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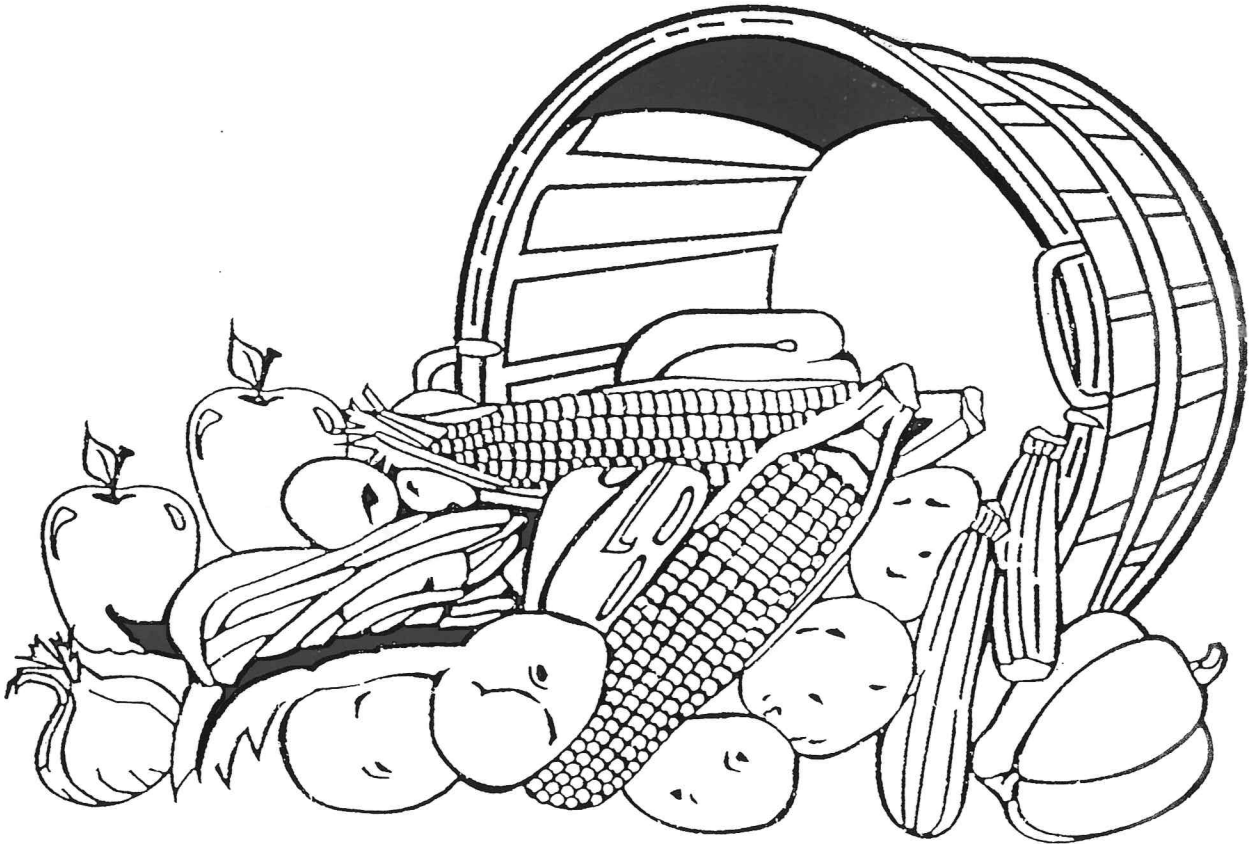
Agricultural  
Marketing  
Service

Fruit and  
Vegetable  
Division

Fresh Products  
Branch

# Watermelons

## Shipping Point and Market Inspection Instructions





# Shipping Point and Market Inspection Instructions for Watermelons

These inspection instructions are specifically developed and designed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Watermelons, Section 51.1970.

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

Any portion of these instructions beginning with a section number such as §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 Watermelons are printed in Appendix I of these instructions. All U.S. standards are administered and maintained by the Agricultural Marketing Service (AMS) and are available on the Internet under the USDA, AMS homepage ([www.ams.usda.gov](http://www.ams.usda.gov)).

Refer to General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. not covered in these instructions. (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.)

**June 1998**

*This replaces Market Inspection Instructions for Watermelons, dated January 1978, and Shipping Point Inspection Instructions for Watermelons, dated March 1978.*

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

Defects noted with **(C)** are considered **condition** factors at market. Defects noted with **(Q or C)** may be considered as **quality** or **condition** depending on the circumstances. Factors with no notation are considered **quality** only.

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**Appendix I - U.S. Standards for Grades of Watermelons**

**Appendix II - Certificate and Notesheet Examples**

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## (1) General

Watermelons grown and marketed today come in a variety of shapes and sizes with different flesh and rind characteristics. Domestically grown melons are heavily shipped from April to September and melons from Mexico and Caribbean countries are imported primarily in the winter months. The heaviest inspection volume on watermelons is still during the late Spring and Summer months, but availability in the marketing chain is practically year-round.

All watermelon types, including seedless, may be certified as to grade. Red-flesh types must also meet flesh color maturity requirements. Please refer to the Maturity section for specific details.

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## (2) Sampling

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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.

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### Samples for Grade Determination

Tolerances in the watermelon standards are determined on the basis of **20 count** samples. A minimum of five-20 count samples must be examined when inspecting a full load of watermelons. When inspecting a bulk load, these five samples must be obtained by digging separate holes and removing 20 contiguous melons from each hole. Melons of at least three samples must be obtained below the upper three layers of the load.

Every effort should be made to perform **unrestricted** inspections on bulk loads. In order for bulk load sampling to be considered unrestricted, at least two sample holes must extend to the floor. If this is not possible, a restricted certificate must be issued provided, at least the upper four layers of the load are accessible and sampled.

Individual cartons typically contain less than 20 melons. In this case, a sufficient number of adjoining cartons must be opened to obtain the 20 count sample. When sampling melons from bulk bins, 20 melons are to be taken from both the upper and lower layers of the bin to ensure adequate representation of all parts of the bin.

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### **Small Lots (*Market only*)**

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If the entire lot consists of less than 40 melons, it will not be possible to apply the application of tolerance tables as specified in the standard. All melons in the lot will be the sample, with percentages based on the total number of melons. There will be no averages or range of defects shown on the certificate. In the "Offsize/Defects" section of the FV-300, list the defects (scars, bruising, decay, etc.) with the corresponding percentages in the "average defects" columns. However, cross out the word "average" leaving only the word "defects", since there will be no averages.

No grade statement can be made since sampling cannot be done according to the standard. Therefore, the following phrase should be entered in the "Grade" section of the certificate: **"Lot contains an insufficient number of melons to determine grade."**

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### **Sampling for Internal Defects**

During examination for external defects, inspectors should note any indications of internal defects; a dull, flat sound when slapped, lack of normal circumference, flat sides, and bumpy or ridged appearance of the rind, etc. Watermelons that exhibit these or other external indications of internal defects should be carefully examined and cut for internal defects. Cut the most suspicious melons. If no internal defects are found, no more melons in this sample should be cut. If internal defects are found, continue cutting until no more defects are found. Repeat this procedure for each sample taken.

The number of melons cut for internal defects is discretionary and based on factors such as type of melon, growing conditions, time of year and external characteristics of possible internal problems. Caution should be exercised to avoid unnecessary cutting and destruction of melons. Inspectors are required to cut as many melons as necessary in order to truly determine the internal quality. Defect percentages **MUST** be based on the total melons in each sample (20) and not the number of melons cut.

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### **Cutting For Internal Defects**

When cutting for maturity and Whiteheart, **ALWAYS** make a crosswise cut at the center of the melon. When cutting for hollow heart, lengthwise and crosswise cuts may be performed depending on the orientation of the crack (the crosswise cut should generally be performed first). Multiple cuts on the melon may also be necessary to determine the greatest width of the hollow heart crack. Lengthwise or crosswise cutting is also permissible for Internal Rind Spot.



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### Determining Seed Count *OPTIONAL*

Occasionally, an applicant may request seed count on a lot of "seedless" watermelons. Rarely, if ever, will a variety of this type be totally seedless. The inspection service, upon request, can certify seed count and report in general terms.

\*\*\*\*

Randomly select 10 melons and cut each in four equal sections (one lengthwise and one crosswise cut). Count the exposed seeds on the faces of each "quarter." Keep a separate accounting of dark brown to black seeds versus white to light brown seeds. Report seed count in the following manner in the "OTHER" section of the FV-300 or in the "REMARKS" section of the FV-184:

Example: Faces of cut quarters generally have 15 to 22 seeds per melon, few with no seeds, with 3 to 10 seeds brown to black, remainder white to light brown, reported at applicant's request.

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### (3) Summary of Tolerances

The tolerances and application of tolerances in the U.S. Standards for Grades of Watermelons are applied on a **COUNT** basis.

Due to the lack of use of the U.S. Fancy grade, those tolerances are not listed below. Please refer to the standards in the back of this handbook for a complete listing of tolerances for the U.S. Fancy grade.

#### SUMMARY OF TOLERANCES

<i>Shipping Point</i>	No.1	No.2
A. Total Defects	10	10
1. Serious damage (included in A)	5	--
2. Anthracnose (included in 1)	3	6
3. Decay (included in 1)	1	1

## SUMMARY OF TOLERANCES CONTINUED

<i><b>En Route / Destination</b></i>	<b>No.1</b>	<b>No.2</b>
	(percent)	
A. Total Defects	12	12
1. Permanent Defects (included in A)	10	12
2. Condition Defects (included in A)	10	12
(a) Serious damage by permanent defects (included in 1)	5	12
(b) Serious damage by condition defects (included in 2)	5	12
(c) Decay (included in (b))	2	2

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### **(4) Application of Tolerances**

The sample tolerances for defects in the watermelon standards are based on **Table I** which specifies the maximum number of defective melons permitted for each tolerance, based on a 20 count sample.

If defects in a lot are within the average tolerances of the grade, and defects in any individual sample do not exceed the number of watermelons specified in **Table I** for each tolerance, the lot will meet the requirements for the grade being applied.

