

RULES AND REGULATIONS
for
Grading, Packing and Inspection
of Virginia Apples

EFFECTIVE JULY 1, 1928



**STATE DEPARTMENT OF
AGRICULTURE AND IMMIGRATION**

G. W. KOINER, Commissioner

**For Additional Copies of these Rules and Regulations
Communicate with**

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ACTS OF VIRGINIA ASSEMBLY, 1927, AS AMENDED IN 1928

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Chap. 74.—An ACT to regulate the grading and marking of apples in closed packages; to authorize the Commissioner of Agriculture and Immigration to establish and promulgate official standard grades for apples and rules and regulations governing the marking of the same; to provide for the inspection of apples; the appointment of inspectors and their compensation; to prohibit violations of this act and to prescribe penalties therefor. Approved April 18, 1927.

Section 1. Be it enacted by the General Assembly of Virginia, That the Commissioner of Agriculture and Immigration is hereby directed to establish and promulgate from time to time official standard grades for all closed packages of apples, by which the quantity, quality, and size may be determined, and prescribe and promulgate rules and regulations governing the markings which shall be required upon packages of apples for the purpose of showing the name and address of the producer or packer, the variety, quantity, quality and size of the product, or any of them; provided, that the Commissioner of Agriculture and Immigration shall establish a grade for immature apples packed for export only, and an unclassified or similar marking for all apples not included in the other grades established.

It is the intent of this act that the Commissioner of Agriculture and Immigration, before establishing such standards, shall consult with the directors of the State Horticultural Society as representing the various apple growing sections of the State.

Sec. 2. Whenever such standard for the grade or other classification of apples under this act becomes effective, every closed package containing apples grown and packed in the State of Virginia and sold, offered or

exposed for sale, or packed for sale or transported for sale by any person, firm, company or organization, shall bear conspicuously upon the outside thereof, in plain words and figures, such markings as are prescribed by the Commissioner of Agriculture and Immigration under the provisions of this act.

Sec. 3. The Commissioner of Agriculture and Immigration, through the director of the Division of Markets, of the State of Virginia, shall be charged with the enforcement of the provisions of this act and for that purpose shall have the power:

(a) To enter and inspect personally, or through any authorized agent every place within the State of Virginia where apples are produced, packed or stored for sale, shipped, delivered for shipment, offered for sale, or sold, and to inspect such places and all apples and apple containers and equipment found in any such place.

(b) To appoint, superintend, control, and discharge such inspectors and subordinate inspectors as in his discretion may be deemed to be necessary, for the special purpose of enforcing the terms of this act, to prescribe their duties and fix their compensation.

(c) Personally, or through any authorized agent or any such inspector, to forbid the movement of any closed package or packages of apples found to be in violation of any of the provisions of this act which have not been actually accepted by a common carrier for shipment in interstate traffic, and to require the same to be repacked or re-marked. A carload of apples shall not be considered as actually accepted by a common carrier for shipment until the loading is finished, the car sealed and the bill of lading issued.

(d) The cause to be instituted through the Commonwealth's attorneys of the State, in the circuit court of any county or corporation court of any city, of the State of Virginia in which apples are packed, shipped, delivered

for shipment, offered for sale or sold, in violation of any of the provisions of this act, or may be found, prosecutions for such violations.

Sec. 4. When apples in closed packages are delivered to a railroad station or a common carrier for shipment, or delivered to a storage house for storage, such delivery shall be prima facie evidence that the apples are offered or exposed for sale.

Sec. 5. Any person, firm, company, organization or corporation, who shall violate any of the provisions of this act, shall be punishable by a fine of not more than five hundred dollars (\$500.00) for each offense.

Sec. 6. No person, firm or corporation shall be prosecuted under the provisions of this act:

(a) When he or it can establish by satisfactory evidence that he or it was not a party to the packing, grading or marking of such apples.

(b) When he or it can establish that the apples offered for sale have passed inspection by an authorized inspector of the State of Virginia and bear the official Virginia State inspection stamp, or by an inspector of the United States Department of Agriculture and found to be packed in accordance with the requirements of the Commissioner of Agriculture and Immigration of Virginia.

Sec. 7. If any section, subsection, sentence, clause or phrase of this act is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this act.

RULES AND REGULATIONS

In accordance with authority given in chapter 74, Acts of the General Assembly, 1927, page 170, as amended in 1928, and after consulting with the officers and directors of the Virginia State Horticultural Society as representing apple growers and shippers of the various sections of the State, rules and regulations governing the grading, marking and inspection of Virginia apples, effective July 1, 1928, are set forth as follows:

Package Marking Requirements

Every closed package containing apples grown and packed in the State of Virginia and sold, offered or exposed for sale, or packed for sale or transported for sale by any person, firm, company or organization, shall bear **conspicuously** upon the outside thereof,* in **plain words and figures** the following:

- (1) Variety.
- (2) Minimum size.
- (3) Grade.
- (4) Name and address.
- (5) Size of container or quantity of apples.

