United States
Department of
Agriculture

Agricultural
Marketing
Service

Fruit and
Vegetable
Division

Market Inspection Instructions for Onion Sets

Market Inspection Instructions for Onion Sets

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 Onion Sets, 7 CFR Section 51.3980.

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. not covered in these instructions. (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.)

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Appendix I - U.S. Standards for Grades of Onion Sets

(1) Introduction

Onion sets are produced by planting the seed in wide rows so thick that the plants will be very crowded in the rows when they develop. This results in the plants maturing as "onion sets," which in reality are very small mature onions. Seed of almost any variety may be used for the production of onion sets. The demand is principally for the distinctly yellow, white and red colors, although a few brown sets are grown. Most of the onion sets produced in the country are used for the production of green onions in backyard gardens. However, they are also allowed to mature in some sections and marketed as mature onions.

(2) Sampling

Inspection of onion sets should be made on the basis of a composite sample. The composite sample is obtained from a number of containers in a load and/or lot.

From 6 to 10 ounces of onion sets should be taken from each sample in various locations of the load or lot. The samples from the various containers can be mixed, unless there is a distinct variation in size or quality in the various containers. In this case it would be well to keep the samples from such lots separate.

In receiving markets, the inspection office usually furnishes the necessary facilities for examining the sample. The only equipment necessary is a table on which the sample can be spread out, a small scale which will weigh to 1/4 of an ounce, and calipers for determining size. Good light is also essential for proper scoring of the sample.

Pour the composite sample out, and mix thoroughly. As a guide, for large loads or lots, not less than 5 pounds should be taken for making the final inspection. A correspondingly smaller sample may be taken for smaller loads or lots.

(3) Tolerances

	U.S. No. 1	U.S. No. 2
Total Defects:	6%	6%
including Decay:	2%	2%
including Dirt, Chaff and Other Foreign Material:	2%	2%
Oversize:	8%	8%
Undersize:	3%	3%

(4) Products Inspected

The following information shall be given:

- Commodity, Type or Variety
- Type of Container
- Distinguishing Marks
- State of Origin (if marked)
- Quantity Inspected

Commodity, Type or Variety

"Onion Sets" shall be used to describe this commodity. Yellow or any color of the onions may be used in conjunction with "Onion Sets," or may be reported in the "Lot ID" section on the notesheets and certificates.

The inspector should not attempt to certify the variety of onion sets. Due to the small size of onion sets one cannot be certain that they are all of the same variety even though they are the same color and shape. The type should be designated by color only (e.g., yellow onion sets, white onion sets, or red onion sets).

It is usually not practical to designate type of sets by a description of shape such as globe or flat shaped. The smaller the sets the more they are likely to be of a globe or an elongated shape. If the size is what would ordinarily be termed a flat type lot ranges from the minimum of 5/16 inch to 1 inch in diameter, there will probably be flat, globe, and elongated shapes in the lot.

Type of Container

Onion sets are usually shipped in open mesh bags of one bushel or two bushel capacity. Occasionally, they may be packed in crates, cartons or lugs.

Distinguishing Marks

Whenever a container is labeled, printed, tagged or marked with a brand or grade, it shall be reported under the "Brands/Marks" heading. This also includes shipper's name and address, lot number, varieties, sizes, or weight. If the containers bear no brand, grade or any other marking, it shall be stated "No Brand."

State of Origin

The inspector should not make a positive statement on his/her own authority, but when container markings list the State or country of origin, it should be quoted. This policy is necessary because some firms may use one mark on the same product that they may pack in two or three States. The inspector can certify only to the marks and has no means of knowing in what State or country the onion sets are grown. (If packages are not marked or the onion sets are in bulk, refer to the General Inspection Instructions.)

Quantity Inspected

The number of containers shall always be reported. The count of large lots certified in a warehouse or on a platform may be reported on the authority of someone other than the inspector. However, it is advisable in such instances for the inspector to make a rough check to determine that a substantial number of the containers reported in the lot are present.

Small lots (100 containers or less) that can be counted with accuracy shall be reported on the inspector's authority as "inspector's count."

