTHERWISE NOTED

FOR DATA ENTRY ONLY		REMARKS :
CORRECTS FV-184 CERTIFICATE NUMBER		
APPLICANT		I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that samples of the herein described product were inspected and the grades as shown by said samples were as herein stated.
21		
CWT	ON-SITE HOURS	
INSPECTED BY	O.T. (hrs.)	
	TRAVEL MILES	FEE: \$
	O.T. (hrs.)	O.T.: \$
	OTHER	EXP.: \$
	\$	ESTIMATED TOTAL
		\$ Contract
INSPECTOR'S SIGNATURE		DATE ISSUED
Imur Inspector		8/15/01

FV-184 (10-93) (Previous versions may be used)

ORIGINAL

Example 3 -- Inspection Certificate



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FRUIT AND VEGETABLE DIVISION

S- Example 3

FEDERAL-STATE INSPECTION CERTIFICATE

SUBLOT

INSPECTION STARTED: M M D D Y Y Hour Min. A/P M
 09 20 01 01:00 P M
 This certificate is issued pursuant to the Agricultural Marketing Act of 1946, as amended and is admissible as prime facie evidence in all courts of the United States.
 WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

INSPECTION COMPLETED: M M D D Y Y Hour Min. A/P M
 09 20 01 04:45 P M

APPLICANT: BURRIS TREE FRUIT, CORNERSTONE, CA CITY/STATE: CA PLI: 920-899
 INSPECTION POINT: WASHINGTON FRUIT WAREHOUSE, ARCH, CA OTHER ID: LOTS 27 & 30
 CONVEYANCE NO.: N/A TYPE: N/A NOTESHEET NO.: N/A

PRODUCT/VARIETY	*NUMBER AND SIZE OF CONTAINER	DESCRIPTION OF PRODUCT (Brand, Markings, Size, Quality/Condition, etc.)	GRADE
AUTUMN BEAUT PLUM	1,141 VF LUGS	"AUTUMN SWEET" CA WELL MAT 70 SIZE DEFECTS WELL WITHIN TOLERANCE, NO DECAY.	USA No 1
/			

ABOVE PRODUCTS MEET REQUIREMENTS OF MARKETING ORDER CPMB

* VARIETY OF PRODUCT AND NUMBER OF CONTAINERS ARE PROVIDED BY THE APPLICANT AND ARE NOT BEING CERTIFIED BY THE INSPECTOR UNLESS OTHERWISE NOTED

FOR DATA ENTRY ONLY
 CORRECTS FV-184 CERTIFICATE NUMBER

APPLICANT: 21

ON-SITE HOURS: []
 O.T. (hrs.): []
 TRAVEL MILES: []
 O.T. (hrs.): []
 OTHER: \$ []

REMARKS: APPLICANT STATES ABOVE LOT FOR EXPORT.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that samples of the herein described product were inspected and the grades as shown by said samples were as herein stated.

INSPECTED BY: []

INSPECTOR'S SIGNATURE: *Emilio Inspector* DATE ISSUED: 9/20/01

FEE: \$ []
 O.T.: \$ []
 EXP.: \$ []
 ESTIMATED TOTAL: \$ []

FV-184 (10-93) (Previous versions may be used)

ORIGINAL