Chapter 16-403 WAC
STANDARDS FOR APPLES MARKETED WITHIN THE STATE OF WASHINGTON

WAC
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DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

16-403-001 Promulgation. [Order 893, Promulgation, filed 8/31/62; Order 870, Promulgation, filed 11/13/61.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.
16-403-002 Promulgation. [Order 992, filed 8/24/65; Emergency Order 991, filed 8/24/65.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.
16-403-010 Introduction and definitions. [Order 893, General Regulation, § 1, effective 10/1/62; Order 870, General Regulation, § 1, filed 11/13/61; Order 838, Regulation 1, § 1, filed 3/27/61; Order 791, Regulation 1, § 1, filed 9/15/59.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.
16-403-015 Red, partial red or blushed varieties—Washington extra fancy. [Order 893, Regulation 1, § 1, effective 10/1/62; Order 870, Regulation 1, § 1, filed 11/13/61; Order 838, Regulation 1, § 1, filed 3/27/61; Order 791, Regulation 1, § 1, effective 9/15/59.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.
16-403-020 Red, partial red or blushed varieties—Washington fancy. [Order 893, Regulation 1, § 2, effective 10/1/62; Order 870, Regulation 1, § 2, filed 3/27/61; Order 838, Regulation 1, § 2, filed 3/27/61; Order 791, Regulation 1, § 2, effective 9/15/59.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.
16-403-025 Red, partial red or blushed varieties—Color requirements. [Order 893, Regulation 1, § 3, effective 10/1/62; Order 870, Regulation 1, § 3, filed 11/13/61; Order 838, Regulation 1, § 3, filed 3/27/61; Order 791, Regulation 1, § 4, effective 9/15/59.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.

(6/7/06)
United States standards for apples—Grades. [Order 893, Regulation 11, § 1, effective 10/1/62; Order 870, Regulation 11, § 1, filed 11/13/61; Order 791, Regulation 10, § 1, effective 9/15/59] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.

United States standards for apples—Color requirements. [Order 893, Regulation 11, § 2, effective 10/1/62; Order 870, Regulation 10, § 2, filed 11/13/61; Order 791, Regulation 10, § 2, effective 9/15/59] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.


United States standards for apples—Packaging and marking. [Order 893, Regulation 11, § 5, effective 10/1/62; Order 870, Regulation 11, § 5, filed 11/13/61; Order 791, Regulation 10, § 5, effective 9/15/59] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.

United States standards for apples—United States condition standards for export. [Order 893, Regulation 11, § 6, effective 10/1/62; Order 870, Regulation 11, § 6, filed 11/13/61; Order 791, Regulation 10, § 6, effective 9/15/59] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.


Spot diameters illustrated. [Order 893 (part), effective 10/1/62.] Repealed by Order 1374, filed 7/26/74, effective 9/1/74.


Carefully hand picked. [Order 1374, § 16-403-255, filed 7/26/74, effective 9/1/74.] Repealed by WSR 06-12-117, filed 6/7/06, effective 7/8/06. Statutory Authority: Chapters 15.17 and 34.05 RCW.

Effective date. [Order 1374, § 16-403-300, filed 7/26/74, effective 9/1/74.] Repealed by WSR 79-07-048 (Order 1635), filed 6/27/79. Statutory Authority: Chapter 15.17 RCW.

Marketing Standards for Apples

WAC 16-403-140 Washington state standards for apples. Washington state standard apple grades for extra fancy and fancy shall be equivalent to or better than the U.S. standards for grades of apples, except the Fuji variety, effective September 1, 1964, as amended October 1, 1966, July 25, 1972, and March 25, 1976, for U.S. extra fancy and U.S. fancy. Apples meeting the foregoing grades may be marked either with the proper Washington or U.S. grade, or both. In no case shall the grade and condition requirements thereof be interpreted as less than those standards required by said U.S. standards for grades of apples for the comparable Washington grade and variety.

WAC 16-403-141 Red Delicious, Delicious, Golden Delicious—Minimum soluble solids. For harvest of the crop of the current growing season, apples of the Red Delicious and Delicious varieties cannot be shipped prior to October 1, unless they have at least eleven percent soluble solids as determined by refractometer. Apples of the Golden Delicious varieties, cannot be shipped prior to September 20 unless they have at least ten and one-half percent soluble solids as determined by refractometer.

