



INSTRUCTIONS FOR INSPECTION

of

CANNED PIMIENTOS

For Use of USDA Processed Products Inspectors

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FRUIT AND VEGETABLE DIVISION
PROCESSED PRODUCTS STANDARDIZATION AND INSPECTION BRANCH

P R E F A C E

These instructions are designed primarily for Processed Fruit and Vegetable Inspectors of the U. S. Department of Agriculture. They are not intended to be a comprehensive treatise on the subject but give background information and guide-lines to assist in the uniform application and interpretation of USDA grade standards and other similar specifications.

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INSTRUCTIONS FOR INSPECTION
OF
CANNED PIMIENTOS

I. GENERAL

Purpose and Scope.

These instructions are designed to provide for the proper interpretation and uniform application of the United States Standards for Grades of Canned Pimientos. They also provide some basic information about the production, preparation, and processing of Canned Pimientos.

II. PRODUCTION.

Importance.

Pimientos, either canned or fresh, are used primarily as a seasoning or garnishing agent. For this reason, a large portion of the canned pimiento pack is marketed in either small 4, 7, or 14 ounce cans or jars for home use; and in larger No. 2 1/2, No. 10, and 5 gallon containers for use in hotels, restaurants, or other institutional outlets such as meat packers. Appreciable amounts of canned pimientos are used in the manufacturing of other products such as in cheeses and processed meats and stuffed olives.

Annual production varies greatly because damaging weather may adversely affect a producing area; because very abundant crops may often be followed by rather sparse crops, and because of consumer demands.

These varying situations often result in chaotic marketing conditions, fluctuating prices, and speculative holding.

Currently, the annual U. S. production of canned pimientos varies between 1 1/2 to 2-1/2 million actual cases.

Producing Areas.

The foremost producing area is in the Southeastern part of the United States -- Georgia, Alabama, Tennessee and Mississippi. Lesser quantities are grown and processed in California, the Carolinas, and Texas.

Varieties.

The pimiento variety of red sweet pepper (*Capsicum annum*) is a smooth heart-shaped pod which has a thick, sweet, usually mild-tasting flesh which becomes deep red when the pods are ripe. The pods differ in shape from other red and green sweet peppers in that they do not have the deep creases and lobes characteristic of the latter varieties. The pimiento group includes the Pimiento, Perfection D, Truhart and similar varieties.

Growing and Harvesting.

Pimientos for canning are usually grown under contract for delivery to the processor's plant. The contract usually contains requirements with respect to size, color, and blemishes. Each load is usually inspected by a canner employee.

A sample is taken from the load for inspection as to size, the grower being paid on a pro rata basis for the quantity of the different sizes present. Pods below a specified minimum diameter, usually 1 1/2 inches, are classified as culls. The larger, most desirable, pods are sorted out and handled separately for the purpose of hand coring and the saving of seed for planting the next season's crop. This practice is helpful in the propagation of a more desirable raw product. Packers are particularly careful that any such "seed stock" does not undergo any processing procedure that might affect the "germination potential" of the "hand selected" pods.

Pimientos should be harvested when the pods are fully colored. Deliveries containing more than an allowable percent of green or partially green pods may be rejected. Undercolored pimientos are usually set aside for a few days to develop additional color.

Grade Standards for fresh pimientos for processing have not been issued by the Department. The U. S. Standards which have been issued for fresh green and red sweet peppers are not applicable to pimientos.

III. PREPARATION AND CANNING.

Sorting.

After delivery to the packer, the pimientos may be emptied onto a "dry" sorting belt. It is here that undercolored and badly cracked or decayed units are removed.

Peeling.

There are three general methods used to remove the tough peel from pimientos; they are: by flame peeling -- so called "roasting," --- by hot oil immersion, or by lye peeling.

1. Flame peeling -- "roasting".

Flame peeling is the method most widely used by processors in preparing pimientos for canning. Typically, revolving metal cylinders, about 20 inches in diameter and 18 feet long, are tilted at an angle of about 15 degrees. Usually, a jet flame from gas or fuel oil is blown the full length of the cylinder from the lower end. The pods are introduced into the end and roll by gravity and discharge at the lower end of the rotating cylinder.

