United States
Department of
Agriculture

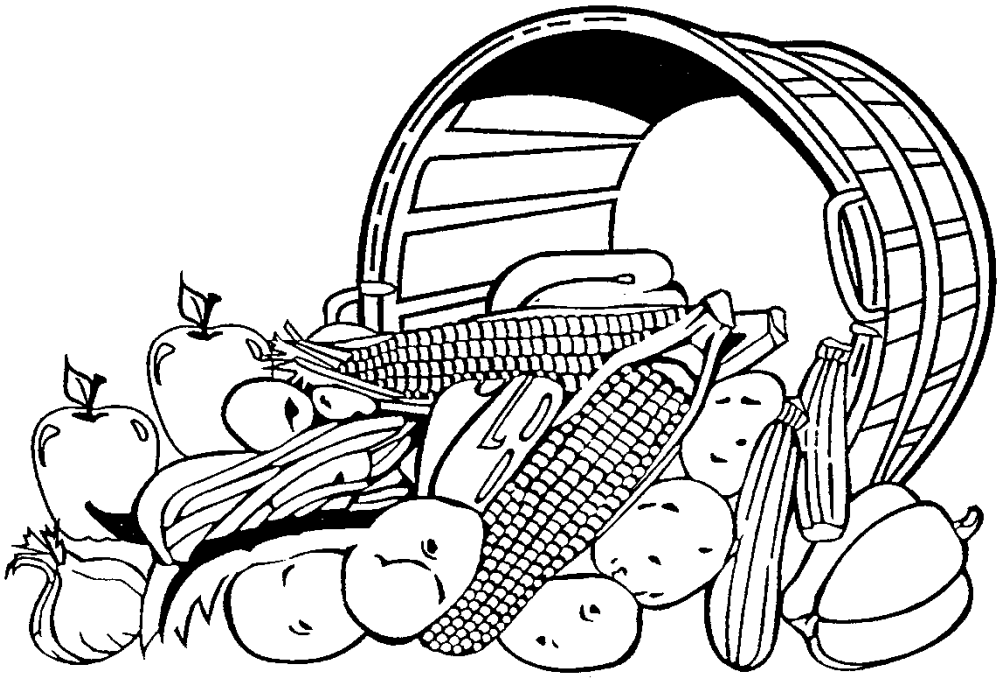
Agricultural
Marketing
Service

Fruit and
Vegetable
Programs

Fresh Products
Branch

# Cucumbers

## Shipping Point and Market Inspection Instructions



# Shipping Point and Market Inspection Instructions for Cucumbers

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 Cucumbers, Section 51.2220, and U.S. Standards for Grades of Greenhouse Cucumbers, Section 51.3855.

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 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 Product Branch publications refers to any of 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 a section number such as 51.--- and followed with **bold** print is material copied directly from the U.S. standards.

January 1998

*This replaces instructions dated September/October 1970*

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*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 as **quality** only.*

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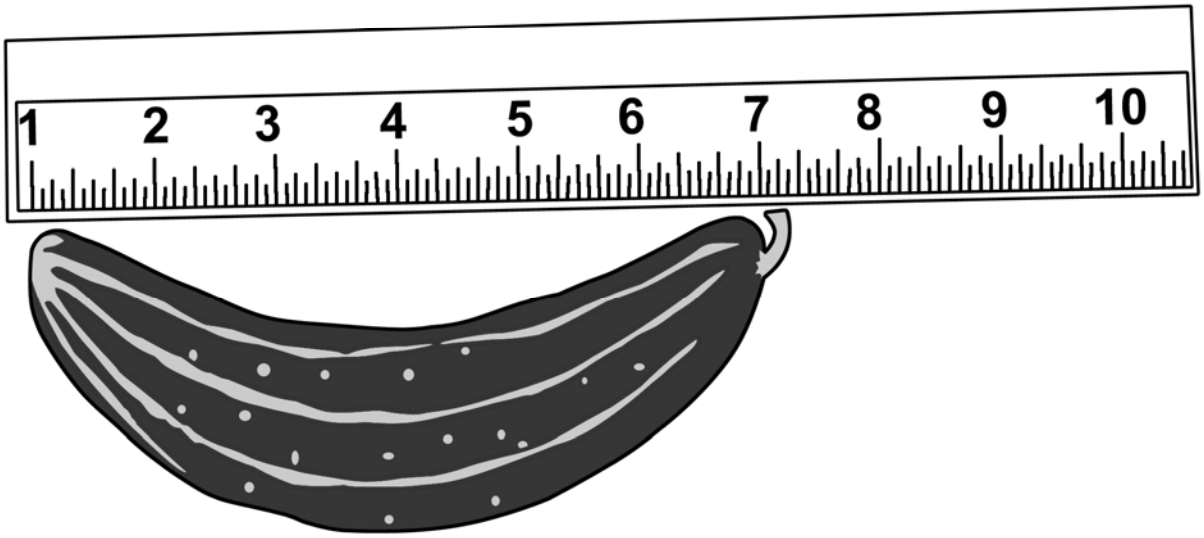
**Appendix I -- U. S. Standards**

United States Standards for Grades of Cucumbers
United States Standards for Grades of Greenhouse Cucumbers

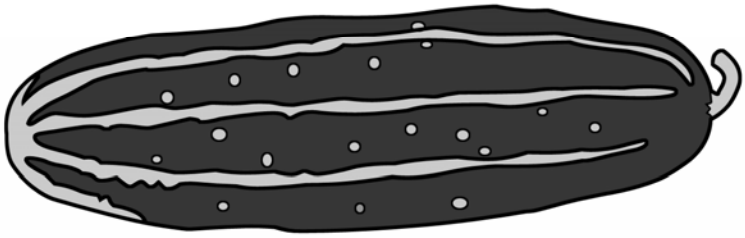
**Appendix II – Notesheet & Certificate Examples**

# Field Grown “Regular Cucumbers”




## 7 inches in length.

(See length page 6)



# PART ONE
# CUCUMBERS

There are three distinct types of cucumbers: Field grown; what we recognize as regular cucumbers, Greenhouse cucumbers; the long, normally individually wrapped, commonly known as seedless cucumbers, and Pickling cucumbers; the small, short normally warty cucumbers used for pickling. Part One of these inspection instructions contains inspection procedures and scoring guidelines for the field grown cucumbers. Part Two contains instructions for greenhouse cucumbers. Part Three contains instructions for pickling cucumbers which are not covered by the U.S. grade standard when inspected in fresh market channels. The U.S. Standards for Grades of Pickling Cucumbers are intended for use as a basis for determining the quality of cucumbers for pickling as they are delivered by the growers to a brining plant, pickling plant, or loading station.

## (1) 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 load.

### Size of Sample

The tolerances of the U.S. Standards for Grades of Cucumbers are determined on the basis of count. Examine **at least fifty** cucumbers from containers with 50 or more specimens. When there is less than 50 specimens per container the entire contents must be examined regardless of quality or condition of the lot. Whenever defects exceed the container or lot tolerance in one or more samples, the **entire contents** of at least one of these samples must be examined.

When the size of samples is not uniform, the percentages shall be determined for each sample. Percentages must be totaled and divided by the number of samples examined, in order to determine the average percentage for the lot.

### Number of Samples

Due to potential variations in size, quality, condition, or all of these, no definite rule can be provided as to a required number of samples. It is the inspector's responsibility to examine enough samples to ensure an accurate picture of the entire lot. However, for lots containing less than 100 cartons, a minimum of three samples shall be inspected.

## (2) TOLERANCES AND APPLICATION OF TOLERANCES

**§ 51.2227 *Tolerances* (a) 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:**

**(1) *For defects.* 10 percent for cucumbers in any lot which fail to meet the requirements of the grade, including therein not more than 1 percent for decay; and,**

**(2) *For off-size.* 10 percent for cucumbers in any lot which fail to meet the length and diameter requirements, including therein not more than 5 percent for cucumbers which fail to meet the requirements for minimum diameter, and not more than 5 percent for cucumbers which fail to meet the requirements for maximum diameter.**

| | | |
|---|---|---|
| Total Defects | | 10% |
| including decay | | 1% |
| Total Offsize | (including min. length) | 10% |
| including min. diameter | | 5% |
| max. diameter | | 5% |

There is no separate tolerance provided for length. A lot may have 10 percent which do not meet the specified length, as long as the total offsize (including minimum and maximum diameter) averages within the tolerance allowed. For example, a lot may have 8 percent by count under the specified length and 2 percent under the required minimum diameter and still meet size requirements.

### Application of Tolerances

**§ 51.2228 *Application of tolerances.* (a) The contents of individual packages in the lot, based on sample inspection, are subject to the**

**following limitations: *Provided,* That the averages for the entire lot are within the tolerances specified for the grade:**

**(1) For a tolerance of 10 percent or more, individual packages in any lot shall have not more than one and one half times the tolerance specified, except that when the package contains 15 specimens or less, individual packages shall have not more than double the tolerance specified; and,**

**(2) For a tolerance of less than 10 percent, individual packages in any lot shall have not more than double the tolerance specified, except that at least one defective and one off-size specimen may be permitted in any package.**

When inspecting on the basis of the U.S. Extra No. 1 grade, individual packages cannot have less than 40 percent U.S. Fancy cucumbers.

# (3) 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.

## Headings on Notesheets

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. Additional information and instructions may be given by your supervisor.

## 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.

## Product

"Cucumbers" shall be used to describe this commodity in the "Product" heading. This is sufficient as the standards do not require cucumbers to be of one variety or of similar varietal characteristics.

## Number/Type of Containers

The number of containers shall always be reported. The count of large lots certified 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 the 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."

Cucumbers are generally shipped in cartons, wirebound crates, lugs or bushel baskets. The type of container shall always be reported under this heading.

## 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/Markings" section. Only the brand name and other pertinent information should appear in this section on the certificate.

Frequently containers will be stamped "Super Select," "Select," "Extra Large," "Jumbo," etc. These are terms used by the trade to designate a certain size or quality. These terms have no bearing on the U.S. standards, but should be quoted on the certificate along with other identifying marks.

## Origin

The inspector 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 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 cucumbers are grown. If packages are not marked or the cucumbers are in bulk, refer to the General Inspection Instructions.

## (4) CONDITION OF PACK

The following terms should be used to describe pack:

Baskets and crates:

**Very Tight.** This pack is too tight and usually results in bruising.

**Tight.** Meaning that there is at least 1/2 inch bulge of the cover and the face is reasonably even.

**Fairly Tight.** This pack is tight enough to prevent movement within the container, but not packed so tightly that damage may result.

**Slightly Slack.** This term shall be used to describe the condition when the surface of the cucumbers are only slightly below the top of the package and that there is moderate movement of cucumbers within the container.

**Slack.** This is a loose pack in which the contents are below the top of the container. The amount of slackness shall be reported in inches or fractions of an inch below the top of the container.

Cartons:

**Well Filled.** Cucumbers are level with the top edge of the container.

**Fairly Well Filled.** Cucumbers are not in contact with the lid or cover, but not more than 1-1/2 inches below the lid or cover.

**Slack.** The cucumbers are more than 1-1/2 inches below the lid or cover. The amount of slackness shall be reported in inches or fractions of an inch below the lid.

## (5) TEMPERATURE OF PRODUCT

Refer to the General Inspection Instructions for information not covered in this section.

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 read 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 pre-cool the thermometer in order to obtain true readings.

# (6) SIZE

**SIZE REQUIREMENTS**

| GRADE | DIAMETER | LENGTH |
|---|---|---|
| U.S. Fancy | 2-3/8 in. max. | 6 in. min. |
| U.S. Extra No. 1 | 2-3/8 in. max. | 6 in. min. |
| U.S. No. 1 | 2-3/8 in. max. UOS* | 6 in. min. UOS* |
| U.S. No. 1 Small | 1-1/2 in. min.<br>2 in. max. | No requirements |
| U.S. No. 1 Large | 2-1/4 in. min. | 6 in. min. UOS* |
| U.S. No. 2 | 2-3/8 in. max. UOS* | 5 in. min. UOS* |

* UOS (Unless Otherwise Specified)

Size requirements in U.S. Standards for Grades of Cucumbers for the **U.S. Fancy, U.S. Extra No. 1, and U.S. No. 1 Small** are definite and cannot be otherwise specified. The size requirements for **U.S. No. 1 and U.S. No. 2** may be otherwise specified. In the **U.S. No. 1 Large** grade the minimum diameter of 2-1/4 inches cannot be otherwise specified, but the length of 6 inches may be otherwise specified.

**Reporting Size**

**Diameter.** This is the greatest dimension measured at right angles to the longitudinal axis, exclusive of the warts. Round hole measuring gauges should be used in determining the diameter.

**Length.** This is the greatest overall length measured in a straight line parallel to the longitudinal axis exclusive of the stem. A ruler or measuring tape may be used in determining the length.

When describing size, the range in length and diameter of the cucumber must be reported. Dimensions shall be reported in inches and fractions of inches. Unless the range is narrow, it is desirable to show the size of "most" of the specimens in order to give the general size impression of the lot. Size columns are to be kept on notesheets to substantiate the size reported on the certificate.

**Off-size Specimens Which Are Also Defective**

Undersize and oversize cucumbers which are also defective should be scored twice; first as off-size, second as a grade defect. This is necessary because the grades have separate tolerances for off-size and grade defects. Generally the percentage of off-size specimens that are also defective will be negligible, and will make no material difference in the grade certification. When the percentage of off-size specimens that are also defective amounts to 1% or more, the percentage of defective cucumbers which are also offsize must be reported. Report this information in the "Other" section on market certificates and in the "Description of Product" section on shipping point certificates. For example: 3% undersize included in 8% quality defects. Oversize should be treated the same way.

**Marking as to Count**

Count is be reported only when specifically requested by the applicant. When so requested, report the range of cucumbers per container and the average for the lot in the “Other“ section on market certificates and in the “Description of Products" section on shipping point certificate. For example "Counts range from 18 to 26, average 24 cucumbers per container.” It will be necessary to state in the "Remarks" section of certificates and notesheets “Count reported at applicant's request.”

# (7) 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. Those factors noted with **(C)** shall be reported as **CONDITION** factors on market certificates. Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION,** depending on the circumstances. Factors with no notation are considered as **QUALITY** only.

## Maturity or Development

All U.S. grades require that cucumbers not be "Overgrown."

