



STATE OF WEST VIRGINIA  
DEPARTMENT OF AGRICULTURE  
CHARLESTON 5

Gus R. Douglass  
Commissioner

April 29, 1966

FILED IN THE OFFICE  
ROBERT D. BAILEY  
SECRETARY OF STATE  
THIS DATE 4/29/66

The Honorable Robert Bailey  
Secretary of State  
State Capitol  
Charleston, West Virginia

Dear Mr. Bailey:

I am enclosing two copies of rules and regulations pertaining to West Virginia Grades and Standards for Apples. These rules and regulations were promulgated by me and are to become effective June 1, 1966.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Gus R. Douglass".

Gus R. Douglass  
Commissioner of Agriculture

GRD:sah

Enclosures

WEST VIRGINIA ADMINISTRATIVE REGULATIONS  
STATE DEPARTMENT OF AGRICULTURE

Chapter 19-2  
Series VIII  
1966

FILED IN THE OFFICE  
ROBERT D. BAILEY  
SECRETARY OF STATE  
THIS DATE 4/29/66

Subject: FRUITS AND VEGETABLES  
West Virginia Grades and Standards for Apples

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Section 1 -GENERAL

1.01 Scope. These regulations establish West Virginia State Grades and Standards for Apples.

1.02 Authority. These regulations are issued under authority of Chapter 19, Article 5, Code of West Virginia.

1.03 Effective Date. These regulations are promulgated on April 29, 1966 and become effective June 1, 1966.

1.04 Filing Date. These regulations were filed in the Office of the Secretary of State on

1.05 Certification. These regulations are certified authentic by the Secretary of State by certification number

Section 2 -RED, PARTIAL RED OR BLUSHED VARIETIES.

2.01 "W. Va. Extra Fancy" or "W. Va. First Grade" consists of apples of one variety which are mature but not overripe, hand picked, clean, fairly well formed; free from decay, internal browning, internal breakdown, bitter pit, Jonathan spot, scald, freezing injury, broken skins, bruises (except those incident to proper handling and packing), and visible water core; and free from damage caused by russeting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, other diseases, insects, or mechanical or other means.

2.02 "W. Va. Fancy" or "W. Va. Second Grade" consists of apples of one variety which are mature but not overripe, hand picked, not seriously deformed; free from decay, internal browning, internal breakdown, scald, and freezing injury; and free from serious damage caused by dirt, foreign matter, broken skins, bruises, russeting, sunburn, sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, visible water core, diseases, insects, mechanical or other means.

2.03 "W. Va. C Grade" or "W. Va. Hail Grade" consists of apples of one variety which are mature, hand picked, clean, not badly misshapen, sound, and free from serious damage caused by hail or punctures.

Section 3 -GREEN OR YELLOW VARIETIES.

3.01 "W. Va. Extra Fancy" or "W. Va. First Grade" consists of apples of one variety which are mature, hand picked, clean, well formed, and sound; free from bruises, russeting, sprayburn, sunburn, limb rubs, drought spots, hail marks, visible water core, broken skin, apple scab, diseases, insect injury, and stings except that slight blemishes shall be permitted in this grade.

3.02 "W. Va. Fancy" or "W. Va. Second Grade" consists of apples of one variety which are mature, hand picked, clean, fairly well formed, and sound; free from visible water core, broken skin, and damage caused by bruises, limb rubs, sprayburn, sunburn, russeting, drought spots, hail marks, apple scab, disease, and insect injury.

3.03 "W. Va. C Grade" or "W. Va. Third Grade" consists of apples of one variety which are mature, hand picked, clean, not badly misshapen, and

sound; free from serious damage caused by sunburn, sprayburn, limb rubs, russeting, growth cracks, visible water core, hail marks, drought spots, disease, insect injury, soft bruises and broken skin except that apples having Fancy or better color for the variety may contain punctures not exceeding one-fourth inch in diameter.

3.04 "W. Va. Hail Grade" consists of apples which meet the grade and color requirements of W. Va. Combination Extra Fancy and W. Va. Fancy, except hail marks where the skin has not been broken and well healed hail marks where the skin has been broken shall be permitted provided the apples are fairly well formed.

In addition, each apple in the preceding grades shall have the amount of color specified in 5.01 for the variety and grade.

3.05 "W. Va. Early" designation. - The term "Early" may be used in conjunction with 3.01, 3.02, or combination thereof, to describe lots of apples normally packed and marketed during the summer months. Apples shall meet the requirements of the grade as marked except they need not be mature, there are no color requirements and are not less than two inches in diameter. The term "Early" shall next follow the grade statement and not be abbreviated. Early Grades apply to those varieties listed in USDA Standards under No. 1 Early and shall include Summer Rambo and Northwestern Greenings.

Section 4 -COMBINATION GRADES.

4.01 "Combination W. Va. Extra Fancy and W. Va. Fancy" - When W. Va. Extra Fancy and W. Va. Fancy apples are packed together, the boxes may be

marked "Combination W. Va. Extra Fancy and W. Va. Fancy" and shall contain at least 80% Extra Fancy apples, except Newtowns which shall contain at least 25% Extra Fancy apples.

