



United States  
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Agricultural  
Marketing Service

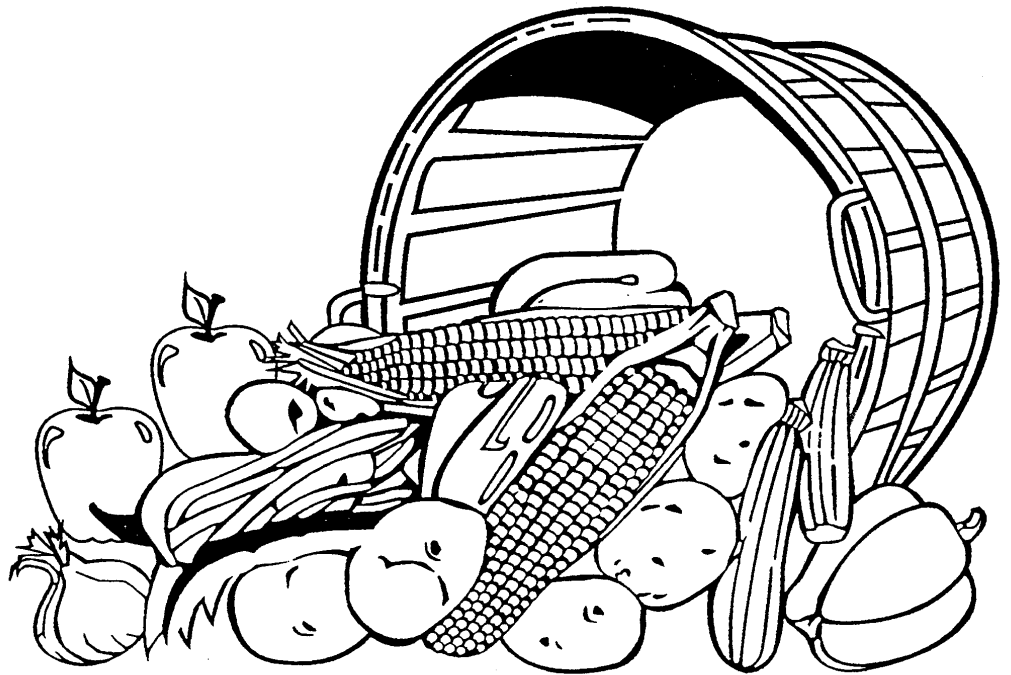
Fruit and Vegetable  
Programs

Fresh Products  
Branch

# Muscadine (*Vitis Rotundifolia*) Grapes

## Shipping Point and Market Inspection Instructions

June 2006



# Shipping Point and Market Inspection Instructions for Muscadine (*Vitis Rotundifolia*) Grapes

These inspection instructions are specifically developed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Muscadine (*Vitis Rotundifolia*) Grapes, Section §51.790.

These instructions do not establish any substantial rule not legally authorized by the official grade standards. This publication supersedes any previously issued inspection instructions.

Refer to the General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. that is not covered in this handbook. Reference to "General Inspection Instructions" in all Fresh Products Branch publications refers to any one or all of the following - General Shipping Point Inspection Instructions, General Market Inspection Instructions, or Fresh Fruit and Vegetable Certificate Writing Handbooks.

Any portion of these instructions beginning with the section number §51. --- And followed by **bold** print are sections or portions of sections copied directly from U.S. standards. The U.S. Standards for Grades of Muscadine (*Vitis Rotundifolia*) Grapes are printed in the appendix of this handbook. All U.S. standards are available on the Internet under the USDA homepage.

**June 2006**

**This publication may be duplicated without authorization from USDA.**

Factors noted with **(Q)** are considered **quality** only. Factors noted with **(C)** are considered **condition** at market. Factors noted with **(Q or C)** may be **quality or condition** depending on the circumstances. Factors not designated do not pertain to either category.

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## **GENERAL**

Muscadine grapes grow primarily in the Southeastern part of the United States. There are many cultivated varieties of muscadine grapes. Perhaps the most well known variety is a bronze muscadine called "Scuppernong." While the Scuppernong name is still remembered, this variety is not sold commercially. There are now more than 20 popular commercial varieties which can be bronze or black in color. Common bronze varieties are Carlos, Magnolia, Tara, Triumph, and Fry. Common black varieties are Nesbitt, Noble, Black Fry, and Supreme.

The fruit ripens in early August through October and hangs from the grapevine in small loose clusters of three to ten berries. Muscadines are harvested and sold as individual berries or multiple berries attached by a capstem.

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## **REPRESENTATIVE SAMPLING**

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

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### **Number of Samples**

As a general rule a minimum of 1% of the lot must be examined. For lots containing less than 300 containers, there shall be a minimum of three samples examined, except when the berries are in consumer packages packed in master containers, the sample rate shall be doubled to a minimum of six consumer units taken from different master containers. For lots containing more than 2000 containers the sampling rate shall be 2/3 of 1%.