**§ 51.2231 *Overgrown.* "Overgrown" means that the cucumber has developed beyond the best stage for slicing. It usually yields to slight pressure of the thumb. The seeds may be tough and fibrous, and the pulp in the seed cavity is usually watery or jelly-like. In more advanced cases, pithy streaks may be found in the flesh of the cucumber.**

Overgrown cucumbers are generally large, and dull in color. Any one, or a combination of the symptoms of the cucumbers having developed beyond the proper stage for slicing may be present. The objectionable specimens may have tough and fibrous seeds and flesh, and may be unpalatable in flavor. The pulp in the seed cavity is usually watery or jelly-like. Cucumbers that are overgrown shall be scored against all grades and treated as a quality defect. Yellowing, lack of firmness and lack of freshness when not associated with overmaturity shall be treated as a condition factor (see yellowing).

---

**Cleanness**

The U.S. grades for cucumbers have the following requirements for cleanness:

**U. S. Fancy, U. S. Extra No. 1, U. S. No. 1, U. S. No. 1 Large, &**
**U. S. No. 1 Small: Free from damage by dirt or other foreign material.**

**U. S. No. 2: Free from serious damage by dirt or other foreign material.**

***Scoring Guide***

Clean means that the cucumber is practically free from damage by dirt or staining. Dirt or staining is scored as damage when the appearance of the individual cucumber is materially affected. The appearance must be seriously affected to be scored as serious damage.

**Waxing**

Most cucumbers are waxed to give them a better appearance, and also to help prevent shriveling due to loss of moisture. If the inspector is certain the cucumbers have been waxed, it may reported in general terms in the “Other” section on the market certificate if requested.

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**Color**

The U. S. grades for cucumbers have the following requirements for color:

**U. S. Fancy: Well colored.**

**U.S Extra No. 1: At least 50 percent must be well colored, the remainder fairly well colored.**

**U. S. No. 1, U. S. No. 1 Large & U.S. No. 1 Small: Fairly well colored.**

**U. S. No. 2: Moderately colored.**

***Definitions:***

**§ 51.2229 *Well colored.* 'Well colored" means that not less than three-fourths of the surface of the cucumber is of a medium green or darker color, and that at least a light green color extends to the blossom end on one side of the cucumber.**

**§ 51.2235 *Fairly well colored.* "Fairly well colored" means that not less than two-thirds of the surface of the cucumber is of a medium green or darker color, and that at least a light green color extends to within one-half inch of the blossom end on one side of the cucumber.**

**§ 51.2237 *Moderately colored.* "Moderately colored" means that at least one-half of the surface of the cucumber is of a light green or darker color.**

Green color is one of the most important factors affecting the market value of cucumbers. Cucumbers may lack green color due to overshadowing from vines or weeds. Such cucumbers are whitish or pale green and would not meet the minimum of **medium** green required for **well colored** or **fairly well colored**. They may show sufficient green color to be considered **moderately colored**. The term **poorly colored** shall be used to describe cucumbers that fail to meet the requirements of any grade. Poorly colored should not be confused with yellowing (see yellowing).

Refer to CC-1 for medium green color.

---

**Shape**

The U.S. grades for cucumbers have the following requirements for shape:

**U.S. Fancy: Well formed.**

**U.S. Extra No. 1: At least 50 percent well formed, the remainder fairly well formed.**

**U.S. No. 1, U. S. No. 1 Large & U.S. No. 1 Small: Fairly well formed.**

**U.S. No. 2: Not badly deformed.**

***Definitions:***

**§ 51.2230 *Well formed.* "Well formed" means that the cucumber is practically straight and not more than very slightly constricted or more than moderately tapered or pointed.**

**§ 51.2236 *Fairly well formed.* "Fairly well formed" means that the cucumber may be moderately curved but not deeply constricted, not extremely tapered or pointed and not otherwise misshapen.**

**§ 51.2238 *Badly deformed.* "Badly deformed" means that the cucumber is so badly curved, constricted, tapered or otherwise so badly misshapen that the appearance is seriously affected.**

For examples of shape see the illustrations in U.S. Standards for Grades of Cucumbers (Appendix I) and official slides 215-222.

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**Scars**

Scars generally consist of brownish corky tissue formed on the surface of the cucumber as a result of injury caused by vines or leaves rubbing against the cucumber. The U.S. Fancy grade requires cucumbers to be free from injury; U.S. No. 1 free from damage; and U.S. No. 2 free from serious damage caused by scars.

***Scoring Guide***

**§ 51.2232 *Injury caused by scars.* "Injury caused by scars" means scars which aggregate more than the area of a circle three-eighths inch in diameter on a cucumber 6 inches in length, or correspondingly greater areas of scars on larger cucumbers.**

**§ 51.2233 *Damage.* (a) Scars when aggregating more than the area of a circle five-eighths inch in diameter on a cucumber 6 inches in length, or correspondingly smaller or greater areas of scars on smaller or larger cucumbers, respectively.**

**§ 51.2239 *Serious damage.* (a) Scars when aggregating more than the area of a circle 1 inch in diameter on a cucumber 6 inches in length, or correspondingly smaller or greater areas of scars on smaller or larger cucumbers, respectively.**

Refer to CUC-CP-1.

## Bruises (C)

Bruising may result from a pack that is too tight or rough handling. Bruises are usually soft, flattened or depressed areas with the underlying flesh discolored.

***Scoring Guide***

**§ 51.2233 *Damage.* (c) Bruises when materially affecting the appearance of the cucumber, or when sack imprints affect an aggregate area greater than that of a circle 2 1/4 inches in diameter.**

**§ 51.2239 *Serious Damage.* (b) Bruises when seriously affecting the appearance of the cucumber, or when sack imprints affect more than one-third of the surface of the cucumber.**

Refer to CUC-1-IDENT.

## Cuts (Q or C)

Cuts are areas where some flesh of the cucumber has been exposed. They can occur during harvest or when being packed. Cuts are injurious in that they open the way for decay. All grades require cucumbers to be free from damage by cuts.

***Scoring Guide***

**§ 51.2233 *Damage.* (b) Cuts which are fresh and more than slight.**

Cuts which exceed 3/8 inch in length are to be considered as more than slight on a cucumber 6 inches in length (correspondingly lesser or greater areas on smaller or larger cucumbers.)

Score as a quality factor when cuts are old and healed. Score as a condition factor when the cut is fresh and unhealed.

## Freshness and Firmness (C)

All grades require cucumbers to be **Fresh** and **Firm.**

**Fresh.** Fresh means that the cucumbers are bright, not wilted, yellow or exhibiting other symptoms of aging.

**Firm.** Firm means that the cucumbers are plump and are not soft or shriveled.

***Scoring Guide***

Cucumbers that are not fresh or firm shall be scored using the term which best describe their condition such as wilted, soft, and spongy.

---

**Insect Damage (Q or C)**

Insect damage may be caused by several types of insects. Some of these, such as the Cucumber Beetle, gnaw on the cucumber causing it to become deformed and lumpy or warty in appearance, others like the Pickle Worm, bore into the cucumber. Insect damage which breaks the skin of the cucumber can be particularly injurious as it frequently permits organisms to gain entrance and cause decay.

***Scoring Guide***

Score under the general definitions of damage and serious damage

In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

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**Mosaic**

The exact cause of this disease is not known. It is known, however, that the infection can be spread from diseased to healthy plants by artificial means and by sucking or chewing insects. Mosaic virus first appears in plants 6-8 weeks old, when plants are beginning to elongate quickly. Later, a yellow mottle develops on all leaves, with some leaf distortion and plant stunting. As this disease develops the cucumber becomes a light yellowish-green, with dark green raised spots. The fruit feels rough and warty.

***Scoring Guide***

Score under the general definitions of damage and serious damage.

---

**Pulled Ends**

When a cucumber is improperly clipped or pulled sharply from the vine the stem may be pulled from the cucumber leaving the flesh exposed. Even though the injury is generally healed and dry score as a quality defect based on the following guides.

***Scoring Guide***

Score as damage when:

1. Any breaking of the flesh at the stem end aggregating more than the area of a circle 1/2 inch in diameter, including the stem scar if the stem has been removed.

2. Any breaking of the flesh at the stem end aggregating more than the area of a circle 3/8 inch in diameter and over 1/8 inch in depth, including stem scar if stem has been removed.

3. Any breaking regardless of area if more than 1/4 inch in depth.

Pulled ends are never scored as serious damage, therefore they would not be scored against the U.S. No. 2 grade.

---

**Shriveled Ends (C)**

Cucumbers which show shriveling or puckering of the skin at one or both ends indicate that the flesh is tough and rubbery and likely to have a bitter taste.

***Scoring Guide***

Score under the general definitions of damage or serious damage.

---

**Sunken Areas (C)**

Sunken areas, which can be caused by low temperature, are one of the more common defects that affect cucumbers. These areas, which vary in size and depth, weaken the tissue beneath and serve as an opening for secondary infection.

***Scoring Guide***

When sunken areas exceed 3/8 inch in diameter (aggregate area), score as damage, when exceeding 5/8 inch in diameter (aggregate area) score as serious damage. Any sunken area that shows mold or decay must be scored as decay.

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**** **Open Spaces (Q)** ****

Open spaces in cucumbers occur during dry growing season when the water balance in the fruit is greater than the outside supply thus resulting in the absorption of moisture from the seed cavity area causing contraction of the inner tissues resulting in open spaces adjacent each seed pocket. These spaces may be from 1/16 to 1/2 inch in diameter and from 1 to 3 in number. There are no external indications of this disorder and the larger the open space the less seed development.

***Scoring Guide***

Score as damage when the open spaces number three or more, each exceeding 1/2 inch or equivalent diameter or when the tissue is discolored, moldy or dehydrated. Open spaces would not be considered serious damage and not scored against the U.S. No. 2 grade.

## Sunscald (Q)

Sunscald is caused by the exposure of the cucumber to direct sunlight. It appears as sunken areas which become tan or creamy-white in color. Often the outer skin becomes thin, parchment-like and papery.

### *Scoring Guide*

The U.S. Fancy and U.S. No. 1 grades require cucumbers to be free from sunscald, the U.S. No. 2 grade requires cucumbers to be free from damage. When sunscald exceeds 5/8 inch in diameter (aggregate area) score as damage.

Refer to CUC-CP-1.

## Yellowing (C)

It is important not to confuse yellowish color on the ground side of the cucumber (yellow bellies), or cucumbers lacking green color (poorly colored cucumbers), with yellowing that results from aging. However, keep in mind if a cucumber has a ground
**** spot that is a “yellow” color from aging and affects enough of an area to materially affect **** the appearance it should be scored.

### Scoring Guide

Score as damage when any spot of yellow color predominates over the green on any portion of the cucumber, or when the appearance is materially affected. Score as serious damage when the aggregate area of yellow color, which predominates over the green, exceeds that of a circle 1/2 inch in diameter, or when the appearance is seriously affected.

## Freezing and Freezing Injury (C)

Freezing injury is the term that should be used when it is evident that the cucumbers have been frozen but are not in a frozen condition at the time of inspection. The cucumbers may be soft and flabby with watersoaked, discolored areas. The term "frozen" should only be used when there are ice crystals present within the cucumbers.

When reporting freezing or freezing injury it is important to give the following information:

- Record pulp temperatures taken at various locations.
- Determine and record extent of the injury in the load.
- Determine and record extent of the injury in the containers.

- Determine and record degree to which individual specimens are affected.
- Describe the **pattern** of freezing or freezing injury in clear, concise terms.

When the location of injury indicates where or when the freezing occurred this is to be stated. For example "freezing injury so located to indicate occurred after packing, but not in present location."

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**Decay (C)**

There are various types of decay that affect cucumbers, such as Anthracnose, Bacterial Soft Rot, Black Rot and Cottony Leak. The type of decay is not to be reported on the certificate. However, when decay is in excess of the tolerance, report the stage of advancement: early, moderate, or advanced.

**** Do not score moldy/decayed stems. This fact may be reported at applicant's request. ****

**Anthracnose**

This is one of the most common diseases of cucumbers. All above ground parts of the plant are affected and on the fruit itself the disease first appears as small, more or less circular, or oval water-soaked spots. As these enlarge, the fungus sporulates abundantly, producing orange-pink slimy spore masses; later the lesions turn black. Often, the tissues underneath are dry and the sunken skin cracks exposing the tissues to invasion by soft rot organisms.

**Bacterial Soft Rot**

Bacterial soft rot usually gains entry by breaks in the skin. The early symptoms of this decay are watersoaking and a pronounced softening of the flesh about the point of infection. As the decay advances, the infected fruits become soft and mushy. This decay is usually accompanied by an offensive odor.

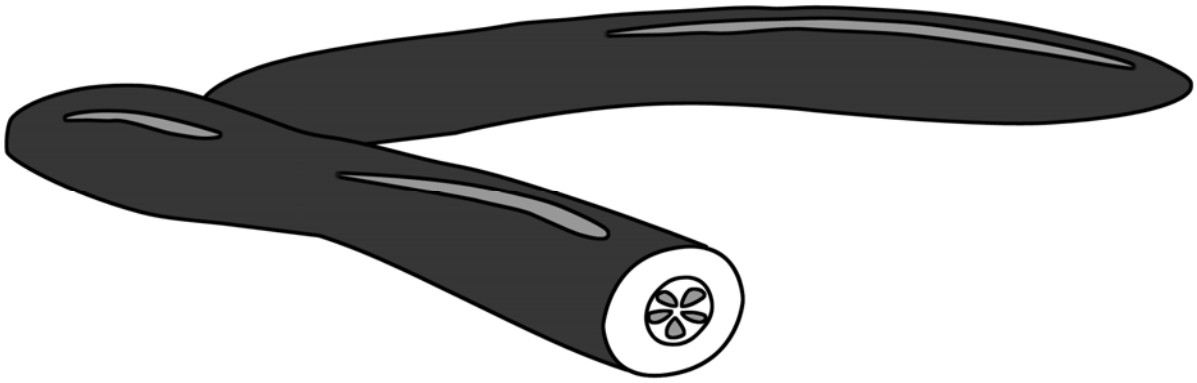
**Black Rot**

The decayed spots on the fruit are first oval to circular and greasy-green in color, later becoming dark brown. The rot develops within the fruit, and the whole cucumber becomes darker colored and soft, but not of a slimy consistency.