WAC 16-403-142 Red Delicious, Delicious, Golden Delicious, Gala, and Jonagold—Minimum firmness. At the time of shipment, Red Delicious, and Delicious varieties shall pressure test not less than twelve pounds: Provided, That those apples failing to pressure test twelve pounds may be considered as meeting the requirements of this section when the individual apple exhibits edible qualities and texture of flesh comparable to other apples of the same variety which pressure test twelve pounds or more.

At the time of shipment, Golden Delicious variety shall pressure test not less than ten pounds: Provided, That those apples failing to pressure test ten pounds may be considered as meeting the requirements of this section when the individual apple exhibits edible qualities and texture of flesh comparable to other apples of the same variety which pressure test ten pounds or more.

At time of shipment, Gala and Jonagold varieties of apples shall pressure test not less than eleven pounds.

WAC 16-403-143 Granny Smith—Starch-iodine requirements. For harvest of the crop of the current growing season, apples of the Granny Smith variety cannot be shipped prior to October 10 unless they meet the stage of maturity as indicated by starch-iodine rating of 1.2 on the Cascade Analytical Inc. chart: Provided, That any such lot of apples may be shipped if not more than ten percent of the apples tested fail to meet the 1.2 rating.

WAC 16-403-145 Red, partial red or blushed varieties—Washington extra fancy. Washington extra fancy consists of apples of one variety (except when more than one variety is printed on the container) which are mature but not overripe, clean, fairly well formed; free from decay, internal browning, internal breakdown, scald, scab, freezing injury, visible watercore, and broken skins and bruises except those which are slight and incident to proper handling and packing. The apples are also free from injury caused by smooth net-like russetting, sunburn or spray-burn, limb rubs, hail, drought spots, scars, disease, insects, or other means; and free from damage by smooth solid, slightly rough or rough russetting, or stem or calyx cracks, Jonathan spot, bitter pit and free from damage by invisible watercore after January 31st of the year.
following the year of production: Provided, That smooth net-like russeting and/or invisible watercore shall not be a quality factor of Fuji variety at any time of the year. Each apple of this grade has the amount of color specified in WAC 16-403-155 for the variety.

[Statutory Authority: Chapters 15.17 and 34.05 RCW. WSR 06-12-117, § 16-403-145, filed 6/7/06, effective 7/8/06. Statutory Authority: Chapter 15.17 RCW. WSR 94-07-133 (Order 5033), § 16-403-145, filed 3/23/94, effective 4/23/94; Order 1374, § 16-403-145, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-150 Red, partial red or blushed varieties—Washington fancy.** Washington fancy consists of apples of one variety (except when more than one variety or commodity is printed on the container) which are mature but not overripe, clean, fairly well formed; free from decay, internal browning, internal breakdown, scald, freezing injury, visible watercore, and broken skins and bruises, except those which are incident to proper handling and packing. The apples are also free from damage caused by russetting, sunburn or sprayburn, hail, drought spots, scars, stem or calyx cracks, Jonathan spot, bitter pit, disease, insects, invisible watercore after January 31st of the year following the year of production, or damage by other means: Provided, That smooth net-like russeting and/or invisible watercore shall not be a quality factor of Fuji variety at any time of the year. Each apple of this grade has the amount of color specified in WAC 16-403-155 for the variety.

[Statutory Authority: Chapters 15.17 and 34.05 RCW. WSR 06-12-117, § 16-403-150, filed 6/7/06, effective 7/8/06. Statutory Authority: Chapter 15.17 RCW. WSR 94-07-133 (Order 5033), § 16-403-150, filed 3/23/94, effective 4/23/94; Order 1374, § 16-403-150, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-155 Color requirements.** In addition to the requirement specified for the grades set forth in WAC 16-403-145 and 16-403-150, apples of these grades shall have the percentage of color specified for the variety appearing in this section.