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## **NOTESHEETS AND CERTIFICATES**

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information that appears on the certificate must be properly recorded and supported by information on the notesheet. It is the responsibility of the inspector to ensure that all notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Your supervisor may give you additional information and instructions.

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**Product**

The common name "Muscadine Grapes" shall be used to describe this commodity in the product heading. Type may be reported in conjunction with "Muscadine Grapes" or may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

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**Number/Type of Containers**

The number of containers shall always be reported. In the market, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determined the inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product). Muscadine grapes are packed in a variety of containers. Muscadines packed loose or in clusters typically come in 18-20 lb cartons. They are also packed in plastic hinged consumer units in master containers.

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

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**Brands/Markings**

At shipping point, the brand, size, PLI and other important information appearing on the container shall be reported on the notesheet and certificate in the appropriate section.

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

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**Origin**

The inspectors should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the muscadines are grown.

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## TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to precool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature. The location in the lot and/or load must be specified in greater detail when additional temperatures are taken.

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## CONDITION OF PACK

The following terms should be used to describe pack:

**Excessively filled** means the contents exceed the rim of the container by more than 1/2 inch.

**Well filled** means the contents are 1/4 to 1/2 inch above the rim of the container.

**Fairly well filled** means the pack is not ideal, but the containers are at least level full.

**Slightly slack** means the berries are slightly below the rim of the container.

**Slack** means the berries are decidedly below the tops of the containers. Report this in inches or fractions of an inch.

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## Size of Sample

The tolerances in the U.S. Standards for Grades of Muscadine Grapes are determined by count or equivalent basis.

Sample size shall be 50 berries or the entire contents of the container when less than 50 berries are in the container. Double to 100 only if tolerances are exceeded in at least one sample.

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## TOLERANCES AND APPLICATION OF TOLERANCES

**§51.792 Tolerances.** In order to allow for variations incident to proper grading and handling, the following tolerances, by count, or equivalent basis are provided as specified: 5 percent for berries which are seriously damaged by pulled stems. Additionally, 10 percent for berries which fail to meet the requirements for this grade: *Provided*, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 2 percent for berries affected by mold or decay.

**\*\*Note:** Serious Damage by pulled stems is a separate tolerance not included in the total tolerance.

### U.S. Extra No. 1 & U.S. No. 1

Serious damage by pulled stems	5%
Total Defects	10%
<i>Including serious damage</i>	5%
<i>Including mold or decay</i>	2%

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### Application of Tolerances

**§51.793 Application of tolerances.** Individual samples shall have not more than double the tolerances specified, except that at least two defective berries may be permitted in any sample: *Provided*, That the average for the entire lot are within the tolerances specified for the grade.

**\*\*Note:** Serious Damage by pulled stems is a separate tolerance not included in the total tolerance.

### **U.S. Extra No. 1 & U.S. No. 1**

Serious damage by pulled stems	5% x 2 = 10%
Total Defects	10% x 2 = 20%
<i>Including serious damage</i>	5% x 2 = 10%
<i>Including mold or decay</i>	2% x 2 = 4%

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## **SIZE**

Size is not a requirement of the U.S. Standards for Grades of Muscadine Grapes but it may be reported at applicants request by showing a minimum and maximum diameter, including a mostly statement if applicable. When inspecting the U.S. Extra No. 1 grade, standard pack (which has a size requirement) must be met. This only applies to the U.S. Extra No. 1 grade.

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## **STANDARD PACK**

In order to meet the U.S. Extra No. 1 grade, 90% of the containers must meet standard pack. This means 10% of containers/samples may fail standard pack and still meet the requirement for the U.S. Extra No. 1 grade. A sizing ring or caliper may be used to measure the berries.

**§51.794 *Standard pack.* Berries packed as U.S. Extra No. 1 grade shall be fairly uniform in size.**

**(a) “Fairly uniform in size” means that not more than 10 percent, by count of the berries in the sample may vary more than 3/8 inch in diameter.**

**(b) “Diameter” means the greatest dimension of the berry measured at right angles to a line from the stem to blossom end of fruit.**

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## DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only. Quality sometimes referred to as “permanent defects” means defects, which do not change during storage or shipment (shape, scars, etc.).

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. (Condition defects are defects that are subject to change during shipment or storage including but not limited to bruising, discoloration, shriveling and decay).

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

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### Cleanness (Q)

Each grade of muscadine grapes is required to be clean. However, it is not a requirement to be washed. Depending on the type of packing operation, (field or shed) muscadines may or may not be washed during packing.

**§51.801 Clean.** "Clean" means that the berries are practically free from spray residue, or other foreign material, and are not caked with dirt, or showing evidence of lying on the ground.

### Scoring Guide

Muscadine grapes that are materially affected by dirt or other foreign material shall be scored as damage against the total tolerance for the grade and reported as “not clean.”