**Cottony Leak**

The first symptoms are soft, dark green, and water soaked lesions; later, as the mycelium penetrates the tissues, liquid is liberated in large quantities. In the moderately humid atmosphere of containers during transit, a very luxuriant, white, cottony mycelium is produced.

# Greenhouse Cucumbers



# PART TWO
# GREENHOUSE CUCUMBERS

## (1) 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 on sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load.

Greenhouse cucumbers are generally enclosed in shrink wrap which can mask defects. Please keep in mind it will be necessary to remove cello wrapping (unless obviously decayed) in order to accurately identify defects.

### Size of Sample

The tolerances of the U. S. Standards for Greenhouse Cucumbers are determined on the basis of count. When packed in containers the **entire contents** shall be the sample. When in bulk or bulk bins the sample shall consist of at **least 25** cucumbers. The sample size should be at least double if the application of tolerances is exceeded.

### Number of Samples

Due to potential variations in size, quality, condition, or all of these, no definite rule can be provided as to a required number of samples. It is the inspector's responsibility to examine enough samples to ensure an accurate picture of the entire lot. However, for lots containing less than 100 cartons, a minimum of three samples shall be inspected.

# (2) TOLERANCES AND APPLICATIONS OF TOLERANCES

**§ 51.3857 *Tolerances* In order to allow for variations incident to proper grading and handling in the foregoing grades the following tolerances, by count, shall be permitted in any lot:**

**(a) *For defects.* Ten percent for cucumbers in any lot which fail to meet the requirements of the specified grade: Provided, that included in these amounts not more than 1 percent for decay.**

**(b) *For off-size.* Five percent for cucumbers in any lot which are below a specified minimum length and 5 percent for cucumbers longer than a specified maximum length.**

| | |
|---|---|
| Total Defects | 10% |
| including decay | 1% |
| Under specified min. length | 5% |
| Over specified max. length | 5% |

**** ****

**Application of Tolerances**

**§51.3858 *Application of tolerances* (a) For a tolerance of 10 percent or more, individual samples may contain not more than one and one-half times the tolerance specified except that when the lot consists of containers with 18 cucumbers or less, individual containers may contain not more than double the tolerance specified: and provided, that the average is within the specified lot tolerance.**

**(b) For a tolerance of less than 10 percent, individual samples may contain not more than double the tolerance specified: Provided, that at least one defective and one off-size cucumber may be permitted in any sample: and provided further, that the average is within the specified lot tolerance.**

# (3) NOTESHEETS AND CERTIFICATES

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.

## Headings on Notesheets

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

## Handwritten Certificates

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

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

## Product

"Greenhouse Cucumbers" shall be used to described this commodity in the "Product" heading.

## Number/Type of Containers

The number of containers shall always be reported. The count of large lots certified 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 the 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."

Greenhouse cucumbers are generally shipped in one or two layer cartons. The type of the container shall always be reported under this heading.

## 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/Markings" section. Only the brand name and other pertinent information should appear in this section on the certificate.

**Origin**

The inspector 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 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 cucumbers are grown. If packages are not marked or the cucumbers are in bulk, refer to the General Inspection Instructions.

# (4) CONDITION OF PACK

The following terms shall be used to describe pack:

**Very Tight.** This pack is too tight and usually results in bruising.

**Fairly Tight.** This pack is tight enough to prevent movement within the container, but not packed so tightly that damage may result.

**Loose.** This means packed so loose to allow movement which may cause damage.

The following requirements for standard pack is only determined when specifically requested by the applicant as it is not a requirement of the grade(s).

**§ 51.3859 Standard pack.**

**(a) Each cucumber shall be completely enclosed in a shrink wrapper.**

**(b) Cucumbers shall be fairly uniform in size and packed fairly tight in layers in containers according to approved and recognized methods.**

**(1) Fairly uniform in size means that not more than 10 percent, by count, of the cucumbers in any container shall vary more that 2 inches in length.**

**(2) In order to allow for variations incident to proper packing, not more than 10 percent, by count, of the containers in any lot may fail to meet these requirements.**

Important points to remember when determining standard pack.

- Application of tolerances do not apply to standard pack. Not more than 10% of the containers in a lot may fail to meet the requirements of standard pack.

- A lot of cucumbers can fail to meet standard pack and still meet grade. The grade statement would be as follows: “U.S. No. 1. Fails to meet the requirements of standard pack.”
- It is to be noted in “Remarks” section of certificates and notesheets “Standard pack determined at applicant’s request.”

## (5) TEMPERATURE OF PRODUCT

Refer to the General Inspection Instructions for information not covered in this section.

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 read 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 pre-cool the thermometer in order to obtain true readings.

## (6) SIZE

The U.S. Standards for Grades of Greenhouse Cucumbers size requirements for the **U.S. Fancy, U. S. No. 1,** and **U.S. No. 2** grades state that unless otherwise specified the minimum length shall be not less than 11 inches. There is a 5 percent tolerance for undersize and if the applicant specifies a maximum length there is a separate 5 percent tolerance for oversize.

### Reporting Size

**Length.** This is the greatest overall length measured in a straight line parallel to the longitudinal axis. A ruler or measuring tape may be used in determining the length.

When describing size the range in length shall be reported in inches and fractions of inches. Unless the range is narrow (one inch or less), it is desirable to show the size of "most" of the specimens in order to give the general size impression of the lot. Size columns are to be kept on notesheets to substantiate the size reported on the certificate.

**Off-size Specimens Which Are Also Defective**

Undersize and oversize cucumbers which are also defective should be scored twice; first as off-size, second as a grade defect. This is necessary because the grades have separate tolerances for off-size and grade defects. Generally the percentage of off-size specimens that are also defective will be negligible, and will make no material difference in the grade certification. When the percentage of off-size specimens that are also defective amounts to 1% or more, the percentage of defective cucumbers which are also offsize must be reported. Report this information in the "Other" section on market certificates and in the "Description of Product" section on shipping point certificates. For example: 3% undersize included in 8% quality defects. Oversize should be treated the same way.

**Marking as to Count**

Count is be reported only when specifically requested by the applicant. When so requested, report the range of cucumbers per container and the average for the lot in the “Other“ section on market certificates and in the “Description of Products" section on shipping point certificate. For example "Counts range from 18 to 26, average 24 cucumbers per container.” It will be necessary to state in the "Remarks" section of certificates and notesheets “Count reported at applicant's request.”

# (7) 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. Those factors noted with **(C)** shall be reported as **CONDITION** factors on market certificates. Those factors noted with **(Q or C)** may be considered as **QUALITY** or **CONDITION,** depending on the circumstances. Factors with no notation are considered as **QUALITY** only.

## Cleanness

The U.S. grades for greenhouse cucumbers have the following requirements for cleanness:

**U.S. Fancy, U.S. No. 1, and U.S. No. 2 : clean.**

***Definitions:***

**§ 51.3860 (a) "Clean" means practically free from dirt or other foreign material.**

***Scoring Guide***

Cleanliness is rarely a factor for greenhouse cucumbers as they are generally washed and individually wrapped. However, if the appearance of the individual cucumber is materially affected by dirt or other foreign material it is to be considered damaged by dirt.

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**Color**

The U. S. grades for greenhouse cucumbers have the following requirements for color:

**U.S. Fancy: Well colored.**

**U.S. No. 1 & U.S. No. 2: Fairly well colored.**

***Definitions:***

**§ 51.3860 (f) "Well colored" means a characteristic green color over practically the entire surface.**

**§ 51.3860 (g) "Fairly well colored" means a characteristic green color over two-thirds or more of the surface except for areas affected by foliage shading.**

Cucumbers that lack sufficient green color to be concerned **fairly well colored** are to be considered **poorly colored**. It is important not to confuse poorly colored cucumber with yellowing (see yellowing).

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**Shape**

The U.S. grades for greenhouse cucumbers have the following requirements for shape:

**U.S. Fancy: Well formed.**

**U.S. No. 1: Fairly well formed.**

**U.S. No. 2: Not badly deformed.**

***Definitions:***

**§ 51.3860 (c) "Well formed" means that the shape shall be fairly straight and not more than slightly tapered at one or both ends.**

**§ 51.3860 (d) "Fairly well formed" means not materially curved, constricted, or pointed at one or both ends, or otherwise materially misshapen.**

**§ 51.3860 (e) "Badly deformed" means badly curved, beaked, bottlenecked, QUALITY seriously affected.**

For examples of shape see illustrations in the U. S. Standards for Grades of Greenhouse Cucumbers (Appendix I).

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**Scars**

Scars generally consist of brownish corky tissue formed on the surface of the cucumber as a result of injury caused by vines or leaves rubbing against the cucumber. The U.S. Fancy grade requires cucumbers to be free from injury; U.S. No. 1 free from damage; and U.S. No. 2 free from serious damage by scars.

***Scoring Guide***

The following scoring guideline is based on a cucumber 11 inches in length. Correspondingly larger areas are permitted on longer cucumbers and smaller areas on shorter cucumbers.

**§ 51.3863 Classification of defects.**

***Injury.*** **When not smooth, or not light colored, and aggregating more than the area of a circle 3/8 inch (9.5mm) in diameter; or smooth and light colored and aggregating more than the area of a circle 3/4 inch (19.1mm) in diameter.**

***Damage.*** **When not smooth, or not light colored, and aggregating more than the area of a circle 1/2 inch (12.7mm) in diameter; or smooth and light colored and aggregating more than the area of a circle 1 1/2 inches (38.1mm) in diameter.**

***Serious Damage.*** **When dark or slightly rough or barklike scars aggregate more than a circle 3/4 inch (19.1mm) in diameter; or smooth and light**

**colored and aggregating more than the area of a circle 2 inches (50.8mm) in diameter.**

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**Bruises (C)**

Bruising may result from a pack that is too tight or rough handling. Bruises are usually soft, flattened or depressed areas with the underlying flesh discolored. The U.S. Fancy grade requires cucumbers to be free from injury; U.S. No. 1 free from damage; and U.S. No. 2 free from serious damage by bruising.

***Scoring Guide***

The following scoring guideline is based on a cucumber 11 inches in length. Correspondingly larger areas are permitted on longer cucumbers and smaller areas on shorter cucumbers.

**§ 51.3863 Classification of defects.**

***Injury.*** **When any indentation is more than 1/16 inch (1.6mm) in depth or exceeds an area of a circle 1/2 inch (12.7mm) in diameter.**

***Damage.*** **When any indentation is more than 1/8 inch (3.2mm) in depth or exceeds an area of a circle 3/4 inch (19.1mm) in diameter.**

***Serious Damage.*** **When any indentation is more than 1/4 inch (6.4mm) in depth or exceeds an area of a circle 1 inch (25.4mm) in diameter.**

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**Cuts (Q or C)**

Cuts are areas where some flesh of the cucumber has been exposed. They can occur during harvest or when being packed. Cuts are injurious in that they open the way for decay.

**Scoring Guide**

Score any cut against the U.S. Fancy grade, any unhealed cut against U.S. No. 1 and U.S. No. 2 grades. As a guide, score as damage a healed cut which exceeds 1/2 inch in length, as serious damage a healed cut which exceeds 3/4 inch in length on a cucumber 11 inches in length (correspondingly lesser or greater areas on smaller or larger cucumbers.)

Score as a quality factor when cuts are old and healed. Score as a condition factor when the cut is fresh and unhealed.

## Freshness and Firmness (C)

All grades require cucumbers to be **Fresh** and **Firm.**

**Fresh.** Fresh means that the cucumbers are bright, not wilted, yellow or exhibiting other symptoms of aging.

**Firm.** Firm means that the cucumbers are plump, and are not soft or shriveled.

***Scoring Guide***

Cucumbers that are not fresh or firm shall be scored using the term which best describe their condition such as wilted, soft, and spongy.

## Insect Damage (Q or C)

Insect damage may be caused by several types of insects. Some of these like the Cucumber Beetle gnaw on the cucumber causing it to become deformed and lumpy or warty in appearance, others like the Pickle Worm bore into the cucumber. The U.S. Fancy grade requires cucumbers to be free from injury; U.S. No. 1 free from damage; and U.S. No. 2 free from serious damage by insects.

***Scoring Guide***

**§ 51.3863 Classification of defects.**

***Injury.*** **When feeding injury is evident or any insect is present.**

***Damage.*** **When feeding injury materially detracts from appearance or any insect is present.**

***Serious Damage.*** **When feeding injury seriously detracts from appearance or any insect is present.**

At transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

## Mosaic

The exact cause of this disease is not known. It is known, however, that the infection can be spread from diseased to healthy plants by artificial means and by sucking or chewing insects. Mosaic virus first appears in plants 6-8 weeks old, when

plants are beginning to elongate quickly. As this disease develops the cucumber becomes a light yellowish green, with dark green raised spots. The fruit feels rough and warty.

***Scoring Guide***

Score under the general definitions of injury, damage and serious damage.

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**Pulled Ends**

When a cucumber is improperly clipped or pulled sharply from the vine the stem may be pulled from the cucumber leaving the flesh exposed. Even though the injury is generally healed and dry score as a quality defect based on the following guides.

**Scoring Guide**

Score as damage when:

1. Any breaking of the flesh at the stem end aggregating more than the area of a circle 1/2 inch in diameter, including the stem scar if the stem has been removed.

2. Any breaking of the flesh at the stem end aggregating more than the area of a circle 3/8 inch in diameter and over 1/8 inch in depth, including stem scar if stem has been removed.

3. Any breaking regardless of area if more than 1/4 inch in depth.

All pulled ends shall be scored against the U.S. Fancy grade. Pulled ends are never scored as serious damage; therefore they would not be scored against the U.S. No. 2 grade.

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**Shriveled Ends (C)**

Cucumbers which show shriveling or puckering of the skin at one or both ends indicate that the flesh is tough and rubbery and likely to have a bitter taste.

***Scoring Guide***

******** Score under the general definitions of injury, damage or serious damage. ********

## Sunken Areas (C)

Sunken areas, which can be caused by low temperature are one of the more common defects that affect cucumbers. These areas which vary in size and depth weaken the tissue beneath and serve as an opening for secondary infection.