Peeling (Continued)

The pods are usually exposed to the action of the flame for 30 to 60 seconds, depending on the size and condition of the pod. Other types of roasting kilns have been designed and constructed by the processor to meet particular operating conditions. In one type of flame peeler, a chain conveyor carries the pods through a gas flame-filled firebrick furnace.

2. Hot oil immersion.

The pimientos are passed through a bath of heavy cottonseed or other vegetable oil held at a temperature of 435 to 440 degrees F. The pods are immersed in the oil bath from thirty to forty seconds. The container for the oil generally consists of a narrow cast iron tank heated by direct flame, the pimientos either being immersed in the oil in baskets or carried through the bath mechanically. It is necessary to add oil from time to time to replace that carried over by the pimientos. It is also necessary to occasionally clean the bath and start with new oil.

Mineral oil cannot be used in this procedure since this type of oil, if found in the finished product, would be considered an adulterant by the Food and Drug Administration. Vegetable oil is permitted as a packing medium. However, any permitted oil when present in the container, whether added as a packing medium or if its presence is an accidental carryover from hot oil peeling, a label statement stating this information is required.

3. Lye Peeling.

Pimientos may be peeled by passing them through a boiling lye solution containing about 10 percent lye, the usual equipment for lye peeling being used for this purpose. Thorough washing after peeling is necessary to remove the lye and a further rinse in a weak citric acid solution is also often used. The lye peeled pimiento is not quite as dark in color as the "roasted" product. Pods which are overripe, shriveled, cracked, or decayed may become soft and disintegrate in the lye peeling process.

Washing.

Following the peeling preparation process, the pods are conveyed through a rotary screen washer where adhering portions of the peel are washed off using a strong spray of water. Pods which have been "flame roasted" are covered with jet black charred peel which is largely removed in the washer. Oil or lye solution which is carried over from the peeling processes (if used) is also washed off in the spray washer.

Coring and Trimming.

After washing, the pods are cored and trimmed. The use of automatic coring machines has become quite general throughout the industry. (Previous to the development of automatic machines, the core was removed from the pods by hand.) In the operation of the automatic coring machines, the pods are placed, one at a time, on a conveyor which positions the pod under the coring device. After coring, the pods are trimmed by hand to remove blemishes or scraped with a

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Coring and Trimming (Continued)

dull knife to remove small pieces of peel which were not removed in the peeling and washing process. The charred peel at the blossom end of the pod may not be removed if only a small insignificant piece remains. If the charred material is large enough to be objectionable, it should be removed by trimming. After coring and trimming, the pods may be washed several times to remove any loose seeds and remaining pieces of charred peel.

Blanching or "Wilting"

After coring and trimming, it is the general practice to blanch the pods to soften the flesh sufficiently for hand filling into containers. This is usually accomplished by passing the pods through a blancher where they are steamed for two to three minutes. The pods may also be blanched by immersing in boiling water for a similar length of time. After blanching, the pods are passed through a spray of cold water to rinse and cool them before hand packing.

Filling.

The rinsed pods are conveyed to the packers who select the pods for wholeness and uniformity of size and color. Filling into the smaller container sizes of the whole, halved or whole and pieces styles is usually done by hand, the pimientos being flattened and packed tightly into the containers without added liquid. The container is inverted, if necessary, to drain off any excess rinse water remaining in the pods and the fill is adjusted to the desired ingoing weight. Some canners check the weight of each can after filling; others check the weight of the larger cans only but weigh the smaller sizes occasionally to be certain they are obtaining the declared net weight.

Pimientos are ordinarily packed without added water or brine although water, citric acid or a vinegar or an edible vegetable oil are all permitted optional ingredients under Food and Drug's Standard of Identity.

A certain amount of juice exudes from the pimientos after packing and processing. Larger container sizes are usually "machine filled," as are the smaller containers of pieces, sliced, diced, or chopped styles.

Containers.

Pimientos are packed in plain cans or glass jars. Currently, the most popular sizes are the 4 ounce glass, 7 ounce cans, and the 14 ounce cans. The larger "institutional sized" containers comprise a major portion of the balance.

Exhausting.