(1) **Variety** means the true name of the variety of apples in the package. If the name of the variety is not known to the party or parties responsible for the packing, the package must be marked "Variety Unknown" or "Var. Unknown."

(2) **Minimum size** (see size requirements under Grades.) The words minimum, maximum and inches may be abbreviated as "Min.," "Max." and "In."

If the word minimum is not used on the package, it shall be understood that the figures placed upon the package shall repre-

sent the minimum size of the apples therein contained, unless figures representing both minimum and maximum size are used, in which case the figures which are first in line shall represent the minimum and the second figures shall represent the maximum size as "Size 2½ to 3 in."

(3) **Grade** means the full name of the grade as set forth hereinafter in these Rules and Regulations as; U. S. No. 1 in accordance with the facts. Only one grade designation shall appear on any one package, except on boxes or small fancy packages where combination grades may be used as described under "Grades and Packing Requirements for Apples in Standard Apple Boxes."

(4) **Name and address** means the full name and address of the person, firm, corporation or association responsible for the original grading, packing, and marking. When apples are remarked as to grade or size, the name of the person, firm, corporation or association responsible for remarking shall also be marked on the package; as "Remarked by John Jones, Winchester, Va." In no case shall the name and address of the original packer be removed or obliterated from the package.

(5) **Size of Container or Quantity of Apples** means that the package must be marked "U. S. Standard Barrel," "U. S. Standard Bushel," or "Net Weight When Packed ----- Pounds," in accordance with the facts. These terms may be abbreviated as follows: "U. S. Std. Bbl.," "U. S. Std. Bu.," or "Net Wt. When Packed. ----- Lbs."

***Location of Markings**—All markings required by these regulations must be placed on one end of the barrel; or if the package be a box they must be placed on one end of the box; or if a basket be used they must be placed on the cover. If apples are placed in closed sacks each sack must be either branded with the required markings or have attached

thereto a label showing the proper markings as herein described.

Suggestions for Meeting Package Marking Requirements

In order that the markings may be plain and conspicuous they should be stenciled, stamped or printed in well proportioned letters and figures of a size not less than one-half ($\frac{1}{2}$) of an inch in height for barrels or three-eighths ($\frac{3}{8}$) of an inch in height for boxes, baskets or sacks.

The following are miniature suggested examples of proper marking which should be so changed as to agree with the facts:

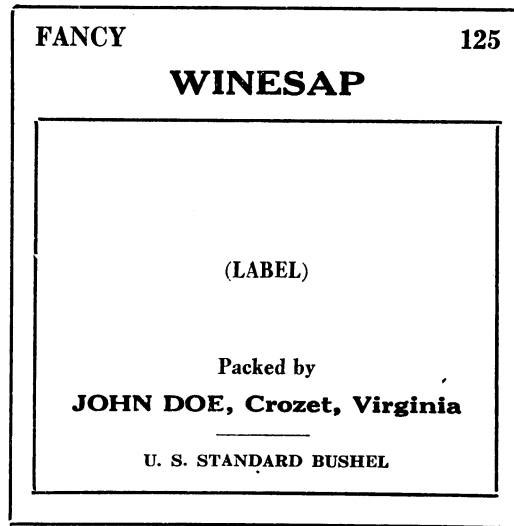


Suggested stencil marking for a barrel. It is suggested that barrel stencils may be constructed with removeable grade variety and size terms, enabling the packer to build up the stencil to fit the marking requirements as needed.

[8]

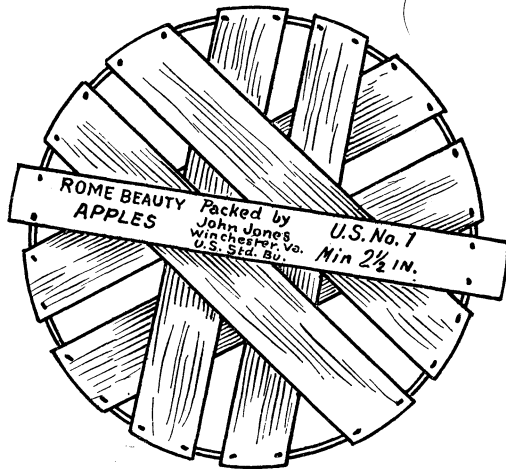


Suggested marking for a barrel label.



Suggested marking for an apple box.

[9]



Suggested marking for a bushel basket cover.

MARKING FOR EXPORT

Fruit exported to Great Britain this year will without doubt have to be marked with the country of Origin—that is, “United States of America” in letters not less than one-half inch in height because of a contemplated Order in Council to be made in the United Kingdom. Growers should be prepared to properly mark their apples for export to Great Britain.