4.02 "Combination W. Va. Fancy and W. Va. C Grade" - When W. Va. Fancy and W. Va. C Grade apples are packed together, the boxes may be marked "Combination W. Va. Fancy & W. Va. C Grade" and shall contain at least 80% Fancy apples, except Newtowns which shall contain at least 25% Fancy apples.

4.03 "W. Va. Economy Grade" consists of apples of one variety which may be hand picked or drops; free from dirt or foreign material; shall contain not more than two percent Soft Rot or be otherwise seriously damaged to cause a loss over twenty percent by weight of an individual apple over normal loss occurring during customary preparation if the apple were sound. Five percent tolerance shall be allowed to cover variations incident to proper grading and handling. Five percent may be below the minimum size stated on the container.

Section 5 -COLOR REQUIREMENTS.

5.01 In addition to the requirement specified for the grades set forth in 2.01 to 3.04 apples of these grades shall have the percentage of color specified for the variety in Table I appearing in this section. 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. For the striped 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. Faded brown stripes shall not be considered as color except in the case of the Gray Baldwin Variety.

**TABLE I-Color Requirements for Specified W. Va. Grades of Apples by Variety**

Variety	Ex C			Variety	Ex C		
	Fcy	Fcy	Gr.		Fcy	Fcy	Gr.
	%	%	%		%	%	%
<b>Solid Red:</b>				<b>Green &amp; Yellow Varieties:</b>			
Red Delicious-----	65	25	15	Golden Delicious-----	75*	75*	33- 1/3*
Arkansas Black-----	50	25	15				
Winesap-----	50	25	15	<b>No Color:</b>			
King David-----	50	25	15	Dutchess, Gravenstein, King, Wolf River,			
Red Sport Varieties <sup>1</sup> ----	50	25	15	Twenty Ounce, Grimes (Golden), Ortley,			
<b>Striped or Partially Red:</b>				Newtown, White Winter Pearmain, Yellow			
Delicious-----	50	25	15	Transparent.			
Stayman-----	40	25	10				
York-----	40	25	10				
Black Twig-----	40	25	10				
Jonathan-----	40	25	10				
McIntosh-----	40	25	10				
Rome-----	40	25	0				
Other Similar Varieties--	40	25	10				
<b>Red Cheeked or Blushed:</b>							
Winter Banana-----	Some	0	0				
	Color						

<sup>1</sup>When sport varieties are marked as such they shall meet the color requirements of Red Sport varieties. \*Refers to characteristic color. In the Golden Delicious variety when the white or light green color predominates over the green color it shall be considered as the minimum characteristic color.

Section 6 -TOLERANCES.

6.01 In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent of the apples in any container may be below the requirements of the grade, provided not more than 5 percent shall be seriously damaged by insects; not more than 1/10 of this amount, or 1 percent shall be allowed for decay and/or internal breakdown. Slight imperfections which are not discernible in good commercial sorting practice shall not be considered defects of grades.

In addition, a 10 percent tolerance shall be allowed for boxes which fail to meet standard pack requirements.

When applying the foregoing tolerances to the combination grades, no part of any tolerance shall be used to reduce the percentage of apples of the higher grade required in the combination.

Application of tolerances. - The contents of individual packages 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: For a specified tolerance of 10 percent, not more than one and one-half times the tolerance shall be allowed in any one package. For specified tolerances of 5 percent or less, not more than double the tolerance shall be allowed in any one package.

After fruit has been placed in storage or in transit, scald, breakdown, decay, bitter pit, or physical injury affecting keeping quality which may have developed or may only have become evident after apples are packed are considered affecting condition rather than grade.

Section 7 -PACKING REQUIREMENTS.

7.01 Apples tray packed or cell packed in cartons shall be arranged according to approved and recognized methods. Packs shall be at least fairly tight<sup>1</sup> or fairly well filled.<sup>2</sup>

7.02 Closed cartons containing apples not tray or cell packed shall be fairly well filled<sup>2</sup> or the pack shall be sufficiently tight to prevent any appreciable movement of the apples.

7.03 Packs in wooden boxes or baskets shall be sufficiently tight to prevent any appreciable movement of apples within containers when the packages are closed. Each wrapped apple shall be completely enclosed by its individual wrapper.

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

7.05 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.

<sup>1</sup>"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. The top layer of apples, or any pad or space filler over the top layer of apples shall be not more than 3/4 inch below the top edge of the carton.

<sup>2</sup>"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 37 pounds for Cortland, Gravenstein, Jonathan, McIntosh and Golden Delicious varieties and not less than 40 pounds for all other varieties.

Section 8 -DEFINITION OF TERMS - GENERAL.

8.01 "Mature" means that the apples have reached the stage of growth 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 these different stages of firmness.

(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 slight starchy flavor (except the Delicious variety).

(c) "Firm ripe" means apples with crisp flesh except that the flesh of the apples 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.

8.02 "Overripe" means apples which are dead ripe, with flesh very mealy or soft, and past commercial utility.