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### Color (Q)

Each grade of muscadine grapes is required to be well colored.

**§51.795 Color requirements.** (a) “Well colored” means in the case of:

- (1) “Black and red varieties” that 75% of the surface of the berry shows characteristic color for the variety.
- (2) “White varieties.” No requirement, except that Carlos, Fry, or similar varieties must show any amount of blush or bronze color on the berry.

**(b) “Characteristic color” means in the case of:**

**(1) “Black varieties” color includes reddish purple, purple, and black.**

**(2) “Red varieties” color includes light pink, pink, red, dark red, and purple.**

**(3) “White varieties” color includes light green, straw, amber, and bronze. Some amount of blush or pink color may also be characteristic for certain varieties.**

### **Scoring Guide**

Muscadine grapes that are not well colored shall be scored as damage against the total tolerance for the grade and reported as “not well colored.”

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### **Dried Berries (Q)**

This defect is similar to raisining in table grapes. It may be due to extremely hot weather during the growing season, or a delay in removing the crop from the vines. Wrinkling of the skin is to be expected when dried berries are present.

### **Scoring Guide**

Score dried berries as serious damage.

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### **Discoloration (C)**

Discoloration may be caused by many factors including disease or sunburn. It is often difficult to identify the cause therefore; the discoloration shall be described (brown, dark brown, black, etc.). Some white varieties will have an amber or bronze characteristic color. It is important not to confuse discoloration with characteristic color.

### **Scoring Guide**

Score as damage:

- When excessively dark in color and affects an aggregate area of more than 10% of the surface of the berry.
- When light colored, superficial and aggregate more than 15% of the surface of the berry.

Score as serious damage:

- When excessively dark in color and affects an aggregate area of more than 25% of the surface of the berry.
- When light colored, superficial and aggregate more than 50% of the surface of the berry.

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## **Firmness (C)**

Muscadine grapes are required to be “not excessively soft.” Muscadines are usually not as firm as other types of grapes. So some caution should be taken when checking for firmness.

**§51.799 Not excessively soft. “Not excessively soft” means the berry is reasonably firm and does not yield excessively to moderate pressure. A slight softening is required for optimum flavor.**

### **Scoring Guide**

Berries that do not meet this requirement shall be scored as serious damage and reported as “excessively soft.”

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## **Foreign Material (Q)**

Foreign material means that leaves, loose stems, or any loose material other than grapes is present in a sufficient amount to materially affect the general appearance of the grapes in the container. Berries in clusters packed in loose lugs are more typical of this problem.

### **Scoring Guide**

When excessive amounts of leaves, loose stems or other foreign material are present in containers and readily noticeable, the sample will be considered damaged, and scored against a lot tolerance of 20 percent.

For example: If 2 cartons out of 10 samples are considered to have excessive foreign material the lot would be within the 20% lot tolerance. If 3 cartons out of 10 samples are considered to have excessive foreign material the lot would exceed the 20% lot tolerance, therefore, the lot would fail to grade U.S. No. 1, account excessive foreign material.

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## **Insects (Q or C)**

There are many different types of insects such as the grape berry moth and the grape curculio that could affect muscadine grapes. No attempt should be made to determine the type of insect.

### **Scoring Guide**

Score as damage when insects are present, or when the appearance is materially affected by any insect. Score as serious damage when berries have insect larvae (worms) or holes caused by them.

*Live insects shall be reported as condition, if dead report as quality. If both live and dead insects are present, report as condition.*



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## **Maturity (Q)**

Each grade of muscadine grapes is required to be mature. Maturity and good soluble solids are a separate requirement. A lot may pass good soluble solids, and still score individual berries as immature.

**§51.798 *Mature.* "Mature" means that the grapes have reached that stage of maturity in which the flesh is juicy and palatable.**

### **Scoring Guide**

Berries that are not "mature" shall be reported as "immature" and scored as serious damage.

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## **Moldy Berries (C)**

Mold on muscadine grapes may indicate the presence of decay, though it may be in early stages. It is desirable to state whether a heavy or light growth of mold is present.

### **Scoring Guide**

Score any amount of moldy berries as serious damage.

## **Moldy Stems (C)**

Moldy stems and/or capstems should be scored as damage only.

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## **Overripe (C)**

**§51.800 *Overripe.* "Overripe" means that the individual berry is dead ripe, the flesh is soft, mushy and will not spring back to its original shape. Overripe berries are past commercial utility.**

### **Scoring Guide**

Score any amount of overripe berries as serious damage.

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## **Pulled Stems (C)**

Pulled stems are generally caused by stems adhering to the berry and while being picked, cause a tear in the skin.

### **Scoring Guide**

**§51.803 *Serious damage...(h)* Pulled stems when the flesh is excessively torn or which causes the berry to leak. Pulled stems which are dry, superficial or well healed shall not be considered a defect.**

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## **Russeting (Q)**

Any amount of characteristic speck type or smooth net like russeting shall be permitted.