Grading

When a high percentage of Fancy Grade apples are in the crop the grower should pack his various grades separately rather than to mix Fancy apples with U. S. No. 1 or U. S. No. 2 apples. For instance, U. S. No. 1 apples when mixed with U. S. Fancy apples and marked U. S. No. 1 is a superior

pack to a straight U. S. No. 1 Grade apple. It is suggested that the grower pack his U. S. Fancy apples separately and, therefore, be in a position to command a better price for this higher grade product rather than to mix them with the lower grade and obtain the price for his entire crop based upon the lower grade.

In addition to marking the minimum size of apples on each container as required by law, it is desirable to grade them uniformly as to size and put both the minimum and maximum size on each container, as “Size 2½ to 3 in.”

VIRGINIA OFFICIAL STANDARD GRADES FOR ALL CLOSED PACKAGES CONTAINING APPLES.

Grades for apples packed in containers, other than boxes, are the same as the "U. S. Official Standards for the Inspection of Apples," except the grade "Virginia Early Export."

Virginia Grades for Apples Packed in Containers Other Than Standard Apple Boxes.

U. S. Fancy shall consist of apples of one variety which are mature but not overripe, carefully hand-picked, clean, well formed, free from decay, broken skins and bruises except those incident to proper packing, sprayburn, stings or other insect injury, sunscald, visible watercore, and from injury by russetting, limbrubs, hail or mechanical or other means. Each apple of this grade shall have the amount of color specified hereinafter for the variety. (See size requirements.)

In order to allow for variation incident to proper grading and handling, not more than a total of 10 per cent, by weight, of the apples in any lot may be below the requirements of this grade, but not to exceed one-half of this tolerance, or 5 per cent, shall be allowed for defects causing serious damage, and not more than one-fifth of this amount or 1 per cent shall be allowed for decay.*

U. S. No. 1 shall consist of apples of one variety which are mature but not overripe, carefully hand-picked, clean, fairly well

*Decay, scald, or other deterioration developing in storage or in transit on apples otherwise up to grade shall be considered as affecting the condition and not the grade.

formed, free from decay, broken skins and bruises except those incident to proper packing and damage caused by limbrubs, sprayburn, sunscald, russetting, hail, visible watercore, disease, insects or mechanical or other means. Each apple of this grade shall have the amount of color specified hereinafter for the variety. (See size requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 percent, by weight, of the apples in any lot may be below the requirements of this grade, but not more than one-tenth of this amount or 1 per cent shall be allowed for decay.*

U. S. Commercial shall consist of apples of one variety which meet the requirements of U. S. No. 1, except as to color, and provided further, that early varieties, such as Dutchess of Oldenburg, Gravenstein, Liveland Raspberry, Red June, Summer Hagloe, Twenty Ounce, Wealthy, Williams, and other varieties which ripen at the same period need not be mature. (See size requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by weight, of the apples in any lot may be below the requirements of this grade, but not more than one-tenth of this amount or 1 per cent shall be allowed for decay.*

U. S. No. 2 shall consist of apples of one variety which are mature but not overripe, free from decay and from serious damage caused by dirt or other foreign matter, bruises, sprayburn, sunscald, russetting, hail, disease, insects or mechanical or other means. (See size requirements.)

In order to allow for variations incident to proper grading and handling, not more than a total of 10 per cent, by weight, of the ap-

*Decay, scald, or other deterioration developing in storage or in transit on apples otherwise up to grade shall be considered as affecting the condition and not the grade.

ples in any lot may be below the requirements of this grade but not more than one-tenth of this amount or 1 per cent shall be allowed for decay.*

Virginia Early Export shall consist of apples which meet the requirements of U. S. No. 1, except for color and maturity.

Unclassified shall consist of apples which are not graded in conformity with any of the foregoing grades.

Color Requirements

In addition to the foregoing requirements for U. S. No. 1 and U. S. Fancy, each apple of these grades must have the percentage of color shown in the table below. "Color" means a good shade of red characteristic of the variety. Faded brown stripes shall not be considered as color, except in the case of Gray Baldwin variety.

*Decay, scald, or other deterioration developing in storage or in transit on apples otherwise up to grade shall be considered as affecting the condition and not the grade.