8.03 "Hand picked" means that the apples do not show evidence of rough handling or of having been on the ground.

8.04 "Clean" means that the apples are free from excessive dirt, dust, spray residue or other foreign material.

8.05 "Damage" means any defect, or combination of injury or defects, which materially affects the appearance or the edible or shipping quality of the apples.

8.06 "Serious Damage" means any injury or defect, or any combination of injuries and/or defects, which seriously detract from the appearance or shipping quality of the apples.

8.07 "Aggregate area" means all extents of the defect under consideration may be assembled into one area to determine the maximum extent specified.

8.08 "Not badly misshapen" means that an apple may be more irregularly shaped than "fairly well formed", but shall not be deformed to the extent of materially affecting its culinary value or its general appearance.

Section 9 -DEFINITION OF TERMS - RED, PARTIALLY RED, AND BLUSHED VARIETIES.

9.01 "Fairly well formed" means that the apple may be slightly abnormal in shape but not to an extent which detracts materially from its appearance.

9.02 "Damage defects":

(1) Russeting 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 damaged by russeting, except that excessively rough or bark-like russeting in the stem cavity or calyx basin shall be considered as damage when the appearance of the apple is materially affected. The following types and amounts of russeting outside the stem cavity or calyx basin shall be considered as damage:

(a) Russeting which is excessively rough on Roxbury Russet and other similar varieties.

(b) Smooth net-like russeting, when an aggregate area of more than 15 percent of the surface is covered, and the color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russeting when the appearance is affected to a greater extent than the above amount permitted.

(c) Smooth solid russeting, when an aggregate area of more than 5 percent of the surface is covered, and the pattern and color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous solid russeting when the appearance is affected to a greater extent than the above amount permitted.

(d) Slightly rough russeting which covers an aggregate area of more than one-half inch in diameter.

(e) Rough russeting which exceed one-fourth inch in diameter, unless it is well within the stem cavity or calyx basin and is not readily apparent.

Any one of the following defects or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(2) 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 russeting.

(3) 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 russeting.

(4) Hail marks, drought spots, or other similar depressions or scars which are not superficial, or when such injury affects a total area of more than one-half inch in diameter.

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

(6) Diseases:

(a) Scab spots which affect a total area of more than one-fourth inch in diameter.

(b) Cedar rust infection which affects total area of more than one-fourth inch in diameter.

(c) 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.

(d) 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.

(7) Insects:

(a) Any healed sting or healed stings which affect a total area of more than three-sixteenths inch in diameter including any encircling discolored rings.

(b) Worm holes.

(8) "Seriously deformed" means that the apple is so badly misshapen that its appearance is seriously affected.

(9) The following types and amounts of russeting shall be considered as serious damage:

(a) Smooth solid russeting, when more than one-half of the surface in aggregate is covered, including any russeting in the stem cavity or calyx basin or slightly rough, or excessively rough or bark-like russeting which detracts from the appearance of the fruit to a greater extent than the amount of smooth solid russeting permitted: Provided, that any amount of russeting shall be permitted on Roxbury Russet and other similar varieties.

(10) Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as serious damage:

(a) Sunburn or sprayburn which seriously detracts from the appearance of the fruit.

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

(c) 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.

(d) 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.

(e) Visible water core which affects an area of more than one-half inch in diameter.

(11) Diseases:

(a) Scab spots which affect a total area of more than three-fourths inch in diameter.

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

(c) Sooty blotch or fly speck which affects more than one-third of the surface.

(d) Red skin spots which affect more than one-third of the surface.

(e) Bitter pit and Jonathan spot which is thinly scattered over more than one-tenth of the surface and does not materially deform or disfigure the fruit.

(12) Insects:

(a) Healed stings which affect a total area of more than one-fourth inch in diameter including any encircling discolored rings.

(b) Worm holes.

(13) In W. Va. C Grade or W. Va. Hail Grade, punctures not exceeding one-fourth inch in diameter and healed hail marks shall not be considered as serious damage provided the apples otherwise meet the requirements of W. Va. Fancy Grade.

Section 10 -DEFINITION OF TERMS - GREEN OR YELLOW VARIETIES.

10.01 "Well formed" means having the normal shape characteristic of the variety except the shape may be slightly irregular provided it does not detract from the general appearance of the apple.

10.02 "Fairly well formed" means the apple shall have the normal shape characteristic of the variety except one-half of the apple may deviate slightly or the apple may be slightly flattened as by frost injury.

10.03 "Sound" means apples that at time of packing are free from visible defects such as decay, breakdown, scald, bitter pit, or physical injury affecting quality.

10.04 "Slight blemishes" means defects not in excess of the following:

(a) Slight handling bruises and box bruises such as are incident to good commercial handling in the preparation of a tight pack.

(b) Smooth russeting shall be permitted at the stem end provided such russeting is not visible for more than one-half inch when the apple is placed stem end down on a flat surface, except in the Newtown variety characteristic russet beginning at the stem end shall be permitted as long as it is continuous from the stem bowl and not extending beyond the center of the apple.