### *Scoring Guide*

Score as injury when a sunken area exceeds 1/2 inch in diameter or 1/16 inch in depth, as damage when area exceeds 3/4 inch in diameter or 1/8 in depth, as serious damage when area exceeds 1 inch in diameter or 1/4 inch in depth on a cucumber 11 inches in length (corresponding lesser or greater areas on smaller or larger cucumbers.) Any sunken area that shows mold or decay must be scored as decay.

## Yellowing (C)

It is important not to confuse poorly colored cucumbers (cucumbers lacking green color), with yellowing that results from aging.

### *Scoring Guide*

Score as injury when yellowing slightly detracts from the appearance of the cucumber. Score as damage when any spot of yellow color predominates over the green on any portion of the cucumber, or when the appearance is materially affected. Score as serious damage when the aggregate area of yellow color, which predominates over the green, exceeds that of a circle 1/2 inch in diameter, or when the appearance is seriously affected.

## Freezing and Freezing Injury (C)

Freezing injury is the term that should be used when it is evident that the cucumbers have been frozen but are not in a frozen condition at the time of inspection. The cucumbers may be soft and flabby with watersoaked discolored areas. The term "frozen" should only be used when there are ice crystals present within the cucumbers.

When reporting freezing or freezing injury it is important to give the following information:

- Record pulp temperatures taken at various locations.
- Determine and record extent of the injury in the load.
- Determine and record extent of the injury in the containers.
- Determine and record degree to which individual specimens are affected.
- Describe the **pattern** of freezing or freezing injury in clear, concise terms.

When the location of injury indicates where or when the freezing occurred this is to be stated. For example “freezing injury so located to indicate occurred after packing, but not in present location.”

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**Decay (C)**

There are various types of decay that affect cucumbers, such as Anthracnose, Bacterial Soft Rot, Black Rot and Cottony Leak. The type of decay is not to be reported on the certificate. However when decay is in excess of the tolerance report the stage of advancement; early, moderate or advanced.

**** Do not score moldy/decayed stems. This fact may be reported at applicant’s request. ****

**Anthracnose**

This is one of the most common diseases of cucumbers. All above ground parts of the plant are affected and on the fruit itself the disease first appears as small, more or less circular, or oval water-soaked spots. As these enlarge, the fungus sporulates abundantly, producing orange-pink slimy spore masses; later the lesions turn black. Often, the tissues underneath are dry and the sunken skin cracks exposing the tissues to invasion by soft rot organisms.

**Bacterial Soft Rot**

Bacterial soft rot usually gains entry by breaks in the skin. The early symptoms of this decay are watersoaking and a pronounced softening of the flesh about the point of infection. As the decay advances, the infected fruits becomes soft and mushy. This decay is usually accompanied by an offensive odor.

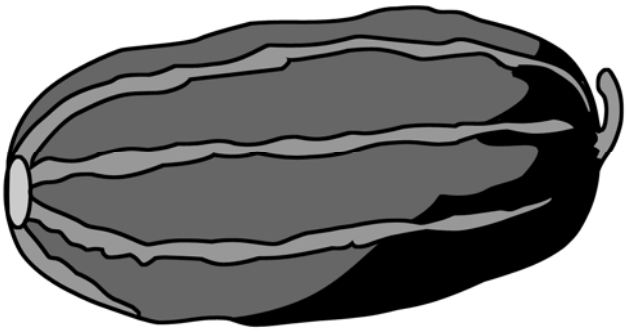
**Black Rot**

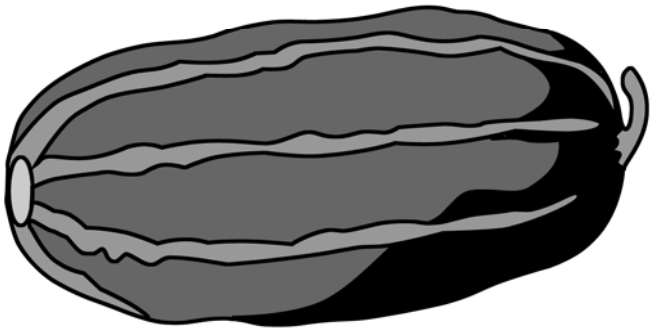
The decayed spots on the fruit are first oval to circular and greasy-green in color, later becoming dark brown. The rot develops within the fruit, and the whole cucumber becomes darker colored and soft, but not of a slimy consistency.

**Cottony Leak**

The first symptoms are soft, dark green, watersoaked lesions; later, as the mycelium penetrates the tissues, liquid is liberated in large quantities. In the moderately humid atmosphere of containers during transit, a very luxuriant, white, cottony mycelium is produced.

# Pickling Cucumbers





# PART THREE
# PICKLING CUCUMBERS

## (1) GENERAL

Pickling cucumbers are characterized by being much shorter than the slicing varieties, less tapered at the tip, and are a lighter shade of green color than that of “regular” cucumbers. These varieties are adapted for pickling in that they go through the brining process without excessive shriveling or bloating.

The U.S. Standards for Grades of Pickling Cucumbers is designed to be used to determine the quality of cucumbers for pickling as they are delivered to a plant for processing. This standard **cannot** be applied to pickling cucumbers received in fresh market channels. When inspecting pickling cucumbers in fresh market channels do not use the terms "Grade Defects," "Injury," "Damage," or "Serious Damage." Further, do not use descriptive terms such as "materially" or "seriously affecting appearance," as these are generally used in the general definitions of damage and serious damage. Describe the objectionable factors in terms of color, area affected, and depth, etc.

## (2) INSPECTION PROCEDURES

Examine **at least fifty cucumbers** from containers with 50 or more specimens. Whenever there are less than 50 specimens examine the entire contents. Samples should be taken from various locations within the container being examined. This may require that the contents be dumped out or into another container so that a representative sample may be obtained from any part of the container.

“Pickling Cucumbers” shall be used to describe this commodity in the “Product” heading. In the product code section on notesheet enter “CUX” and “PK” in the type section. “NOG” is to be entered as the purpose code and as with all “NOG” products no defect codes shall be entered.

For detailed information concerning inspection procedures, notesheets and certificate (brands/marking, origin etc.), pack and temperatures see Part One of these instructions.

# Appendix I

U.S. Standards

**United States Department of Agriculture**

**Agricultural Marketing Service**

**Fruit and Vegetable Programs**

**Fresh Products Branch**

# United States Standards for Grades of Cucumbers

## Effective March 1, 1958

***(Reprinted - January 1997)***

# United States Standards for Grades of Cucumbers [1]

**Grades**
51.2220 U.S. Fancy.
51.2221 U.S. Extra No. 1.
51.2222 U.S. No. 1.
51.2223 U.S. No. 1 Small.
51.2224 U.S. No. 1 Large.
51.2225 U.S. No. 2.
**Unclassified**
51.2226 Unclassified.
**Tolerances**
51.2227 Tolerances.
**Application of Tolerances**
51.2228 Application of tolerances.
**Definitions**
51.2229 Well colored.
51.2230 Well formed.
51.2231 Overgrown.
51.2232 Injury caused by scars.
51.2233 Damage.
51.2234 Diameter.
51.2235 Fairly well colored.
51.2236 Fairly well formed.
51.2237 Moderately colored.
51.2238 Badly deformed.
51.2239 Serious damage.

**Grades**

**§51.2220 U.S. Fancy**.

"U.S. Fancy" consists of cucumbers which are well colored, well formed, not overgrown, and which are fresh, firm, and free from decay, sunscald, and from injury caused by scars and from damage caused by yellowing, sunburn, dirt or other foreign material, freezing, mosaic or other disease, insects, cuts, bruises, mechanical or other means. (See §51.2227.)

(a) The maximum diameter of each cucumber shall be not more than 2-3/8 inches and the length of each cucumber shall be not less than 6 inches. (See §51.2227.)

**§51.2221 U.S. Extra No. 1.**

"U.S. Extra No. 1" consists of a combination of U.S. Fancy and U.S. No. 1 cucumbers:

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[1] Packing of the product in conformity with the requirements of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

**Provided**, That at least 50 percent of the cucumbers in the lot shall meet the requirements of the U.S. Fancy grade and the remainder shall meet the requirements of the U.S. No. 1 grade. (See §51.2227.)

(a) The maximum diameter of each cucumber shall be not more than 2-3/8 inches and the length of each cucumber shall be not less than 6 inches. (See §51.2227.)

**§51.2222 U.S. No. 1.**

"U.S. No. 1" consists of cucumbers which are fairly well colored, fairly well formed, not overgrown, and which are fresh, firm, and free from decay, sunscald and from damage caused by scars, yellowing, sunburn, dirt or other foreign materials, freezing, mosaic or other disease, insects, cuts, bruises, mechanical or other means. (See §51.2227.)

(a) Unless otherwise specified, the maximum diameter of each cucumber shall be not more than 2-3/8 inches and the length of each cucumber shall be not less than 6 inches. (See §51.2227.)

**§51.2223 U.S. No. 1 Small.**

"U.S. No. 1 Small" consists of cucumbers which meet all requirements for the U.S. No. 1 grade except for size. (See §51.2227.)

(a) The diameter of each cucumber shall be not less than 1-1/2 inches or more than 2 inches. There are no requirements for length. (See §51.2227.)

**§51.2224 U.S. No. 1 Large.**

"U.S. No. 1 Large" consists of cucumbers which meet all requirements for the U.S. No. 1 grade except for size. (See §51.2227.)

(a) The minimum diameter of each cucumber shall be not less than 2-1/4 inches and, unless otherwise specified, the length of each cucumber shall be not less than 6 inches. There are no maximum diameter and length requirements. (See §51.2227.)

**§51.2225 U.S. No. 2.**

"U.S. No. 2" consists of cucumbers which are moderately colored, not badly deformed, not overgrown, and which are fresh, firm, free from decay and free from damage caused by freezing, sunscald, cuts and from serious damage caused by scars, yellowing, sunburn, dirt or other foreign material, mosaic or other disease, insects, bruises, mechanical or other means. (See §51.2227.)

(a) Unless otherwise specified, the maximum diameter of each cucumber shall be not more than 2-3/8 inches and the length of each cucumber shall be not less than 5 inches. (See §51.2227.)

**Unclassified**

**§51.2226 Unclassified.**

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

**Tolerances**

**§51.2227 Tolerances.**

(a) 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:

(1) **For defects.** 10 percent for cucumbers in any lot which fail to meet the requirements of the grade, including therein not more than 1 percent for decay; and,

(2) **For off-size.** 10 percent for cucumbers in any lot which fail to meet the length and diameter requirements, including therein not more than 5 percent for cucumbers which fail to meet the

requirements for minimum diameter, and not more than 5 percent for cucumbers which fail to meet the requirements for maximum diameter.
(b) When applying the foregoing tolerances to the U. S. Extra No. 1 grade, individual containers shall have not more than 10 percent less than the percentage of U. S. Fancy cucumbers required: **Provided**, That the entire lot averages within the required percentage. (See §51.2228.)

**Application of Tolerances**

**§51.2228 Application of tolerances.**

(a) The contents of individual packages in the lot, based on sample inspection, are subject to the following limitations: **Provided**, That the averages for the entire lot are within the tolerances specified for the grade:
(1) For a tolerance of 10 percent or more, individual packages in any lot shall have not more than one and one-half times the tolerance specified, except that when the package contains 15 specimens or less, individual packages shall have not more than double the tolerance specified; and,
(2) For a tolerance of less than 10 percent, individual packages in any lot shall have not more than double the tolerance specified, except that at least one defective and one off-size specimen may be permitted in any package.

**Definitions**

**§51.2229 Well colored.**

"Well colored" means that not less than three-fourths of the surface of the cucumber is of a medium green or darker color, and that at least a light green color extends to the blossom end on one side of the cucumber.

**§51.2230 Well formed.**

"Well formed" means that the cucumber is practically straight and not more than very slightly constricted or more than moderately tapered or pointed.

**§51.2231 Overgrown.**

"Overgrown" means that the cucumber has developed beyond the best stage for slicing. It usually yields to slight pressure of the thumb. The seeds may be tough and fibrous, and the pulp in the seed cavity is usually watery or jelly-like. In more advanced cases, pithy streaks may be found in the flesh of the cucumber.

**§51.2232 Injury caused by scars.**

"Injury caused by scars" means scars which aggregate more than the area of a circle three-eighths inch in diameter on a cucumber 6 inches in length, or correspondingly greater areas of scars on larger cucumbers.

**§51.2233 Damage.**

"Damage", unless otherwise specifically defined in this section, means any defect which materially affects the appearance, or the edible or shipping quality of the cucumber. Any one of the following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:
(a) Scars when aggregating more than the area of a circle five-eighths inch in diameter on a cucumber 6 inches in length, or correspondingly smaller or greater areas of scars on smaller or larger cucumbers, respectively;
(b) Cuts which are fresh and more than slight; and,

(c) Bruises when materially affecting the appearance of the cucumber, or when sack imprints affect an aggregate area greater than that of a circle 2 1/4 inches in diameter.

**§51.2234 Diameter.**

"Diameter" means the greatest dimension of the cucumber measured at right angles to the longitudinal axis, exclusive of" “warts".

**§51.2235 Fairly well colored.**

"Fairly well colored" means that not less than two-thirds of the surface of the cucumber is of a medium green or darker color, and that at least a light green color extends to within one-half inch of the blossom end on one side of the cucumber.

**§51.2236 Fairly well formed.**

"Fairly well formed" means that the cucumber may be moderately curved but not deeply constricted, not extremely tapered or pointed and not otherwise misshapen.

**§51.2237 Moderately colored.**

"Moderately colored" means that at least one-half of the surface of the cucumber is of a light green or darker color.

**§51.2238 Badly deformed.**

"Badly deformed" means that the cucumber is so badly curved, constricted, tapered or otherwise so badly misshapen that the appearance is seriously affected.

**§51.2239 Serious damage.**

"Serious damage", unless otherwise specifically defined in this section, means any defect which seriously affects the appearance, or the edible or shipping quality of the cucumber. The following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as serious damage:

(a) Scars when aggregating more than the area of a circle 1 inch in diameter on a cucumber 6 inches in length, or correspondingly smaller or greater areas of scars on smaller or larger cucumbers, respectively; and,

(b) Bruises when seriously affecting the appearance of the cucumber, or when sack imprints affect more than one-third of the surface of the cucumber.

