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Grape Grader's Manual

Michigan State University

Cooperative Extension Service

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Grape Grader's Manual

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MARKETING SERIES — JULY 1975

For easy reference, unfold this manual and fasten to the packinghouse wall.

COOPERATIVE EXTENSION SERVICE
MICHIGAN STATE UNIVERSITY

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Marketing Division

Michigan Department of Agriculture

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Limit of Defects for Michigan

*MICHIGAN GRADES

U.S. GRADES

GRADE FACTORS	MICHIGAN FANCY	MICHIGAN NO. 1 AND NO. 1 FROSTED	MICHIGAN NO. 2 AND NO. 2 FROSTED	GRADE FACTORS	U.S. FANCY
CONTAINER	Pack in less than 12 qt. (16 lb.) capacity containers. Stems shall be as nearly concealed as possible.	Pack in 12 qt. (16 lb.) capacity or larger containers. Facing bunches shall have stems as nearly concealed as possible.	Same as No. 1.	VARIETY	One variety, marked as such.
VARIETY	One variety.	Same.	No requirement.	BERRIES SHALL BE:	Well colored, firm and firm to the touch, capstems set.
MATURITY	Mature — Shall have flavor characteristic of the variety.	Same.	No requirement.	FREE FROM	Split, shattered, dried or wet, free from damage by mildew, berry moth, russetting and other means.
COLOR	Well colored — 90% of berries shall have color characteristic of the variety.	Same.	No requirement.	FREE FROM DAMAGE BY	Freezing, discoloration or other means.
BUNCHES	Well formed — fairly compact. Compact portions with three or more berries may be used to fill open spaces.	Same.	No requirement.	FREE FROM SERIOUS DAMAGE BY	Any means.
CRUSHED, DRIED, SOFT, SHATTERED, SPLIT, WET, BERRY MOTH, MILDEW, RUSSETING AND ROT.	Free from.	Free from.	Must be sound marketable grapes.	BUNCHES	Not less than 10 berries in bunches in Michigan; must be compact; must be fairly compact; Bunches must be compact; compact portions with five berries may be used to fill open spaces; whole bunches must be compact.
DISEASE, INSECT, MECHANICAL OR OTHER MEANS.	Free from damage. Must not materially affect appearance, edible or shipping quality.	Same.	Must be sound marketable grapes.	BERRY SIZE	Not less than 10 berries by count, of similar size, exclusive of Concord, Wagon and other varieties of similar size, a minimum of nine-sixteenths of an inch.
TOLERANCES	Not more than 10% of the berries by count may be below grade requirements and 2% mechanical injury. 1% may be affected by rot. In addition not more than 5% for bunches not well formed.	Same as Fancy except: 3% for mechanical injury and 2% rot. 15% for bunches not well formed.	Must be sound marketable grapes.		

an and U.S. Grape Grades

GRADES (EASTERN TYPE)

U.S. GRADES (EUROPEAN OR VINIFERA TYPE)

U.S. NO. 1 TABLE	U.S. NO. 1 TABLE	U.S. NO. 1 JUICE
except when assorted varieties	Same.	Same.
ed, mature, only attached	Same except, fairly well colored.	Same as No. 1.
ed, crushed, berries and decay, mold, berry moth, russeting	Split, crushed, shattered, dried or wet berries and free from mold, decay and berry moth.	Same as U.S. No. 1.
disease, insect pests	Freezing, russetting, hail, mildew and disease, insect or other means.	Damage allowed.
	Any means.	Freezing, russetting, hail, mildew, disease, insect or other means.
50 percent of any container compact; the rest fairly compact. Berries shall not be excessively loose, however, compactness of no less than may be used to differences between varieties.	85% fairly compact.	60% fairly compact.
90 percent, the berries, dried berries, bunch of the garden, Chamber varieties shall have diameter of 1/4 inch of an	Same.	No requirement.

GRADE FACTORS	U.S. FANCY TABLE U.S. FANCY EXPORT	U.S. NO. 1 TABLE
VARIETY	One variety except when designated as assorted varieties.	Same.
BUNCHES SHALL CONSIST OF GRAPES WHICH ARE:	Well developed reasonably well colored, mature, firm, firmly attached to capstems, not weak, not shriveled at capstem, not shattered, not split or crushed and not wet.	Same except: fairly well colored and not materially shriveled at capstem.
BASIC REQUIREMENT FOR BUNCHES	Fairly well filled and not excessively tight for the variety.	Not straggly.
BASIC REQUIREMENT FOR STEMS	Well developed and strong, not dry or brittle.	Not weak or dry and brittle.
BERRIES SHALL BE FREE FROM:	Decay, waterberry sunburn and almeria spot.	Decay, waterberry and sunburn.
STEMS SHALL BE FREE FROM:	Mold and decay.	Same.
BERRIES NOT DAMAGED BY:	Any other cause.	Same.
BUNCHES NOT DAMAGED BY:	Shot berries, dried or other defective berries, trimming away of defective berries or any other cause.	Same.
STEMS NOT DAMAGED BY:	Freezing or any other cause.	Same.
	(1) For berries: Exclusive of shot berries and dried berries, the following percentages, by count, of the berries on each bunch shall have the minimum diameters indicated for varieties as follows: (i) For Ribier, Cardinal, Robin, Exotic, Queen, Italia Muscat, and other	(1) For berries: Exclusive of shot berries and dried berries, 75 percent, by count, of the berries on each bunch shall have the minimum diameters indicated for varieties as follows:

Berries must be firm sound and firmly attached to capstems. Frosted grades permit grapes which have been subject to frost injury before harvest. Mich. grapes have no size requirements.

MARKING REQUIREMENTS

All containers must be clean and in good condition and shall be conspicuously and legibly marked in letters not less than ¼ inch in height, declaring the name and address of the packer, vendor or shipper; the grade or unclassified, net contents and variety, if the variety is unknown it shall be so stated, the term "frosted" shall be in letters ½ inch in height.

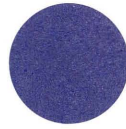
UNCLASSIFIED (Refers to U.S. Grades only)

Consists of grapes which have not been classified in accordance with any of the foregoing grades. The term unclassified is not a grade within the meaning of these standards but is provided as a designation to show that no grade has been applied to the lot.

MINIMUM DIAMETERS — SEE BERRY SIZE (U.S. Grades Only)



12/16



10/16



9/16

DEFINITIONS FOR U.S. GRADES (EUROPEAN OR VINIFERA TYPE)

Color Terms	Black Varieties	Red Varieties	White Varieties
Reasonably well colored (U.S. Fancy).	Each bunch shall have not less than 85 percent, by count, of berries showing good characteristic color. ¹	Each bunch shall have not less than 66⅔ percent, by count, of berries showing good characteristic color ¹ except the Tokay and Cardinal varieties shall have not less than 75 percent, by count, of berries showing characteristic color. ²	No requirement.
Fairly well colored (U.S. No. 1).	Each bunch shall have not less than 75 percent, by count, of berries showing characteristic color. ²	Each bunch shall have not less than 60 percent, by count, of berries showing characteristic color. ²	No requirement.

¹Good characteristic color for black varieties means purple to black except that Ribier or similar varieties of grapes shall have at least two-thirds of the surface of the berry showing purple to black color.

For red varieties good characteristic color means at least two-thirds of the surface of the berry is light red through dark red color; except, for the Tokay variety pink through dark red, and for the Cardinal variety light red through purple shall be permitted.

²Characteristic color for black varieties means reddish-purple to black except that Ribier or similar varieties of grapes shall have at least two-thirds of the surface of the berry showing reddish-purple to black color.

For red varieties characteristic color means at least two-thirds of the surface of the berry is pink to dark red; except, for the Tokay variety light pink through dark red and for the Cardinal variety light pink through purple color shall be permitted.

TOLERANCES

5% for stage, 10% for burr, fail to meet n for berries, ries and bur fail to mee grade requi cluding 5% damage and not more th or decay and moth.

DEFINITIONS

Firm — means that the berry is reasonably does not yield more than slightly to moderate p

Mature — means that the grapes are juicy, pa have reached that stage of development at which the berry easily separates from the pulp. Frozen frosted stock is not to be confused with mature

Well Colored — means that the berries sho characteristic of the variety.

Fairly well colored — means that not less than by weight, of the berries show full color characte variety; 25 percent of the berries may be partial colored but not characteristic of immature berry

Shattered — means that the berry is separat bunch and may or may not have the capstem a

Compact — means that the bunches are we have no open spaces.

Fairly compact — means that the bunches ar but that the berries are not closely spaced as in bunches.

Excessively tight — means that the berries wedged together that the bunch is extremely co for the variety and resulting distorted berries n ally detract from the appearance of the bunch.

Fairly well filled — means that the berry reasonably closely spaced on main and lateral and that the bunch is not very loose or stringy

Materially shriveled at capstem — means th skin of the berry is definitely wrinkled adjacnt capstem and the surface is materially sunken

Well developed and strong — means that the and lateral stems are firm, fibrous, and pliab distinctly immature of spindly or threadlike at t packing.

Well developed grapes — means grapes which a abnormally small for the variety.

Firm — means the the berry does not yiel than slightly to moderate pressure and is not fla wilted.

Weak — means that individual berries are what translucent, watery and soft, may hav tively low sugar content, inferior flavor, or are e keeping quality.

Shattered — means that the berry is separat the bunch and may or may not have the ca attached.

