Grape Grader’s Manual
Michigan State University Cooperative Extension Service
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Grape Grader's Manual

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in cooperation with
DIVISION OF FOODS AND STANDARDS
MICHIGAN DEPARTMENT
OF AGRICULTURE

MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
EAST LANSING
Suggestion:

For easy reference, fasten this manual to the packinghouse wall.
Grape Grader's Manual

(The purpose of this manual is to summarize the provisions of Act No. 145, Michigan Public Acts of 1925, dealing with the packing and sale of grapes prepared for market and to provide practical interpretations of the United States and Michigan grades for American (Eastern type) bunch grapes. The author acknowledges the contributions of Miles Nelson, M. D. Murphy, Don Palmer, and Hunter Hering of the Division of Foods and Standards, Michigan Department of Agriculture.)

STANDARD GRADES FOR GRAPES
(Act No. 145, P. A. of 1925)

Copies of the full text of Michigan Act No. 145, P. A. of 1925, and of the official United States and Michigan Standards for Eastern Type Bunched Grapes, may be obtained from the Division of Foods and Standards, Michigan Department of Agriculture, Lansing 13, Michigan.

PACKING REQUIREMENTS

All containers must be clean, in good condition, and clearly marked with the name of the variety or the term “Variety unknown”; the name and address of the packer; the grade or term “Unclassified”; and the true net contents.

Michigan standards require that bunches shall be packed with stems hidden as nearly as possible for the Fancy grade, and the facing bunches in this manner for the No. 1 grade.

Michigan standards require that Michigan Fancy grapes be packed in containers of less than 12-quart (16-pound) capacity; Michigan No. 1, Michigan No. 2, and frosted grapes must be packed in containers of 12-quart (16-pound) capacity or larger.

GRAPE GRADES

U. S. Fancy Table Mich. Fancy Table
U. S. No. 1 Table Mich. No. 1
U. S. No. 1 Juice Mich. No. 2

Mixed Varieties:

Any lot of grapes made up of more than one variety which meets all other requirements for the U. S. grades above may be designated U. S. Fancy Table Mixed, U. S. No. 1 Table Mixed, or U. S. No. 1 Juice Mixed.

LIMITS OF DEFECTS IN U. S. GRAPE

<table>
<thead>
<tr>
<th>GRADE FACTORS</th>
<th>U. S. FANCY TABLE</th>
<th>U. S. NO. 1 TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>Must have full color for the variety.</td>
<td>Not less than one color or portion.</td>
</tr>
<tr>
<td>BUNCHES</td>
<td>Not less than 50 percent of bunches in any container must be compact; the rest must be fairly compact. Bunches must not be excessively small; however, compact portions of no less than five berries may be used to fill open spaces between whole bunches.</td>
<td>Not less than one bunch in any container must be compact.</td>
</tr>
<tr>
<td>SIZE OF BERRIES (see circle below)</td>
<td>Concord and similar varieties: minimum diameter is 9/16 inch.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>ATTACHED TO CAPSTEMS</td>
<td>Must be firmly attached to capstem.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>CRUSHED, DRIED, SHATTERED, SOFT, SPLIT, WET</td>
<td>None permitted.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>BERRY MOTH</td>
<td>None permitted.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>DECAV-MOLD</td>
<td>None permitted.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>MILDEW, RUSSETING</td>
<td>None permitted.</td>
<td>Must appeal shipp</td>
</tr>
<tr>
<td>HAIL</td>
<td>None permitted.</td>
<td>Must appeal shipp</td>
</tr>
<tr>
<td>DISEASE, FREEZING INJURY, INSECTS, OTHER DAMAGE</td>
<td>Must not greatly affect appearance quality.</td>
<td>None permitted.</td>
</tr>
</tbody>
</table>

LIMITS OF DEFECTS IN MICHIGAN GRAPE

<table>
<thead>
<tr>
<th>GRADE FACTORS</th>
<th>MICHIGAN FANCY TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR</td>
<td>90 percent of grapes must have solid color for the variety.</td>
</tr>
<tr>
<td>BUNCHES</td>
<td>Fairly compact but not closely in</td>
</tr>
</tbody>
</table>
### U.S. NO. 1 TABLE