1. **Solid red varieties.** For the solid red varieties the percentage stated refers to the area of the surface which must be covered with a good shade of solid red characteristic of the variety: Provided, That an apple having color of a lighter shade of solid red or striped red than that considered as a good shade of red characteristic of the variety may be admitted to a grade provided it has sufficient additional area covered so that the apple has as good an appearance as one with the minimum percentage of good red characteristic of the variety required for the grade, subject to the limitations set forth below.

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>EXTRA FANCY PERCENT</th>
<th>FANCY PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Ben</td>
<td>66(1)</td>
<td>40(1)</td>
</tr>
<tr>
<td>Gano</td>
<td>66(1)</td>
<td>40(1)</td>
</tr>
<tr>
<td>Winesaps</td>
<td>66(1)</td>
<td>40(1)</td>
</tr>
<tr>
<td>Other similar varieties</td>
<td>66(1)</td>
<td>40(1)</td>
</tr>
<tr>
<td>Red sport varieties(2)</td>
<td>66(4)</td>
<td>40(3)</td>
</tr>
</tbody>
</table>

(1) Must have at least 50 percent good shade of red color characteristic of the variety.

(2) coupon.

2. **Striped or partial red varieties.** For the striped or partial red varieties the percentage stated refers to the area of the surface in which the stripes of a good shade of red characteristic of the variety shall predominate over stripes of lighter red, green or yellow. However, an apple having color of a lighter shade than that considered as a good shade of red characteristic of the variety may be admitted to a grade, provided it has sufficient additional area covered so that the apple has as good an appearance as one with the minimum percentage of stripes of a good red characteristic of the variety required for the grade, subject to the limitations set forth below.

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>EXTRA FANCY PERCENT</th>
<th>FANCY PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delicious</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Rome Beauty</td>
<td>50(1)</td>
<td>33(2)</td>
</tr>
<tr>
<td>Wealthy</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Stayman</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Other similar varieties</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Jonathan</td>
<td>66(1)</td>
<td>33(2)</td>
</tr>
<tr>
<td>McIntosh</td>
<td>50(1)</td>
<td>33(2)</td>
</tr>
<tr>
<td>Cortland</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Akane</td>
<td>33 1/3</td>
<td>15</td>
</tr>
<tr>
<td>Jonamac</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Nittany</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Vista Bella</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Other similar varieties</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Red sport varieties(5)</td>
<td>66(4)</td>
<td>40(3)</td>
</tr>
</tbody>
</table>

(1) Must have at least 35 percent good shade of red color characteristic of the variety.

(2) Must have at least 15 percent good shade of red color characteristic of the variety.

(3) Must have at least 33 percent good shade of red color characteristic of the variety.

(4) Must have at least 66 percent good shade of red color characteristic of the variety.

(5) When the red sport varieties are marked as such, they shall meet the color requirements of red sport varieties, and the containers must also bear the name of the parent variety.

3. **Red cheeked or blushed varieties.**

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>EXTRA FANCY PERCENT</th>
<th>FANCY PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braeburn</td>
<td>Blush Cheek</td>
<td>Tinge of color</td>
</tr>
<tr>
<td>Elstar</td>
<td>Blush Cheek</td>
<td>Tinge of color</td>
</tr>
<tr>
<td>Fuji</td>
<td>Blush Cheek</td>
<td>Tinge of color</td>
</tr>
<tr>
<td>Gala, (Royal Gala)</td>
<td>Blush Cheek</td>
<td>Tinge of color</td>
</tr>
</tbody>
</table>

(Ch. 16-403 WAC p. 3)
WAC 16-403-160 Green or yellow varieties—Washington extra fancy. Washington extra fancy consists of apples of one variety (except when more than one variety or commodity is printed on the container) which are mature but not overripe, clean, fairly well formed; free from decay, internal browning, internal breakdown, scald, seb, freezing injury, visible watercore, broken skins and bruises except those which are slight and incident to proper handling and packing. The apples are also free from slightly rough or rough russeting, provided, russetting other than rough or bark-like russetting materially affecting the appearance of the apple shall be permitted in the stem cavity or calyx basin if it cannot be seen when the apple is placed stem end or calyx end down on a flat surface. The apples are also free from injury caused by smooth net-like russeting, smooth solid russeting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, disease, insects, stem or calyx cracks, or other means; and free from damage by Jonathan spot, bitter pit and by invisible watercore after January 31st of the year following the year of production. Each apple of this grade has the amount of color specified in WAC 16-403-175 for the variety.