(5) Condition of Pack

Fill of crates, cartons, or lugs should be described by the use of the terms well filled, fairly well filled, or slack. The term "slack" must be qualified by the amount of slackness in inches or fractions thereof. When the product is in bulk or sacks, the "Pack" heading should be blocked out on the notesheet.

Determining and Reporting Net Weight

Net weight is reported as a narrative statement on the face of the certificate. Weight may be certified without making an inspection for quality and/or condition.

When requested to certify as to specified or marked weight on lots of onion sets, the procedures as described in the General Inspection Instructions must be followed.

(6) Temperature of Product

Refer to the General Inspection Instructions.

(7) Size

The most desirable size for onion sets is slightly less than 1/2 inch in diameter. Ordinarily, however, average lots will range up to an inch in diameter.

The grades specify both minimum and maximum sizes, and in the case of U.S. No. 1 grade, unless otherwise specified, at least 50% by weight must be from 5/16 to not over 3/4 inch in diameter. Therefore, whenever possible the inspector should ascertain from the applicant the size basis upon which the contract was made.

It is important to remember that diameter means the smallest dimension taken at right angles to a line running from the stem to the root. Especially since the method of sizing onion sets by the commercial onion industry is by passing them through a bar screen.

In the analysis of the sample first determine the percentage under the minimum size. If the sets have not been properly screened, there may be a considerable percentage of sets under the minimum size 5/16 inch in diameter. For such lots, the inspector may find slotted screens like those used in the inspection of peanuts, an aid in removing the undersize sets. The screen with 20/64 inch slotted opening will probably remove most of the undersized sets. The remainder of the sample, however, should be checked carefully with the calipers as the screen undoubtedly will not remove all of the undersized sets.

After removing the undersized sets from the sample, they should be weighed and the exact percentage by weight calculated. It is best to remove and weigh the oversized sets next. Since the oversized and undersized sets have been removed from the sample, attention should next be given to those which are to be of a certain size and smaller. In the case of an unqualified U.S. No. 1, at least 50% by weight must be 3/4 inch and smaller, but not less than 5/16 inch in diameter. The caliper should be set at 3/4 inch in diameter. The weights and percentages should then be recorded on the notesheet.

Describe size on the certificate giving the range in diameter, and in the case of U.S. No. 1 grade, the approximate percentage from 5/16 to 3/4 inch in diameter. Dimensions shall be reported in terms of 1/4, 1/8, or 1/16 inch variations.

Lots which meet grade requirements, and have off-size specimens that do not average in excess of off-size tolerances may be reported as "off-size within tolerance." However, there is no objection to showing actual percentages if requested by the applicant.

The percentage of off-size must be shown in the following cases:

1) When off-size is in excess of the tolerance;
2) When a percentage of U.S. No. 1 Quality is being reported; and,
3) When a lot fails to grade (for any reason).

If a lot fails to meet the size specifications, the ranges as well as the averages of off-size must be reported.

If the inspector has information that the onion sets were graded or the contract was made on a basis different from the above, then the inspection should be made and reported on the basis designated. The contract may specify:

1) A maximum size smaller than 1 inch;
2) A particular percentage of onion sets which must be between 5/16 and 3/4 inch in diameter; and,
3) A range in diameter, provided 40% or more of the onion sets are between 5/16 and 3/4 inch in diameter.

When reporting size on onion sets it is important to remember there are separate tolerances for undersize and oversize. These should be shown separately in the "Off-size/Defects" section of the certificate. A general description of the range in size and percentage between 5/16 and 3/4 inch may be reported in the "Other" section of the certificate.

For example:

(1) Generally ranging from 5/16 to 1 inch in diameter, approximately 55% from 5/16 to 3/4 inches in diameter. Average 3% under 5/16 inch and 7% over 1 inch in diameter.

(2) Red sets generally ranging from 1/4 to 1-1/8 inches, approximately 25% from 5/16 to 3/4 inches in diameter. Approximately 3% under 5/16 and 8% over 1 inch in diameter. Yellow sets generally 5/16 to 1 inch, approximately 75% from 5/16 to 3/4 inches in diameter. None under 5/16 inch and average 5% over 1 inch in diameter.