<table>
<thead>
<tr>
<th>Condition</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 75 percent, by weight,</td>
<td>U.S. NO. 1 JUICE</td>
</tr>
<tr>
<td>of color for the variety; 25 percent may</td>
<td></td>
</tr>
<tr>
<td>show partially poor colored berries (not</td>
<td></td>
</tr>
<tr>
<td>typical of immature berries, however).</td>
<td></td>
</tr>
<tr>
<td>Not less than 85 percent of bunches in any</td>
<td></td>
</tr>
<tr>
<td>container must be fairly compact.</td>
<td></td>
</tr>
<tr>
<td>minimum cross section</td>
<td>No requirement.</td>
</tr>
<tr>
<td>stem in all U.S. grades.</td>
<td></td>
</tr>
<tr>
<td>None permitted.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>None permitted.</td>
<td>None permitted.</td>
</tr>
<tr>
<td>Must not greatly affect appearance, eating</td>
<td>Must not seriously affect market quality.</td>
</tr>
<tr>
<td>or shipping.</td>
<td></td>
</tr>
<tr>
<td>Sound grapes that have a marketable value.</td>
<td></td>
</tr>
<tr>
<td>Does not include green, unripe bunches</td>
<td></td>
</tr>
<tr>
<td>which do not join, solid or tight.</td>
<td></td>
</tr>
<tr>
<td>Michigan NO. 1</td>
<td></td>
</tr>
<tr>
<td>Michigan NO. 2</td>
<td></td>
</tr>
</tbody>
</table>

### Michigan Grape Grades

<table>
<thead>
<tr>
<th>Michigan NO. 1</th>
<th>Michigan NO. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound grapes that have a marketable value.</td>
<td></td>
</tr>
<tr>
<td>Does not include green, unripe bunches which do not join, solid or tight.</td>
<td></td>
</tr>
</tbody>
</table>
SIZE OF BERRIES

No requirements in any Michigan grade.

ATTACHED TO CAPSTEMS

Must be firmly attached for Michigan Fancy or Michigan No. 1.

CRUSHED, DRIED, SHATTERED, SOFT, SPLIT, WET

None permitted for Michigan Fancy or Michigan No. 1.

BERRY MOTH

None permitted for Michigan Fancy or Michigan No. 1.

DECAY-MOLD

Must not greatly affect appearance, eating or shipping quality.

MILDEW, RUSSETING

None permitted for Michigan Fancy or Michigan No. 1.

HAIL

Must not greatly affect appearance, eating or shipping quality.

DISEASE, FREEZING INJURY, INSECTS, OTHER DAMAGE

Must not greatly affect appearance, eating or shipping quality.

U. S. No. 1 Table:

Not over 10 percent, by weight, may fail to meet requirements; not over 5 percent is allowed for seriously damaged berries. Of this tolerance, not over 2 percent is for berries affected with mold or decay, and 2 percent for dried berries or berry moth. In addition, not over 10 percent, by weight, of the bunches may have 10 percent of undersized berries.

U. S. No. 1 Juice:

Not over 15 percent, by weight, may fail to meet requirements; not over 6 percent is allowed for seriously damaged berries. Of this tolerance, not over 3 percent is for berries affected with mold or decay, and not over 2 percent for dried berries and berry moth.

Michigan Standards

Michigan Fancy Table:

Not over 10 percent, by count, of the berries may fail to meet requirements. Not over 2 percent of the berries, by count, may be injured by mechanical means, nor over 1 percent affected by dry rot. Not over 5 percent, by count, may consist of bunches not well formed.

Michigan No. 1:

Not over 15 percent, by count, of bunches may fail to meet requirements for bunches. Not over 2 percent, by count, is allowed for dry rot and 3 percent for mechanical injury.

Michigan No. 2:

No standards specified.

MINIMUM DIAMETER (CROSS SECTION) FOR U. S. FANCY TABLE AND U. S. NO. 1 TABLE GRADES:

9/16"
Frosted Grapes:
Michigan law states that grapes suffering frost injury before harvest, and graded according to the standards for Michigan No. 1 and Michigan No. 2, shall be graded “Michigan No. 1 Frosted” or “Michigan No. 2 Frosted.”

“Unclassified” is not a grade, but a term to show that no grade has been applied to the lot.

GRADE FACTORS

Variety
Both United States and Michigan standards require that packages of graded grapes contain only one variety, although mixed varieties may be packed under U. S. grade standards as explained above.

Maturity
All grade standards for grapes, except Michigan No. 2, require mature fruit. Michigan No. 2 grade does not include green, unripe bunches.

Soundness
Michigan standards require that all grades must be sound fruit.

TOLERANCES

United States Standards
Individual packages in any lot may vary from the specified tolerances, provided the averages for the entire lot are within the specified tolerances.

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

For a tolerance of less than 10 percent, individual packages may contain not over double the specified tolerance.

U. S. Fancy Table:
Not over 10 percent, by weight, may fail to meet requirements; not over 5 percent is allowed for seriously damaged berries. Of this tolerance, not over 1 percent is for berries affected with mold or decay, and 2 percent for dried berries or berry moth. In addition, not over 5 percent, by weight, of the bunches may be straggly, and not over 10 percent, by weight, of the bunches in any container may have over 10 percent of undersize berries.
OTHER GRADER'S MANUALS

Potatoes F-186 Rev.
Apples F-199 Rev.
Peaches F-201 Rev.
Pears F-202 Rev.
Muskmelons F-203 Rev.
Slicing Cucumbers F-204 Rev.
Tomatoes F-205 Rev.


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