WAC 16-403-165 Green or yellow varieties—Washington fancy. Washington fancy consists of apples of one variety (except when more than one variety or commodity is printed on the container) which are mature but not overripe, clean, fairly well formed; free from decay, internal browning, internal breakdown, scald, freezing injury, visible watercore, and broken skins and bruises except those which are incident to proper handling and packing. The apples are also free from damage caused by russeting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, Jonathan spot, bitter pit, disease, insects, invisible watercore after January 31st of the year following the year of production, or damage by other means. Each apple of this grade has the amount of color specified in WAC 16-403-175 for the variety.

WAC 16-403-170 Green or yellow varieties—Washington C grade. The requirements of this grade are the same as for Washington fancy except for color, russeting and invisible watercore. Apples of this grade are free from excessive damage caused by russetting which means that apples meet the russetting requirements for Washington fancy as defined under the definitions of "damage by rusteting," except the aggregate area of an apple which may be covered by smooth net-like russetting shall not exceed 25 percent; and the aggregate area of an apple which may be covered by smooth solid russeting shall not exceed 10 percent: Provided, That in the case of the Yellow Newtown, Granny Smith or similar varieties the aggregate area of an apple which may be covered with excessively rough or barklike russeting or limb rubs shall not exceed the area of a circle three-fourths of an inch in diameter. Each apple of this grade has the amount of color specified in WAC 16-403-175 for the variety. There is no requirement in this grade pertaining to invisible watercore.

WAC 16-403-175 Green or yellow varieties—Color requirements. (1) Golden Delicious. In extra fancy and fancy grades, 75 percent or more of the surface of the apple shall show white or light green predominating over the green color. In C grade, 33-1/3 percent or more of the surface of the apple shall show white or light green predominating over the green color.

(2) In green and yellow varieties, other than Golden Delicious, characteristic ground color shall be required in extra fancy, fancy or C grade.

(3) In no case shall the color requirements for any variety be less than those required under the United States standards for grades of apples, effective September 1, 1964, amended October 1, 1966 and July 25, 1972 for the comparable Washington grade and variety.

WAC 16-403-180 Combination grades. (1) Combination extra fancy and fancy. When extra fancy and fancy apples are packed together, the boxes may be marked "Washington combination extra fancy and fancy" and shall contain at least 80 percent extra fancy apples, except Newtowns, which shall contain at least 50 percent extra fancy apples. (This is the only combination grade which may be used for red or partial red varieties.)

(2) Combination extra fancy, fancy and C grade. When extra fancy, fancy and C grade apples are packed together, the boxes may be marked "Washington combination extra fancy, fancy and C grade" and shall contain at least 80 percent extra fancy apples, except Newtowns, which shall contain at least 50 percent extra fancy apples.

(3) Combination fancy and C grade. When fancy and C grade apples are packed together, the boxes may be marked "Washington combination fancy and C grade" but shall contain at least 80 percent fancy apples, except Newtowns, which shall contain at least 50 percent fancy apples.
(4) Jumble pack. The larger sizes of the above grades may be removed and the rest packed and marked "jumble" or "face and fill" in addition to the grade mark.

(5) Gift grade. Gift grade may consist of mixed varieties (apples and pears) and in the case of apples shall meet Washington extra fancy grade as defined in Washington standards for apples, and in the case of pears shall be U.S. No. 1 or higher grade as defined in Washington standards for D'Anjou, Bosc, Winter Nelis and other varieties of winter pears. When gift containers meet the requirements of gift grade, such containers need be marked only "gift grade" and a statement of net contents in weight or count and name and address of packer or shipper.

WAC 16-403-185 Culls. (1) Apples which are not graded in conformity with the foregoing grades and which contain not more than 5 percent serious insect damage shall be designated as "culls."