### **Scoring Guide**

Score as damage:

- Rough or thick russeting when the aggregate area exceeds 10 percent of the surface of the berry.
- Fairly smooth, and smooth solid russeting when the aggregate area exceeds 15 percent of the surface of the berry.

Score as serious damage:

- Rough or thick russeting when the aggregate area exceeds 25 percent of the surface of the berry.
- Fairly smooth, and smooth solid russeting when the aggregate area exceeds 50 percent of the surface of the berry.

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## **Scars/Powdery Mildew Scars (Q)**

Scars generally are the result of leaf rubs caused by wind or thrip injury. Powdery Mildew scars appear as a brown russeting on the skin. If this injury occurs when the grapes are very young it may result in misshapen and poorly developed berries or may cause the berry to split.

### **Scoring Guide**

Score as damage:

- When excessively deep or rough or dark colored and aggregate more than 10 percent of the surface of the berry.
- When smooth or fairly smooth, light colored and superficial and aggregate more than 15 percent of the surface of the berry.

Score as serious damage:

- When excessively deep or rough or dark colored and aggregate more than 25 percent of the surface of the berry.
- When smooth or fairly smooth, light colored and superficial and aggregate more than 50 percent of the surface of the berry.

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### **Shriveling (C)**

Wrinkling of the skin, which may be caused by excessive moisture loss during storage or the product, has reached advanced maturity.

#### **Scoring Guide**

Score as damage when materially affecting the appearance of the berry. Score as serious damage when seriously affecting the appearance of the berry.

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### **Similar Varietal Characteristics (Q)**

Each grade requires muscadine grapes to be of similar varietal characteristics.

**§51.797 *Similar varietal characteristics.* "Similar varietal characteristics" means that the berries in any container are similar in color and shape.**

#### **Scoring Guide**

Score as damage when berries fail to meet the requirements of "similar varietal characteristics" and report as "dissimilar varietal characteristics."

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### **Skin Breaks (C)**

Any breaks or slight tears of the skin, which might cause the berry to leak. Berries can get skin breaks when a berry with an attached stem punctures the wall of another berry.

#### **Scoring Guide**

Score as damage when not well healed or when the appearance of the berry is materially affected. Score as serious damage when breaks are not well healed.

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### **Soluble Solids (Q)**

Muscadine grapes must have "good soluble solids" in order to meet the requirements of the grades.

**§51.796 *Good soluble solids.* "Good soluble solids" means the combined juice from the least mature berries, as determined by use of a standard hand refractometer shall be at least 13 percent.**

**No lot shall be considered as failing to meet these requirements unless the composite juice sample from grapes of two containers or two consumer units, which appear to have the least mature grapes, test below 13 percent soluble solids.**

**The minimum percentage for soluble solids for any lot shall be determined from the containers with the least mature berries.**

**(a) For grapes packed in consumer units, the minimum percentage of soluble solids shall be determined from the juice of all the berries in the consumer unit.**

**(b) For all other containers, the minimum percentage of soluble solids shall be determined from the juice of at least 10 percent, by weight of the berries of the least mature grapes in that container.**

### **Determining Soluble Solids By Refractometer**

#### **Equipment needed:**

1. Hand refractometer.
2. Something to squeeze juice out of berries.
3. Cup or small bowl to receive juice (a one cup size plastic measuring cup will do).
4. Spoon.
5. Distilled water and cheesecloth for cleaning and drying refractometer and utensils.

It is important that the refractometer be properly adjusted before starting the test. Otherwise it will be impossible to make an accurate determination of the sugar content. It will be found most convenient to adjust the instrument to read zero with distilled water at the temperature at which the test will be made. As the temperature changes during the day it will be necessary to readjust the instrument. The refractometer must be clean or the accuracy of the reading will be affected. The distilled water can be used for this purpose. Tap water should not be used because it frequently contains enough minerals in solution to materially affect the reading.

#### **Sampling:**

It will usually be most convenient to take the samples for the soluble solids test from containers that are opened for grade determination. Care should be taken to draw samples as nearly as possible from all portions of the lot. Decide in advance, before selecting the sample container. By doing this there is little likelihood of being influenced by external factors.

The minimum percentage of soluble solids shall be determined from the juice of at least 10 percent, by weight of the berries of the least mature grapes in that container. When inspecting consumer units, soluble solids shall be determined from the juice of all the berries in the consumer unit.

## **The Test:**

Once samples for soluble solids are obtained:

- Squeeze the juice from the berries into the cup or small bowl.
- With the spoon, stir the juice well and dip a small quantity of juice onto the refractometer prism and make the reading.
- As a precaution wipe the instrument dry and take a second reading to guard against the possibility of error in reading.
- The reading obtained should be entered in the notes.