Variety	U. S. Fancy	U. S. No.
Solid Red:		
Arkansas Black	50%	25%
Black Ben Davis	50%	25%
Esopus Spitzenburg	50%	25%
Gano	50%	25%
King David	50%	25%
Lowry	50%	25%
Opalescent	50%	25%
Virginia Beauty	50%	25%
Winesap	50%	25%
Other similar varieties	50%	25%
Red June	33%	15%
Other similar varieties	33%	15%
Striped or Partially Red:		
Delicious	50%	25%
Jonathan	50%	25%
Kinnaird	50%	25%
McIntosh	50%	25%
Missouri Pippin	50%	25%
Other similar varieties	50%	25%
Arkansas (Mammoth Black Twig)	33%	15%
Baldwin	33%	15%
Gray Baldwin	33%	15%
Ben Davis	33%	15%
Fameuse	33%	15%
Nero	33%	15%
Northern Spy	33%	15%
Paragon	33%	15%
Ralls (Geneton)	33%	15%
Rome Beauty	33%	15%
Stayman Winesap	33%	15%
Tompkins King	33%	15%
Wagner	33%	15%
Wealthy	33%	15%
Williams	33%	15%
Willowtwig	33%	15%
York Imperial	33%	15%
Other similar varieties	33%	15%
Duches of Oldenburg	25%	10%
Gravenstein	25%	10%
Hubbardston	25%	10%
Red Astrachan	25%	10%
Smokehouse	25%	10%
Stark	25%	10%
Summer Rambo	25%	10%
Other similar varieties	25%	10%
Twenty Ounce	25%	none
Other similar varieties	25%	none
Red Cheeked or Blushed:		
Hyde King	Blushed Cheek	none
Maiden Blush	"	none
Monmouth (Red Cheeked Pippin)	"	none
Winter Banana	"	none
Other Red Cheeked or Blushed varieties	"	none
Yellow or green varieties	Characteristic Color	Characteristic Color

Size Requirements

The minimum size of the apples in any closed container shall be plainly stamped, stenciled or otherwise marked on the container, as $2\frac{1}{4}$ inches minimum. It is suggested that both the minimum and maximum sizes be marked on the container, as $2\frac{1}{4}$ to $2\frac{3}{4}$ inches; $2\frac{1}{2}$ to $2\frac{3}{4}$ inches, as such marking is especially desirable for apples marketed in the export trade.

"Minimum Size" means the transverse diameter of the smallest apples permitted in the container taken at right angles to a line running from the stem to the blossom end.

Minimum sizes shall be stated in terms of whole and eight inches or whole and quarter inches as $2\frac{3}{8}$ in. min., $2\frac{1}{2}$ in. min., $2\frac{3}{4}$ in. min., in accordance with the facts.

In order to allow for variations incident to proper sizing, not more than 5 per cent, by weight, of the apples in any container, may be below the specified minimum size. Where the maximum and minimum sizes are both stated, an additional 10 per cent tolerance is provided for apples which are larger than the maximum size stated.

Packing Requirements

Each package shall be packed so that the apples in the shown face shall be reasonably representative in size, color, and quality, of the contents of the package.

Standard For Export

Those interested can obtain copies of "U. S. Standards For Export" by addressing the Virginia Division of Markets, Richmond, Virginia.

Definitions of Terms

As used in these grades:

1. "Mature" means having reached the stage of maturity which will insure the proper completion of the ripening process.

2. "Clean" means free from excessive dirt, dust, spray residue or other foreign material.

3. "Carefully hand-picked" means that the apples do not show evidence of rough handling or of having been on the ground.

4. "Well formed" means that the apples have the shape characteristic of the variety in the locality where grown.

5. "Fairly well formed" means that the apples may be slightly abnormal in shape but not to an extent which detracts materially from the appearance of the fruit.

6. "Injury by russetting, limbrubs and hail" means (a) Light brown limbrubs affecting a total area of over $\frac{1}{2}$ inch in diameter; (b) Smooth net-like russetting extending over an area of more than $\frac{1}{4}$ of the surface in the aggregate;* (c) Smooth solid russetting extending over an area of more than one-tenth of the surface in the aggregate;* (d) Rough or bark-like russetting affecting a total area of more than $\frac{1}{4}$ inch in diameter; (e) Hail marks where the injury is more than superficial, or superficial hail marks exceeding $\frac{1}{4}$ inch in the aggregate, or where the skin has been broken.

7. "Damage" means any injury or defect which materially affects the appearance or keeping quality. 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:

(a) Dark brown or black limbrubs over $\frac{1}{2}$ inch in diameter, or light brown limbrubs over 1 inch in diameter.

(b) Sprayburn and sunscald where the normal color of the apple is materially changed and the skin is blistered or cracked.

(c) Smooth net-like russetting extending over an area of more than one-fourth of the surface in the aggregate.*

*Smooth russetting in the stem end of the apple which does not extend over the shoulder shall not be considered a defect of grade.

(d) Smooth solid russeting extending over an area of more than one-tenth of the surface in the aggregate.*

(e) Rough or bark-like russeting affecting a total area of more than $\frac{1}{2}$ inch in diameter.

(f) Hail marks where the injury is more than superficial or superficial hail marks exceeding $\frac{1}{2}$ inch in the aggregate, or where the skin has been broken.