(2) Following is a quotation from RCW 15.17.080 - Fresh fruits—Culls—Container markings—Designation on bills of lading, invoices, etc.:

"It shall be unlawful for any person to sell fresh fruits for fresh consumption classified as culls under the provisions of this chapter or rules adopted hereunder unless such fruit is packed in one-half bushel or one bushel wooden baskets ring faced, with the fruit in the ring face representative of the size and quality of the fruit in such baskets. Such baskets shall be lidded and the words "cull" including the kind of fruit and variety must appear on the top and side of each basket and on any label thereon in clear and legible letters at least two and one-half inches high. Every bill of lading, invoice, memorandum, and document referring to said fruit shall designate them as culls."

[Order 1374, § 16-403-185, filed 7/26/74, effective 9/1/74.]

WAC 16-403-190 Tolerances. In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances are provided as specified:


Ten percent of the apples in any lot may fail to meet the requirements of the grade, but not more than one-half of this amount, or 5 percent, shall be allowed for apples which are seriously damaged, including therein not more than one percent for apples affected by decay or internal breakdown.

(2) When applying the foregoing tolerances to combination grades, no part of any tolerance shall be allowed to reduce, for the lot as a whole, the percent of apples of the higher grade required in the combination.

Combinations requiring 80 percent of the higher grade for the lot shall have not less than 65 percent of the higher grade in individual samples.

Combinations requiring 50 percent of the higher grade for the lot shall have not less than 40 percent of the higher grade in individual samples.

(3) Size. When size is designated by the numerical count for a container, not more than 5 percent of the apples in the lot may vary more than 1/2 inch in diameter. When size is designated by minimum or maximum diameter or weight, not more than 5 percent of the apples in any lot may be smaller than the designated minimum and not more than 10 percent may be larger than the designated maximum.

(4) Firmness. Not more than ten percent of the apples in any lot of Red Delicious, Delicious, Golden Delicious, Jonagold, and Gala varieties shall fail to meet the firmness requirements as defined in WAC 16-403-142.

WAC 16-403-195 Application of tolerances. The contents of individual samples in the lot, are subject to the following limitations: Provided, That the averages for the entire lot are within the tolerances specified for the grade.

Packages which contain more than 10 pounds:

Samples shall have not more than one and one-half times a specified tolerance of 10 percent or more and not more than double a tolerance of less than 10 percent, except that at least one apple which is seriously damaged by insects or affected by decay or internal breakdown may be permitted in any sample.

Packages which contain 10 pounds or less:

No packages may have more than three times the tolerance specified, except that at least three defective apples may be permitted in any package: Provided, That not more than three apples or more than 18 percent (whichever is the larger amount) may be seriously damaged by insects or affected by decay or internal breakdown.

WAC 16-403-200 Calculation of percentages. (1) When the numerical count is marked on the container, percentages shall be calculated on the basis of count.

(2) When the minimum diameter and/or minimum weight of individual apples, or minimum and maximum diameters and/or weights of individual apples are marked on a container or when the apples are jumbled in a container or in bulk, percentages shall be calculated on the basis of weight or an equivalent basis.

WAC 16-403-205 Condition after storage or transit. (1) Decay, scald or any other deterioration which may have developed on apples after they have been in storage or transit shall be considered as affecting condition and not the grade, except a separate tolerance in addition to and aside from the regular grade tolerances shall be allowed for apples that are...
overripe, providing an average of not more than 5 percent overripe in any lot of apples with not more than 10 percent overripe in any one container shall be permitted in any shipment.

[Order 1374, § 16-403-205, filed 7/26/74, effective 9/1/74.]

WAC 16-403-215 Packing requirements. (1) Apples tray packed or cell packed in containers shall be arranged according to approved and recognized methods. Packs shall be at least fairly tight or fairly well filled.

(2) Closed cartons containing apples not tray or cell packed shall be fairly well filled or the pack shall be sufficiently tight to prevent any appreciable movement of the apples.

(3) Apples on the shown face of any container shall be reasonably representative in size, color and quality of the contents.

(4) Tolerances: In order to allow for variations incident to proper packing, not more than 10 percent of the containers in any lot may fail to meet these requirements.

(a) "Fairly tight" means that apples are of the proper size for molds or cell compartments in which they are packed and that molds or cells are filled in such a way that no more than slight movement of apples within molds or cells is possible.

(b) "Fairly well filled" means that the net weight of apples in containers ranging from 2,100 to 2,900 cubic inch capacity is not less than 38 pounds for Jonathan, McIntosh and Golden Delicious varieties and not less than 40 pounds for all other varieties.