(c) Smooth net-like russeting which does not extend over an aggregate area of more than five percent of the surface of the apple.

(d) Sunburn or sprayburn when slight and when the normal color of the apple is but slightly changed and the affected area does not exceed 5 percent of the surface of the apple.

(e) Smooth solid russeting, light limb rubs, hail marks or sprayburn of a russet character shall be permitted when the aggregate area affected does not exceed that of a circle one-fourth inch in diameter.

(f) Slight hail marks or other depressions when there is no discoloration, when the indentations are very shallow and no individual indentation exceeds one-eighth inch in diameter and the aggregate area affected does not exceed one-fourth inch (refers to area of a circle).

(g) Thrips marks not to exceed three in number shall be permitted.

(h) Any healed sting or healed stings which affect a total area of more than one-eighth inch in diameter, including any encircling discolored rings.

10.05 "Damage" means defects which are in excess of the following:

(a) Slight handling bruises and box bruises such as are incident to commercial handling and packing.

(b) Limb rubs not to exceed one-half inch in aggregate area.

(c) Sprayburn which has altered or discolored natural pigment when the normal color of the apples is not seriously affected; when there is no blistering or cracking of the skin. Sprayburn of a russet nature shall be governed by the definition covering solid russeting.

(d) Sunburn when the normal color of the apple is not seriously affected, there is no blistering or cracking of the skin, and the discolored area blends into the normal color of the fruit.

(e) Slight rough russeting which does not cover an area of more than one-half inch in diameter if it is not continuous with the russeting in the stem basin or calyx cavity.

(f) Smooth russeting shall be permitted at the stem or calyx end provided such russeting is not visible for more than one-half inch when the apple is placed with the russet end down on a flat surface, except in the Newtown variety characteristic russet beginning at the stem or calyx end and not extending beyond the center of the apple shall be permitted as long as it is continuous from the stem or calyx bowl.

(g) Smooth net-like russeting which does not extend over an aggregate area of more than 20 percent of the surface.

(h) Solid russeting, such as is characteristic of frost, spray-burn, hail and certain insect and disease injury affecting a total aggregate area not to exceed one-half inch.

(i) Hail marks, drought spots, or other depressions when the injury is slight, the skin is not broken and the depressions do not exceed an aggregate area of one-half inch in diameter or detract seriously from the appearance of the fruit.

(j) Apple scab spots affecting a total area of not more than one-fourth inch in diameter.

(k) Four stings, each having an encircling hard ring, usually green, or a slight depression provided stings do not exceed one-eighth inch in diameter exclusive of any encircling ring.

(1) Slight aphid signs or thrips marks which do not roughen or pibble the surface of the apple.

10.06 An apple may show any one or a combination of the following defects if the aggregate area does not exceed the specified tolerance for the defects and the aggregate of the combination does not exceed one-half inch. The defects are: Scab, hail marks, drought spots, solid russeting and limb rubs.

10.07 "Serious damage" means defects which are in excess of the following:

(a) Sunburn or sprayburn which does not seriously detract from the appearance of the fruit.

(b) Limb rubs which affect not more than one-tenth of the surface in the aggregate.

(c) Smooth solid russeting which affects not more than one-half of the surface in the aggregate, including any russeting in the stem basin or rough or bark-like russeting which does not detract from the appearance of the fruit to a greater extent than the smooth solid russeting permitted.

(d) Growth cracks, such as occur in Stayman, shall be permitted when no crack exceeds one-half inch in length.

(e) Visible water core which does not affect an area of more than one-half inch in diameter.

(f) Hail marks, drought spots or other depressions, when the injury is slight, the skin is not broken and the depressions do not exceed an

aggregate area of 10 percent of the surface in red or partial red varieties or more than 20 percent of the surface in green or yellow varieties.

(g) Scab spots affecting an aggregate area of not to exceed one-half inch in diameter.

(h) Five stings, each having an encircling hard ring, usually green, or a slight depression, provided stings do not exceed one-eighth inch in diameter exclusive of any encircling ring.

(i) Aphis pebbling or thrips marks not seriously detracting from the appearance of the apple.

Section 11-WEST VIRGINIA STATE CONDITION STANDARDS.

11.01 Not more than an average of 5 percent of the apples in any lot, with not more than 10 percent in any one sample shall be further advanced in maturity than firm ripe.

11.02 Not more than a total of 5 percent of the apples in any lot, with not more than 10 percent in any one sample shall be damaged by bitter pit, Jonathan spot, common scald, visible water core, freezing or other such condition factors, excluding delayed sunburn.

11.03 Not more than any average of 2 percent each in any lot, with not more than 8 percent in any sample shall be allowed for apples affected by decay, visible breakdown, or by soft scald, except that after March 1 not more than an average of 3 percent each in any lot with not more than 10 percent in any sample shall be allowed for apples affected by decay, visible breakdown or by soft scald.

Remarks: On request, when qualified, official certificates will bear the statement "Meets West Virginia State Condition Standards".