(g) Scab spots which are not corked over or corked over scab spots affecting a total area of more than $\frac{1}{4}$ inch in diameter.

(h) More than two healed insect stings either of which are over $\frac{1}{8}$ inch in diameter, exclusive of any encircling discolored ring.

(i) Cedar rust infection which exceeds in the aggregate an area of $\frac{1}{4}$ inch in diameter.

(j) Worm holes.

(k) Sooty Blotch or Fly Speck, which is thinly scattered over more than one-tenth of the surface or dark, heavily concentrated spots affecting an area of more than $\frac{1}{2}$ inch in diameter.

8. "Serious damage" means any injury or defect which seriously affects the appearance or keeping quality. The following defects shall be considered as serious damage:

(a) Limbrubs, sprayburns and sunscald which seriously detract from the appearance of the apple.

(b) Smooth solid russeting extending over more than one-half of the surface in the aggregate.*

(c) Rough or bark-like russeting, hail marks, or healed stings which materially deform or disfigure the fruit.

(d) Cedar rust infection which exceeds in the aggregate an area of $\frac{3}{4}$ inch in diameter.

(e) Sooty Blotch and Fly Speck affecting more than one-third of the surface.

(f) Worm holes.

*Smooth russeting in the stem end of the apple which does not extend over the shoulder shall not be considered a defect of grade.

Virginia Grades, and Packing Requirements for Apples in Standard Apple Boxes.

Virginia Extra Fancy shall consist of apples of one variety which are mature, hand-picked, clean, well formed, free from decay, bruises, limbrub, sprayburn, sunscald, russeting, drouth spot, hail mark, visible watercore, broken skin, apple scab, stings, and from disease and insect injury except that superficial and inconspicuous blemishes not affecting the appearance of the fruit shall be permitted in this grade. Each apple shall have the amount of color hereinafter specified for apples in this grade.

Virginia Fancy shall consist of apples of one variety which are mature, hand-picked, clean, fairly well formed, free from decay, bruises, visible watercore, broken skin and from damage caused by limbrub, sprayburn, sunscald, russeting, drouth spot, hail mark, apple scab, disease and insect injury. Each apple shall have the amount of color hereinafter specified for apples in this grade.

Virginia "C" shall consist of apples of one variety which are mature, hand-picked, clean, fairly well formed, which are free from decay, soft bruises, broken skin and from serious damage caused by sunscald, visible watercore, disease and insect injury. Each apple shall have the amount of color hereinafter specified for apples in this grade.

Virginia Cookers. Apples which are free from infection or disease, and do not meet the specifications of Extra Fancy, Fancy, or "C" Grade shall be marked cookers.

Virginia Combination Grades. When Extra Fancy and Fancy apples are packed together the boxes may be marked "Combination Extra Fancy and Fancy," and when Fancy and "C" Grade apples are packed together the boxes may be marked "Combination Fancy and 'C' Grade" but Combination

Grades must contain at least 25 per cent of apples which would be permitted in the higher grades. When Va. Extra Fancy, and "C" Grade apples are packed together, the boxes must be marked "Orchard Run" or "Va. Combination Extra Fancy, Fancy and 'C' Grade," but any boxes so marked must not contain any fruit that will not meet the requirements of the "Va. 'C' Grade." In case the boxes are marked "Va. Combination Extra Fancy, Fancy and 'C' Grade," they must contain at least 25 per cent "Va. Extra Fancy" apples, and it shall be unlawful to remove any of the higher grade apples and then pack the remainder as "Orchard Run" or "Va. Combination Extra Fancy, Fancy and 'C' Grade," except that the larger sizes of all grades may be removed and the rest boxed and marked "Jumble" or "Face and Fill" in addition to the grade mark.

Summer and Early Fall Varieties. Summer varieties such as Red Astrachan, Bailey Sweet, Bietigheimer, Dutchess, Early Harvest, Red June, Yellow Transparent, Twenty Ounce, and kindred varieties not otherwise specified in these grading rules, together with early fall varieties such as Alexander, Blue Pearmain, Wolf River, Fall Pippin, Waxen, Gravenstein, Tolman, Bough, and other varieties not provided for in these grading rules, as grown in sections of early maturity, shall be packed and marked in accordance with the grading rules covering Fancy Grade as to defects but regardless of color.

Color Requirements. Apples shall be admitted to the grades subject to the following color specifications. The percentage stated refers to the area of the surface which must be covered with a good shade of red characteristic of the variety.

For the striped red varieties the percentage of color required shall be the specified percentage of area in which the stripes of good red shall be in excess of the stripes of thin red, green or yellow.