[Statutory Authority: Chapters 15.17 and 34.05 RCW. WSR 06-12-117, § 16-403-215, filed 7/26/74, effective 9/1/74.]

WAC 16-403-220 Marking requirements—Open or closed containers. (1) The containers shall bear the correct name of the variety or when more than one variety or commodity is in the container, each variety and commodity must be shown, the name of the grower, packer, or distributor, and his address, the grade, the numerical count or the minimum diameter of apples packed in a closed container, and the net contents either in terms of dry measure or weight. The minimum weight of individual apples within the container may be stated in lieu of, in combination with, or in addition to, minimum diameter as a declaration of size. All open containers and consumer packages must bear statement of net weight or volume.

(a) When the numerical count is not shown, the minimum diameter or minimum weight of individual apples shall be plainly stamped, stenciled, or otherwise marked on the container in terms of whole inches, or whole inches and not less than eight inch fractions thereof or in terms of whole grams.

(b) When used in combination with minimum diameter as a size designation, the following minimum fruit weights shall be used:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Minimum Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Delicious</td>
<td>2 1/8 in. or 65 grams</td>
</tr>
<tr>
<td>Golden Delicious</td>
<td>2 1/8 in. or 65 grams</td>
</tr>
</tbody>
</table>

[Ch. 16-403 WAC p. 6]
Marketing Standards for Apples

**WAC 16-403-230 Well formed.** "Well formed" means having the normal shape characteristic of the variety, except that the shape may be slightly irregular provided it does not detract from the general appearance of the apple. Shape shall be determined by the same models used in determining shape under the United States standards for grades of apples, effective September 1, 1964, as amended October 1, 1966 and July 25, 1972.

[Order 1374, § 16-403-230, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-235 Fairly well formed.** "Fairly well formed" means that the apple may be slightly abnormal in shape but not to an extent which detracts materially from its appearance. Shape shall be determined by the same models used in determining shape under the United States standards for grades of apples, effective September 1, 1964, as amended October 1, 1966 and July 25, 1972.

[Order 1374, § 16-403-235, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-240 Diameter or fruit weight.** When measuring for minimum size, "diameter" means the greatest dimension of the apple measured at right angles to a line from stem to blossom end. When measuring for maximum size "diameter" means the smallest dimension of the apple determined by passing the apple through a round opening in any position. When measuring for minimum weight as a designation of fruit size, the individual apple must meet the minimum weight designation as marked on the container or package.

[Statutory Authority: Chapter 15.17 RCW. WSR 92-15-056, § 16-403-240, filed 7/13/92, effective 8/13/92; Order 1374, § 16-403-240, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-245 Mature.** (1) "Mature" means that the apples have reached the stage of development which will insure the proper completion of the ripening process. Before a mature apple becomes overripe it will show varying degrees of firmness, depending upon the stage of the ripening process. The following terms are used for describing different stages of firmness of apples:

(a) "Hard" means apples with a tenacious flesh and starchy flavor.

(b) "Firm" means apples with a tenacious flesh but which are becoming crisp with a slightly starchy flavor, except the Delicious variety.

(c) "Firm ripe" means apples with crisp flesh except that the flesh of the Gano, Ben Davis, and Rome Beauty varieties may be slightly mealy.

(d) "Ripe" means apples with mealy flesh and soon to become soft for the variety.

[Order 1374, § 16-403-245, filed 7/26/74, effective 9/1/74.]

(6/7/06)

**WAC 16-403-250 Overripe.** "Overripe" means apples which are dead ripe, with flesh very mealy or soft, and past commercial utility.

[Order 1374, § 16-403-250, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-260 Clean.** "Clean" means that the apples are free from excessive dirt, dust, spray residue and other foreign material.

[Order 1374, § 16-403-260, filed 7/26/74, effective 9/1/74.]