All instruments must be thoroughly cleaned after each use, as juice allowed to remain and dry on the instruments will materially affect the accuracy of the next test. Care should be taken with the refractometer not to scratch the surface of the prism or the hinged plate.

## **Additional Tests**

The inspector may consider the test incorrect for some reason, or the applicant may be dissatisfied with the percentage of soluble solids found and request another test. In either case it will be satisfactory to draw an additional random sample of the same number of grapes as originally sampled and make another refractometer test in the manner outlined. The results of the first and second tests shall be averaged to obtain the percentage used in determining compliance with the internal quality requirement. Additional complete tests may be made if requested. However, in all cases the readings for the various tests shall be averaged.

It is not necessary to report the percentage of soluble solids on the certificate unless the applicant specifically requests it. It is sufficient to report "good soluble solids" if the soluble solids is 13% or higher.

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## **Split or Crushed Berries (C)**

Rough handling during picking, packing, or transit may cause split or crushed berries. Berries that are flattened but the skin is not broken, due to a well-filled pack shall not be scored.

## **Scoring Guide**

Score as serious damage any visible splits or crushed berries.

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**Spotted Berries (C)**

These are reddish brown to black spots that contrast from the natural color of the berry and affect the surface of the berry.

**Scoring Guide**

Score as serious damage when the individual spot is greater than 1/8 inch in diameter, or when more than one spot is present.

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**Wet Berries (C)**

Wet berries are caused by juice from crushed, split, leaking, and/or decayed berries.

**Scoring Guide**

Score as damage when the individual berry is excessively wet.

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**Decayed Berries (C)**

Each grade of muscadine grapes is required to be free from decay. The type of decay is not to be reported on the certificate. However, when the decay is in excess of the tolerance for the grade, report the degree of advancement as early, moderate, or advanced stages using general quantity terms.

**Scoring Guide**

Score any amount as serious damage against the 2% restricted mold and decay tolerance.

**Decayed Stems (C)**

Decay affecting the stems and/or capstems shall be scored as damage only.

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## APPENDIX I U.S. GRADE STANDARDS

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### United States Standards for Grades of Muscadine (*Vitis rotundifolia*) Grapes <sup>1</sup>

Effective February 13, 2006

#### Grades

51.790 U.S. Extra No. 1.

51.791 U.S. No. 1.

#### Tolerances

51.792 Tolerances.

#### Application of Tolerances

51.793 Application of tolerances.

#### Standard Pack

51.794 Standard pack.

#### Color Requirements

51.795 Color requirements.

#### Definitions

51.796 Good soluble solids.

51.797 Similar varietal characteristics.

51.798 Mature.

51.799 Not excessively soft.

51.800 Overripe.

51.801 Clean.

51.802 Damage.

51.803 Serious damage.

#### Grades

##### §51.790 U.S. Extra No. 1.

Any lot of grapes may be designated as "U.S. Extra No. 1" when the grapes meet the requirements of U.S. No.1: **Provided**, That in addition to these requirements, 90 percent by count of the containers in the lot meet the requirements of Standard pack.

##### §51.791 U.S. No. 1.

"U.S. No. 1 consists of individual grapes or multiple grapes attached by a capstem, which meet good soluble solids and the following requirements:

(a) Basic requirements for berries:

(1) Similar varietal characteristics (except when designated as assorted varieties);

(2) Mature;

(3) Well colored;

(4) Clean;

(5) Not excessively soft;

(6) Not dried;

(7) Not excessively wet from juice;

(8) Not crushed, split or leaking; and,

(b) Free from:

(1) Decay;

(2) Mold;

(3) Insect larvae or holes caused by them;

(4) Overripe;

(5) Free from damage by any other cause. (See §51.802.)

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<sup>1</sup>Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

- (c) Stems free from:
- (1) Mold;
- (2) Decay;
- (d) For tolerances see §51.792.

#### **Tolerances**

##### **§51.792 Tolerances.**

In order to allow for variations incident to proper grading and handling, the following tolerances, by count, or equivalent basis are provided as specified: 5 percent tolerance for berries which are seriously damaged by pulled stems. Additionally, 10 percent for berries which fail to meet the requirements for this grade: **Provided**, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 2 percent for berries affected by mold or decay.

#### **Application of Tolerances**

##### **§51.793 Application of tolerances.**

Individual samples shall have not more than double the tolerances specified, except that at least two defective berries may be permitted in any sample: **Provided**, That the average for the entire lot are within the tolerances specified for the grade.

#### **Standard Pack**

##### **§51.794 Standard pack.**

Berries packed as U.S. Extra No. 1 grade shall be fairly uniform in size.

- (a) "Fairly uniform in size" means that not more than 10 percent, by count of the berries in the sample may vary more than 3/8 inch in diameter.
- (b) "Diameter" means the greatest dimension of the berry measured at right angles to a line from the stem to blossom end of fruit.