(8) Quality

The principal factors are:

- Maturity
- Cleanness
- Brightness and Staining
- Permanent Defects

Maturity

"Mature" as defined by the standard means that the sets are dry and well cured. Onion sets must be well cured in order to meet the requirements of either U.S. No. 1 or U.S. No. 2 grades. Since onion sets are generally harvested early and allowed to cure for some time before storing, maturity will seldom be in question.

Cleanness

In describing cleanness, it should be remembered that while cleanness and brightness are closely associated, they are two distinct factors and should be reported separately. Cleanness should be judged from the standpoint of dirt or other foreign material adhering to the onion. Staining or discoloration brought about by weathering, affect the brightness and should not be confused with cleanness. Onions may be clean and yet only fairly bright, or even dull in appearance. On the other hand, dirt or other foreign material would affect the brightness. Onions that are only fairly clean or dirty could not be reported as bright.

The following terms should be used in describing cleanness:

"Clean," means that the onions are practically free from dirt or other foreign material.

"Fairly clean," means that there is some dirt or foreign material, but only enough to slightly affect the appearance.

"Slightly dirty," Means that there is considerable dirt or foreign material but not sufficient to damage the appearance to an extent to justify failing the lot against the U.S. No. 1 grade.

"Dirty," means that the dirt or foreign material damages the appearance sufficiently to justify failing the lot against the U.S. No. 1 grade.

Brightness and Staining

Brightness is an important factor. This factor should be judged from the standpoint of natural color of outer scales, and the effect that staining, discoloration, adhering dirt, and foreign material have upon it. Furthermore, the inherent characteristic of the variety should be considered. Certain varieties by their very nature are not as bright as others. Brightness should be based on the general appearance of the lot as a whole, and not on the scoring of individual specimens.

The following terms should be used to describe brightness:

"Bright," means that the general appearance is bright, and the lot is generally free from dirt, staining, and discoloration caused by weathering.

"Fairly bright," means that there is some staining or discoloration caused by weathering or dirt, but the appearance of the lot is fairly bright.

"Dull," means that the general appearance of the lot is unattractive, lacking luster and brightness.

"Slightly stained," means that the onions have considerable staining or discoloration caused by weathering or other means.

"Appreciably stained," means that there is sufficient staining or discoloration caused by weathering or other means to materially affect the appearance of the lot.

"Badly stained," means that there is sufficient staining or discoloration caused by weathering or other means to seriously affect the appearance of the lot.

Permanent Defects

Cuts

Cuts should be scored as damage if they extend through more than one fleshy scale or if they materially detract from the appearance of the individual onion. Superficial cuts which do not extend through more than one fleshy scale and which do not materially detract from the appearance of the individual onion, should not be scored.

Loose Dirt

Not more than 2%, by weight, is allowed for dirt, chaff or other foreign material. This 2% tolerance allowed in the grade should be determined by actual weight of the dirt and foreign material. Usually in analyzing the composite sample, the dirt, chaff, and other foreign material are left on the table. Do not peel onions or scrape off adhering dirt. If it falls off during normal handling, then consider it in the 2% tolerance.

Tops

In the U.S. Standards for Grades of Onion Sets, the U.S. No. 1 grade requires the stock to be free from damage by tops. This term applies to long dried tops which have not been detached from the onions. This factor should be considered from an appearance standpoint, or when more than 30%, by weight, of the sets have tops over 2-1/2 inches in length. Serious damage by tops means that more than 50%, by weight, of the sets in the lot have tops over 2-1/2 inches.

Seedstems and Sunburn

They are not specifically mentioned in the onion set standard, however, if encountered score based on the general definition of damage; meaning when materially detracting from the appearance of the lot.

Loose Skins or Chaff

In most shipments loose skins are present in varying amounts. A moderate amount of loose skin is of no commercial importance, and is an indication that the stock is mature and well cured. Unless the amount is excessive and the general appearance of the lot is appreciably affected, this factor should not be mentioned on the certificate. On the other hand, if there is more than a reasonable quantity which materially affects the general appearance, it should be reported. This factor would be handled under the 2% tolerance for foreign material in the onion set grades. (See **Dirt**.)