## MINIMUM SHAPES PERMISSIBLE IN U.S. FANCY GRADE

(About 1/3 actual size)

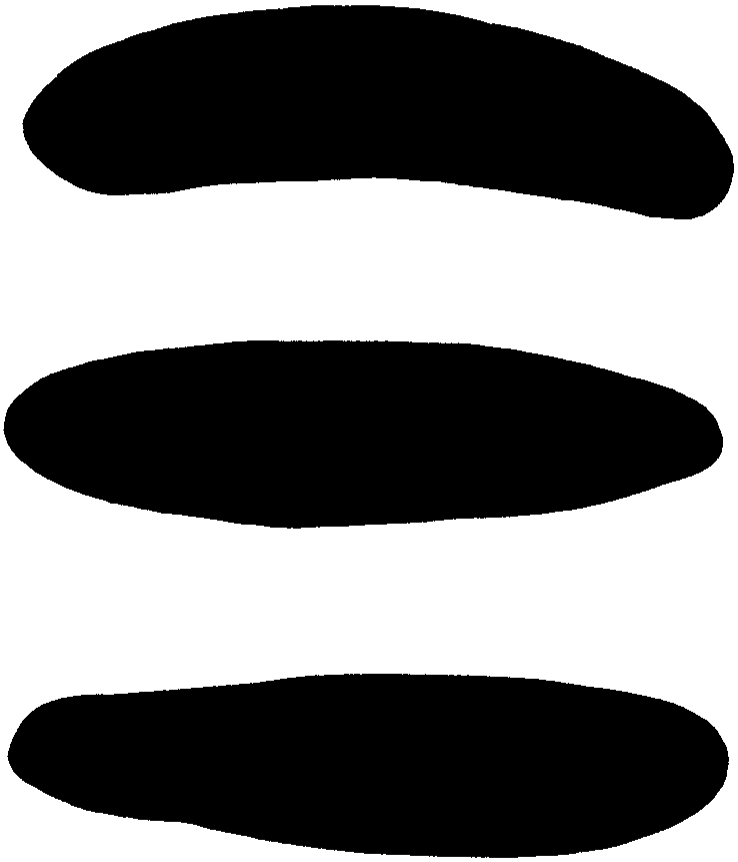


Illustration CUXFR 1

MINIMUM SHAPES PERMISSIBLE IN U.S. NO. 1 GRADE

(About 1/3 actual size)

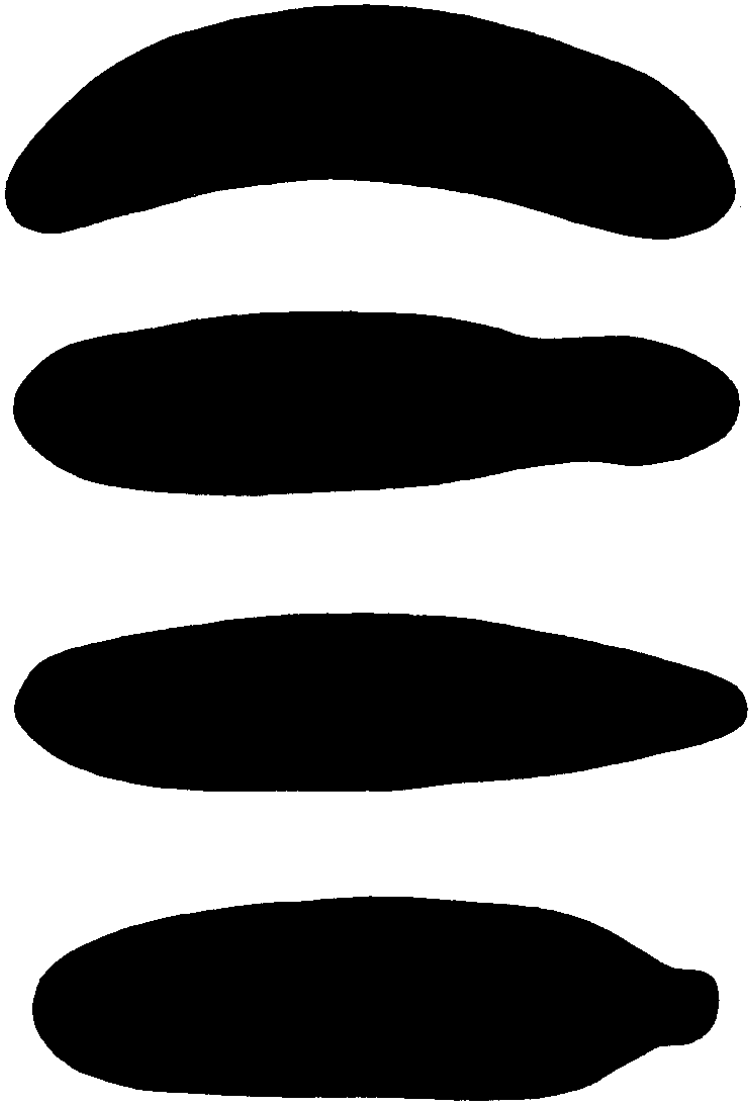


Illustration CUXFR 2

MINIMUM SHAPES PERMISSIBLE IN U.S. NO. 2 GRADE
(About 1/3 actual size)

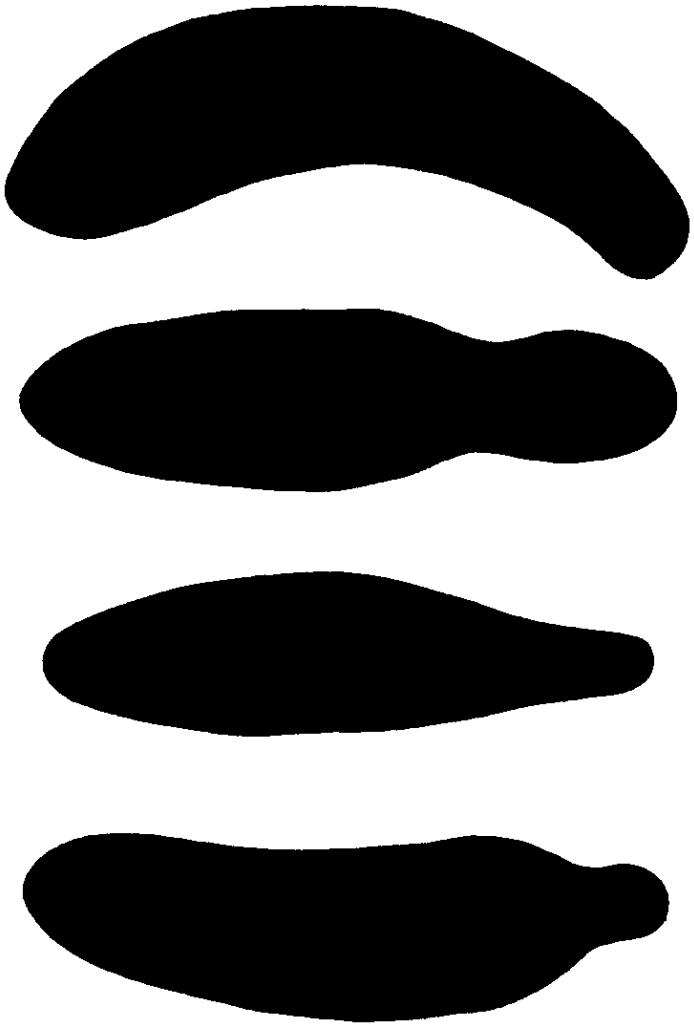


Illustration CUXFR 3

**United States Department of Agriculture**

**Agricultural Marketing Service**

**Fruit and Vegetable Programs**

**Fresh Products Branch**

# United States Standards for Grades of Greenhouse Cucumbers

## Effective September 5, 1985

***(Repringted - January 1997)***

# United States Standards for Grades of Greenhouse Cucumbers

51.3855 General.
51.3856 Grades.
51.3857 Tolerances.
51.3858 Application of tolerances.
51.3859 Standard pack.
51.3860 Definitions.
51.3861 Permanent defects.
51.3862 Condition defects.
51.3863 Classification of defects.

**§51.3855 General.**

Compliance with the provisions of these standards shall not excuse failure to comply with provisions of applicable Federal or State laws.

**§51.3856 Grades.**

(a)"U.S. Fancy" consists of cucumbers which meet the following requirements:
(1) Basic requirements:
(i) Clean;
(ii) Well formed;
(iii) Well colored;
(iv) Fresh; and,
(v) Firm.
(2) Free from: Decay, cuts or mechanical injury.
(3) Free from injury by:
(i) Scars;
(ii) Freezing;
(iii) Mosaic or other diseases; and,
(iv) Insects or other means.
(4) Size: Unless otherwise specified, the minimum length shall be not less than 11 inches.
(5) Tolerances: (See §51.3857)
(b) "U.S. No. 1" consists of cucumbers which meet the following requirements:
(1) Basic requirements:
(i) Clean;
(ii) Fairly well formed;
(iii) Fairly well colored;
(iv) Fresh; and,
(v) Firm.
(2) Free from: Decay and unhealed cuts.
(3) Free from damage by:
(i) Scars;

(ii) Freezing;
(iii) Mosaic or other diseases;
(iv) Insects; and,
(v) Mechanical or other means.
(4) Size: Unless otherwise specified, the minimum length shall be not less than 11 inches.
(5) Tolerances: (See §51.3857)
(c)"U.S. No. 2" consists of cucumbers which meet the following requirements:
(1) Basic requirements:
(i) Clean;
(ii) Not badly deformed;
(iii) Fairly well colored;
(iv) Fresh; and,
(v) Firm.
(2) Free from: Decay and unhealed cuts.
(3) Free from serious damage by:
(i) Scars;
(ii) Freezing;
(iii) Mosaic or other diseases;
(iv) Insects; and,
(v) Mechanical or other means.
(4) Size: Unless otherwise specified, the minimum length shall be not less than 11 inches.
(5) Tolerances: (See §51.3857)

**§51.3857 Tolerances.**

In order to allow for variations incident to proper grading and handling in the foregoing grades the following tolerances, by count, shall be permitted in any lot:
(a) **For defects.** Ten percent for cucumbers in any lot which fail to meet the requirements of the specified grade: Provided**,** that included in this amount not more than 1 percent for decay.
(b) **For off-size.** Five percent for cucumbers in any lot which are below a specified minimum length and 5 percent for cucumbers longer than a specified maximum length.

**§51.3858 Application of tolerances.**

When packed in containers the contents shall be the sample, when in bulk or bulk bins the sample shall consist of at least 25 cucumbers. Individual samples are subject to the following limitations:
(a) For a tolerance of 10 percent or more, individual samples may contain not more than one and one-half times the tolerance specified except that when the lot consists of containers with 18 cucumbers or less, individual containers may contain not more than double the tolerance specified: and provided**,** that the average is within the specified lot tolerance.
(b) For a tolerance of less than 10 percent, individual samples may contain not more than double the tolerance specified: Provided**,** that at least one defective and one off-size cucumber may be permitted in any sample: and provided further, that the average is within the specified lot tolerance.

**§51.3859 Standard pack.**

(a) Each cucumber shall be completely enclosed in a shrink wrapper.

(b) Cucumbers shall be fairly uniform in size and packed fairly tight in layers in containers according to approved and recognized methods.
(1) Fairly uniform in size means that not more than 10 percent, by count, of the cucumbers in any container shall vary more than 2 inches in length.
(2) In order to allow for variations incident to proper packing, not more than 10 percent, by count, of the containers in any lot may fail to meet these requirements.

**§51.3860 Definitions.**

(a) "Clean" means practically free from dirt or other foreign material.
(b) "Fresh" means bright, not wilted, yellow or exhibiting other symptoms of aging.
(c) "Well formed" means that the shape shall be fairly straight and not more than slightly tapered at one or both ends.
(d) "Fairly well formed" means not materially curved, constricted, or pointed at one or both ends, or otherwise materially misshapen.
(e) "Badly deformed" means badly curved, beaked, bottlenecked, constricted, or otherwise so badly misshapen that the appearance is seriously affected.
(f) "Well colored" means a characteristic green color over practically the entire surface.
(g) "Fairly well colored" means a characteristic green color over two-thirds or more of the surface except for areas affected by foliage shading.
(h) "Injury" means any defect described in §51.3863 or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality.
(i) "Damage" means any defect described in §51.3863 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.
(j) "Serious damage" means any defect described in §51.3863 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.

**§51.3861 Permanent defects.**

"Permanent defects" means defects which are not subject to change during shipping or storage; including, but not limited to factors of shape, scars, or growth cracks and cuts which are so located as to indicate that they occurred prior to packing.

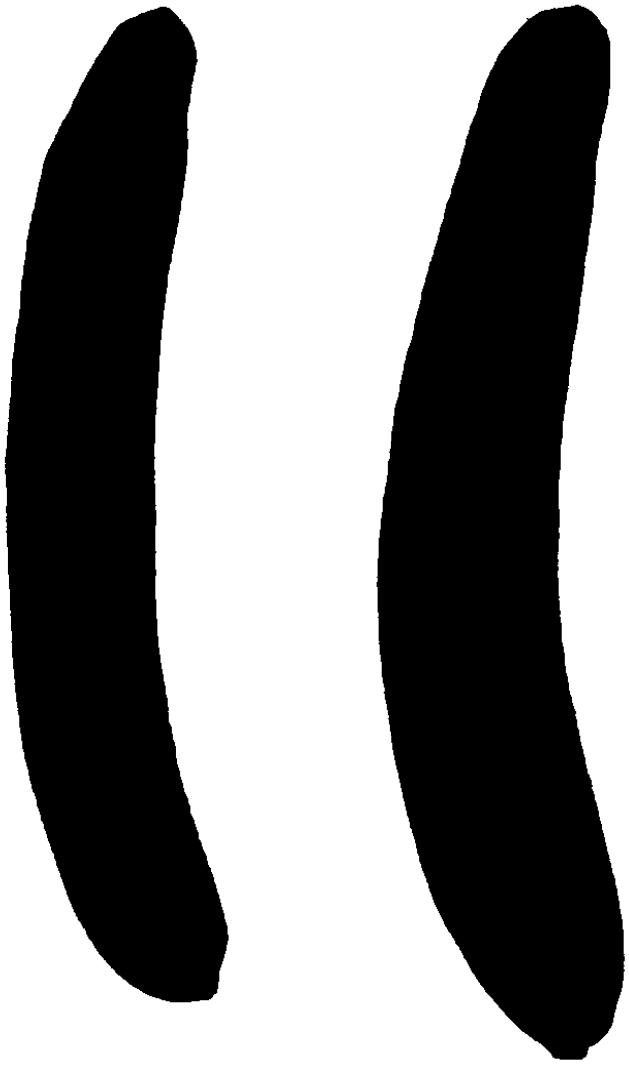
**§51.3862 Condition defects.**

"Condition defects" means defects which may develop or change during shipment or storage; including, but not limited to decay, soft or yellowing and bruises which are so located as to indicate that they occurred after packing.