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remaining
ements, in-
for serious
of this 5%
an 1% mold
2% for berry

Same as U.S. fancy ex-
cept: 15% for straggly
bunches.

15% bunches and berries
which fail grade require-
ments, including 6%
serious damage of this
6% not more than 3% for
mold or decay and 2% for
berry moth.

FOR U.S. GRADES (EASTERN TYPE)

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"compact"

Straggly — means that the bunches are decidedly open with large open spaces and very few berries. Small immature shot berries, characteristic of the Worden variety, should be disregarded unless they are excessive in number and detract materially from the appearance.

Damage — means any specific defect described in this section; or any equally objectionable variation of this defect, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or shipping quality of the individual berry or the bunch as a whole. The following specific defect shall be considered as damage:

(a) Mildew when detracting from the appearance of the individual berry of the bunch as a whole. Berries on the inside of the bunch which show only slight traces of mildew are not considered as damaged.

Serious damage — means any defect, or any combination of defects, which seriously detracts from the appearance, or the edible or shipping quality of the individual berry or the bunch as a whole.

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Straggly — means that the berries are so widely spaced on main and lateral stems that the bunch is distinctly open or very stemmy or stringy in structure.

Wet — means that the grapes are wet from moisture from crushed, leaking, or decayed berries or from rain. Grapes which are moist from dew or other moisture condensation such as that resulting from removing grapes from a refrigerator car or cold storage to a warmer location shall not be considered as wet.

Shriveled at capstem — means that the berry shows more than slight wrinkling of the skin surrounding the capstem.

Waterberry — means a watery, soft, or flabby condition of the berry. Affected berries are low in sugar content, have tender skins, and are easily crushed. This is an advanced or more pronounced stage of the condition referred to as "weak."

Sunburn — means injury to the berry caused by exposure to the sun, including "sulphur burn," usually occurring as a sunken and discolored or dried area on the exposed surface.

Decay — means any soft breakdown of the flesh or skin of the berry resulting from bacterial or fungus infection. Slight surface development of green mold (Cladosporium) shall not be considered decay.

Damage — means any specific defect described in this section; or an equally objectionable variation of this defect, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or shipping quality of the individual berry or the bunch as a whole. The following specific defect shall be considered as damage:

(a) Mildew when detracting from the appearance of the individual berry or the bunch as a whole. Berries on the inside of the bunch which show only slight traces of mildew are not considered as damaged.

Shot berries — means very small berries resulting from insufficient pollination, usually seedless in those varieties which normally develop seeds.

Serious damage — means any defect or any combination of defects which seriously detracts from the appearance, or the edible or marketing quality of the grapes and includes berries which are split, crushed, wet, affected by decay or waterberry, or affected by heat or freezing. Grapes which show healed cracks at the blossom end shall not be considered as seriously damaged.

Diameter — means the greatest dimension of the berry taken at right angles to a line running from the stem to the blossom end.

Dried berries — means berries which are dry and shriveled to the extent that practically no moisture is present.

small varieties, 75 per-
cent shall be at least
twelve-sixteenths of an
inch;

(ii) For Thompson Seedless, Perlette, Delight, and Beauty Seedless varieties, 75 percent shall be at least ten-sixteenths of an inch; and,

(iii) For other varieties 90 percent shall be at least ten-sixteenths of an inch.

(i) Thompson Seedless, Perlette, Delight, and Beauty Seedless nine-sixteenths of an inch.

(ii) Other varieties ten-sixteenths of an inch.

BUNCH SIZE:

Not less than ¼ lb.

Same.

TOLERANCES

Factor	U.S. Extra	U.S. Fancy	U.S. No. 1
	Fancy table	table	table
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
(A) For bunches failing to meet color requirements	10	10	10
(B) For bunches failing to meet requirements for minimum diameter of berries	10	10	10
(C) For bunches failing to meet stem color requirements	10		
(D) For undersize bunches ² and for bunches and berries failing to meet the remaining requirements for the grade	8	8	8
Including in (D):			
(a) For serious damage	2	2	2
And, including in (a):			
(i) For decay	½ of 1	½ of 1	½ of 1

Application of tolerances.

The contents of the individual packages in any lot, based on sample inspection, are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:

(a) For tolerances of 10 percent or more, individual packages may contain not more than one and one-half times the specified tolerance.

(b) For a tolerance of less than 10 percent, individual packages may contain not more than double the specified tolerance.

U.S. FANCY EXPORT

Shall meet requirements of the U.S. Fancy except that bunches shall weigh not less than ½ lb. and in addition meet packing requirements for export.

EXPORT PACK

When designated as Export, grapes shall be packed with any of the customary protective materials such as cushions, liners, or wraps, or properly packed in sawdust or granulated cork. The so-called "semi-sawdust packs" which are cushioned and/or covered with sawdust are not approved as protective packaging for export.