## §51.1974 Application of Tolerances

**TABLE I**

Maximum number of defective watermelons permitted in any sample

Lot tolerance (percent)	Total number of melons per 20 count sample
12-----	5
10-----	4
8-----	3
6-----	3
5-----	2
4-----	2
3-----	2
2-----	1
1-----	1

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### **(5) NOTESHEET AND CERTIFICATE**

Entries on the notesheet and certificate are to be kept in a legible and accurate manner. Notations shall be recorded so anyone familiar with inspection procedures can interpret and write a certificate. When the inspection is complete, it is the responsibility of the inspector to ensure all information is properly recorded.

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#### **Headings on Notesheets**

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

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#### **Handwritten Certificates**

The handwritten certificate, (FV-184 at shipping point and FV-300 at market) should be written with great care since they are given to the applicant at the completion of the inspection.

Please refer to the FV-184 or FV-300 certificate handbooks and your immediate supervisor for complete instructions regarding the procedures to follow when writing certificates.



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## Product

“**WATERMELONS**” shall be used to describe this commodity in the “PRODUCT” section on notesheets and certificates. **Do not** note the type or variety in the “PRODUCT” section on either certificate. Inspectors may describe the type of watermelons in the “OTHER” section on the FV-300 or under “REMARKS” on the FV-184; such as: “yellow-flesh type”; “striped type”, “round green type”, long gray type,” etc.

Mixing varieties within the same lot is not permitted and should be scored as dissimilar varieties. If an **obvious** segregation is apparent between them, do not score. When this is the case, the lot or load would contain more than one lot.

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## Number/Type of Containers

The number of containers, or melons/weight (when in bulk), shall always be reported. The count of large lots certified in a warehouse or on a platform may be reported on the notesheet in the “Brands/Markings” section. Count of large lots located in a warehouse or on a platform may be reported on the authority of someone other than the inspector. However, the inspector is responsible for assuring that the approximate number of containers reported in the lot are present. Small lots (100 containers or less) that can be counted with accuracy are to be reported on the inspector’s authority as “inspector’s count.”

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## Brands/Markings

The brand, variety, size, count, point of origin and other important information appearing on the container should be reported on the notesheet in the “Brands/Marking” section. Only the brand name and other pertinent information should appear in the section of the certificate. Watermelons can be shipped several different ways; bulk trucks and trailers, bins, and cartons. If loaded in a bulk truck or trailer, “No Brands” shall be noted.

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## Origin

The inspector should not make a positive statement concerning product origin on their own authority. When container markings contain this information, it should be quoted in the appropriate space on notesheets and certificates. 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 knowing what State or country the watermelons are grown. If packages are not marked or the melons are in bulk, refer to the General Inspection Instructions for more information.

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## (6) Condition of Pack

When watermelons are shipped in bulk, a “pack” description does not apply.

Watermelons packed in cartons generally have dividers between the melons. Pack tightness shall be judged by the amount of area taken up by the melons between the dividers. If there is no movement, the pack would be considered “Tight.” If there is slight movement within the carton, the pack is “Fairly Tight.”

When watermelons are shipped in cartons or bins, the following terms shall be used to describe pack:

**Very tight:** The pack is so tight that there is an abnormal bulge, chafing or rubbing in the packaging.

**Level full:** Melons are level with the top edge of the bin.

**Tight or well filled:** The pack is sufficiently filled to prevent movement of the melons.

**Fairly tight or fairly well filled:** Not quite so firmly packed as “Tight” or “Well Filled” but allowing slight movement of the melons in the container when filled to within ½ inch of the top.

**Slack:** The pack is very loose. Always report the amount of slackness in inches or fractions of inches when using the term “Slack.”

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## Count Per Carton

Watermelons packed in cartons may be marked as to count. Report conformity or non-conformity to marked count under the “OTHER” section of the FV-300 and the “DESCRIPTION of PRODUCT” section of the FV-184.

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## (7) Temperature of Product

Inspectors do not normally determine or report temperatures at shipping point. However, due to the importance of pulp temperatures of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately report the temperature and range in temperatures on each lot. Pulp temperatures shall be recorded on all lots regardless of location, whether in a warehouse, conveyance, or stacked on the platform.

Please refer to the General Inspection Instructions for additional information on temperature procedures.

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## (9) Size

If the applicant does not request size certification, it need not be determined and the statement “**Not determined**” will suffice in this section on the notesheet. Size certification is not a requirement of the watermelon grades.

Size is determined by weighing 50 melons and is separate from the 20 melon sample used to determine quality and condition. If a lot contains less than 50 melons, size may still be determined by weighing all available melons.

Generally, the weight range, average weight and an undersize statement is reported on the certificate. If the weight range exceeds 10 pounds, a mostly statement must also be given. The weight of individual melons is recorded in  $\frac{1}{4}$  pound increments. The average weight for the lot is recorded in exact averages, such as 25.70 pounds, 32.15 pounds, etc.

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### Uniformity of Size In Cartons

When melons are packed in cartons, uniformity of size can be an important factor. Watermelons will be considered “Uniform” in size if there is no more than a three pound variation between the largest and smallest melon in the carton. Watermelons are “Fairly Uniform” if there is no more than a four pound variation between the largest and smallest melons. Cartons containing melons with more than a four pound variation shall be reported as “Irregular.”

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### Size Tolerances

The watermelon standards provide a separate tolerance for both undersize and oversize melons. Not more than 5% may be below the minimum size requirements. When minimum and maximum sizes are specified, not more than 5% may be below a specified minimum size and not more than 5% may be above a specified maximum size (for a total of 10% *offsize*). These tolerances are based on the total number of melons weighed for size and not the 20 melon sample examined for defects.

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### Range in Weight

Melon lots shall be considered “well-sized” when the size range does not exceed 8 to 12 pounds and not vary more than three to five pounds above or below the average weight. If the weight range varies more than those listed above, inspectors shall record the range and give a mostly statement. **Example:** *Size ranges from 26 to 40 pounds, mostly 28 to 36 pounds, average 32 pounds with 5% under 27 pounds.*

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### Variation In Weight

According to the watermelon standard, when size is stated as average weight, unless otherwise specified, melons averaging less than 30 pounds shall not vary more



than three pounds below the stated average, and melons averaging 30 pounds or more shall not vary more than five pounds below the stated average. Please consult **Table II** in the standards under **SIZE § 51.1976** for specific examples.

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### **Computing Average Weight**

Computing the average weight on a lot of watermelons is easiest when the range of weights is recorded horizontally on a separate sheet of paper, beginning approximately eight pounds below the expected average and continuing to approximately eight pounds above (refer to the **Weight and Tally Sheet Example** on page 9). As the melons are weighed, record the weight to the nearest  $\frac{1}{4}$  pound in the appropriate column. When all melons have been weighed, add each vertical column of figures. Add these figures and divide by the number of melons weighed. This gives the average weight of the melons. The tally sheet must be attached with all other inspection notes.

**WEIGHT AND TALLY SHEET**  
(EXAMPLE - AVERAGE WEIGHT)

WEIGHT	16	17	18	19	20	21	22	23	24	25	26	27	28	MELONS
			18.75	19.25	20.25	21.00	22.25	23.00	24.00	25.25	26.50			9
			19.75	19.75	20.00	21.50	22.75	23.75	24.00	25.75				7
				20.00	20.00	21.75	22.50	23.50	24.00					5
				20.50	20.50	21.25	22.00	23.25	24.25					5
				20.75	20.75	21.25	22.25	23.50	24.75					5
				20.00	20.00	21.00	22.50	23.25	24.50					5
					21.00	21.00	22.00	23.75	24.25					4
					21.50	21.50	22.25	23.25	24.25					4
							22.50	23.00						2
							22.25	23.75						2
							22.50	23.50						2
<b>TOTAL</b>	18.75	39.00	121.50	170.25	245.75	257.50	194.00	51.00	26.50					50
	<b>Total Weight - 1124.25      Average - 22.48 pounds</b>													

**The size and grade statements for the above lot reads as follows:**

**SIZE:** Generally 19.25 to 25.75 pounds, mostly 20 to 24.75 pounds, average 22.48 pounds with 4% under 19.48 pounds.

**GRADE:** U.S. No. 1, 22.48 pounds average.

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## (10) Quality and Condition

Statements pertaining to maturity, firmness, amount and type of defects, and decay are shown in the appropriate sections. Factors noted with the letter (C) shall be reported as **CONDITION** on market certificates. Factors noted with the letters (Q or C) may be considered as **QUALITY** or **CONDITION**, depending on the circumstances. Factors noted with the letter (Q) are considered as **QUALITY** only.

**Permanent defects (Quality)** – defects **not** subject to change during shipment or storage (Q).

**Condition defects** – defects which **are** subject to change during shipment or storage (C).

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### Maturity (Q)

**§51.1977 “Mature” means that the watermelon has reached the stage of development at which the flesh is at least fairly sweet and shows characteristic color of a mature watermelon for the variety.**

Maturity is the most important “Quality” factor in the certification of watermelons and is impossible to determine without cutting. Inspectors should cut and taste a sufficient number of melons to confirm their suspicions as to the internal quality (red flesh color *and* sweetness). Care should be taken to ensure that only a minimum of specimens be cut to make this determination.

The flesh color of mature red-flesh watermelons must be at least “pale red.” An example of this color is provided on the Official Color Comparator *WAT-CC-1*. Please refer to this visual aid when questions on minimum flesh color arise. Melons with less color than the comparator shall be scored as immature. Flesh color of red types may be described as *good red, pale red, pink, whitish pink* according to the facts. The term “**characteristic color**” shall be used to describe flesh color of types other than red. Melons may develop a darker shade of red or other characteristic color after clipping, but the sugar content and eating quality **will not** improve.

Some external indications of a mature melon can include the following: creamy or yellow color on the ground side of the melon; a filled out appearance with regard to the circumference; rind color breaking from pea green at the blossom end to a natural darker green color. **Internally, flesh color and sweetness are the only definitive factors to be considered when determining maturity.**



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## Internal Quality (Q) *OPTIONAL*

The grade standards provide a definition for **optional** internal quality requirements. Watermelons certified as having “Good” or “Very Good” internal quality must have an average soluble solids of not less than 8% or 10% respectively.