#### **Color Requirements**

##### **§51.795 Color requirements.**

- (a) "Well colored" means in the case of:
  - (1) "Black and red varieties" that 75% of the surface of the berry shows characteristic color for the variety.
  - (2) "White varieties." No requirement, except that Carlos, Fry, or similar varieties must show any amount of blush or bronze color on the berry.
- (b) "Characteristic color" means in the case of:
  - (1) "Black varieties" colors include reddish purple, purple, and black.
  - (2) "Red varieties" colors include light pink, pink, red, dark red, and purple.
  - (3) "White varieties" colors include light green, straw, amber, and bronze. Some amount of blush or pink color may also be characteristic for certain varieties.

#### **Definitions**

##### **§51.796 Good soluble solids.**

"Good soluble solids" means the combined juice from the least mature berries, as determined by use of a standard hand refractometer shall be at least 13 percent. No lot shall be considered as failing to meet these requirements unless the composite juice sample from grapes of two containers or two consumer units, which appear to have the least mature grapes, test below 13 percent soluble solids. The minimum percentage for soluble solids for any lot shall be determined from the containers with the least mature berries.

(a) For grapes packed in consumer units, the minimum percentage of soluble solids shall be determined from the juice of all the berries in the consumer unit.

(b) For all other containers, the minimum percentage of soluble solids shall be determined from the juice of at least 10 percent, by weight of the berries of the least mature grapes in that container.

##### **§51.797 Similar varietal characteristics.**

"Similar varietal characteristics" means that the berries in any container are similar in color and shape.

##### **§51.798 Mature.**

"Mature" means that the grapes have reached that stage of maturity in which the flesh is juicy and palatable.

##### **§51.799 Not excessively soft.**

"Not excessively soft" means the berry is reasonably firm and does not yield excessively to moderate pressure. A slight softening is required for optimum flavor.

##### **§51.800 Overripe.**



"Overripe" means that the individual berry is dead ripe, the flesh is soft, mushy and will not spring back to its original shape. Overripe berries are past commercial utility.

**§51.801 Clean.**

"Clean" means that the berries are practically free from spray residue, or other foreign material, and are not caked with dirt, or showing evidence of lying on the ground.

**§51.802 Damage.**

"Damage" means any specific defect described in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the fruit. The following specific defects shall be considered as damage:

(a) Discoloration, Scars and Powdery Mildew scarring, when excessively deep or rough or dark colored and aggregate more than 10 percent of the surface of the berry, or when smooth or fairly smooth, light colored and superficial and aggregate more than 15 percent of the surface of the berry.

(b) Foreign material, when excessive amounts of leaves, loose stems or other foreign material is loose in containers and readily noticeable, the sample will be considered damaged, and scored against a lot tolerance of 20 percent.

(c) Any amount of characteristic speck type or smooth net-like russetting shall be permitted. Russetting which exceeds the following shall be considered as damage:

(1) Rough or thick russetting when the aggregate area exceeds 10 percent of the surface of the berry;

(2) Fairly smooth, and smooth solid russetting when the aggregate area exceeds 15 percent of the surface of the berry.

(d) Insects when present, or when the appearance is materially affected by any insect.

(e) Skin breaks exclusive of pulled stems, when not well healed or when the appearance of the berry is materially affected.

(f) Excessively wet berries when the individual berry is excessively wet from juice from crushed, leaking or decayed berries.

(g) Decayed stems.

**§51.803 Serious damage.**

"Serious damage" means any specific defect described in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which seriously detracts from the appearance or the edible or marketing quality of the fruit. The following specific defects shall be considered as serious damage:

(a) Decayed berries.

(b) Moldy berries.

(c) Overripe berries.

(d) Insect larvae or holes caused by them.

(e) Russetting which exceeds the following shall be considered as serious damage:

(1) Rough or thick russetting when the aggregate area exceeds 25 percent of the surface of the berry;

(2) Fairly smooth, smooth solid and when the aggregate area exceeds 50 percent of the surface of the berry.

(f) Discoloration, Scars or Powdery Mildew scars when excessively deep or rough or dark colored and aggregate more than 25 percent of the surface of the berry, or when smooth or fairly smooth, light colored and superficial and aggregate more than 50 percent of the surface of the berry.

(g) Skin breaks exclusive of pulled stems which are not well healed.

(h) Pulled stems when the flesh is excessively torn or which causes the berry to leak. Pulled stems which are dry, superficial or well healed shall not be considered a defect.

(i) Spotted berries when spots are reddish brown to black in color. Score when individual spot is greater than 1/8 inch in diameter, or when more than one spot is present.