Sunscald

Sunscald is distinguished from sunburn in that there is an actual killing of the tissue. In the early stages it appears as soft, watersoaked areas which generally are not sunken. In later stages these areas usually dry out, becoming sharply sunken, or may become infected with one of the decays such as Bacterial Soft Rot. **Sunscald on onions that have not been in storage should be treated as a condition factor in all terminal market inspections, even though the injury has dried out and become sharply depressed.** Onions that have been in storage sunscald should be handled as a quality factor.

Insects

All types of injury caused by worms or insects should be scored when severe enough to materially affect the appearance of the onion set. When worm holes penetrate more than one or two fleshy outer scales, depending on the size of the hole, the onion set should be scored as damage.

When injury caused by the onion Maggot is found, it will usually be necessary to cut to determine the extent of the injury since decay or severe tunneling frequently will be found in connection with a small entry hole. Small worm holes in or around the base of the onion should not be scored as severely as those affecting the side and fleshy scales.

(9) Condition

The principal factors are:

- Firmness
- Dryness and Curing
- Other Condition Factors
- Decay

Firmness

The U.S. No. 1 grade requires that the onion sets shall be "fairly firm," which is defined as meaning that the set may yield slightly to moderate pressure but is not appreciably soft or spongy. In describing firmness the following terms may be used: "firm," "fairly firm," and "soft." Mature onion sets may lack firmness due to freezing injury, sprouts or other factors.

Dryness and Curing

A common test of dryness and curing is slapping the sacks with your hand. If this causes a dry, crackling sound, the indications are that the stock is mature, dry, and well cured. In some cases, particularly in the early fall, the onions may not be properly cured. If in this condition the stock is generally slightly moist, the outer skin adheres closely to the bulb, and an unusual amount of moisture is present in the neck. This is a defect and may be described as "Stock mature but poorly cured." Under proper storage conditions such stock will dry out.

Other Condition Factors

Moisture

Even though onions may have been properly cured, they may absorb moisture during storage, or in transit under humid conditions. All of the onion set grades require the sets to be "free from damage caused by moisture." Therefore, when onions are damaged by moisture or show a wet condition, it should be described in general terms and the lot certified as "Fails to grade U.S. No. __ only account of wetness."

Wet necks

Do not confuse wet necks of onions with decay. Sometimes by exerting pressure at the neck water can be squeezed out of the onion. Dampness or wetness of the neck of an onion does not necessarily mean it is decayed. Decay may develop later but such onions should not be scored unless decay has actually begun, this generally can be determined by cutting open the neck of the onion. If Bacterial Soft Rot is present the characteristic odor can be detected and Gray Mold Rot will show discoloration of the scales. Wet necks alone would not cause onion sets to be damaged. If decay is present, score as decay.

Freezing Injury and Breakdown

This injury can be recognized by the watersoaked appearance, soft feel, and discoloration appearing in a portion of the scale or scales. It may affect one or more outer or inner scales or only a portion of one or more scales.

Freezing injury and breakdown resemble each other so closely that it is practically impossible to distinguish between the two types of injury after the ice crystals have melted. This should be described on the certificate.

Sprouts

The U.S. No. 1 grade requires onion sets to be free from damage by sprouts, meaning sets which have sprouts over 1/4 inch in length shall be considered as damage. Therefore, if the sprouts are visible or concealed and are over 1/4 inch in length, they are scored as damage. Also, the length of sprouts can be described in the "Other" section on the certificate.

In scoring sprouted onion sets it is quite likely that some sprouting will occur in sets which are oversize or undersize. Under such circumstances it should be reported, and cross referenced in the size statement.

New Neck Growth

New neck growth is a continuation of the growth of the neck after harvesting. It may be either green or white in color. Frequently new neck growth appears on early onions. It should be scored as a condition factor against all grades when it materially detracts from the appearance.