The soluble solids test for internal quality of watermelons is used to determine the approximate average sugar content of the lot. It is **not** to be used as a substitute for procedures outlined in the “Maturity” section above.

A sample of at least 4 **random** watermelons on lots of 1200 melons or less will be used for the soluble solids test. For lots containing more than 1200 melons, one additional melon for every additional 300 melons in the lot will be selected. All melons must be selected at random without regard to external indications of maturity or location within the lot.

The following is a list of equipment needed to perform a soluble solids test:

1. Refractometer
2. Coring probe (long enough to penetrate the entire melon)
3. Knife
4. Garlic press
5. Bowl to hold juice
6. Spoon
7. Distilled water to “zero” the refractometer
8. Water and towel to clean refractometer

The refractometer must be clean to ensure an accurate reading. Care should be taken not to scratch the prism surface. Properly adjust the refractometer to a “zero” reading before testing the juice. This can be accomplished by cleaning the instrument with water, drying the prism, and placing a drop of distilled water on the prism. A properly calibrated refractometer will read zero when tested. Adjust or replace the instrument as appropriate. **Do not** use tap water when calibrating the instrument.

Make sure you have a brightly lit working environment. The refractometer will be very difficult to read in poor light.

Using the coring probe, take 3 plugs only from each watermelon, ensuring the probe extends through the entire melon. Plugs should be taken from the stem end, blossom end and center. When taking the end plugs on long-type melons, insert the probe approximately 2 inches from each end. When testing round-type melons, a plug 1 inch from each end will be sufficient.

After obtaining the plugs, cut off and discard the rind where the flesh breaks to whitish-pink or whitish-yellow color, ensuring that no white flesh remains. Place the plugs in a garlic press or similar extractor and squeeze the juice from the plugs into a

bowl. Thoroughly mix the juice of all plugs and dip a small amount of juice onto the refractometer prism. Note the reading, clean the prism, re-mix the juice and take a second reading. If both readings are within 0.2%, record the higher reading. If the two readings vary by more than 0.2%, a third reading must be made. Thoroughly mix the juice sample once again. Take the additional reading and record the **average** of the 3 readings for that melon on your notesheet. The notesheet should contain only one reading per melon.

Report the range and average of the readings in the "OTHER" section on the FV-300 or under "REMARKS" on the FV-184. A statement as to whether the lot meets the requirements of "Good" or "Very Good Internal Quality" must be included in the grade statement.

Example: **OTHER or REMARKS:** Internal quality test ranges from 6.5% to 10.7%, average 8.5% soluble solids (reported at applicant's request).

**GRADE:** U.S. No.1, Good Internal Quality

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### Clean (Q)

The state of cleanness shall be noted as *clean or fairly clean* based on the appearance of the lot. Dirt or mud which materially affects the appearance of the melon causes "damage by dirt." Occasionally, when harvested in rainy conditions, caked dirt or mud will adhere to the melon, but rarely severe enough to score.

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### Shape (Q)

Melons must be **Fairly Well Formed** in the U.S. No. 1 grade and **Not Badly Misshapen** in the U.S. No. 2 grade. Refer to the illustrations on pages 7, 8, and 9 of the watermelon standards that illustrate shapes permissible in each grade. When melons do not meet the basic requirements of shape, these melons shall be reported as "not fairly well formed" or "badly misshapen" based on the grade.

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### Firmness (C)

Firmness, in the case of watermelons, refers to the resistance of the rind to pressure, not firmness of the flesh. Melon ripeness, however, will influence the firmness of the rind. Melons that have reached advanced stages of ripeness will feel "springy" due to the flesh softening near the rind surface.

Firmness shall be described by the following terms:

**Firm:** The watermelon is firm to the touch and does not give readily to normal pressure.

**Fairly firm:** The watermelon gives readily to normal pressure. Melons in this state are generally overripe.

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### **Immature (Q)**

No single external factor can be cited in all cases as a definitive indication of watermelon immaturity. External characteristics may give only an indication of maturity and should be supplemented with cutting and tasting to accurately determine maturity or immaturity of a lot.

The following are possible external indications of immaturity on watermelons:

A clear, white color on the ground side or “belly” of the melon. Do not confuse this with a washed out or bleached appearance from sun exposure;

Easier fingernail penetration on the ground side compared to mature melons;

A lack of normal circumference;

A glassy, pea-green color at the blossom end extending to stem end with no break to a yellowish-green or mature color;

Abnormal slenderness of long varieties and wide, shallow grooves extending lengthwise, particularly on “gray” types;

Sharply defined veins on striped types as opposed to “scrambling” of veins on mature melons;

Slickness of flesh immediately surrounding the seeds and giving the inside of the seed cavity a watersoaked or bruised appearance;  
Seeds near the ends of melons not plump and dark;

Lighter green shade than when mature on solid dark green types, particularly at the blossom end;

Generally hard flesh with little characteristic red or other varietal color; and,

A whitish-colored center or heart with flesh not fairly sweet.

Melons clipped immature can develop a good shade of red color in several days, but will not increase in sugar content. These melons will have wilted or dead stems and a tough, hard heart with slickness of the flesh against the seeds and little or no taste. Immature melons are scorable as serious damage against all grades.



*Please refer to the Official Visual Aid 2X2 Slides for illustrations of Immaturity.*

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### **Overripe (C)**

Overripe melons are usually dull in appearance, lacking firmness, and sound hollow or "flat" when slapped with the open hand. The flesh is mealy with little juice and has decidedly open areas in the seed cavity. In advanced stages, the tissue around the heart may be broken down to a mushy state and some separation from the rind occurs. Melons in this state will have a sickening sweet or flat taste.

Many hybrid varieties can exhibit open seed pockets with loosely held seeds or have slightly watersoaked flesh. These characteristics alone are not foolproof indicators of overripe, regardless of melon type. The **overall** flesh condition (color, texture and taste) of the entire melon must be taken into account before overripe is scored. Practically speaking, melons scored as overripe have no commercial value whatsoever.

As defined in the grade standards, overripe melons are of an advanced maturity with mealy, less juicy flesh or having an insipid taste. "Overripe" is always scored as serious damage.

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### **Watersoaked Flesh (C)**

Watermelons will absorb large amounts of water if the growing season is particularly wet or if heavy rain occurs prior to harvesting. This can result in the melons absorbing a great deal of water and the flesh having an excessively watersoaked appearance. Generally, the flesh will still be firm, at least fairly sweet and not breaking down. Melons affected with these symptoms are **not scorable** and should be described in general terms in the "OTHER" section on the FV-300 or under "REMARKS" on the FV-184 as not affecting grade.

Melons with watersoaked flesh that are not firm, not at least fairly sweet, have a sour odor, or are breaking down shall be scored as damage if materially affecting the appearance, or edible or shipping quality of the melon. Score as serious damage if seriously affecting the appearance, or edible or shipping quality of the melon.

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### **Second Growth (Q)**

Melons approaching normal maturity following moderate to heavy rain may be susceptible to second growth. The heart area may have a pale red color and be fairly sweet. The area outside the heart, however, is usually a whitish-pink color with one or more distinct areas near the rind 1 or 2 inches in diameter of a white to yellowish or light brown color having a "curlicue" appearance. The flesh in these areas is usually less than fairly sweet.

Do not score melons with up to 2 areas of second growth when the remaining flesh is fairly sweet and has at least pale red color. If the remaining flesh has pale red color and is **not** fairly sweet, score the melons as **immature**. If there are three or more areas of second growth, 1 to 2 inches in diameter, which are not at least fairly sweet, score as serious damage by **second growth** (based on a 25 pound melon).

Scorable second growth is considered serious damage because the affected areas of flesh are often poorly colored and do not meet the fairly sweet requirement.

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### **Hail, Scars and Rind Worm Injury (Q)**

A watermelon is considered damaged if the aggregating hail marks, rind worm injury, or scar(s) exceed **5 square inches** and seriously damaged when exceeding **12 square inches** (based on a 25 pound melon).

Shipping point locations are more likely to be exposed to these defects than the markets. These defects are generally graded out prior to shipment and are rarely seen in a scorable amount at the market.

Rind Worm injury is caused by insect feeding of the rind epidermis. Affected areas are whitish to light brown generally with an irregular pattern.

*Please refer to the Official Visual Aid Photograph and 2X2 Slides and for illustrations of scars, hail damage and rind worm injury.*

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### **Whiteheart (Q)**

Melons affected by Whiteheart have a hard, white streak of flesh extending through the heart. Whiteheart can be distinguished from immaturity because the streak is hard and the line of demarcation between the red flesh and white center is much more distinct in affected melons than those that are immature.

Externally, melons affected with Whiteheart may have a certain pointedness, constriction, or flattening toward the stem end, particularly noticeable on long type melons. Damage by Whiteheart is not entirely a matter of waste; flavor of the melons is also impaired to a degree.

To determine the extent of injury, make a crosswise cut through the center of the melon at right angles to a line from stem to blossom end. If a tough, solid streak through the center of the melon exceeds a circle **¼ inch** in diameter, it is scored as damage by Whiteheart. Serious damage by Whiteheart is scored when the tough, solid streak exceeds a circle **½ inch** in diameter.

Do not confuse various white thread-like strings as Whiteheart. These strings may be found in many varieties of melons under certain growing conditions and are not considered a defect.

*Please refer to the Official Visual Aid 2X2 Slides for illustrations of Whiteheart.*

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### **Hollow Heart (Q)**

Hollow heart is caused by a rapid burst of growth usually following rainfall. Large melons seem more susceptible to hollow heart, however, it can also occur in small



sizes as well. The external appearance of a melon with hollow heart can include irregular, bumpy or prominently ridged appearance of the rind. Melons with a flat or bulging appearance may also be questionable.

If hollow heart is suspected, make an **initial** crosswise cut at right angles to a line from stem to blossom end. More than one cut may be necessary to determine the full extent of the crack. Hollow heart cracks can also span the melon crosswise. If this is the case, a lengthwise cut may also be necessary to accurately determine the width of the crack. A lengthwise-oriented crack is by far the most common.