In accordance with public hearing conducted at Inwood, West Virginia, March 10, 1966, and by authority vested in me by Chapter 19, Code of West Virginia, I, Gus R. Douglass, do hereby promulgate and adopt the foregoing West Virginia Grades and Standards for Apples. In addition, I also promulgate all United States Standards for Fruits and Vegetables as amended from time to time.

The foregoing grades, rules and regulations shall supercede all other West Virginia grades, rules, regulations and standards heretofore issued and now in effect.

Done and ordered in the office of the Commissioner of Agriculture, Capitol Building, Charleston, West Virginia, this twenty-ninth day of April, nineteen hundred and sixty-six.

WEST VIRGINIA LEGISLATIVE REGULATIONS  
STATE DEPARTMENT OF AGRICULTURE  
Chapter 19-5

GENERAL INDEX  
FOR  
SERIES VIII

TITLE: West Virginia Grades and Standards for Apples

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FILED IN THE OFFICE OF  
THE SECRETARY OF STATE  
THIS DATE April 29, 1966  
ADMINISTRATIVE LAW DIVISION

*Title 61*

WEST VIRGINIA LEGISLATIVE REGULATIONS  
STATE DEPARTMENT OF AGRICULTURE

*PAULET*  
~~Chapter 19-5~~  
~~SERIES-VIII~~  
*8*

TITLE: West Virginia Grades and Standards for Apples

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Section 1. General

1.1 Scope - These legislative regulations establish West Virginia State Grades and Standards for Apples.

1.2 Authority - West Virginia Code 19-5.

1.3 Filing Date - April 29, 1966.

1.4 Effective Date - June 1, 1966.

Section 2. Red, Partial Red and Blushed Varieties

2.1 WV Extra Fancy or WV First Grade - WV Extra Fancy or WV First Grade consists of apples of one variety which are mature but not overripe, hand picked, clean, fairly well formed, free from decay, internal browning, internal breakdown, bitter pit, Jonathan spot, scald, freezing injury, broken skins, bruises (except those incident to proper handling and packing), and visible water core, and free from damage caused by russeting, sunburn or sprayburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, other diseases, insects, or mechanical or other means.

2.2 WV Fancy or WV Second Grade - WV Fancy or WV Second Grade consists of apples of one variety which are mature but not overripe, hand picked, not seriously deformed, free from decay, internal browning, internal breakdown, scald, and freezing injury, and free from serious damage caused by dirt, foreign matter, broken skins, bruises, russeting, sunburn, limb rubs, hail, drought spots, scars, stem or calyx cracks, visible water core, diseases, insects, mechanical or other means.

2.3 WV C Grade or WV Hail Grade - WV C Grade or WV Hail Grade consists of apples of one variety which are mature, hand picked, clean, not badly misshapen, sound, and free from serious damage caused by hail or punctures.

Section 3. Green or Yellow Varieties

3.1 WV Extra Fancy or WV First Grade - WV Extra Fancy or WV First Grade consists of apples of one variety which are mature, hand picked, clean, well formed, and sound, free from bruises, russeting, sprayburn, sunburn, limb rubs, drought spots, hail marks, visible water core, broken skin, apple scab, disease, insect injury, and stings, except slight blemishes shall be permitted in this grade.

3.2 WV Fancy or WV Second Grade - WV Fancy or WV Second Grade consists of apples of one variety which are mature, hand picked, clean, fairly well formed, and sound, free from visible water core, broken skin, and damage caused by bruises, limb rubs, sprayburn, sunburn, russeting, drought spots, hail marks, apple scab, disease, and insect injury.

3.3 WV C Grade or WV Third Grade - WV C Grade or WV Third Grade consists of apples of one variety which are mature, hand picked, clean, not badly misshapen, and sound, free from serious damage caused by sunburn, sprayburn, limb rubs, russeting, growth cracks, visible water core, hail marks, drought spots, disease, insect injury, soft bruises and broken skin except that apples having Fancy or better color for variety may contain punctures not exceeding one-fourth inch in diameter.

3.4 WV Hail Grade - WV Hail Grade consists of apples which meet the grade and color requirements of WV Combination Extra Fancy and WV Fancy, except hail marks where the skin has not been broken and well healed hail marks where the skin has been broken shall be permitted provided the apples are fairly well formed.

3.5 In addition, each apple in the preceding grades shall have the amount of color specified in 5.1 for the variety and grade.

3.6 WV Early Designation - The term "early" may be used in conjunction with 3.1 and 3.2, or combination thereof, to describe lots of apples normally packed and marketed during the summer months. Apples shall meet the requirements of the grade as marked except they need not be mature, there are no color requirements and are not less than two inches in diameter. The term "early" shall next follow the grade statement and not be abbreviated. Early grades apply to those varieties listed in USDA Standards under No. 1 Early and shall include Summer Rambo and Northwestern Greenings.

#### Section 4. Combination Grades

4.1 Combination WV Extra Fancy and WV Fancy - When WV Extra Fancy and WV Fancy apples are packed together, the boxes may be marked "Combination WV Extra Fancy and WV Fancy" and shall contain at least 80% Extra Fancy apples, except Newtowns which shall contain at least 27% Extra Fancy apples.