New Root Growth

New root growth is frequently found during late winter or spring in shipments that have been held in storage. Slight new root growth should not be mentioned on the certificate, unless the applicant requests it. However, if it is well developed it should be reported in general terms.

It should be remembered that while new root growth may detract somewhat from the general appearance of the lot, that in other lots it is of no commercial importance. If the onions are exposed to a free circulation of fresh air, the new roots will dry out within a short period of time. In most cases new root growth will not be sufficient to affect the grade. However, if the new roots are sufficient in number and length to materially detract from the general appearance of the lot, they should be described in general terms and scored against the total tolerance for defects, but treated as a condition factor. Thus: "Practically all onions have new root growth over 1/4 to 1-1/4 inches in length which materially detracts from the general appearance of the lot."

Smudge

Smudge attacks onions at harvest time and blemishes the scales. The fungus may continue to develop in transit and storage. Under very moist conditions the fungus not only causes blemishes but also may lead to disintegration of the outer scales. The disease also causes premature sprouting in storage.

Smudge is characterized by black blotches or aggregations of minute black or dark-green dots on the outer scales. These dots are often arranged in concentric rings, though they may be grouped in other ways. In severe cases, the Smudge spots are so extensive that the side of the onion appears smoked. Generally the lesions are on the outer scales, but they may be found on the inner scales. On fleshy scales the fungus produces sunken, yellowish spots which enlarge slowly. Smudge rarely occurs on yellow or red varieties and then only on the undercolored portion of the outer scales in the neck of the bulb. The disease occurs often, but only white varieties are seriously affected.

Smudge should be treated as condition factor at all times. It should be handled from an appearance standpoint in the same manner as staining except when occurring as sunken spots.

Surface Molds

A number of different fungi can occur as mere surface molds affecting the outer scales or between the outer scales. However, under favorable conditions they may cause decay. These surface molds may be black, blue or gray in color.

Surface mold on onion sets should be judged from an appearance standpoint. The presence of surface mold should be considered and reported on about the same basis as outlined in the guide for determining "damage by staining." However, if the tissue of the onion set is broken down and disintegrates readily when rubbed between the fingers, it should be considered as decay and scored against the decay tolerance.

Black Mold

This disease occurs on all varieties of onions. Black mold may be either a decay or a condition defect, depending on whether the tissue of the onion has broken down. At times on Bermuda-Granex-Grano type onions which are wet, it is rather difficult to draw a definite line between Black Mold Rot and black surface mold. If the tissue of the onion is broken down and disintegrates readily when rubbed between the fingers, it should be considered as decay and scored against the decay tolerance.

The chief sign of this disease is the presence of black, powdery spore masses of the fungus on the outer scales or between the outer scales. When those masses occur between the scales they have a tendency to follow the veins. Sometimes there are no apparent lesions or decomposition of the tissue and the mold constitutes the only blemish. At times the tissues show symptoms such as sunken, discolored areas, which underline the powdery fungus masses. Under dry conditions the affected tissues are dry and papery and sometimes highly colored; under moist conditions, they are semi-watery.

Decay

The tolerance for decay in all grades is not more than 2 percent. When decay is found, simply state **Decay** in the "Offsize/Defects" section of the certificate. Then describe the stages of decay in general terms in the "Other" section and the part(s) affected (bulbs or tops).

When describing the stages of decay use the following terms: **Early** meaning approximately 10 percent or less of the surface or specimen affected: **Moderate** meaning approximately 11 to 25 percent of the surface or specimen; and **Advanced** meaning approximately 26 percent or more of the surface or specimen.

For additional information refer to the General Inspection Instructions.

(10) Grade

Under this heading a clear statement must be made to indicate whether or not the lot(s) meet the requirements of the grade or other specifications on which it was inspected, or the grade marked on the containers. The grade statement must be based on the facts in the preceding headings on the certificate.

(11) Remarks

Under this heading any explanatory or qualifying statements that are necessary to complete the certificate should be made. They may be one or more of the following:

- Restrictions to a lot, load, size or weight.
- Information supplied by the applicant such as designation, etc.
- Cross reference to another certificate number such as in reinspections, appeals, etc.
- Contract specifications.
- Factors not affecting grade at applicant's request.
- Continuation of "Other" section.