Damage by hollow heart on “long type” melons is scored when the aggregate width of the crack(s) exceeds **1¼ inches** and serious damage when exceeding **1½ inches**. Damage by hollow heart on “round type” melons is scored when the aggregate width of the crack(s) exceeds **2 inches**; and serious damage when exceeding **2½ inches**. These scoring guides are based on a 25 pound melon. Melons weighing less than 25 pounds would be allowed a lesser degree of cracking based on the following table:

*Any amount greater than listed below should be scored as **damage***

<b>Long type</b>	<b>Round type</b>
20 to 24 lbs - ¾ inch	20 to 24 lbs - 1 ¼ inch
15 to 19 lbs - ½ inch	15 to 19 lbs - 1 inch
14 lbs and less - ¼ inch	14 lbs and less - ¾ inch

When measuring hollow heart cracks, the greatest width is used, regardless of the location within the melon. For multi-directional cracks radiating from the center of the melon, measure the greatest width of each crack and add together to determine the aggregate width.



*Please refer to the Official Visual Aid 2X2 Slides for illustrations of Hollow Heart.*

### **Discolored Spots in the Flesh (Q)**

Cottony-white to brown spots can occur in both immature and mature melons and their location in the flesh will determine when they are scored. Spots that are outside the seed area are less objectionable than those located among the seeds. Additionally, spots that have turned brown may be more objectionable than those that remain white. The following table contains the scoring guidelines for this defect:



## Discolored Spots in the Flesh

*Any aggregate amount greater than listed below should be scored as **damage***

### **White Spots**

Outside Seed Area- 1 inch

Inside -  $\frac{3}{4}$  inch

### **Brown Spots**

Outside Seed area -  $\frac{3}{4}$  inch

Inside -  $\frac{1}{2}$  inch

Serious damage is scored when amounts of discoloration seriously detract from the appearance of the melon.

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## **Anthracnose (C)**

Anthracnose initially appears as small, raised watersoaked spots with yellowish-centers, giving the melon surface somewhat of a pimpled appearance. The areas later become sunken and pitted, turn creamy to black color, and eventually contain pink spore masses. The spots enlarge slowly and coalesce, infecting a large portion of the surface.

Watermelons affected by Anthracnose deteriorate very rapidly. For this reason, melons with a recognizable spot(s) shall be scored as serious damage against the restricted tolerance for Anthracnose.

Anthracnose shall be reported as decay **only** when advanced sufficiently to penetrate the rind; or when spots are large and soft enough to be easily penetrated with finger pressure. Anthracnose Rot is always scored against the 1% shipping point decay tolerance and the 2% market decay tolerance, **not** the restricted serious damage tolerance for Anthracnose.

*\*\*Please refer to the Official Visual Aid 2X2 Slide for an illustration of Anthracnose.*

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## **Surface Bumps (C)**

Occasionally, watermelons will be affected by light brown to tan spots or slight bumps which may resemble early stages of Anthracnose. The exact cause of these spots is unknown. Do not score unless the appearance is materially or seriously affected. Bumps or spots on the ground side of the melon can be large, watersoaked or cracked and may be scored as damage or serious damage depending upon severity.

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## **Bruising (C)**

Side bruises are scored as damage when over **3 inches** in diameter and sunken; end bruises when over **2 inches** in diameter and sunken. Serious damage is scored when side bruises are more than **5 inches** in diameter and sunken, or soft and spongy with the underlying flesh watersoaked. Serious damage by bruising on the ends is

scored when affecting over **2 inches** in diameter and the underlying flesh is watersoaked.

Bruising is generally the result of rough handling. When reporting bruising, always include the affected portion of the melon (ends or sides) and the location within the lot or load.

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### **Transit Rubs (C)**

Watermelons, if in repeated contact with portions of the truck, container, or other melons, are susceptible to discolored abrasions or “rubs.” The color of these rubbed areas can range from tan to black. Lighter skinned melons, due to a thinner, more tender rind, are more likely to be affected than other types.

Transit rubs must exceed an aggregate area of **5 square inches** and be at least **medium brown color** as depicted on the color comparator for damage with serious damage occurring over **12 square inches of medium brown color** (based on a 25 pound melon). Always report the location of the rubbed area on the melon as well as the location in the container or truck, such as; “Transit rubs occurring on sides of melons in contact with trailer walls.”

*Please refer to the Official Color Comparator WML-PL-1 for an example of medium brown color.*

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### **Sunburn (C)**

If vine cover is insufficient in the field, watermelons may be affected by sunburn. Generally, the upper side of the melon is affected due to direct exposure to the sun’s rays. Melons may also be affected by sunburn when shipped in open-top trucks and trailers. Sunburn causes a yellow or brownish discoloration of the rind and usually turns the epidermis hard and dry.

To be scorable, sunburned areas must be greenish-yellow which means a predominately **yellow** color. Watermelons are considered damaged by sunburn when the affected area is more than **9 square inches** and seriously damaged by sunburn when the affected area is more than **12 square inches** (based on a 25 pound melon).

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### **Sunscald (C)**

Sunscald is characterized by brownish or bleached white to blackened areas where the sun’s rays have been concentrated by water droplets causing severe burning of the tissues. Sunscald, **in any amount**, is scored against all grades as serious damage.

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### Internal Rind Spot (C)

This disease is also known as “Bacterial Rind Necrosis.” It is generally associated with melons that have been subjected to prolonged drought while maturing. This disease is recognized by tan to brown, hard and dry tissue of the internal rind that seldom extends into the edible flesh. In severe cases, the outer rind surface may be pebbled or have slightly sunken spots.

Internal Rind Spot is scored as damage when the aggregate area exceeds a circle **1 inch** in diameter, serious damage is scored when the aggregate area exceeds a circle **1½ inch** in diameter or if any spot penetrates into the edible flesh. A lengthwise cut for determining severity is permitted for Internal Rind Spot in order to visually expose as much rind as possible.

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### \*\*\*\* Seedless Watermelons (Q)

**§51.1982 “Seedless watermelons” are watermelons which have 10 or less mature seeds, not to include pips/caplets, on the face of the melon which has been cut into four equal sections (one lengthwise cut and one crosswise cut).**

When encountering seeded melons in a seedless lot report as a quality factor as “Seeded melons.” Inspectors are required to cut as many melons as necessary in order to truly determine the internal quality. Melons shall be cut in four equal sections (one lengthwise cut and one crosswise cut). Count the exposed seeds on the faces (vertical and horizontal) of all “quarters.” Defect percentages **MUST** be based on the total melons in each sample (20) and not the number of melons cut. Report seed count in the following manner in the “OTHER” section of the FV-300 or in the “REMARKS” section of the FV-184.

Example: 5% of cut melons show more than 10 seeds brown to black in color on the face of the melon.

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### Soft Ends (C)

It is not uncommon to find this defect in some degree on long type melons of the *Charleston Gray* (long gray) and *Jubilee* (long striped) families. Melons of these hybrids can have a rind thickness of 3/4 inch on the sides and only 1/16 inch at the blossom end. Other melon types are not as susceptible to soft ends due to a thicker rind.

Watermelons are scored as damaged by soft ends if the end yields readily to slight **palm** pressure or when shriveling is associated with the soft end. It will be inappropriate to score serious damage by this defect because the standards defines damage only.



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Soft ends should not be confused with damage by bruising occurring on the ends. Do not report damage by bruised ends as “soft bruised ends” because this gives the appearance of combining two separate defects.

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### **Decay (C)**

Do not score decay when affecting the stem only. This fact may be mentioned at applicant's request. Decay affecting any other portion of the melon is scorable against the 1% shipping point and 2% market tolerances. The most common types affecting watermelons include Anthracnose Rot, Bacterial Fruit Blotch, Bacterial Soft Rot, Black Rot, Blossom End Rot, Phytophthora Rot and Stem End Rot. Inspectors are not required to name decays encountered on inspections. A description of the stages (early, moderate or advanced) is required on all certificates.

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### **(11) Grade**

A statement shall be made in this section indicating whether or not the lot(s) meet the requirements of the grade. Other specifications for which the application is based and/or percentage of U.S. No. 1 quality may also be reported here.

Examples: U.S. No. 1, Good Internal Quality  
U.S. No. 1, 25.50 pounds average.

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### **(12) Remarks**

Any explanatory or qualifying statements that are necessary to complete the certificate should be made in this section. They may include one or more of the following:

- Restrictions to load, size, or weight.
- Cross references to another certificate number such as in re-inspections, appeals, etc.
- Contract specifications.
- Factors not affecting grade, reported at applicant's request.

# Appendix I

U.S. Standards



# United States Standards for Grades of Watermelons<sup>1</sup>

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## **Grades**

51.1970 U.S. Fancy.

51.1971 U.S. No. 1.

51.1972 U.S. No. 2.

## **Tolerances**

51.1973 Tolerances.

## **Application of Tolerances**

51.1974 Application of tolerances.

## **Sample for Grade and Size Determination**

51.1975 Sample for grade and size determination.

## **Size**

51.1976 Size.

## **Definitions**

51.1977 Mature.

51.1978 Fairly well formed.

51.1979 Similar varietal characteristics.

51.1980 Overripe.

51.1981 Badly misshapen.

51.1982 Damage.

51.1983 Serious damage.

51.1984 Permanent defects.

51.1985 Condition defects.

51.1986 Classification of defects.

## **Optional Internal Quality Requirements**

51.1987 Optional internal quality requirements.

## **Grades**

### **§51.1970 U.S. Fancy.**

"U.S. Fancy" consists of watermelons which meet the following requirements:

(a) Basic requirements:

(1) Mature;

(2) Similar varietal characteristics;

(3) Fairly well formed;

(4) Not overripe;

(b) Free from:

(1) Anthracnose;

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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.



- (2) Decay;
- (3) Sunscald;
- (4) Whiteheart;
- (c) Free from damage by any means. See §51.1982.
- (d) For tolerances see §51.1973.