SOLID RED VARIETIES

	Extra Fancy	Fancy	"C" Grade
Aiken Red.....	75%	33 1/4%	5%
Arkansas Black.....	75%	33 1/4%	5%
Baldwin.....	75%	33 1/4%	5%
Black Ben Davis.....	75%	33 1/4%	5%
Detroit Red.....	75%	33 1/4%	5%
Gano.....	75%	33 1/4%	5%
King David.....	75%	33 1/4%	5%
Spitzenburg.....	75%	33 1/4%	5%
Vanderpool.....	75%	33 1/4%	5%
Winesap.....	75%	33 1/4%	5%

STRIPED RED VARIETIES

	Extra Fancy	Fancy	"C" Grade
Spitzenburg Kaign.....	65%	25%	5%
Delicious.....	65%	25%	5%
Staymen Winesap.....	65%	25%	5%
Black Twig.....	65%	25%	5%
McIntosh Red.....	65%	25%	No Color
Jonathan.....	65%	25%	No Color
Ben Davis.....	50%	15%	No Color
Bonum.....	50%	15%	No Color
Fameuse.....	50%	15%	No Color
Geniton.....	50%	15%	No Color
Hubbardston.....	50%	15%	No Color
Limberville.....	50%	15%	No Color
Missouri (Pippin).....	50%	15%	No Color
Northern Spy.....	50%	15%	No Color
Ontario.....	50%	15%	No Color
Rainier.....	50%	15%	No Color
Rome Beauty.....	*50%	15%	No Color
Salome.....	50%	15%	No Color
Stark.....	50%	15%	No Color
Sutton.....	50%	15%	No Color
Willow Twig.....	50%	15%	No Color
Wagner.....	50%	15%	No Color
Wealthy.....	50%	15%	No Color
York Imperial.....	50%	15%	No Color
Chenango.....	25%	10%	No Color
Oldenburg.....	25%	10%	No Color
Jeffries.....	25%	10%	No Color
King.....	25%	10%	No Color
Shiawassee.....	25%	10%	No Color
Twenty Ounce.....	25%	10%	No Color

RED CHEEKED OR BLUSHED VARIETIES

Extra Fancy—Perceptibly blushed cheek.

Fancy—No color requirements.

Hydes King

Winter Banana

Maiden Blush

Red Cheek Pippin

GREEN AND YELLOW VARIETIES

Extra Fancy—Characteristic color.

Fancy—No color requirements.

Grimes (Golden)

Cox's Orange (Pippin)

Yellow Newtown

Ortley

White (Winter) Pearmain

Yellow Bellefleur

Rhode Island (Greening)

Golden Delicious.

*No color requirements for Fancy Rome Beauty 100 and larger.

DEFINITIONS OF TERMS

(1) "Mature" means having reached the stage of maturity which will insure the proper completion of the ripening process.

(2) "Clean" means reasonably free from dust or dirt and free from excessive visible spray residue.

(3) "Hand-picked." Apples which show evidence of rough handling or of having been on the ground shall not be considered "hand-picked."

(4) "Well formed" means having the shape characteristic of the variety in the locality where grown.

(5) "Fairly well formed" means that the apples may be slightly abnormal in shape but not to an extent which detracts materially from the appearance of the fruit.

(6) "Superficial and inconspicuous blemishes" means (a) russeting at the stem end provided such russeting is not visible when the apple is placed stem end down on a flat surface, (Russeting at the stem characteristic of the Newtown or Albemarle Pippins variety shall be permitted) and (b) net light russeting which in the aggregate does not extend over more than five per cent of the surface of the apple, or (c) smooth solid russeting, or (d) light colored limbrubs or other light colored marks not to exceed one-fourth inch in diameter in the aggregate.

(7) "Damage" means any injury or defect which materially affects the appearance or keeping quality of the apples. (Any one of the following exceptions noted or any combination thereof the value of which does not exceed the maximum allowed for any single defect shall not be considered "damage.")

(a) Scab spots affecting a total area of not more than one-fourth inch in diameter;

(b) Drouth spots where the surface of the apple is only slightly discolored and depressed;

(c) Hail marks where the injury is superficial and the skin has not been broken;

(d) Solid russeting such as is characteristic of frost and certain insect injury affecting a total area of not to exceed one-half inch in diameter;

(e) Two healed worm stings not over one-eighth of an inch in diameter exclusive of any encircling green ring shall be permitted. Worm stings must be thoroughly healed;

(f) Smooth net-like russeting extending over an area of not more than twenty per cent of the surface in the aggregate;

(g) Sunscald and sprayburn where the normal color of the apple is but slightly changed and there is no blistering or cracking of the skin.

(8) "Serious damage" means any injury or defect which seriously detracts from the appearance or keeping quality of the apple. The following defects shall not be considered as serious damage:

(a) Scab spots affecting an area of not to exceed one-half inch in diameter in the aggregate;

(b) Not more than five healed worm stings which are not over one-eighth of an inch in diameter exclusive of any encircling green ring;

(c) Heavy russeting which does not affect more than one-fourth of the surface;

(d) Visible watercore which does not affect an area of more than one-half inch in diameter.