4.2 Combination WV Fancy and WV C Grade - When WV Fancy and WV C Grade are packed together, the boxes may be marked "Combination WV Fancy and WV C Grade" and shall contain at least 80% Fancy apples, except Newtowns which shall contain at least 25% Fancy apples.

4.3 WV Economy Grade - WV Economy Grade consists of apples of one variety which may be hand picked or drops, free from dirt or foreign material, shall contain not more than 2% Soft Rot or be otherwise seriously damaged to cause a loss over 20% by weight of an individual apple over normal loss occurring during customary preparation if the apple were sound. Five percent (5%) tolerance shall be allowed to cover variations incident to proper grading and handling. Five percent (5%) may be below the minimum size stated on the container.

#### Section 5. Color Requirements

5.1 Percentage of Color - In addition to the requirement specified for the grades set forth in 2.1 and 3.4, apples of these grades shall have the percentage of color specified for the variety in Table I (Appendix 1) appearing in this section. 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 the 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. For the striped 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. Faded brown stripes shall not be considered as color except in the case of the Gray Baldwin variety. (See Appendix 1)

#### Section 6. Tolerances

6.1 Grading and Handling - In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent (10%) of the apples in any container may be below the requirements of the grade, provided not more than 5 percent (5%) shall be seriously damaged by insects, not more than 1/10 of this amount, or 1 percent (1%) shall be allowed for decay and/or internal breakdown. Slight imperfections which are not discernible in good commercial sorting practices shall not be considered defects of grades.

6.2 In addition, a 10 percent (10%) tolerance shall be allowed for boxes which fail to meet standard pack requirements.

6.3 When applying the foregoing tolerances to the combination grades, no part of any tolerance shall be used to reduce the percentage of apples of the higher grade required in the combination.

6.4 Application of tolerance - The contents of individual packages 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. For a specified tolerance of 10 percent, not more than one and one-half times the tolerance shall be allowed in any one package. For specified tolerances of 5 percent (5%) or less, not more than double the tolerance shall be allowed in any one package.

6.5 After fruit has been placed in storage or in transit, scald, breakdown, decay, bitter pit, or physical injury affecting keeping quality which may have developed or may only have become evident after apples are packed are considered affecting condition rather than grade.

#### Section 7. Packing Requirments

7.1 Tray Packed or Cell Packed - Apples tray packed or cell packed in cartons shall be arranged according to approved and recognized methods. Packs shall be at least fairly tight\* or fairly well filled.\*\*

7.2 Closed Cartons - 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.

7.3 Wooden Boxes or Baskets - Packs in wooden boxes or baskets shall be sufficiently tight to prevent any appreciable movement of apples within containers when the packages are closed. Each wrapped apple shall be completely enclosed by its individual wrapper.

7.4 Apples to be Representative = Apples on the shown face of any container shall be reasonably representative in size, color and quality of the contents.

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

\* "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. The top layer of apples, or any pad or space filler over the top layer of apples shall be not more than 3/4 inch below the top edge of the carton.

\*\*"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 37 pounds for Cortland, Gravenstein, Johathan, McIntosh and Golden Delicious varieties and not less than 40 pounds for all other varieties.

## Section 8. Definition of Terms - General

8.1 Mature - "Mature" means that the apples have reached the stage of growth 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 these different stages of firmness:

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

8.1.2 "Firm" means apples with a tenacious flesh but which are becoming crisp with a slight starch flavor (except the Delicious variety)

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

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

8.2 Overripe - "Overripe" means apples which are dead ripe, with flesh very mealy or soft, and past commercial utility.

8.3 Hand Picked - "Hand picked" means that the apples do not show evidence of rough handling or of having been on the ground.

8.4 Clean - "Clean" means that the apples are free from excessive dirt, dust, spray residue or other foreign material.

8.5 Damage - "Damage" means any defect, or combination of injury or defects, which materially affects the appearance or the edible or shipping quality of the apples.

8.6 Serious Damage - "Serious damage" means any injury or defect, or any combination of injuries and/or defects, which seriously detract from the appearance or shipping quality of the apples.

8.7 Aggregate Area - "Aggregate area" means all extents of the defect under consideration may be assembled into one area to determine the maximum extent specified.

8.8 Not Badly Misshapen - "Not badly misshapen" means that an apple may be more irregularly shaped than "fairly well formed", but shall not be deformed to the extent of materially affecting its culinary value or its general appearance.

#### Section 9. Definition of Terms: Red, Partially Red, and Blushed Varieties

9.1 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.

#### 9.2 Damage Defects - "Damage defects":

9.2.1 Russeting 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 damaged by russeting, except that excessively rough or bark-like russeting in the stem cavity or calyx basin shall be considered as damage when the appearance of the apple is materially affected. The following types and amounts of russeting outside the stem cavity or calyx basin shall be considered as damage:

9.2.1.1 Russeting which is extensively rough on Roxbury Russet and other similar varieties.

9.2.1.2 Smooth net-like russeting, when an aggregate area of more than 15 percent (15%) of the surface is covered, and the color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous net-like russeting when the

appearance is affected to the greater extent than the above amount permitted.