**§51.1971 U.S. No. 1.**

"U.S. No. 1" consists of watermelons which meet the following requirements:

- (a) Basic requirements:
  - (1) Mature;
  - (2) Similar varietal characteristics;
  - (3) Fairly well formed;
  - (4) Not overripe;
- (b) Free from:
  - (1) Anthracnose;
  - (2) Decay;
  - (3) Sunscald;
- (c) Free from damage by any means. See §51.1982.
- (d) For tolerances see §51.1973.

**§51.1972 U.S. No. 2.**

"U.S. No. 2" consists of watermelons which meet the following requirements:

- (a) Basic requirements:
  - (1) Mature;
  - (2) Similar varietal characteristics;
  - (3) Not overripe;
  - (4) Not badly misshapen;
- (b) Free from:
  - (1) Anthracnose;
  - (2) Decay;
  - (3) Sunscald;
- (c) Free from serious damage by any means. See §51.1983.
- (d) For tolerances see §51.1973.

**Tolerances**

**§51.1973 Tolerances.**

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, shall be permitted in any lot:

- (a) U.S. Fancy.
  - (1) **For defects at shipping point.**<sup>2</sup> 8 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 4 percent shall be allowed for defects causing serious damage: **And provided further**, That included in this

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<sup>2</sup>Shipping points, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores for overseas shipments, or, in the case of shipments from outside of the continental United States, the port of entry into the United States.

latter amount not more than 1 percent shall be allowed for watermelons which are affected by Whiteheart, Sunscald, Anthracnose or decay.

(2) **En route or at destination.** 10 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for watermelons having permanent defects including therein not more than 4 percent for permanent defects causing serious damage.

(ii) 8 percent for watermelons having condition defects including therein not more than 4 percent for condition defects causing serious damage and included in this latter amount not more than 2 percent shall be allowed for watermelons affected by Whiteheart, Sunscald, Anthracnose or decay.

(b) U.S. No. 1.

(1) **For defects at shipping point.**<sup>2</sup> 10 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage: **And provided further**, That included in this latter amount not more than 3 percent shall be allowed for watermelons affected by Anthracnose and not more than 1 percent shall be allowed for watermelons affected by decay.

(2) **En route or at destination.** 12 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 10 percent for watermelons having permanent defects including therein not more than 5 percent for permanent defects causing serious damage.

(ii) 10 percent for watermelons having condition defects including therein not more than 5 percent for Anthracnose or other condition defects causing serious damage and included in this later amount not more than 2 percent shall be allowed for watermelons affected by decay.

(c) U.S. No. 2.

(1) **For defects at shipping point.**<sup>2</sup> 10 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 6 percent shall be allowed for watermelons affected by Anthracnose and not more than 1 percent shall be allowed for watermelons affected by decay.

(2) **En route or at destination.** 12 percent for watermelons which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 2 percent shall be allowed for watermelons affected by decay.

#### **Application of Tolerances**

##### **§51.1974 Application of tolerances.**

In order to meet the requirements of a specified grade the average percentage of defective watermelons in the lot, based on sample inspection, shall be within the tolerance specified, and

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<sup>2</sup>Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores for overseas shipments, or, in the case of shipments from outside of the continental United States, port of entry into the United States.

the number of defective watermelons in individual samples in the lot shall be within the limitations set forth in the following table:

**Table I -- Maximum Number of Defective Watermelons Permitted in Any Sample**

Lot tolerance, percent	Total <sup>1</sup>
12.....	5
10.....	4
8.....	3
6.....	3
5.....	2
4.....	2
3.....	2
2.....	1
1.....	1

<sup>1</sup>Number of watermelons per 20 count sample.

**Sample for Grade and Size Determination**

**§51.1975 Sample for grade and size determination.**

Each sample shall consist of 20 watermelons. When individual containers contain at least 20 watermelons, the sample is drawn from one container; when individual containers contain less than 20 watermelons, a sufficient number of adjoining containers are opened to form a 20 count sample.

**Size**

**§51.1976 Size.**

Size may be specified in terms of average weight, minimum weight or minimum and maximum weight.

(a) When the size of watermelons is stated in terms of average weight, unless otherwise specified, the melons in any lot averaging less than 30 pounds (13.6 kgs.) shall not vary more than 3 pounds (1.4 kgs.) below the stated average, and the melons in any lot averaging 30 pounds (13.6 kgs.) or more shall not vary more than 5 pounds (2.3 kgs.) below the stated average.



**Table II**

Average Weight		Minimum weight (unless otherwise specified)		Tolerances permitted for melons below the minimum weight (percent)
Pounds	Kilograms	Pounds	Kilograms	
		20	9.1	
22	10.1	19	8.6	5
24	10.9	21	9.5	5
26	11.8	23	10.4	5
28	12.7	25	11.3	5
30	13.6	25	11.3	5
32	14.5	27	12.2	5
34	15.4	29	13.2	5
36	16.3	31	14.1	5
38	17.2	33	15.0	5
40	18.1	35	15.9	5
42	19.0	37	16.8	5

(b) In order to allow for variations incident to proper sizing, not more than 5 percent, by count, of the watermelons in any lot may be below the minimum size requirements: **Provided**, That when minimum and maximum weights are specified, not more than 5 percent, by count, may be below the specified minimum weight and not more than 5 percent, may be above the specified maximum weight.

**Definitions**

**§51.1977 Mature.**

"Mature" means that the watermelon has reached the stage of development at which the flesh is at least fairly sweet and shows characteristic color of a mature watermelon for the variety.

**§51.1978 Fairly well formed.**

"Fairly well formed" means that the watermelons have characteristic shape but not necessarily the perfect type of the variety. They may be tapered at the ends or slightly constricted.

**§51.1979 Similar varietal characteristics.**

"Similar varietal characteristics" means that the watermelons are similar in shape and color.

**§51.1980 Overripe.**

"Overripe" means that a watermelon has reached such an advanced stage of maturity that the flesh becomes mealy, less juicy or has an insipid taste.

**§51.1981 Badly misshapen.**

"Badly misshapen" means that the watermelons are bottlenecks or gourdnecks.

**§51.1982 Damage.**

"Damage" means any specific defect described in §51.1986, Table III, 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 watermelons.

**§51.1983 Serious damage.**

"Serious damage" means any specific defect described in §51.1986, Table III, 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 watermelons.

**§51.1984 Permanent defects.**

"Permanent defects" means defects which are not subject to change during shipment or storage; including, but not limited to scars, hollow heart or immature watermelons.

**§51.1985 Condition defects.**

"Condition defects" means defects which are subject to change during shipment or storage, including but not limited to decay, Anthracnose or sunburn.

**§51.1986 Classification of defects.**

**Table III**

Factor	Damage	Serious damage <sup>1</sup>
Sunburn.....	Area exceeds 9 sq. in. (58 sq. cm) of greenish-yellow sunburn of a 25-lb. (11.3 kg) watermelon.	Area exceeds 12 sq. in. (77 sq. cm) of greenish-yellow sunburn on a 25-lb. (11.3 kg) watermelon.
Hail, rind worm injury scars and other similar defects except Anthracnose.	Aggregating more than 5 sq. in. (32 sq. cm) on a 25-lb. (11.3 kg) watermelon.	Aggregating more than 12 sq. in. (77 sq. cm) on a 25-lb. (11.3 kg) watermelon.
Whiteheart.....	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/4 in. (6 mm) in diameter.	A hard white streak of flesh extending through the heart of the watermelon exceeding a circle 1/2 in. (13 mm) in diameter.
Hollow heart.....	Cracks aggregating more than 1-1/4 in. (33 mm) in width on a 25-lb. (11.3 kg) long-type watermelon or the aggregate width exceeds 2 in. (51 mm) on a 25-lb. (11.3 kg) round-type watermelon.	Cracks aggregating more than 1-1/2 in. (38 mm) in width on a 25-lb. (11.3 kg) long-type watermelon or the aggregate width exceeds 2-1/2 in. (64 mm) on a 25-lb. (11.3 kg) round-type watermelon.
Internal rind spot.....	Aggregate area exceeds a circle 1 in. (25 mm) in diameter.	Aggregate area exceeds a circle of 1-1/2 in. (38 mm) in diameter or when any spot penetrates the flesh.

<sup>1</sup>The following defects are considered serious damage when present in any degree: Sunscald, immaturity, Anthracnose, overripe and decay.



Soft ends.....	End yields readily to slight pressure applied by palm of the hand or shriveling is associated with the soft end.	
Transit rubs.....	Aggregating more than 5 sq. in. (32 sq. cm) of medium brown discoloration on a 25-lb. (11.3 kg) watermelon.	Aggregating more than 12 sq. in. (77 sq. cm) of medium brown discoloration on a 25-lb. (11.3 kg) watermelon.
Bruises.....	Side bruises over 3 in. (76.2 mm) in diameter and sunken.  End bruises over 2 in. (50.8 mm) in diameter and sunken.	Over 5 in. (127 mm) in diameter and sunken or soft and springy with underlying flesh water-soaked.  Over 2 in. (50.8 mm) in diameter with underlying flesh water-soaked.

<sup>1</sup>The following defects are considered serious damage when present in any degree: Sunscald, immaturity, Anthracnose, overripe and decay.

**Optional Internal Quality Requirements**

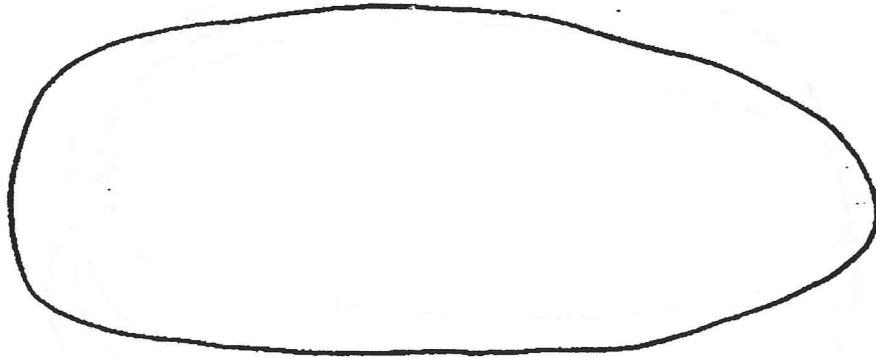
**§51.1987 Optional internal quality requirements.**

The following internal quality requirements may be specified in connection with the grade.