## §51.3863 Classification of defects.

| Defects | Injury[1] | Damage[1] | Serious damage[1] |
|---|---|---|---|
| Bruises..... | When any indentation is more than 1/16 inch (1.6mm) in depth or exceeds an area of a circle 1/2 inch (12.7mm) in diameter. | When any indentation is more than 1/8 inch (3.2mm) in depth or exceeds an area of a circle 3/4 inch (19.1mm) in diameter. | When any indentation is more than 1/4 inch (6.4mm) in depth or exceeds an area of a circle 1 inch (25.4mm) in diameter. |
| Insects..... | When feeding injury is evident or any insect is present. | When feeding injury materially detracts from appearance or any insect is present. | When feeding injury seriously detracts from appearance or any insect is present. |
| Scars..... | When not smooth, or not light colored, and aggregating more than the area of a circle 3/8 inch (9.5mm) in diameter; or smooth and light colored and aggregating more than the area of a circle 3/4 inch (19.1mm) in diameter. | When not smooth, or not light colored, and aggregating more than the area of a circle 1/2 inch (12.7mm) in diameter: or smooth and light colored and aggregating more than the area of a circle 1-1/2 inch (38.1mm) in diameter. | When dark or slightly rough or barklike scars aggregate more than a circle 3/4 inch (19.1mm) in diameter; or smooth and light colored and aggregating more than the area of a circle 2 inches (50.8mm) in diameter. |

[1]Defect classifications are based on a cucumber 11 inches in length. Correspondingly larger areas are permitted on longer cucumbers and smaller areas on shorter cucumbers.

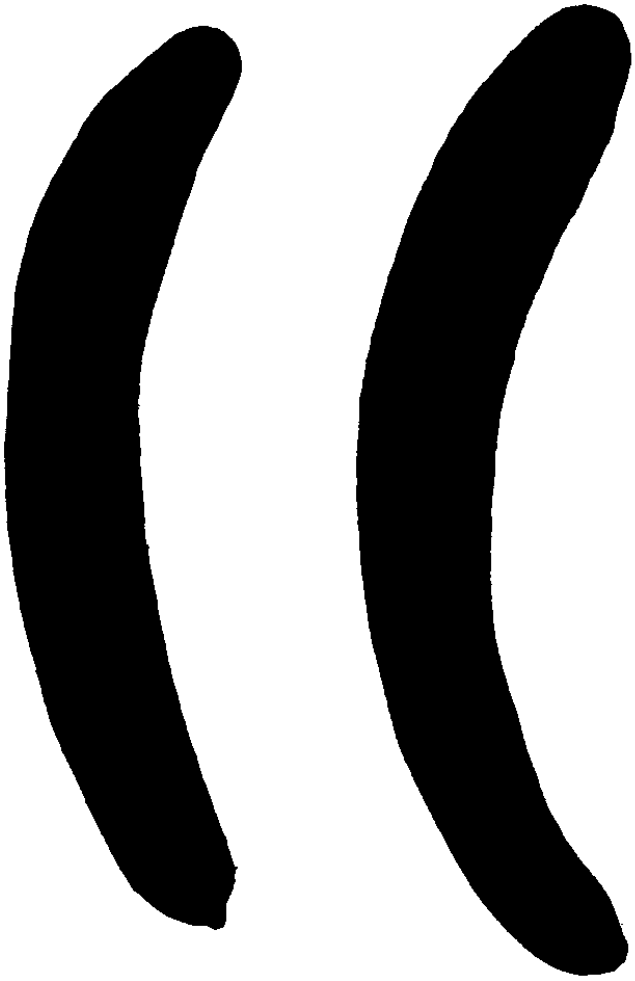


U.S. Fancy U.S. Fancy, Lower Limit

(about 1/3 actual size)

BOWING

Illustration CUXGH 1

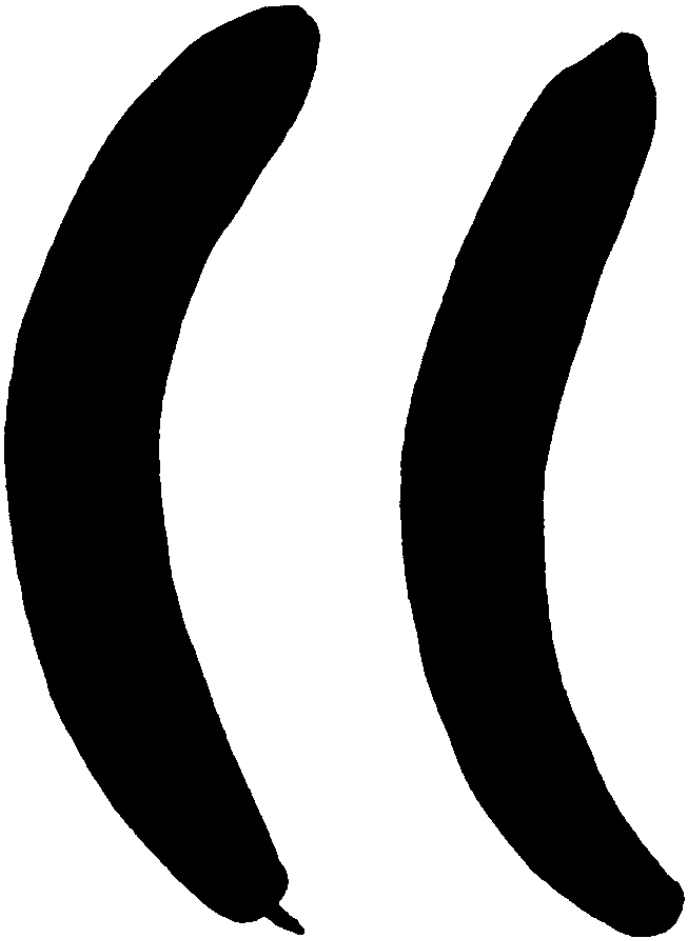


U.S. No. 1, Lower Limit U.S. No. 2

(about 1/3 actual size)

BOWING

Illustration CUXGH 2

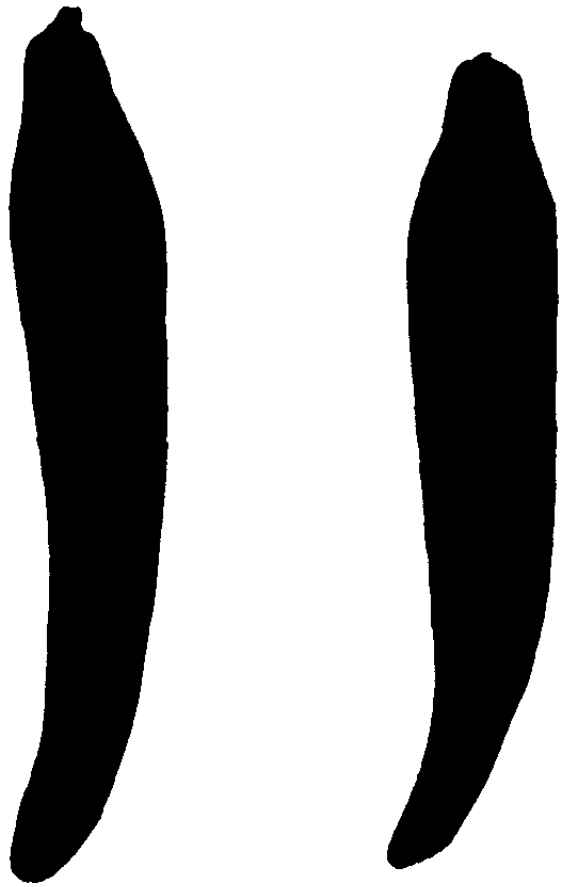


U.S. No. 2 U.S. No. 2

(about 1/3 actual size)

BOWING

Illustration CUXGH 3

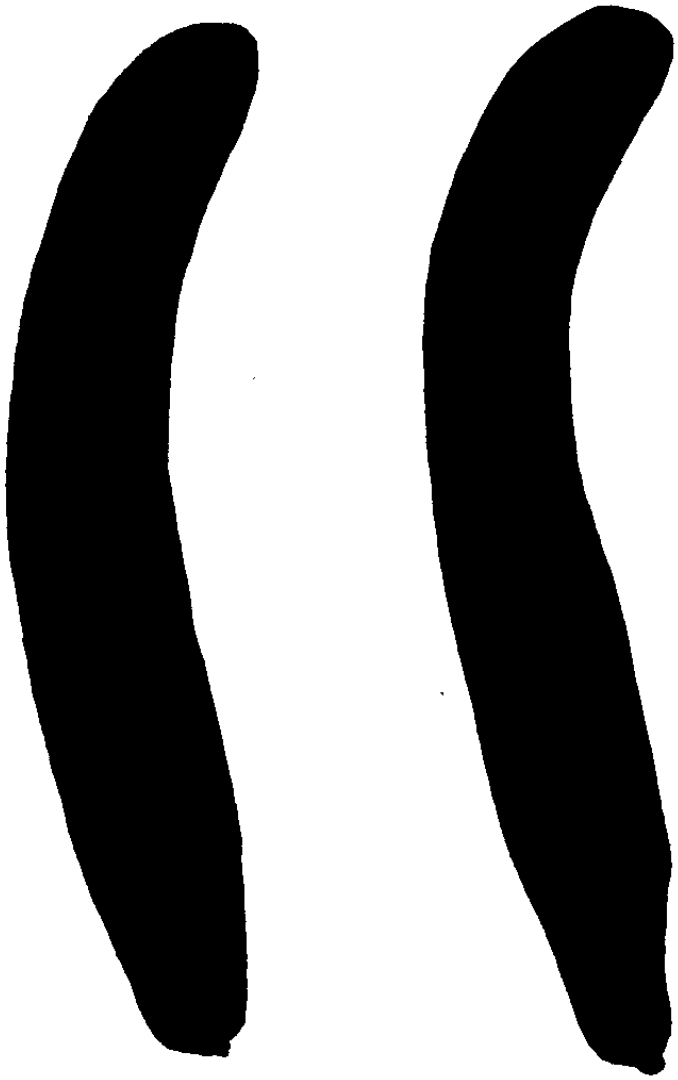


U.S. No. 1, Lower Limit U.S. No. 2

(about 1/3 actual size)

TAPERING AND CURVED ON BLOSSOM END

Illustration CUXGH 4

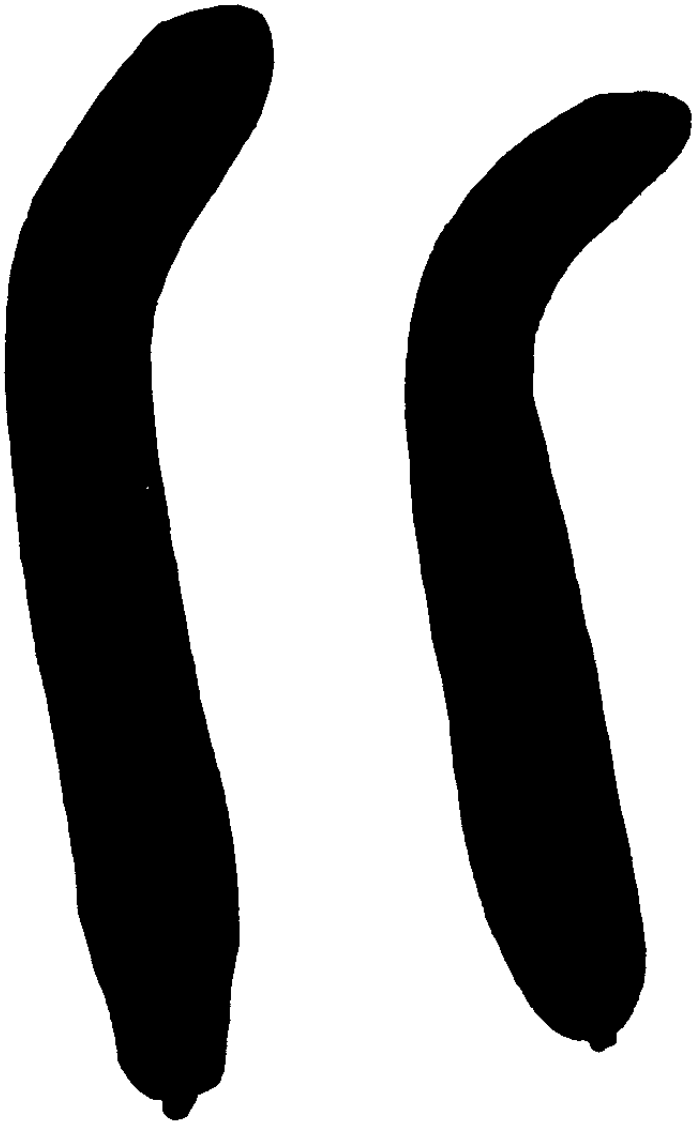


U.S. No. 1 U.S. No. 2

(about 1/3 actual size)