- 9.2.1.3 Smooth solid russeting, when an aggregate area of more than 5 percent (5%) of the surface is covered, and the pattern and color of the russeting shows no very pronounced contrast with the background color of the apple, or lesser amounts of more conspicuous solid russeting when the appearance is affected to a greater extent than the above amount permitted.
- 9.2.1.4 Slightly rough russeting which covers an aggregate area of more than one-half inch in diameter.
- 9.2.1.5 Rough russeting which exceed one-fourth inch in diameter, unless it is well within the stem cavity or calyx basin and is not readily apparent.
- 9.2.2 Any of the following defects or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:
  - 9.2.2.1 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 russeting.
  - 9.2.2.2 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 russeting.
  - 9.2.2.3 Hail marks, drought spots, or other similar depressions or scars which are not superficial, or when such injury affects a total area of more than one-half inch in diameter.
  - 9.2.2.4 Stem or calyx cracks which are not well healed, or well healed stem or calyx cracks which exceed an aggregate length of one-fourth inch.
  - 9.2.2.5 Diseases:
    - 9.2.2.5a Scab spots which affect a total area of more than one-fourth inch in diameter.
    - 9.2.2.5b Cedar rust infection which affects total area of more than one-fourth inch in diameter.
    - 9.2.2.5c 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.

- 9.2.2.5d 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.
- 9.2.2.6 Insects:
- 9.2.2.6a Any healed sting or healed stings which affect a total area of more than three-sixteenths inch in diameter including any encircling discolored rings.
- 9.2.2.6b Worm holes.
- 9.2.2.7 "Seriously deformed" means that the apple is so badly misshapen that its appearance is seriously affected.
- 9.2.2.8 The following types and amounts of russeting shall be considered as serious damage:
- 9.2.2.8a Smooth solid russeting, when more than one-half of the surface in aggregate is covered, including any russeting in the stem cavity or calyx basin or slightly rough, or excessively rough or bark-like russeting which detracts from the appearance of the fruit to a greater extent than the amount of smooth solid russeting permitted, PROVIDED, that any amount of russeting shall be permitted on Roxbury Russet and other similar varieties.
- 9.2.3 Any one of the following defects, or any combination thereof, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as serious damage:
- 9.2.3.1 Sunburn or sprayburn which seriously detracts from the appearance of the fruit.
- 9.2.3.2 Limb rubs which affect more than one-tenth of the surface in the aggregate.
- 9.2.3.3 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.
- 9.2.3.4 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.

9.2.3.5 Visible water core which affects an area of more than one-half inch in diameter.

9.2.4 Diseases:

9.2.4.1 Scab spots which affect a total area of more than three-fourths inch in diameter.

9.2.4.2 Cedar rust infection which affects a total area of more than three-fourths inch in diameter.

9.2.4.3 Sooty blotch or fly speck which affect more than one-third of the surface.

9.2.4.4 Red skin spots which affect more than one-third of the surface.

9.2.4.5 Bitter pit and Jonathan spot which is thinly scattered over more than one-tenth of the surface and does not materially deform or disfigure the fruit.

9.2.5 Insects:

9.2.5.1 Healed stings which affect a total area of more than one-fourth inch in diameter including any encircling discolored rings.

9.2.5.2 Worm holes.

9.2.6 In WV C Grade or WV Hail Grade, punctures not exceeding one-fourth inch in diameter and healed hail marks shall not be considered as serious damage provided the apples otherwise meet the requirements of WV Fancy Grade.

Section 10. Definitions of Terms: Green or Yellow Varieties

10.1 Well Formed - "Well formed" means having the normal shape characteristic of the variety except the shape may be slightly irregular provided it does not detract from the general appearance of the apple.

10.2 Fairly Well Formed - "Fairly well formed" means the apple shall have the normal shape characteristic of the variety except one-half of the apple may deviate slightly or the apple may be slightly flattened as by frost injury.

10.3 Sound - "Sound" means apples that at the time of packing are free from visible defects such as decay, breakdown, scald, bitter pit, or physical injury affecting quality.