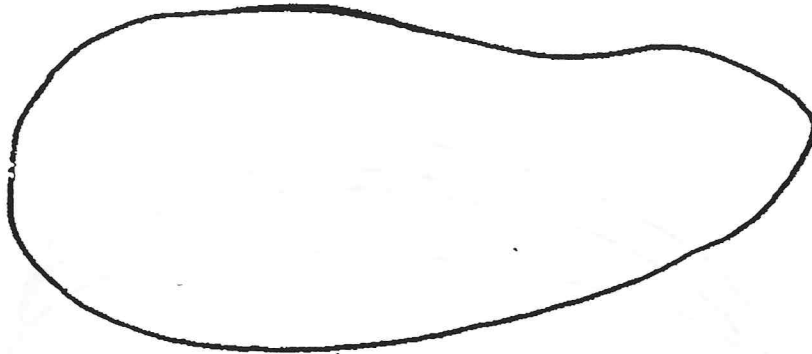
(a) "Very good internal quality" means that the combined juice from the edible portion of a sample of watermelons selected at random contains not less than 10 percent soluble solids as determined by an approved refractometer.

(b) "Good internal quality" means that the combined juice from the edible portion of a sample of watermelons selected at random contains not less than 8 percent soluble solids as determined by an approved refractometer.

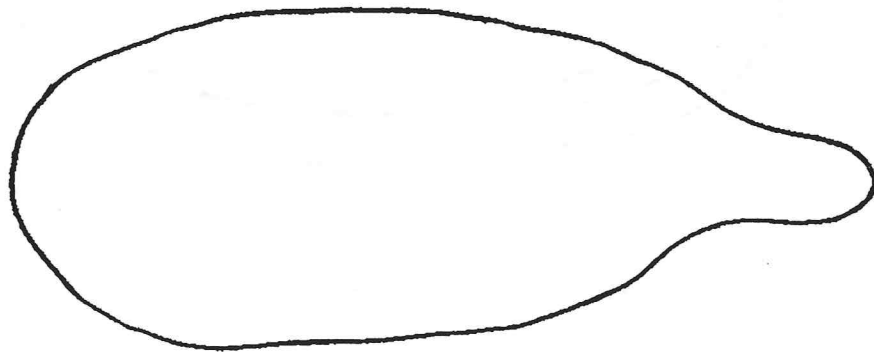
Shapes of Long Type Watermelons



Permissible in the U.S. No. 1 Grade

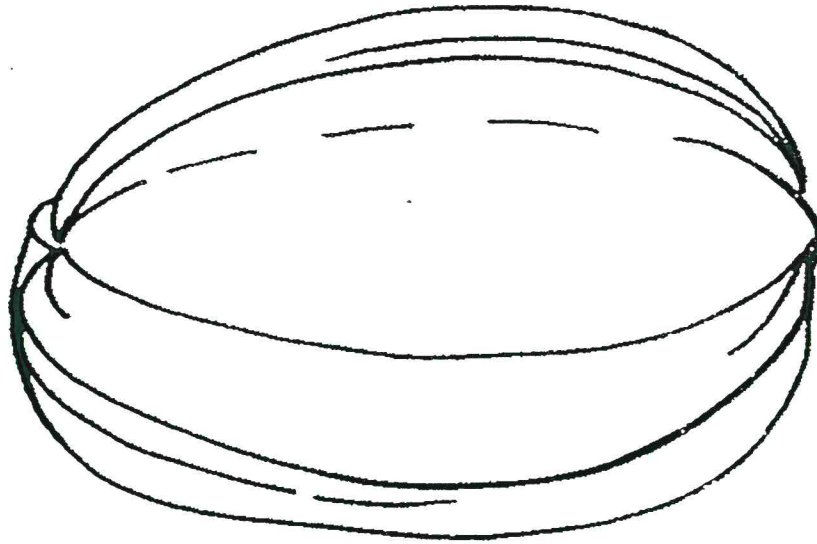
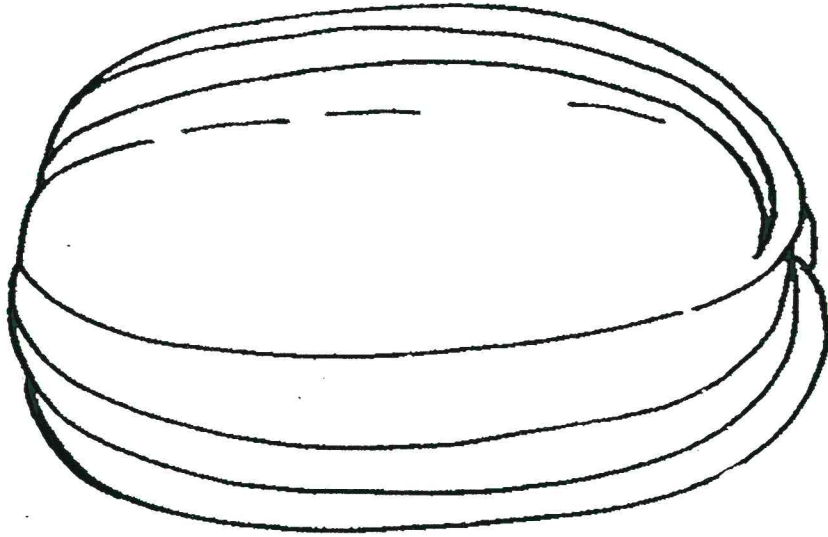


Permissible in the U.S. No. 2 Grade



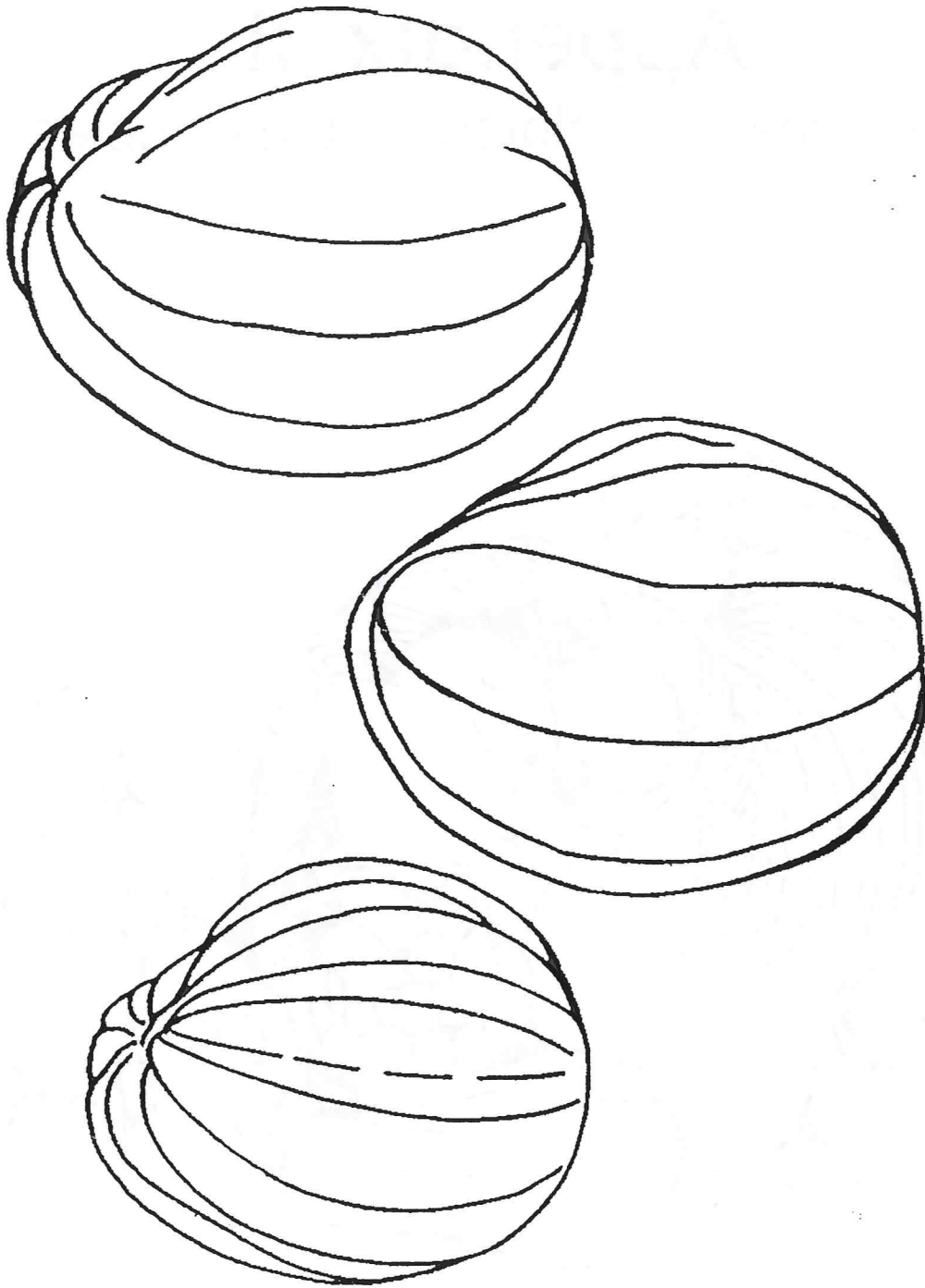
Cull. Not Permissible in U.S. No. 2 Grade

Illustration WAT 1



Two melons of round type illustrated above are permitted in U.S. No. 1 grade

Illustration WAT 2



Three ill-shaped melons of round type illustrated above are not permitted in U.S. No. 1 grade