# APPENDIX II NOTESHEET AND CERTIFICATE EXAMPLES

## Notesheet Example

R. ENGINEER'S ACTION: _____ FV-300 CERTIFICATE NUMBER: _____ S. LISTINGS: _____ C. CORRECTIONS: _____		CONTAINERS: _____ N U D D Y Y HOUR MIN. AM AP REG. NO. 04 24 06 06 00 14 AM COM. 04 24 06 09 15 14 AM	
APPLICANT NUMBER: 211015555 QUALITY FULL: _____ ON-SITE: _____ CONO HALFS: 1 O.T. (hr): _____ O.H. (hr): _____ TRAVEL MILES: _____ O.T. (hr): _____ OTHER: _____		A: NUMBER: 6 SIZE: VAR UNIT: C GRADE: MNL ACCOUNT: _____ B: NUMBER: _____ SIZE: _____ UNIT: _____ GRADE: _____ ACCOUNT: _____ C: NUMBER: _____ SIZE: _____ UNIT: _____ GRADE: _____ ACCOUNT: _____ D: NUMBER: _____ SIZE: _____ UNIT: _____ GRADE: _____ ACCOUNT: _____	
CARRIER or LOT IDENTIFICATION: LOT 45.6 PREFIX: _____ NUMBER: _____ STATE: _____ Carrier No. Stated by: applicant Additional Lot ID.: _____ Carrier Type / Name: _____ Refrigeration Unit: <input type="checkbox"/> ON <input type="checkbox"/> OFF Doors: <input type="checkbox"/> OPEN <input type="checkbox"/> _____ Condition of Carrier: _____		INSPECTION NOTESHEET U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FRUIT & VEGETABLE DIVISION CERTIFICATE NUMBER: EXAMPLE # 1 INSPECTION STARTED: 04 24 06 08 : 30 A M Inspection Completed: 04 24 06 09 : 15 A M APPLICANT: ABC Produce Address: New York, NY SHIPPER: Grape Lovers, Inc. Address: Grapeland, NC	
Inspection Site: applicant warehouse A: PRODUCT: Muscadine Grapes NUMBER of CONTAINERS: 325 INSP. COUNT: Y TEMPERATURES: 36 - 38 ° F		BRANDS / MARKS: "Good Eatin'" Grape Lovers Inc. - Grapeland, NC produce of USA 4/2LB hinged containers	
B: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____			
C: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____			
D: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____			
Condition of Load & Containers: <input checked="" type="checkbox"/> STACKED ON PALLETS AT ABOVE LOCATION ( ) INTACT THROUGH LOAD ( ) PARTLY UNLOADED			

FORM FV-300-N (3-93)

# Scoresheet Example

1      2      3      4      5      6      7

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
PACK: W/F SIZE: /	PACK: / SIZE: /	PACK: / SIZE: /	PACK: / SIZE: /

SCORESHEET				DK	(scars)		Brown Discoloration (surface)		moldy stems	Soluble Solids
PLI Number	Other I.D.	TEMP.	Sample CT		Quality	SD	SD	SD		
NONE		37	50	0	21	0	0	0	12	14
NONE		38	93	0	6	2	1	0	0	14
NONE		36	50	0	0	0	3	12	0	
NONE		37	50	0	4	2	21	12	0	
NONE			50	0	0	0	4	2	0	
NONE			50	0	0	0	0	0	12	
			6	X	2	0	2	1	1	
<p>Meets US No 1      Berries are excessively not soft</p> <p>good soluble solids</p>										

REMARKS / RESTRICTIONS / SPI

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CARLOT Basis : _____	REPORTED TO: Doug	INSPECTED BY: John Day, 000
HOURLY Basis : _____	DATE: 4/24/06	TIME: 9:30 AM
TRAVEL Time : _____	REQUESTED BY: Doug	ASSISTED BY: _____
EXPENSES : _____	DATE: 4/24/06	TIME: 6:00 AM
EST. TOTAL : _____		



Notesheet Example

CONTAINERS: _____ M M D D Y Y HOUR MIN. AP 10 4 25 06 10 00 AM REG: 104251061045 AM COM: 104251061045 AM		FV-300 CERTIFICATE NUMBER: _____ S. COUNTRY: _____ C. OBJECTS: _____	
A: NUMBER SIZE UNIT 1 6 VAR C GRADE ACCOUNT INEX		DEFECT CODES SCKR DIS PUS DEK SUM	
B: NUMBER SIZE UNIT _____ GRADE ACCOUNT		C: NUMBER SIZE UNIT _____ GRADE ACCOUNT	
D: NUMBER SIZE UNIT _____ GRADE ACCOUNT		APPLICANT NUMBER: 21101555-5	
QUARTY FULL: _____ CONO HALF: _____ CONO FULL: _____ LOT SPOG: _____ INSP BY: 000 ASSET BY: _____		ONSITE HOURS: _____ O.T. (hrs): _____ TRAVEL MILES: _____ O.T. (hrs): _____ OFFER: _____	
CARRIER or LOT IDENTIFICATION: LOT 123 PREFIX NUMBER STATE Carrier No. Stated by: applicant Additional Lot ID.: _____ Carrier Type / Name: _____ Refrigeration Unit: <input type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> OPEN <input type="checkbox"/> Condition of Carrier: _____ Inspection Site: applicant's warehouse		LOADING: Loaded - LC Pity Unloaded - PU Unloaded - UL Lot Inspn. - LI 4L	
INSPECTION NOTESHEET U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FRUIT & VEGETABLE DIVISION CERTIFICATE NUMBER: EXAMPLE # 2 INSPECTION STARTED: m m d d y y Hour Min. A/P 04 25 06 10:00 AM Inspection Completed: m m d d y y Hour Min. A/P 04 25 06 10:45 AM		APPLICANT: ABC Produce Address: New York, NY SHIPPER: Grape Lovers, Inc. Address: Grapeland, NC	
A: PRODUCT: Muscadine Grapes NUMBER of CONTAINERS: 300 Containers INSP. COUNT: Y TEMPERATURES: 37 - 38 F		BRANDS / MARKS: "Good Eatin'" Grape Lovers, Inc. - Grapeland, NC produce of USA 4/2LB. hinged containers	
B: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____		C: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____	
D: PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____		Condition of Load & Containers: <input checked="" type="checkbox"/> STACKED ON PALLETS AT ABOVE LOCATION <input type="checkbox"/> INTACT THROUGH LOAD <input type="checkbox"/> PARTLY UNLOADED	