(9) "Small healed stings" are further defined as those in which the diameter of the dark discoloration caused by the sting exclusive of any encircling green ring shall not be more than one-eighth inch.

A spot one-eighth inch in diameter is herewith illustrated.



(10) A spot one-fourth inch in diameter is herewith illustrated.



(11) A spot one-half inch in diameter is herewith illustrated.



Size.

The following packs shall be recognized as standard for determining range in sizes, i. e., 36, 48, 56, 64, 72, 80, 88, 100, 113, 125, 138, 150, 163, 180, 198, 216, 234, 256. Packed apples in any one package shall not vary more than one size up or down from the size stamped on the box. The size of apples which are jumbled in packages or which are in bulk may be designated by the range in size or the minimum and maximum diameters of the apples in the lot. Minimum diameter shall be stated in terms of whole and quarter inches as "1 $\frac{1}{4}$ in. min.," "2 in. min.," "2 $\frac{1}{2}$ in. min.," according to the facts. Packages containing apples "Jumbled" or packed "Face and Fill" must be marked with the minimum size of the apples which they contain.

Packing.

All apples packed under these regulations shall be arranged in the boxes according to the approved and recognized methods with the stems pointing toward the ends of the box except when jumbled, and all packages shall be tightly filled, but the contents shall

not show excessive or unnecessary bruising because of an over-filled package. Each packed box must show a minimum bulge of one-half inch on both top and bottom when packed. Each apple wrapped shall be completely enclosed by its individual wrapper.

Condition. Scald, decay, other diseases which may develop after the apples are packed, and the effects of freezing are defined as applying to condition rather than to grade. In case, however, where decay follows skin punctures, these punctures will be counted in determining the grade.

Tolerance. In order to allow for variation incident to commercial grading and handling, a tolerance of ten per cent (10%) for total of all defects from the standard of grades but not more than one-half of one per cent shall be allowed for decay at the time of packing, and an additional ten per cent tolerance for a total of all defects from the standards defined for uniformity of size, wrapping, tightness of pack, and bulge will be permitted and shall be computed by counting, weighing, or measuring the specimens judged to be below the standards.

THE STANDARD APPLE BOX

The standard size of an apple box shall be 18 inches long, 11 $\frac{1}{2}$ inches wide, 10 $\frac{1}{2}$ inches deep, inside measurements.

RECOMMENDED STANDARD DIMENSIONS FOR APPLE BOX SHOOK

Ends— $\frac{3}{4}$ or $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 11 $\frac{1}{2}$, 2 pieces, 20 to the bundle.

Sides— $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 19 $\frac{1}{2}$ or 19 $\frac{3}{4}$, 2 pieces, 40 to the bundle.

Top and Bottom— $\frac{1}{4}$ x 5 $\frac{1}{2}$ x 19 $\frac{1}{2}$ or 19 $\frac{3}{4}$, 4 pieces, 100 to the bundle.

Cleats— $\frac{3}{8}$ x $\frac{3}{4}$ x 11 $\frac{1}{2}$, 4 pieces, 100 to the bundle.

Thirty-two (32) 6d nails commonly used per box. Lighter material should not be used.

RECOMMENDED RULES FOR USE OF PAPER

For apples use—

- 8" x 8" paper for 188-200-213-225 packs.
 9" x 9" paper for 175-163-150-138-125-113
 packs.
 10" x 10" paper for 112-104-100-96-88 packs.
 11" x 11" paper for 80-72-64-56 packs.
 12" x 12" paper for 50-48-41-36-32 packs.
 Wraps for packing 100 boxes of ap-
 ples ----- 50 lbs.
 Lining paper for packing 100 boxes
 of apples ----- 7½ lbs.
 Cardboard for packing 100 boxes of
 apples ----- 16 lbs.
 Lining paper 17½ x 26 inches, for the stand-
 ard box, runs 30 sheets to the pound.
 Wrapping paper, 10 x 10 inches, runs 310-
 325 sheets to the pound. However, there is a
 variation in this weight, due to the varying
 qualities of paper used.