Appendix I

U.S. Standards

United States Department of Agriculture

Agricultural Marketing Service

United States Standards for Grades of Onion Sets

As of February 1, 1940

This publication may be duplicated without authorization from USDA.

UNITED STATES STANDARDS FOR GRADES OF ONION SETS 1/

SOURCE: 32 FR 8865, June 22, 1967, unless otherwise noted. Redesignated at 42 FR 32514, June 27, 1977.

Effective February 1, 1940

Sec.

GENERAL

2851.3980 General.

GRADES

2851.3981 U.S. No. 1.
2851.3982 U.S. No. 2.

UNCLASSIFIED

2851.3983 Unclassified.

DEFINITIONS

2851.3984 Similar varietal characteristics.
2851.3985 Mature.
2851.3986 Fairly firm.
2851.3987 Damage.
2851.3988 Serious damage by tops.
2851.3989 Diameter.

AUTHORITY: The provisions of this subpart issued under secs. 203, 205, 60 Stat. 1087, as amended, 1090 as amended; 7 U.S.C. 1622, 1624.

GENERAL

§ 2851.3980 General.

(a) These standards are recommended to the onion set industry as a basis for determining the quality of onion sets. Among other requirements of these standards it will be noted that onion setsmust meet certain size specifications in order to grade U.S. No. 1 or U.S. No. 2. Although factors such as maturity and freedom from damage by disease, sprouts, etc. are very important, the size of onion sets is the principal factor which has caused confusion and dissatisfaction between sellers and buyers.

(b) It has been a general practice to buy and sell onion sets as having passed through a certain size and type screen. Such a method of selling does not always give a true picture of the size of the sets. For example, sets described as having been passed through a 15/16 inch bar screen may actually have a considerable percentage ranging from 1 inch to 1¼ inches or more in diameter if the onions are flat shaped. On the other hand, if the field run of sets is generally small there may be practically none over 1 inch in diameter after having passed through the 15/16 inch bar screen.

(c) In order to insure that most of the sets in a lot are not close to the maximum size, U.S. No. 1 grade requires, unless otherwise specified, at least 50 percent of the sets, by weight, to be ¾ inch and smaller but not smaller than 5/16 inch in diameter. The U.S. No. 1 grade designation may not be used, however, on lots of sets having less than 40 percent ¾ inch and smaller in diameter.

(d) It is thought that contracting on the basis of uniform standards which have actual size specifications for the sets, regardless of the size and type of screen used, will prove satisfactory to the trade. Actual size specifications rather than a mere statement that the sets have been passed through a certain size screen, should furnish the prospective buyer a truer picture of a lot of sets and serve as a more definite basis for the settlement of disputes.

GRADES

§ 2851.3981 U.S. No. 1.

"U.S. No. 1" consists of onion sets of similar varietal characteristics which are mature, fairly firm, free from decay and from damage caused by

[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.

tops, sprouting, freezing, mold, moisture, dirt, chaff or other foreign matter, disease, insects, or mechanical or other means.

(a) The minimum size shall be not less than 5/16 inch in diameter. The maximum size shall be not more than 1 inch in diameter. Unless otherwise specified, at least 50 percent, by weight, of the sets in the lot shall be ¾ inch and smaller: *Provided*, That the percentage specified shall not include any sets less than 5/16 inch in diameter: *And provided further*, That the "U.S. No. 1" designation shall not be used on lots of sets that have less than 40 percent from 5/16 to ¾ inch, inclusive.

(b) Other maximum sizes smaller than 1 inch may be specified in connection with the grade in terms of fourths, eighths, or sixteenths of an inch as "U.S. No. 1, ¾-inch maximum", "U.S. No. 1, ⅞-inch maximum", U.S. No. 1, 15/16-inch maximum", in accordance with the facts. Percentages less than 50 but not less than 40 must be specified in connection with the grade and percentages greater than 50 for sets which are from 5/16 to ¾ inch in diameter may be specified as "U.S. No. 1, 40 percent ¾ inch and smaller", "U.S. No. 1, 65 percent ¾ inch and smaller", etc. in accordance with the facts. A range in diameters may also be specified as "U.S. No. 1, ⅜ to ⅞ inch" provided the lot has 40 percent or more of sets 5/16 to ¾ inch in diameter.