Illustration WAT 3



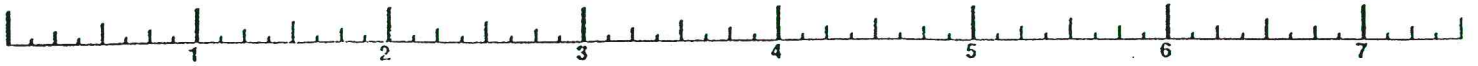
# Appendix II

Certificate & Notesheet Examples



CARRIER or LOT IDENTIFICATION: <b>EAZ149</b>   <b>CO</b>		LOADING: Loaded - LO Ply Unloaded - PU Unloaded - UL Lot Insp. - LI <b>U, L</b>	INSPECTION NOTESHEET U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FRUIT & VEGETABLE DIVISION	
PREFIX	NUMBER	STATE	CERTIFICATE NUMBER: <b>EXAMPLE 1</b>	
Carrier No. Stated by: <b>APPLICANT</b>		INSPECTION STARTED: m m d d y y Hour Min. A/P <b>0,6   2,4   9,7   0,6:40   A   M</b>		
Additional Lot ID.: <b>---</b>		Inspection Completed: m m d d y y Hour Min. A/P <b>0,6   2,4   9,7   0,9:00   A   M</b>		
Carrier Type / Name: <b>---</b>		APPLICANT: <b>HAPPY Melon Sales Inc</b>		
Refrigeration Unit: <input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF	Doors: <input checked="" type="checkbox"/> OPEN <input type="checkbox"/>	Address: <b>Hunts Point Mkt Bronx NY</b>		
Condition of Carrier: <b>---</b>		SHIPPER: <b>SUCA-CITA PRODUCE</b>		
Inspection Site: <b>Applicants' Store</b>		Address: <b>RIO DRY, AZ</b>		
A: PRODUCT: <b>Watermelons</b> NUMBER of CONTAINERS: <b>180ctns</b> INSP. COUNT: <b>N</b> TEMPERATURES: <b>66° to 72° F</b>		BRANDS / MARKS: <b>"SUCA-CITA", 6 count, yellow flesh, Produce of Mexico</b>		
B: PRODUCT: <b>---</b> NUMBER of CONTAINERS: <b>---</b> INSP. COUNT: <b>---</b> TEMPERATURES: <b>---</b>				
C: PRODUCT: <b>---</b> NUMBER of CONTAINERS: <b>---</b> INSP. COUNT: <b>---</b> TEMPERATURES: <b>---</b>				
D: PRODUCT: <b>---</b> NUMBER of CONTAINERS: <b>---</b> INSP. COUNT: <b>---</b> TEMPERATURES: <b>---</b>				
Condition of Load & Containers: <input checked="" type="checkbox"/> STACKED ON PALLETS AT ABOVE LOCATION ( ) INTACT THROUGH LOAD ( ) PARTLY UNLOADED				





A

B

C

D

PACK: <i>F. TIGHT</i> SIZE: <i>Not determined</i>	PACK: SIZE:	PACK: SIZE:	PACK: SIZE:
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**SCORESHEET**

PLI Number	Other I.D.	TEMP F	Sample count	DK	O-Ripe	Quality
NONE	NONE	66°	20	2	(10)	2
✓	✓	67°	20	0	3	0
✓	✓	72°	20	1	3	0
✓	✓	70°	20	1	4 (20)	2
✓	✓	69°	20	2	3	0
			100	(6%)	(15%)	(3%)
				EARLY	(SOF)	(SCR)

REMARKS / RESTRICTIONS / SPI

CARLOT Basis : \_\_\_\_\_

HOURLY Basis : \_\_\_\_\_

TRAVEL Time : \_\_\_\_\_

EXPENSES : \_\_\_\_\_

EST. TOTAL : \_\_\_\_\_

REPORTED TO: *JOE*

DATE: *6-24-97* TIME: *9:10A*

REQUESTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

INSPECTED BY: *Billy Robert Jr.*

ASSISTED BY: \_\_\_\_\_



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
INSPECTION CERTIFICATE  
**EXAMPLE 1**

Applicant: **HAPPY MELON SALES INC**  
Address: **HUNTS PT MKT BRONX, NY**  
Shipper: **SUCA-CITA PRODUCE**  
Address: **RIO DRY, AZ**  
Insp. Site: **APPLICANT'S STORE**

Carrier Lot No: **EAZ149**  
Carrier Lot No: **U.L.**  
Additional Lot ID: \_\_\_\_\_  
Carrier Type / Name: **APPLICANT**

Inspection Station: \_\_\_\_\_  
 Date: **06/24/97** Time: **06:40 AM**  
 Inspector: \_\_\_\_\_  
 Product: **WATERMELONS**  
 Variety: **"SUCA-CITA" 6 COUNT**  
 Origin: **MEX**  
 Quantity: **180 CARTONS**

TEMPERATURES		DOORS		Including DAMAGE		SERIALS		DEFECTS		OTHER	
A	B	C	D	Open	Closed	100	10	10	10	AVERAGE	DEFECTS
66	72									03	QUALITY (SCARS)
										15	OVERRIPE (10 to 20%)
										06	DECAY (0 to 10%)
										24	CHECKSUM
											Round striped type Yellow flesh
											SIZE NOT DETERMINED
											DECAY IN EARLY STAGES

GRADE: **FAILS TO GRADE U.S. No. 1 ONLY ACCOUNT CONDITION**

REMARKS:

Inspector's Signature: *Billy Kobbler Jr.*

Market Office: *Rice Hery RT*

ESTIMATED TOTAL \$ \_\_\_\_\_

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.

FORM FV-300 (10-90) Replaces FV-300 (4-86) and FV-308 (11-90) which are obsolete

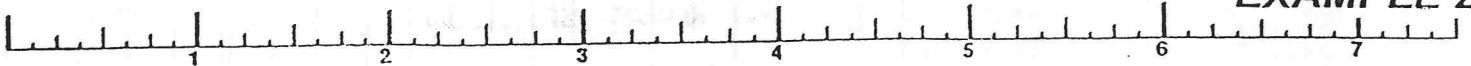


CARRIER or LOT IDENTIFICATION: <b>T194F NJ</b>		LOADING Loaded - LO Ply Unlded - PU Unloaded - UT Lot Insp. - LI <b>LO</b>	INSPECTION NOTESHEET U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FRUIT & VEGETABLE DIVISION
PREFIX	NUMBER	STATE	CERTIFICATE NUMBER: <b>EXAMPLE 2</b>
Carrier No. Stated by : _____		INSPECTION STARTED: m m d d y y Hour Min. A/P <b>0 8 1 6 9 7 0 8 : 0 0 A M</b>	
Additional Lot ID. : _____		Inspection Completed: m m d d y y Hour Min. A/P <b>0 8 1 6 9 7 1 1 : 0 0 A M</b>	
Carrier Type / Name : <b>Vented Trailer</b>		APPLICANT: <b>PRODUCE USA</b>	
Refrigeration Unit: <input type="checkbox"/> ON <input type="checkbox"/> OFF	Doors: <input type="checkbox"/> OPEN <input checked="" type="checkbox"/> <b>REAR closed</b>	Address: <b>WASHINGTON DC</b>	
Condition of Carrier: <b>Vents Closed</b>		SHIPPER: <b>H2O MELON INC</b>	
Inspection Site : <b>APPLICANT'S DOCK</b>		Address: <b>MIAMI FL</b>	

<b>A:</b> PRODUCT: <b>Watermelons</b> NUMBER of CONTAINERS: <b>33,000 Lbs</b> INSP. COUNT: <b>N</b> TEMPERATURES: <b>79° to 92° F</b>	BRANDS / MARKS: <b>ROUND type in BULK</b> <b>"NO BRAND"</b>
<b>B:</b> PRODUCT: <b>Watermelons</b> NUMBER of CONTAINERS: <b>10,000 Lbs</b> INSP. COUNT: <b>N</b> TEMPERATURES: <b>83° to 95° F</b>	<b>LONG GRAY type in BULK</b> <b>"NO BRAND"</b>
<b>C:</b> PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____	_____
<b>D:</b> PRODUCT: _____ NUMBER of CONTAINERS: _____ INSP. COUNT: _____ TEMPERATURES: _____	_____

Condition of Load & Containers:  
 ( ) STACKED ON PALLETS AT ABOVE LOCATION  INTACT THROUGH LOAD ( ) PARTLY UNLOADED

**Lengthwise 8 to 10 rows, 10 to 12 layers, Lot A in rear**  
**Plywood sheets between lots**



A

B

C

D

PACK:  SIZE:	PACK:  SIZE:	PACK:  SIZE:	PACK:  SIZE:
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**SCORESHEET**

PLI Number	Other I.D.	TEMP F	Sample count	DK	O-ripe	ANT	BRU
NONE	none	79°	20	0	6	<del>X</del>	0
✓	✓	90°	20	1	2		1
✓	✓	92°	20	0	0		3 (15)
✓	✓	85°	20	1	7 (35)		2
✓	✓	88°	20	1	5		1
<b>LOT A</b>			100	(3%) -Adv-	(20%) (sof)		(7%) -scattered
NONE	None	85°	20	1 (5)	1 (5)	<del>X</del>	
✓	✓	83°	20	3 (15)	4		2
✓	✓	95°	20	2	4 (20)		0
<b>LOT B</b>			60	(10%)	(15%)	(3%)	
				(Adv) E			

REMARKS / RESTRICTIONS / SPI

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CARLOT Basis : _____ HOURLY Basis : _____ TRAVEL Time : _____ EXPENSES : _____ EST. TOTAL : _____	REPORTED TO: <b>LARRY</b> DATE: <b>8-16-97</b> TIME: <b>11<sup>00</sup> A</b> REQUESTED BY: DATE: _____ TIME: _____	INSPECTED BY: <i>George Johnson</i> ASSISTED BY: _____
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U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 INSPECTION CERTIFICATE  
**EXAMPLE 2**

Applicant: Produce USA  
 Address: WASHINGTON DC  
 Shipper: H2O MELON INC  
 Address: MIAMI, FL  
 Insp. Site: APPLICANT'S dock

CARPENTER: T194F PREFIX: NJ STATES: L.O.  
 Carriers/Lot ID Stated by: \_\_\_\_\_  
 Carriers/Lot ID: \_\_\_\_\_  
 Carriers/Lot ID: \_\_\_\_\_  
 Carriers/Lot ID: \_\_\_\_\_