APPLE PACKS

Style of Pack—Diagonal	No. in Box
2x1 wide 4-4 long, 3 layer deep.....	36
2x1 wide 5-4 long, 3 layer deep.....	41
2x1 wide 5-5 long, 3 layer deep.....	45
2x1 wide 6-5 long, 3 layer deep.....	50
2x1 wide 6-6 long, 3 layer deep.....	54
2x2 wide 3-3 long, 4 layer deep.....	48
2x2 wide 3-4 long, 4 layer deep.....	56
2x2 wide 4-4 long, 4 layer deep.....	64
2x2 wide 4-5 long, 4 layer deep.....	72
2x2 wide 5-5 long, 4 layer deep.....	80
2x2 wide 5-6 long, 4 layer deep.....	88
2x2 wide 6-6 long, 4 layer deep.....	96
2x2 wide 6-7 long, 4 layer deep.....	104
2x2 wide 7-7 long, 4 layer deep.....	112
2x3 wide 7-8 long, 4 layer deep.....	120
2x2 wide 8-8 long, 4 layer deep.....	128
3x2 wide 4-3 long, 5 layer deep.....	88
3x2 wide 4-4 long, 5 layer deep.....	100
3x2 wide 5-4 long, 5 layer deep.....	113
3x2 wide 5-5 long, 5 layer deep.....	125
3x2 wide 6-5 long, 5 layer deep.....	138
3x2 wide 6-6 long, 5 layer deep.....	150
3x2 wide 7-6 long, 5 layer deep.....	163
3x2 wide 7-7 long, 5 layer deep.....	175
3x2 wide 8-7 long, 5 layer deep.....	188
3x2 wide 8-8 long, 5 layer deep.....	200
3x2 wide 9-8 long, 5 layer deep.....	213
3x2 wide 9-9 long, 5 layer deep.....	225
3x3 wide 5-5 long, 6 layer deep.....	180
3x3 wide 6-6 long, 6 layer deep.....	198
3x3 wide 6-6 long, 6 layer deep.....	216
3x3 wide 7-6 long, 6 layer deep.....	234
3x3 wide 7-7 long, 6 layer deep.....	252
5 straight pack 8 long, 5 layer deep.....	200
5 straight pack 9 long, 5 layer deep.....	225

TYPES OF APPLE INSPECTION AVAILABLE IN VIRGINIA THROUGH THE DIVISION OF MARKETS

Federal-State Certificate Inspection

This type of inspection which is being used by growers, shippers, carriers and receivers in all parts of the United States both at shipping points and in the receiving markets is undoubtedly the most universally valuable inspection service offered, since the certificates issued are of value in selling and settling of claims, and serve as a common language between financially interested parties not only in the United States but many foreign lands. The shipping point inspection service is carried on by the U. S. Department of Agriculture in cooperation with the various States, while this same type of inspection at receiving points is maintained and operated entirely by the U. S. Department of Agriculture. The shipping point inspection is made either at the car at the time of loading or at the storage at shipping point. Certificates issued at shipping point cover specified lots, such certificates being prima facie evidence in all courts of the United States and of Virginia. Practically all varieties of fruits, vegetables and nuts grown in the United States are inspected and reported upon Government certificates. In Virginia Federal-State certificates have been issued upon car loads of white potatoes, apples, sweet potatoes, cabbage, onions, cucumbers, spinach, tomatoes and strawberries.

Virginia State Ring Inspection

In order to help the growers to put up a better grade and pack of apples the Vir-

ginia State Division of Markets has maintained a type of inspection at the packing houses where demanded, known as Ring Inspection. This type of inspection derives its name from the fact that several growers in one locality are visited each day by the inspector at their packing houses where daily inspections are made and a State stamp used on the barrels to indicate that they have been packed under State supervision. This State ring inspection stamp has but little value in interstate commerce, and the probabilities are that as the growers become more proficient in putting up good packs this type of inspection will gradually give away to Federal-State Inspection.

State Certificate Inspection

For the purpose of meeting the quarantine requirements of other States and foreign countries against products being shipped from Virginia, the Virginia Division of Markets has issued State certificates covering such items as San Jose scale on apples and potato wart on potatoes.

Police Inspection

The Virginia Assembly of 1927 passed the apple grading and marking law as printed in this booklet. The Commissioner of Agriculture and Immigration through the Director of the Division of Markets of the State of Virginia is charged with the enforcement of the provisions of this act, so it becomes necessary for representatives of the Division of Markets to inspect lots of apples in closed containers to determine if they meet the requirements of the law and to take such steps as are necessary in the proper enforcement of the act.

Fees For Inspection

Fees sufficient to cover the expenses of the service are charged for Federal-State,

Virginia State Ring and State Certificate Inspections described above which are made upon request of a party financially interested in the apples to be inspected.

Police inspection is financed by the State and made as required by law.

J. H. MEEK,
Director, Division of Markets.

Approved June 12, 1928.

G. W. KOINER,
*Commissioner of Agriculture and
Immigration.*

INFORMATION ON PACKING APPLES

1. "Packing and Loading Basket Apples"—Virginia Circular.
2. "Packing Apples in Boxes"—U. S. Bulletin No. 1457.
3. "Preparation of Barreled Apples for Market"—U. S. Bulletin No. 1080.

Copies of any, or all of the above may be secured upon request of the Division of Markets, State Office Building, Richmond, Va. The last two may be gotten also from the U. S. Department of Agriculture.