(c) *Tolerances.* In order to allow for variations incident to proper grading and handling, the following tolerances, by weight, are provided as specified:

(1) *For defects.* Not more than a total of 6 percent of the onion sets in any lot may fail to meet the requirements of the grade, including therein not more than 2 percent for onion sets affected by decay and not more than 2 percent for dirt, chaff, and other foreign matter.

(2) *For size.* Eight percent for onion sets which are larger than the specified maximum size and 3 percent for onion sets which are smaller than the specified minimum size.

(3) No part of any tolerance shall be used to reduce the percentage of onion sets in any lot which is specified to be within any range from 5/16 to ¾ inch in diameter.

§ 2851.3982 U.S. No. 2.

"U.S. No. 2" consists of onion sets which meet the requirements of U.S. No. 1 grade except that they shall be free from serious damage by tops and except for size requirements.

(a) The minimum size shall be not less than 5/16 inch in diameter. The maximum size shall be not more than 1⅛ inches in diameter. Unless otherwise specified at least 50 percent, by weight, of the sets in the lot shall be ⅞ inch and smaller: *Provided*, That the percentages specified shall not include any sets less than 5/16 inch in diameter.

(b) Other minimum sizes may be specified in connection with the grade as "U.S. No. 2, ⅜ inch minimum", "U.S. No. 2, ½ inch minimum", etc., in accordance with the facts. A maximum size of 1 1/16 inches may also be specified. Percentages other than that specified for sets which are from 5/16 to ⅞ inch inclusive in diameter or a range of diameters may also be specified as "U.S. No. 2, 60 percent ⅞ inch and smaller", "U.S. No. 2, ¾ to 1⅛ inches", etc., in accordance with the facts. When a minimum size larger than 5/16 inch, or a range of diameters is specified in connection with the grade there is no requirement as to the percentage of sets from 5/16 to ⅞ inch in diameter.

(c) *Tolerances.* In order to allow for variations incident to proper grading and handling, the following tolerances, by weight, are provided as specified:

(1) *For defects.* Not more than a total of 6 percent of the onion sets in any lot may fail to meet the requirements of the grade, including therein not more than 2 percent for onion sets affected by decay and not more than 2 percent for dirt, chaff, and other foreign matter.

(2) *For size.* Eight percent for onion sets which are larger than the specified maximum size and 3 percent for onion sets which are smaller than the specified minimum size.

(3) No part of any tolerance shall be used to reduce the percentage of onion sets in any lot which is specified to be within any range from 5/16 to 7/8 inch in diameter.

UNCLASSIFIED

§ 2851.3983 Unclassified.

"Unclassified" consists of onion sets which have not been classified in accordance with either of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no grade has been applied to the lot.

DEFINITIONS

§ 2851.3984 Similar varietal characteristics.

"Similar varietal characteristics" means that the sets are the same general type. Onion sets of different colors shall not be mixed in the same container.

§ 2851.3985 Mature.

"Mature" means that the sets are dry and well cured.

§ 2851.3986 Fairly firm.

"Fairly firm" means that the set may yield slightly to moderate pressure but is not appreciably soft or spongy.

§ 2851.3987 Damage.

"Damage" means any defect, or any combination of defects, which materially detracts from the appearance of the lot, or the shipping or planting quality of the individual sets. Any lot of sets shall be considered as damaged, when more than 30 percent, by weight, of the sets have tops over 2½ inches in length. Sets which have sprouts over ¼ inch in length shall also be considered as damaged.

§ 2851.3988 Serious damage by tops.

"Serious damage by tops" means that more than 50 percent, by weight, of the sets in any lot have tops over 2½ inches in length.

§ 2851.3989 Diameter.

"Diameter" means the smallest dimension measured through the center at right angles to a line running from the stem to the root.