CURVED ON BLOSSOM END

Illustration CUXGH 5

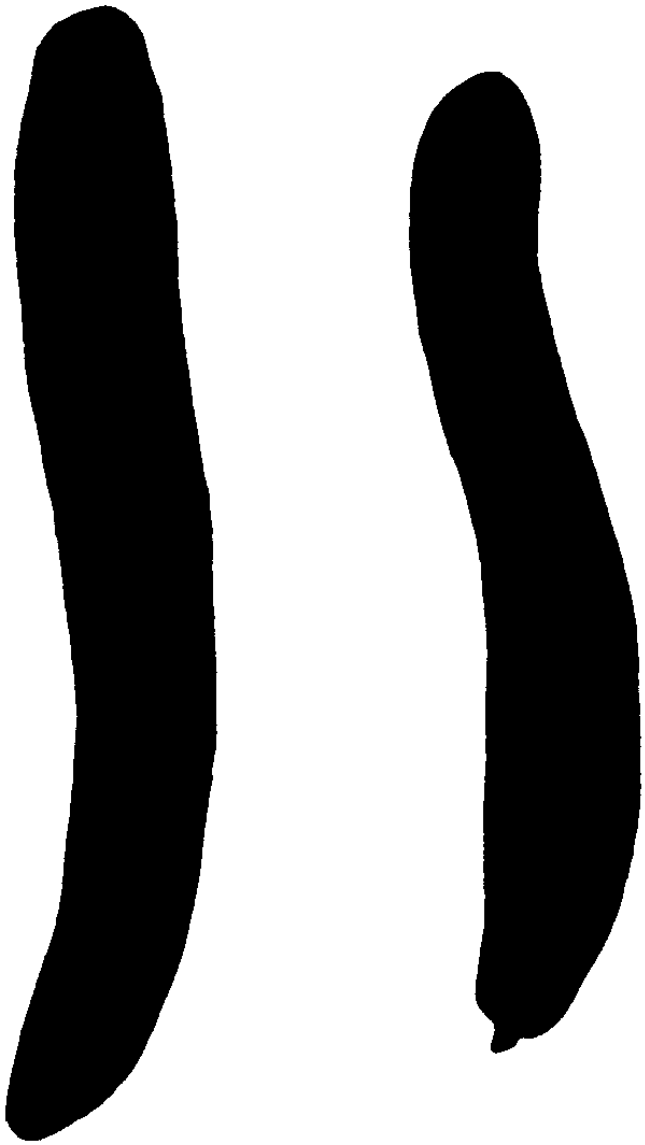


U.S. No. 2 U.S. No. 2, Lower Limit

(about 1/3 actual size)

CURVED ON BLOSSOM END

Illustration CUXGH 6

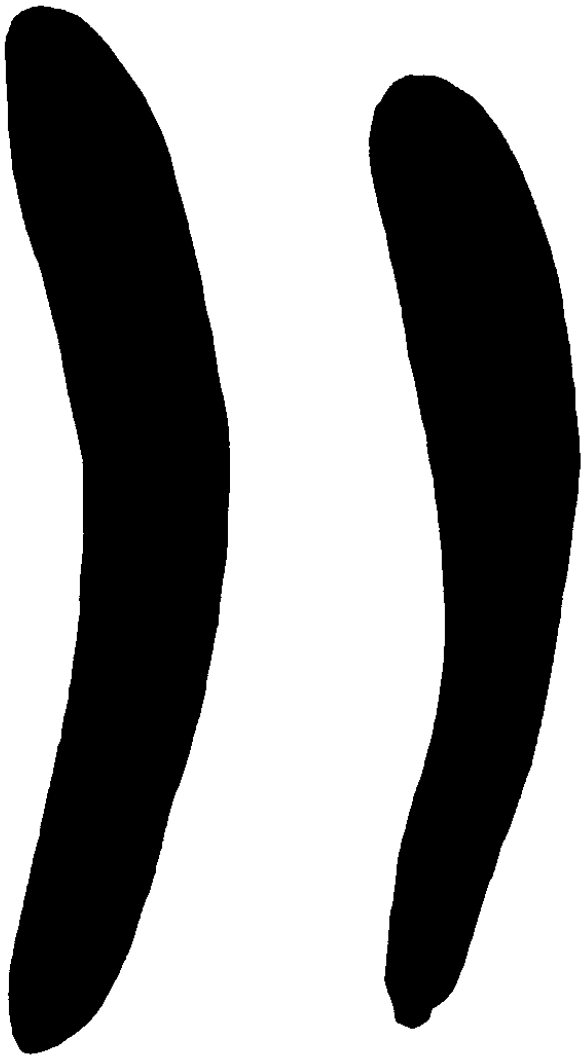


U.S. Fancy, Lower Limit U.S. No. 2

(about 1/3 actual size)

COMBINATION CURVING

Illustration CUXGH 7

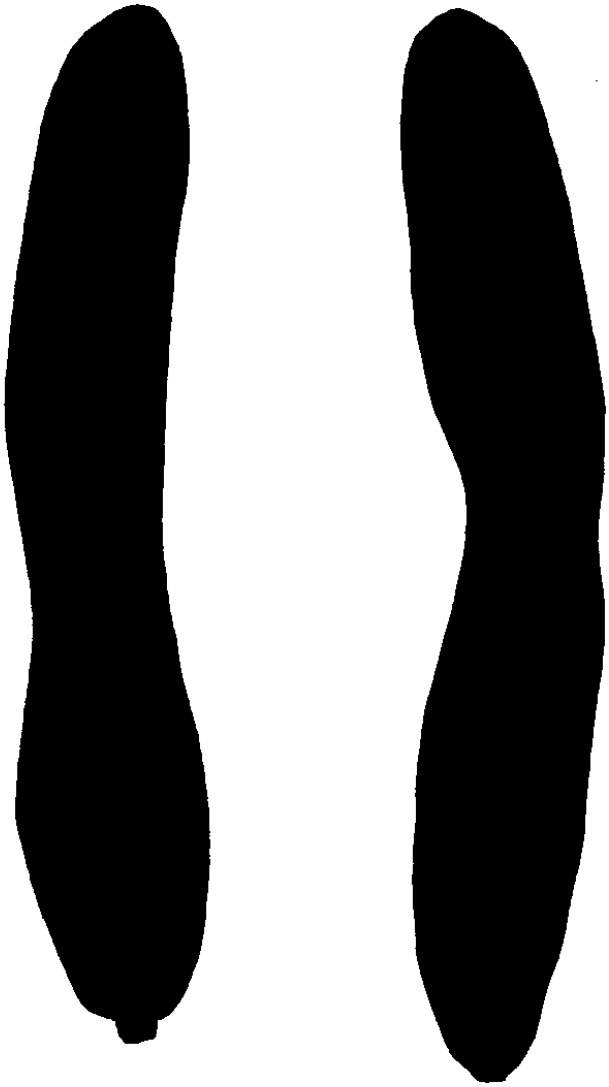


U.S. No. 1 U.S. No. 2

(about 1/3 actual size)

BOWING AND TAPERING

Illustration CUXGH 8



U.S. No. 2 U.S. No. 2, Lower Limit

(about 1/3 actual size)

DUMBBELL SHAPED

Illustration CUXGH 9

# Appendix II

Certificate & Notesheet Examples

| A | B | C | D |
|---|---|---|---|
| PACK: Fairly tight | PACK: | PACK: | PACK: |
| SIZE: Mostly 10 to 14" inches, Many 10 to 13 inches in length | SIZE: | SIZE: | SIZE: |

## SCORESHEET

| PLI Number | Other I.D. | TEMP. | Sample | D/50 SCR INS GD | | DK | | SHR | | | | | | | MIN Length 10" | MAX Length 14" | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | | 48.0 | 20 | 1/- | | — | | 1/- | | | | | | | — | 4 | 20 |
| None | | 47.0 | 20 | 2/1 | | — | | — | | | | | | | — | — | 0 |
| None | | 47.0 | 20 | — | | 1 | | 1/1 | | | | | | | — | 2 | |
| None | | 48.0 | 20 | — | | — | | — | | | | | | | — | 3 | |
| None | | 48.0 | 20 | 3/- | | — | | — | | | | | | | — | — | |
| None | | 46.0 | 20 | — | | — | | 1/1 | | | | | | | 1 | 4 | |
| | | | | 6/1 | | 1 | | 3/2 | | | | | | | 1 | 13 | |
| | | | 120 | 5/1½ | | -1% | | 3/2% | | | | | | | 10½ | 11½ | |

WF, WCl, Cl, generally fresh and firm. Decay early stg.

REMARKS / RESTRICTIONS / SPI

| | | |
|---|---|---|
| CARLOT Basis: | REPORTED TO: Joe Cook | INSPECTED BY: Bill Fuller |
| HOURLY Basis: | DATE: 11/6/97 TIME: 12:45 pm | |
| TRAVEL Time: | REQUESTED BY: Judy | ASSISTED BY: |
| EXPENSES: | DATE: 11/6/97 TIME: 9:15 AM | |
| EST. TOTAL: | | |

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

# INSPECTION CERTIFICATE

**Example 1**

| | |
|---|---|
| Carrier Lot Identification: AL (Prefix) 8218 (Number) WD (State) | Loading: Completed 10 / Partially Loaded 20 / Unloaded 30 / Lot Insp. 40: 40 |
| Carrier/Lot ID Stated by: | Additional Lot ID: |
| Carrier Type / Name: Mech. refrig | |
| Refrigeration Unit: ☒ On ☐ Off | Doors: ☐ Open ☒ Closed |
| Applicant: Flavor Pack | |
| Address: Warren ND | |
| Shipper: Seasons Grower | |
| Address: County GA | |
| Insp. Site: applicants warehouse | |
| Inspection Started: m mo. 11 d 06 y 97 hour 11 min. 35 A/P A M | |

| Lot | Temperatures | Product | Brand/Marking | Origin | Lot ID | Number of Containers | No. Count |
|---|---|---|---|---|---|---|---|
| A: | 46 to 48 °F | Greenhouse Cucumbers | "Perfect Size" | GA | 20 count | 520 cartons | ✓ |
| B: | to °F | | | | | | |
| C: | to °F | | | | | | |
| D: | to °F | | | | | | |

| Lot | Average Defects | Minor Damage Serious Dam. | Minor Serious Dam. Very Serious Dam. | Oversize Defects | Other |
|---|---|---|---|---|---|
| | 01 % | 00 % | | Under 10 inches in length | Mostly 10 to 14, many 10 to 13 inches in length. |
| | 11 % | 00 % | | Over 14 inches in length (0 to 20%) | |
| | 05 % | 01 % | | Quality (Scars, insect damage) | |
| | 03 % | 02 % | | Shriveling | |
| | -1 % | -1 % | | Decay | |
| | 21 % | 04 % | | Checksum | |

GRADE: Fails to grade U.S. No. 1 10 inch minimum 14 inch maximum account excessive oversize.

REMARKS:

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.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the herein described product were inspected and the quality and/or condition as shown by said samples were as herein stated.

Inspector's Signature: Bill Fuller

Market Office: County GA

ESTIMATED TOTAL $

FORM FV-300 (10-90) Replaces FV-303 (4-86) and FV-306 (1-90) which are obsolete

| A | B | C | D |
|---|---|---|---|
| PACK: Fairly tight, Fairly uniform | PACK: | PACK: | PACK: |
| SIZE: Generally 11 to 13" in length, mostly 12 to 13". | SIZE: | SIZE: | SIZE: |

## SCORESHEET

| PLI Number | Other I.D. | TEMP. | Sample CT | D/SD SCR 60 | | DIC | | | | | | Standard Pack FT | FU | SW | | 1 under size 11" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | None | 48.0 | 24 | — | | — | | | | | | ✓ | ✓ | NO | | — |
| " | " | 47.0 | 24 | 1/- | | — | | | | | | ✓ | ✓ | NO | | 1 |
| " | " | 48.0 | 24 | 2/- | | — | | | | | | ✓ | ✓ | NO | | — |
| " | " | 49.0 | 24 | — | | — | | | | | | ✓ | ✓ | NO | | — |
| | | | 96 | 3 | | ϕ | | | | | | | | | | 1 |
| | | | | 3% | | | | | | | | | | | | 1% |

WCl, WF, fresh and firm
Cl

REMARKS / RESTRICTIONS / SPI Standard pack determined at applicants request.

| | | |
|---|---|---|
| CARLOT Basis: | REPORTED TO: Megan Brown | INSPECTED BY: Julia Inspector |
| HOURLY Basis: | DATE: 11/15/97 TIME: 11.15 AM | |
| TRAVEL Time: | REQUESTED BY: J.C. Brown | ASSISTED BY: |
| EXPENSES: | DATE: 11/15/97 TIME: 8:55 AM | |
| EST. TOTAL: | | |

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

**INSPECTION CERTIFICATE**

**Example 2**

CARRIER or LOT IDENTIFICATION: LOT 3.1.5 (PREFIX / NUMBER / STATE)

Loading: Loaded / Partly Loaded / Unloaded / Lot Insp. — 4L

Applicant: Shopway
Address: Richmond VA

Carrier/Lot ID Stated by: applicant

Additional Lot ID:

Carrier Type / Name:

Shipper: Gold House
Address: Raleigh NC

Inspection Started: month 11, day 15, yr 97, hour 10:45 A/P M

Refrigeration Unit: On / Off

Doors: Open / Closed

Insp. Site: applicants plant

| LOT | TEMPERATURES | Product | Brand/Marking | Origin | Lot ID | Number of Containers | Insp. Count |
|---|---|---|---|---|---|---|---|
| A: | 47 to 49 °F | Greenhouse | "Gold Star" | NC | 24 count | 125 cartons | y |
| B: | to °F | Cucumbers | | | | | |
| C: | to °F | | | | | | |
| D: | to °F | | | | | | |

| LOT | AVERAGE DEFECTS | Including DAMAGE SER.DAM. | Including SER.DAM. V.S.DAM. | OFFSIZE / DEFECTS | OTHER: |
|---|---|---|---|---|---|
| | 03 % | 00 % | % | Quality (scars) | Offsize within tolerance. Generally 11 to 13 inches in length, mostly 12 to 13 inches. |
| | 00 % | 00 % | % | Decay | |
| | 03 % | 00 % | % | Checksum | |

GRADE: U.S. NO. 1 Fails to meet requirements of standard pack account not shrink wrapped.

REMARKS: Standard pack determined at applicants 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.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the herein described product were inspected and the quality and/or condition as shown by said samples were as herein stated.