**WAC 16-403-265 Injury.** (1) "Injury" 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 more than slightly detracts from the appearance, or the edible or shipping quality of the apple. The following specific defects shall be considered as injury:

(a) Russetting in the stem cavity or calyx basin which cannot be seen when the apple is placed stem end or calyx end down on a flat surface shall not be considered in determining whether or not an apple is injured by russetting. Smooth net-like russetting outside of the stem cavity or calyx basin shall be considered as injury when an aggregate area of more than 10 percent of the surface is covered in the red, partial red and blushed varieties and 5 percent of the surface for green and yellow varieties, and the color of the russetting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russetting when the appearance is affected to a greater extent than the above amount permitted. Smooth solid russetting when the aggregate area in the green and yellow varieties exceeds more than 1/4 inch in diameter and in the red and partial red varieties when the aggregate area exceeds 3/8 inch in diameter shall also be considered as injury.

(b) Sunburn or sprayburn, when the discolored area does not blend into the normal color of the fruit.

(c) Dark brown or black limb rubs which affect a total area of more than one-fourth inch in diameter for red, partial red or blushed varieties and one-eighth inch for green or yellow varieties, except that light brown limb rubs of a russet character shall be considered under the definition of injury by russetting.

(d) Hail marks, drought spots, other similar depressions or scars:

(i) When the skin is broken, whether healed or unhealed;

(ii) When there is appreciable discoloration of the surface;

(iii) When any surface indentation exceeds one-sixteenth inch in depth;

(iv) When any surface indentation exceeds one-eighth inch in diameter; or

(v) When the aggregate affected area of such spots exceeds one-half inch in diameter for red, partial red and blushed varieties or one-fourth inch for green or yellow varieties.

(e) Disease:

(i) Cedar rust infection which affects a total area of more than three-sixteenths inch in diameter.

(ii) Sooty blotch or fly speck which is thinly scattered over more than 5 percent of the surface, or dark, heavily con-
(c) Limb rubs which affect a total area of more than one-half inch in diameter.

(b) Sunburn or sprayburn which has caused blistering or cracking of the skin, or when the discolored area does not blend into the normal color of the fruit unless the injury can be classed as russetting.

(c) Limb rubs which affect a total area of more than one-half inch in diameter, except that light brown limb rubs of a russet character shall be considered under the definition of damage by russetting.

(d) Hail marks, drought spots, other similar depressions or scars:
   (i) When any unhealed mark is present;
   (ii) When any surface indentation exceeds one-eighth inch in depth;
   (iii) When the skin has not been broken and the aggregate affected area exceeds one-half inch in diameter; or
   (iv) When the skin has been broken and well healed, and the aggregate affected area exceeds one-fourth inch in diameter.

(e) Stem or calyx cracks which are not well healed, or well healed stem or calyx cracks which exceed an aggregate length of one-eighth inch.

(f) Invisible watercore existing around the core and extending to watercore in the vascular bundles; or surrounding the vascular bundles when the affected areas surrounding three or more vascular bundles meet or coalesce; or existing in more than slight degree outside the circular area formed by the vascular bundles.

(g) Disease:
   (i) Scab spots which affect a total area of more than one-fourth inch in diameter.
   (ii) Cedar rust infection which affects a total area of more than one-fourth inch in diameter.
   (iii) Sooty blotch or fly speck which is thinly scattered over more than one-tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one-half inch in diameter.
   (iv) Red skin spots which are thinly scattered over more than one-tenth of the surface, or dark, heavily concentrated spots which affect an area of more than one-half inch in diameter.
   (v) Bitter pit or Jonathan spot when one or more spots affects the surface of the apple.

(h) Insects:
   (i) Any healed sting or healed stings which affect a total area of more than three-sixteenths inch in diameter including any encircling discolored rings.
   (ii) Worm holes.

[Statutory Authority: Chapters 15.17 and 34.05 RCW. WSR 06-12-117, § 16-403-270, filed 6/7/06, effective 7/8/06; Order 1374, § 16-403-270, filed 7/26/74, effective 9/1/74.]
(b) Sunburn or sprayburn which seriously detracts from the appearance of the fruit.

(c) Limb rubs which affect more than one-tenth of the surface in the aggregate.

(d) Hail marks, drought spots, or scars, if they materially deform or disfigure the fruit, or if such defects affect more than one-tenth of the surface in the aggregate: Provided, That no hail marks which are unhealed shall be permitted and not more than an aggregate area of one-half inch shall be allowed for well healed hail marks where the skin has been broken.