FORM FV-300-N (3-93)


# Scoresheet Example

1 2 3 4 5 6 7

A		B		C		D			
PACK: w/f		PACK: /		PACK: /		PACK: /			
SIZE: 1-1 1/2" mostly 1-1 1/4"		SIZE: /		SIZE: /		SIZE: /			
SCORESHEET				(res)	(scars) Quality	Brown surface Discoloration	Pull stems	# of berries vary more than 3/8"	standard pack size
PLI Number	Other I.D.	TEMP.	Sample CT	DK	SD	SD	SD	SD	SD
NONE		37	50	0	2 <sup>1</sup> 0	0 0	0	0	0
NONE		37	61	1 <sup>2</sup>	5 <sup>3</sup> 1 <sup>2</sup>	1 <sup>3</sup> 2 <sup>3</sup>	0	2 <sup>3</sup>	2 <sup>3</sup>
NONE		38	50	0	0 0	6 <sup>3</sup> 0	2 <sup>4</sup>	0	1-1 1/4"
NONE		37	50	0	0 0	0 0	0	0	1-1 1/4"
NONE			50	0	4 <sup>2</sup> 0	8 <sup>4</sup> 2 <sup>4</sup>	0	0	1-1 1/4"
NONE			68	0	0 0	10 <sup>7</sup> 3 <sup>4</sup>	2 <sup>3</sup>	1	1-1 1/2"
			6	1/2	2 0	6 2	1		
						(0-13)			
<p>Meets US Extra No. 1.</p> <p>Berries not excessively soft.</p> <p>Berries were clean.</p>									
REMARKS / RESTRICTIONS / SPI									
<p>Inspection based on US Extra No. 1 grade at applicant request.</p>									
CARLOT Basis: _____	REPORTED TO: Doug			INSPECTED BY: John Day, 000					
HOURLY Basis: _____	DATE: 4/25/06			TIME: 11:00AM					
TRAVEL Time: _____	REQUESTED BY: Doug			ASSISTED BY: _____					
EXPENSES: _____	DATE: 4/25/06			TIME: 6:00AM					
EST. TOTAL: _____									

U.S. Government Printing Office: 1993 — 339-136

# Certificate Example



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

## INSPECTION CERTIFICATE

### K - EXAMPLE #2

Inspection Unit:  On  Off

Refrigeration Unit:  Open  Closed

Carrier / Lot ID Stated by: \_\_\_\_\_

Carrier Type / Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

Address: \_\_\_\_\_

Shipper: \_\_\_\_\_

Address: \_\_\_\_\_

Insp. Site: \_\_\_\_\_

Lot ID: \_\_\_\_\_

Number of Containers: \_\_\_\_\_

Insp. count: \_\_\_\_\_

Origin: \_\_\_\_\_

Brand / Markings: \_\_\_\_\_

Product: \_\_\_\_\_

Applicant's warehouse

"Good Eatin' " produce of USA

Muscadine Grapes

Lot: \_\_\_\_\_

Temperature: \_\_\_\_\_

Average Defects: \_\_\_\_\_

Quality Defects (scars) \_\_\_\_\_

Brown Surface Discoloration (0-13%) \_\_\_\_\_

Pulled Stems \_\_\_\_\_

Decay (early stages) \_\_\_\_\_

Checksum \_\_\_\_\_

OFFSIZE / DEFECTS

OTHER

GRADE: Meets US Extra No1.

REMARKS: Inspection based on the US Extra No1 grade at applicant's request.

WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, or participate in any such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both.

Inspector's Signature: *John Day, 000*

Market Office: Market, USA

ESTIMATED TOTAL \$