Origin: VENTED TRAILER - VENTS CLOSED  
 Doors:  Open  Closed  
 Refrigeration Unit: \_\_\_\_\_  
 Temp. Range: 79 to 92  
 Temp. Range: 83 to 95  
 Temp. Range: \_\_\_\_\_  
 Temp. Range: \_\_\_\_\_

LOT	AVERAGE DEFECTS	Including Average Defects	Including Average Defects	Including Average Defects	Including Average Defects	Including Average Defects	Including Average Defects	Including Average Defects	OFF SIZE / DEFECTS		OTHER	ESTIMATED TOTAL
									PERCENT	PERCENT		
A	20	20	00	03	23	15	03	10	28	OVERRIPE (0 to 35%) BRUISING (0 to 15%) DECAY (0 to 5%) CHECKSUM	Round type Bruising scattered throughout lot Decay in advanced stages	33,000 LBS
B	15	15	03	10	28	03	10	28	03	OVERRIPE (5 to 20%) ANTHERCROUSE (0 to 10%) DECAY (5 to 15%) CHECKSUM	LONG GRAY TYPE Decay mostly advanced, some early stages	10,000 LBS
C:												
D:												
<p>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.</p>												
<p>REMARKS:</p>												<p>Inspector's Signature: <u>George Johnson</u>          Market Office: <u>WASH DC</u></p>



INSPECTION STARTED: **MMDDYY** 070397 Hour:Min: 09:35 **AP** **AM**

INSPECTION COMPLETED: **MMDDYY** 070397 Hour:Min: 11:50 **AP** **AM**

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
FRUIT AND VEGETABLE DIVISION

**EXAMPLE 3**

**FEDERAL - STATE INSPECTION NOTESHEET**

APPLICANT: **BUBBA'S MELONS** CITY/STATE: **LIARSVILLE, GA** PLI: \_\_\_\_\_

INSPECTION POINT: **SAME AS APPLICANT** OTHER ID: **PO # 7713**

CONVEYANCE NO.: **ST-2697 GA** TYPE: **Open Top Trailer** CERTIFICATE NO.: \_\_\_\_\_

Product/Variety, Number & Size of Container, Description of Product (Brand, Markings, Size, etc.), Grade Marked:  
**Watermelons round striped type in BULK (44,500 lbs)**  
**"No Brand"**

SAMPLE SIZE	TOTAL DEFECTS	DEFECTS					SIZE		ADDITIONAL INFORMATION	CWT :	
		INCLUDING			RESTRICTIVE TOLERANCES	ADDITIONAL TOLERANCES	DESCRIPTION OF DEFECTS	MIN.			MAX.
		DAMAGE / SER. DAM.	SER. DAM. / V. SER. DAM.	DECAY / SOFT-ROTS				UNDER SIZE			OVER SIZE
						MOSTLY	OTHER			REMARKS	
20	1	0	0	0			SCR				<del>FEE \$ OT \$ EXPENSES \$ \$ TOTAL \$</del> <b>Mature, CLEAN Sweet, good red color, gen fw shaped</b>
20	8	0	0	0			SCR MIS				
20	1	0	0	0			SCR				
20	2	0	0	0			INS				
20	6	0	0	0			MIS				
100	(18%)	APPROX. 80% U.S. No. 1 Quality 21.49 LBS. AVERAGE									

17	18	19	20	21	22	23	24	25	Total Melons
17.00	18.50	19.50	20.25	21.00	22.75	23.00	24.75	25.00	9 Total weight - 1074.75
17.50	18.50	19.75	20.50	21.75	22.50	23.50	24.75	8 Ave. 21.49 lbs	
18.50	19.75	20.50	21.75	22.50	23.50	24.00		7	
18.50	19.50	20.50	21.25	22.00	23.50	24.25		7 Generally 17 to 25 lbs,	
19.50	20.50	21.75	22.00	23.00				5 mostly 19.50 to 23 lbs,	
20.50	21.75	22.50	23.50					4 Ave. 21.49 lbs	
20.75	21.50	22.00	23.00					4 4% under 18.50 lbs.	
21.50	22.00	23.50						3	
21.00	22.00							2	
22.00								1	
									50

34.50	74.00	98.00	143.50	193.25	222.25	186.50	97.75	25.00
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INSPECTOR'S SIGNATURE: **Uma T. Schott** DATE: **7-3-97** PAGE **1** OF **1**



SAMPLE FRESH PRODUCTS BRANCH FORM FV-184

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 FRUIT AND VEGETABLE DIVISION

EXAMPLE 3



FEDERAL-STATE INSPECTION CERTIFICATE

SUBLOT

INSPECTION STARTED:	M M D D Y Y	Hour	Min	A/P	This certificate is issued pursuant to the Agricultural Marketing Act of 1946, as amended and is admissible as prima facie evidence in all courts of the United States. 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.
	0 7 0 3 9 7	0 9	3 5	A M	
INSPECTION COMPLETED:	M M D D Y Y	Hour	Min	A/P	
	0 7 0 3 9 7	1 1	5 0	A M	

APPLICANT: **Bubba's MELONS** CITY/STATE: **LIARSVILLE, GA** P/LI: \_\_\_\_\_

INSPECTION POINT: **SAME AS APPLICANT** OTHER ID: **PO# 7713**

CONVEYANCE NO.: **ST-2697 GA** TYPE: **OPEN TOP Trailer** NOTESHEET NO.: \_\_\_\_\_

PRODUCT/VARIETY	NUMBER AND SIZE OF CONTAINER	DESCRIPTION OF PRODUCT (Brand, Markings, Size, Quality/Condition, etc.)	GRADE
Watermelons	BULK	"No BRAND"	APPROX 80% US No 1 Quality
	APPLICANT states 44,500 lbs.	Grade defects range from 1 to 8 melons per sample, ave. 18% SCARS AND NOT FAIRLY WELL formed. No decay	21.49 lbs Average
		SIZE: Generally 17 to 25 lbs, mostly 19.50 to 23 lbs, ave 21.49 lbs. 4% under 18.50 lbs	

ABOVE PRODUCTS MEET REQUIREMENTS OF MARKETING ORDER  
 \* VARIETY OF PRODUCT AND NUMBER OF CONTAINERS ARE PROVIDED BY THE APPLICANT AND ARE NOT BEING CERTIFIED BY THE INSPECTOR UNLESS OTHERWISE NOTED

**FOR DATA ENTRY ONLY**  
 CORRECTS FV-184 CERTIFICATE NUMBER

APPLICANT: 21 \_\_\_\_\_

CWT: \_\_\_\_\_

ON-SITE HOURS: \_\_\_\_\_

O.T. (hrs.): \_\_\_\_\_

TRAVEL MILES: \_\_\_\_\_

O.T. (hrs.): \_\_\_\_\_

OTHER: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

\$ \_\_\_\_\_

REMARKS: **Round striped type**

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that samples of the herein described product were inspected and the grades as shown by said samples were as herein stated.

**Uma T. Schott**  
 INSPECTOR'S SIGNATURE

**7-3-97**  
 DATE ISSUED

FEE: \$ \_\_\_\_\_  
 O.T.: \$ \_\_\_\_\_  
 EXP.: \$ \_\_\_\_\_  
 ESTIMATED TOTAL: \$ \_\_\_\_\_

FV-184 (10-93) (Previous versions may be used)







SAMPLE FRESH PRODUCTS BRANCH FORM FV-184

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 FRUIT AND VEGETABLE DIVISION

EXAMPLE 4



FEDERAL-STATE INSPECTION CERTIFICATE

SUBLOT

INSPECTION STARTED: M M D D Y Y Hour Min. A/P  
 1 1 1 5 9 7 0 2 : 0 0 P M

INSPECTION COMPLETED: M M D D Y Y Hour Min. A/P  
 1 1 1 5 9 7 0 3 : 5 5 P M

*This certificate is issued pursuant to the Agricultural Marketing Act of 1946, as amended and is admissible as prima facie evidence in all courts of the United States.  
 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.*

APPLICANT: **MELON HEAD PRODUCE INC** CITY/STATE: **NOGALES, AZ** PLI: \_\_\_\_\_

INSPECTION POINT: **STATE FARMERS MKT** **TUCSON, AZ** OTHER ID: **PO # 15299**

CONVEYANCE NO.: **APPLICANT states 17993 VA.** TYPE: **MECH. REF** NOTESHEET NO.: \_\_\_\_\_

PRODUCT/VARIETY	NUMBER AND SIZE OF CONTAINER	DESCRIPTION OF PRODUCT (Brand, Markings, Size, Quality/Condition, etc.)	GRADE
Watermelons	500ctns	"MELON HEAD", 3COUNT, MEXICO	US No 1
/			

ABOVE PRODUCTS MEET REQUIREMENTS OF MARKETING ORDER  
 VARIETY OF PRODUCT AND NUMBER OF CONTAINERS ARE PROVIDED BY THE APPLICANT AND ARE NOT BEING CERTIFIED BY THE INSPECTOR UNLESS OTHERWISE NOTED

**FOR DATA ENTRY ONLY**  
 CORRECTS FV-184 CERTIFICATE NUMBER

APPLICANT: 21

CWT: \_\_\_\_\_

ON-SITE HOURS: \_\_\_\_\_

O.T. (hrs.): \_\_\_\_\_

TRAVEL MILES: \_\_\_\_\_

O.T. (hrs.): \_\_\_\_\_

OTHER: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

\$ \_\_\_\_\_

REMARKS: **Long striped type  
 size not determined at  
 Applicant's request.**

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that samples of the herein described product were inspected and the grades as shown by said samples were as herein stated.

**Oke Mensch**  
 INSPECTOR'S SIGNATURE

**11-15-97**  
 DATE ISSUED

FEE: \$ \_\_\_\_\_  
 O.T.: \$ \_\_\_\_\_  
 EXP.: \$ \_\_\_\_\_

ESTIMATED TOTAL \$ \_\_\_\_\_

FV-184 (10-93) (Previous versions may be used)