10.4 Slight Blemishes - "Slight blemishes" means defects not in excess of the following:

- 10.4.1 Slight handling bruises and box bruises such as are incident to good commercial handling in the preparation of a tight pack.
  - 10.4.2 Smooth russeting shall be permitted at the stem end provided such russeting is not visible for more than one-half inch when the apple is placed stem end down on a flat surface, except in the Newton variety characteristic russet beginning at the stem end shall be permitted as long as it is continuous from the stem bowl and not extending beyond the center of the apple.
  - 10.4.3 Smooth net-like russeting which does not extend over an aggregate area of more than five percent (5%) of the surface of the apple.
  - 10.4.4 Sunburn or sprayburn when slight and when the normal color of the apple is but slightly changed and the affected area does not exceed 5 percent (5%) of the surface of the apple.
  - 10.4.5 Smooth solid russeting, light limb rubs, hail marks or sprayburn of a russet character shall be permitted when the aggregate area affected does not exceed that of a circle one-fourth inch in diameter.
  - 10.4.6 Slight hail marks or other depressions when there is no discoloration, when the indentations are very shallow and no individual indentation exceeds one-eighth inch in diameter and the aggregate area affected does not exceed one-fourth inch (refers to area of a circle).
  - 10.4.7 Thrips marks not to exceed three in number shall be permitted.
  - 10.4.8 Any healed sting or healed stings which affect a total area of more than one-eighth inch in diameter, including any encircling discolored rings.
- 10.5 Damage - "Damage" means defects which are in excess of the following:
- 10.5.1 Slight handling bruises and box bruises such as are incident to commercial handling and packing.
  - 10.5.2 Limb rubs not to exceed one-half inch in aggregate area.
  - 10.5.3 Sprayburn which has altered or discolored natural pigment when the normal color of the apples is not seriously affected, when there is no blistering or cracking of the skin. Sprayburn of a russet nature shall be governed by the definition covering solid russeting.
  - 10.5.4 Sunburn when the normal color of the apple is not seriously affected, there is no blistering or cracking of the skin, and the discolored area blends into the normal color or the fruit.
  - 10.5.5 Slight rough russeting which does not cover an area of more than one-half inch in diameter if it is not continuous with the

russeting in the stem basin or calyx cavity.

- 10.5.6 Smooth russeting shall be permitted at the stem or calyx and provided such russeting is not visible for more than one-half inch when the apple is placed with the russet end down on a flat surface, except in the Newtown variety characteristic russet beginning at the stem or calyx end and not exceeding beyond the center of the apple shall be permitted as long as it is continuous from the stem or calyx bowl.
- 10.5.7 Smooth net-like russeting which does not extend over an aggregate area of more than 20 percent (20%) of the surface.
- 10.5.8 Solid russeting, such as is characteristic of frost, sprayburn, hail and certain insect and disease injury affecting a total aggregate area not to exceed one-half inch.
- 10.5.9 Hail marks, drought spots, or other depressions when the injury is slight, the skin is not broken and the depressions do not exceed an aggregate area of one-half inch in diameter or detract seriously from the appearance of the fruit.
- 10.5.10 Apple scab spots affecting a total area of not more than one-fourth inch in diameter.
- 10.5.11 Four stings, each having an encircling hard ring, usually green, or a slight depression provided stings do not exceed one-eighth inch in diameter exclusive of any encircling ring.
- 10.5.12 Slight aphid signs or thrips marks which do not roughen or pebble the surface of the apple.

10.6 Combination of Defects - An apple may show any one or a combination of the following defects if the aggregate area does not exceed the specified tolerance for the defects and the aggregate of the combination does not exceed one-half inch. The defects are: scab, hail marks, drought spots, solid russeting and limb rubs.

10.7 Serious Damage - "Serious Damage" means defects which are in excess of the following:

- 10.7.1 Sunburn or spray burn which does not seriously detract from appearance of the fruit.
- 10.7.2 Limb rubs which affect not more than one-tenth of the surface in the aggregate.
- 10.7.3 Smooth solid russeting which affects not more than one-half of the surface in the aggregate, including any russeting in the stem basin or rough or barklike russeting which does not detract from the appearance of the fruit to a greater extent than the smooth solid russeting permitted.

- 10.7.4 Growth cracks, such as occur in Stayman, shall be permitted when no crack exceeds one-half inch in length.
- 10.7.5 Visible water core which does not affect an area of more than one-half inch in diameter.
- 10.7.6 Hail marks, drought spots or other depressions, when the injury is slight, the skin is not broken and the depressions do not exceed an aggregate area of 10 percent of the surface in red or partial red varieties or more than 20 percent of the surface in green or yellow varieties.
- 10.7.7 Scab spots affecting an aggregate area of not to exceed one-half inch in diameter.
- 10.7.8 Five stings, each having an encircling hard ring, usually green, or a slight depression, provided stings do not exceed one-eighth inch in diameter exclusive of any encircling ring.
- 10.7.9 Aphis pebbling or thrips marks not seriously detracting from the appearance of the apple.

#### Section 11. West Virginia State Condition Standards

11.1 Maturity - Not more than an average of 5 percent of the apples in any lot, with more than 10 percent in any one sample shall be further advanced in maturity than firm ripe.

11.2 Damage - Not more than a total of 5 percent of the apples in any lot, with not more than 10 percent in any one sample shall be damaged by bitter pit, Jonathan spot, common scald, visible water core, freezing or other such condition factors, excluding delayed sunburn.

11.3 Affected Apples - Not more than any average of 2 percent each in any lot, with not more than 8 percent in any sample shall be allowed for apples affected by decay, visible breakdown, or by soft scald, except that after March 1 not more than an average of 3 percent each in any lot with not more than 10 percent in any sample shall be allowed for apples affected by decay, visible breakdown or by soft scald.

#### Section 12. Official Certificates

12.1 On request, when qualified, official certificates will bear the statement "Meets West Virginia State Condition Standards".