(e) Stem or calyx cracks which are not well healed, or well healed stem or calyx cracks which exceed an aggregate length of one-half inch.

(f) Visible watercore which affects an area of more than one-half inch in diameter.

(g) Disease:
   (i) Scab spots which affect a total area of more than three-fourths inch in diameter.
   (ii) Cedar rust infection which affects a total area of more than three-fourths inch in diameter.
   (iii) Sooty blotch or fly speck which affects more than one-third of the surface.
   (iv) Red skin spots which affect more than one-third of the surface.
   (v) Bitter pit or Jonathan spot which is thinly scattered over more than one-tenth of the surface and does not materially deform or disfigure the fruit.

(h) Insects:
   (i) Healed stings which affect a total area of more than one-fourth inch in diameter including any encircling discolored rings.
   (ii) Worm holes.

WAC 16-403-280 Adoption of United States standards as state standards. In addition to the standards for apples prescribed in WAC 16-403-140 through 16-403-275, there are hereby adopted, as additional standards of the state of Washington for apples, the United States standards for grades of apples, effective December 19, 2002, adopted by the United States Department of Agriculture, as they apply to U.S. extra fancy, U.S. fancy, U.S. No. 1 and U.S. No. 1 hail, provided, the color requirements specified for U.S. No. 1 and U.S. No. 1 hail must be good shade of red color and the percentage of color required for U.S. No. 1 and U.S. No. 1 hail for Delicious shall be 25 percent good shade of red color and provided further, that all the United States grades as applied to Red Delicious, Delicious, Golden Delicious, Gala, and Jonagold varieties shall meet the firmness requirements of WAC 16-403-142.

WAC 16-403-285 Spots showing diameters in fractions of an inch. Spots showing diameters in fractions of an inch are illustrated below.

- One-eighth inch
- One-fourth inch
- One-half inch
- Three-quarters inch
- Three-sixteenths inch
- Three-eighths inch
- Three-quarters inch

[Order 1374, § 16-403-275, filed 7/26/74, effective 9/1/74.]
**WAC 16-403-290** Damage by invisible watercore.
(See chart below.)

**DAMAGE BY INVISIBLE WATERCORE**

affects:

Wash. extra fancy and Wash. fancy grades, except Fuji variety, after *February 1 of year following production* and affecting U.S. condition standards for export *anytime*.

**THIS**

1. existing around core and extending to watercore in vascular bundles

2. surrounding vascular bundles when affected areas around three or more bundles meet or coalesce

3. more than slight degree outside circular area formed by vascular bundles

[Statutory Authority: Chapter 15.17 RCW. WSR 94-07-133 (Order 5033), § 16-403-290, filed 3/23/94, effective 4/23/94; Order 1374, § 16-403-290, filed 7/26/74, effective 9/1/74.]
### WAC 16-403-295 Inspector's guide for apple bruises at shipping point and market. (See chart below)

**INSPECTOR'S GUIDE FOR APPLE BRUISES AT SHIPPING POINT AND MARKET**
*(AREAS BASED ON 125-163 SIZE APPLES)*

<table>
<thead>
<tr>
<th>SOFT</th>
<th>DEPTH</th>
<th>AREA ONE</th>
<th>AGGREGATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>tray or cell</td>
<td>none</td>
<td>1/8&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>other packs</td>
<td>same</td>
<td>same</td>
<td>same</td>
</tr>
<tr>
<td>tray or cell</td>
<td>same</td>
<td>3/16&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>other packs</td>
<td>same</td>
<td>same</td>
<td>7/8&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALLOW IN U.S. EXTRA FANCY*</th>
<th>ALLOW IN U.S. FANCY AND U.S. NO. 1**</th>
</tr>
</thead>
<tbody>
<tr>
<td>tray or cell</td>
<td>other packs</td>
</tr>
<tr>
<td>tray or cell</td>
<td>other packs</td>
</tr>
</tbody>
</table>

*Includes Washington extra fancy - All varieties

**Includes Washington fancy - All varieties except summer apples variety

susceptibility should be kept in mind when applying above guide

[Order 1374, § 16-403-295, filed 7/26/74, effective 9/1/74.]