Inspector's Signature: Julia Inspector

Market Office: Office VA

ESTIMATED TOTAL $ —

FV-300 (10-90) Replaces FV-300 (4-86) and FV-398 (1-90) which are obsolete

| A | B | C | D |
|---|---|---|---|
| PACK: WF | PACK: WF | PACK: | PACK: |
| SIZE: Length 6 to 9 mostly 6½ to 8 inches. Diameter 1 3/4 to 2 inches | SIZE: Length generally 6 to 8½ mostly 6 to 7½ inches. Diameter 1½ to 2 inches | SIZE: | SIZE: |

## SCORESHEET

| | PLI Number | Other ID. | TEMP. | Sample CT | MIS SCR GD | | DK | | D YEL | SD | | | | | | D +2 3/8 | L -6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (A) | none | select | 50.2 | 50 | 2 (4) | | — | | 1 (2) | — | | | | | | — | — |
| | none | select | 51.4 | 68 | 3 (4) | | 6 (9) | | 4 (6) | 3 (4) | | | | | | — | — |
| | none | select | 51.3 | 50 | 3 (6) | | 1 (2) | | — | — | | | | | | — | — |
| | none | select | 49.0 | 65 | 4 (6) | | 8 (12) | | 5 (8) | 1 (2) | | | | | | — | — |
| | | | | | (5%) | | (6%) | | (4 1/2%) | | | | | | | | |

generally fresh and firm
Clean, (WF) FWF, wcl, DK (E) M stage

| | | | | | MOS PULE GD | | DK | | SLLA | | SHR END | | | | | D +2 3/8 | L -6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (B) | None | — | 49.5 | 55 | 2 (4) | | — | | 4 (7) | | — | — | | | | — | — |
| | None | — | 48.5 | 53 | 2 (4) | | — | | 3 (6) | | 5 (9) | 2 (4) | | | | — | 6 (11) |
| | None | — | 49.0 | 65 | 1 (2) | | 1 (2) | | — | | — | — | | | | — | 4 (6) |
| | None | — | 50.0 | 59 | 1 (2) | | — | | — | | — | — | | | | — | 4 (7) |
| | | | | (58) | | | | | | | | | | | | | |
| | | | | | (3%) | | (1/2%) | | (3%) | | (2 1/1%) | | | | | | (6%) |

Clean, WF wcl, DK E stage
generally fresh and firm

REMARKS / RESTRICTIONS / SPI (B) Counts range from 53 to 65, average 58, Cucumbers per carton. Count reported at applicant's request.

| | | |
|---|---|---|
| CARLOT Basis : | REPORTED TO: Debra Davis | INSPECTED BY: |
| HOURLY Basis : | DATE: 3/7/97 TIME: 7:20AM | Alan Inspector |
| TRAVEL Time : | REQUESTED BY: Debra Davis | ASSISTED BY: |
| EXPENSES : | DATE: 3/7/97 TIME: 4:30AM | Jay Helper |
| EST. TOTAL : | | |

CLASSIFIER: LOT IDENTIFICATION: LOT 8 2 1 9 0 (PREFIX / NUMBER / STATE)

Location: Lot Identification Number: UL

Applicant: P. D. Company
Address: City, MA

Carrier Lot ID. Stated by: Applicant
Additional Lot ID:
Carrier Type / Name:

Shipper: Green Pak
Address: Nogales Az

Refrigeration Unit: On ___ Off
Doors: Open ___ Closed
Insp. Site: applicant's Bay

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
**INSPECTION CERTIFICATE**
**Example 3**

Inspection Started: month 0 3, day 0 7, year 9 7, hour 0 6, min. 1 0, A/P A M

| LOT | TEMPERATURES | Product | Brand/Marking | Origin | Lot ID | Number of Containers | Insp. count |
|---|---|---|---|---|---|---|---|
| A: | 49 to 51 °F | Cucumbers | "Best" | A,Z | Select 1½ BU | 185 Cartons | N |
| B: | 49 to 50 °F | Cucumbers | "Land M" | A,Z | 1½ BU. | 165 cartons | N |
| C: | to °F | | | | | | |
| D: | to °F | | | | | | |

| LOT | AVERAGE DEFECTS | MAXIMUM DAMAGE SER. DAM. | READING SER. DAM. | OFFSIZE / DEFECTS | OTHER |
|---|---|---|---|---|---|
| (A) | 00 % | 00 % | | Offsize | (A) Decay mostly |
| | 05 % | 00 % | | Quality (scars, misshapen) | early, some moderate |
| | 04 % | 02 % | | Yellowing | stage. |
| | 06 % | 06 % | | Decay (0 to 12%) | |
| | 15 % | 08 % | | Checksum | |
| (B) | 00 % | 00 % | | Over 2 3/8 inches in diameter | (B) Counts range from |
| | 06 % | 00 % | | Under 6 inches in length (0 to 11%) | 53 to 65, average 58 |
| | 03 % | 00 % | | Quality (mosaic, pulled ends) | cucumbers per carton. |
| | 03 % | 00 % | | Sunken Areas | |
| | 02 % | 01 % | | Shriveled End | |
| | ½ % | ½ % | | Decay | |
| | 15 % | 02 % | | Checksum | |

GRADE: (A) Fails to grade U.S. No. 1 only account condition
(B) Fails to grade U.S. No. 1 only account condition in some samples

REMARKS: (B) Count per carton reported 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.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the herein described product were inspected and the quality and/or condition as shown by said samples were as herein stated.

Inspector's Signature: Alan Inspector / Jay Helper
Market Office: City, MA

ESTIMATED TOTAL $

FORM FV-300 (10-90) Replaces FV-303 (4-86) and FV-308 (1-90) which are obsolete

| A | B | C | D |
|---|---|---|---|
| PACK: Tight | PACK: | PACK: | PACK: |
| SIZE: | SIZE: | SIZE: | SIZE: |

## SCORESHEET

| PLI Number | Other I.D. | TEMP. | Sample CT | DK | SLA | SHR |
|---|---|---|---|---|---|---|
| None | | 49.0 | 50 | — | 3 | 2 |
| " | | 48.0 | 50 | 4 (8) | 10 (20) | 2 |
| " | | 50.0 | 50 | 2 | 2 (4) | 1 |
| " | | 48.00 | 50 | 1 | 4 | 2 |
| | | | 200 | 7 | 19 | 7 |
| | | | | 4% | 10% | 4% |

SHR affecting 1/4 to 1/2 of the surface.

SLA from 3/8 to 5/8 inch in diameter.

Decay early stage. Generally fresh and firm.

REMARKS / RESTRICTIONS / SPI

CARLOT Basis:
HOURLY Basis:
TRAVEL Time:
EXPENSES:
EST. TOTAL:

REPORTED TO: Kay
DATE: 11/7/97 TIME: 8:50 AM
REQUESTED BY: Kay
DATE: 11/7/97 TIME: 7:00 AM

INSPECTED BY: Marie Inspector
ASSISTED BY:

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

# INSPECTION CERTIFICATE

**Example 4**

| | |
|---|---|
| Carrier's Lot Identification (Prefix, Number, State): LOT 15107 8 | Applicant: Eastern Produce, Address: East MO |
| Carrier/Lot ID Stated by: applicants | Shipper: Pickle Packing, Address: Southeast NC |
| Additional Lot ID: | Inspection Started: mm 11 dd 10 yy 79 hour 08 min. 00 A/P A M |
| Carrier Type / Name: | Insp. Site: applicant's plant |
| Refrigeration Unit: On / Off | Doors: Open / Closed |

| Lot | Temperatures | Product | Brand/Marking | Origin | Lot ID | Number of Containers | Insp. Count |
|---|---|---|---|---|---|---|---|
| A: | 48 to 50 °F | Pickling Cucumbers | "Top Taste" | N.C | 1½ Bushel | 125 Crates | 4 |
| B: | to °F | | | | | | |
| C: | to °F | | | | | | |
| D: | to °F | | | | | | |

| Lot | Average Defects | Including Damage | Including Serious Dam. | Including Very Serious Dam. | Offsize Defects | Other |
|---|---|---|---|---|---|---|
| | 10 % | | | | Sunken Areas (4 to 20%) | Sunken areas from 3/8 to 5/8 inch in diameter |
| | 04 % | | | | Shriveling | |
| | 04 % | | | | Decay (0 to 8%) | |
| | 18 % | | | | Checksum | |
| | % | | | | | Shriveling affecting ¼ to ½ of the surface |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | Decay early stage. |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |
| | % | | | | | |

GRADE: No Established U.S. Grade.

REMARKS:

**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.

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the herein described product were inspected and the quality and/or condition as shown by said samples were as herein stated.

Inspector's Signature: Marie Inspector

Market Office: East MO

ESTIMATED TOTAL $

FORM FV-300 (10-90) Replaces FV-303 (4-86) and FV-306 (1-90) which are obsolete

INSPECTION STARTED: M M D D Y Y 11 / 15 / 97 Hour Min 10:010 AP A M

INSPECTION COMPLETED: M M D D Y Y 11 / 15 / 97 Hour Min 11:310 AP A M

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

# FEDERAL - STATE INSPECTION NOTESHEET

APPLICANT: Green Growers CITY \ STATE: Jamesville NC PLI: —

INSPECTION POINT: applicant's plant OTHER ID: —

CONVEYANCE NO.: NC 2101 LA TYPE: Mech. refrig CERTIFICATE NO.: Example

Product / Variety, Number & Size of Container, Description of Product (Brand, Markings, Size, etc.), Grade Marked:

Cucumbers "Big Green" 1/9 BU 300 cartons
Cucumbers "High Quality" 50 count U.S. No. 1 Large 300 cartons
Cucumbers "Choice Cuke" 1 BU 100 cartons

| SAMPLE SIZE | DEFECTS: TOTAL DEFECTS | INCLUDING: DAMAGE / SER. DAM. | INCLUDING: ~~SER. DAM. / V. SER. DAM.~~ | INCLUDING: DECAY / SOFT ROT | RESTRICTIVE TOLERANCES | | ADDITIONAL TOLERANCES | | DESCRIPTION OF DEFECTS: MOSTLY | DESCRIPTION OF DEFECTS: OTHER | SIZE MIN. Length: UNDERSIZE 6" | SIZE MAX. Diameter: OVERSIZE 2 3/8" | ADDITIONAL INFORMATION: Pack | Form | Color | Cleanness | Fresh | Firm | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 2 | 1 | | | | | | | SCR | | 1 | | WF | Fair | Fair | C | F | F | U.S. No. 1 |
| 50 | 4 | — | | | | | | | SCR | MIS | — | | ✓ | WF Fair | ✓ | ✓ | ✓ | ✓ | Generally |
| 50 | 1 | — | | | | | | | SCR | | 1 | | ✓ | WF Fair | ✓ | ✓ | ✓ | ✓ | 6 to 10", mostly |
| 50 | 3 | 1 | | | | | | | MIS | | 1 | | ✓ | WF Fair | ✓ | ✓ | ✓ | ✓ | 6 to 8 inches |
| 200 | 10 | 2 | | | | | | | | | 2 | | | | | | | | in length |
| | 5% | 1% | | | | | | | | | 1% | | | | | | | | 2 to 2 3/8 inches |
| | | | | | | | | | | | MIN LEN. -6 | MIN DIA -2 1/4 | | | | | | | in diameter |
| 50 | 1 | — | | | | | | | MIS | | — | 2 | WF | Green WF | WC | C | F | F | U.S. No. 1 Large |
| 50 | 3 | 1 | | | | | | | MIS | SCR | — | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 6 to 9 inches |
| 50 | 5 | 2 | | | | | | | MIS | SCR | — | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | in length |
| 50 | 3 | — | | | | | | | SCR | COL MIS | — | — | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | mostly 6 to 8" |
| 200 | 12 | 3 | | | | | | | | | | 4 | | | | | | | Diameter |
| | 6% | 2% | | | | | | | | | | 2% | | | | | | | generally 2 1/4 to 3", mostly |
| | | | | | | | | | | | LENGTH MIN -6 | | DIAMETER MAX 2 3/4 | | | | | | 2 1/2 to 3 inches |
| 50 | 4 | — | | | | | | | SCR | MIS | — | | — | WF | Green WF | WC | C | F | F | U.S. No. 1 2 3/4" |
| 50 | — | — | | | | | | | — | — | — | | 2 | ✓ | WF | ✓ | ✓ | ✓ | ✓ | Max diameter |
| 50 | 2 | — | | | | | | | SCR | COL | — | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Length 6 to 9 |
| 150 | 6 | | | | | | | | | | | | 3 | | | | | | | mostly 7 to 8 inches |
| | 4% | | | | | | | | | | | | 2% | | | | | | | Dia gen. 2 to 2 3/4" |

CWT:
FEE $
OT $
EXPENSES $
$
TOTAL $

INSPECTOR'S SIGNATURE: J C Daniel DATE: 11/15/97 PAGE 1 OF 1

FV - 184 - 13 (2/94)

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

# FEDERAL-STATE INSPECTION CERTIFICATE

☐ SUBLOT

INSPECTION STARTED: M M D D Y Y 11 15 97 Hour Min A/P 10:00 A M

INSPECTION COMPLETED: M M D D Y Y 11 15 97 Hour Min A/P 11:30 A 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: Green Growers

CITY/STATE: Jamesville NC

PLI: —

INSPECTION POINT: applicants plant

OTHER ID: —

CONVEYANCE NO.: NC 2101LA

TYPE: Mech. refrig

NOTESHEET NO.: Example 5

| *PRODUCT/*VARIETY | *NUMBER AND SIZE OF CONTAINER | DESCRIPTION OF PRODUCT (Brand, Markings, Size, Quality/Condition, etc.) | GRADE | |
|---|---|---|---|---|
| Cuambers | 300 cartons | "Big Green" 1 1/9 BU | US NO. 1 | |
| | | Length generally 6 to 10, mostly 6 to 8 inches. Diameter 2 to 2 3/8 inches. Defects well within tolerance. NO Decay. | | |
| Cucumbers | 300 cartons | "High Quality" 50 count US NO 1 Large | US NO. 1 Large | |
| | | Length 6 to 9, mostly 6 to 8 inches. Diameter generally 2 1/4 to 3, mostly 2 1/2 to 3 inches. Defects within tolerance NO Decay. | | |
| Cucumbers | 100 cartons | "Choice Cuke" 1 BU | US NO. 1 | |
| | | Length 6 to 9, mostly 7 to 8 inches. Diameter generally 2 to 2 3/4 inch. Defects well within tolerance NO Decay | 2 3/4 inch maximum diameter. | |

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.)

INSPECTED BY

TRAVEL MILES

O.T. (hrs.)

OTHER $

REMARKS :

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.

FEE: $

O.T.: $

EXP.: $

ESTIMATED TOTAL $

J C Daniel
INSPECTOR'S SIGNATURE

11/15/97
DATE ISSUED

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