Because the pimientos are filled into the containers at a low temperature and are solidly packed, preliminary heating prior to capping and closing is necessary. This is usually done by passing the filled containers through a steam exhaust box. A relatively long exhaust is necessary to assure a good vacuum and to provide for adequacy of cook of the product and container sterilization. The following exhausts have been found to be generally

Exhausting (Continued)

satisfactory:

- 4 oz. containers - - - - - 10 minutes at 200° F.
- 7 oz. containers - - - - - 12 minutes at 200° F.
- 14 oz. containers - - - - - 15 minutes at 200° F.
- No. 2 1/2 containers - - - - - 25 to 30 minutes at 200° F.
- No. 10 containers - - - - - 45 to 60 minutes at 200° F.

Processing.

In processing pimientos, the product is frequently acidified in insure adequate sterilization. Such acidification must be carefully controlled. The recommended time and temperature of processing for different containers is closely related to the pH of the product. A pH of 4.7 or less is desirable. Acidification may be done with the use of citric acid or a vinegar. A dilute acid solution may be used as a spray or dip, or it may be added directly to the containers. It is recommended that containers of canned pimientos have a "can-center" closing temperature of about 150° F. and a pH of 4.7 or lower. If these desirable conditions are met, processing can be done at a temperature of 212° F. if suitable equipment is available.

If the product has a pH above 4.7, a pressure cook of approximately 240° F. is recommended.

However, for detailed procedures on processing and for specific recommendations regarding times and temperatures, the packer should consult with a suitable laboratory connected with the canning industry. If applicable or required, such information should be obtained from the Department of Public Health of the State wherein the processing is done.

Cooling.

When glass containers are processed under pressure they must be slowly cooled under pressure to prevent the covers from being displaced by internal pressure. Additional cooling may be given the container by immersing in cold water or by means of a cold water spray. Cans should be cooled until only enough heat remains to dry the containers and prevent rusting. Cooling to a can center temperature of 105° - 110° F. is most desirable.

Proper water cooling provides processing control by stopping the cooking at a prescribed time.

Insufficient cooling may result in injury to the color and cause excessive softening of the flesh due to overcooking.

IV. FOOD AND DRUG REQUIREMENTS.

General Requirements.

Canned pimientos are subject to the overall provisions of the Standards of Identity for Canned Vegetables as required under the Food, Drug, and Cosmetic Act. Generally, these requirements provide that the product be packed from pimientos of acceptable raw quality; that it must be packed under sanitary conditions, must not be deceptively or insufficiently filled, is free from adulterants or contaminants, and is truthfully and adequately labeled.

Required Label Statements.

In addition to the name of the product, "Pimiento" or "Pimientos," the style should be indicated on the label as "Whole," "Whole and Pieces," "Halved," "Pieces" or the words "Sliced," "Diced," or "Chopped," as applicable. The net contents, the name and address of the packer or distributor, and other information as may be required under Food and Drug labeling regulations must also be shown on the label.

If an edible oil has been added to the product, a declaration to that effect must be stated on the label. Occasional traces of edible vegetable oil that accidentally remain from oil peeling need not be declared.

Any vinegar or citric acid that is added for acidification purposes only do not need to be declared on the label. Acidification of pimientos usually permits effective processing without excessive or prolonged heat, thereby minimizing discoloration, undue softening or other quality impairment. Any additional acid or vinegar in excess of the amount(s) needed for acidification such as for purposes of preservation or flavoring must be so declared.

The current Food and Drug Standard of Identity for canned pimientos specifies that the product is prepared from the red ripe pods of the pimiento or pimiento pepper plant and may be pack as "Whole," "halves or halved," and "pieces."

V. INSPECTION OF THE PRODUCT.

Sampling.

Sampling of at least the minimum sampling rate prescribed in the Rules and Regulations is required. However, if it appears that there may be some question as to the grade indicated by such samples, or that there would be extensive quality variability among the sample units, or a wide variation in counts, vacuums, or drained weight, the sampling rate should be increased to assure a greater degree of reliability of quality evaluation of the lot. Also, if the lot is located at a considerable distance from the inspection laboratory, it is usually desirable to draw extra samples. This practice will eliminate the need for additional resampling.

Sampling (Continued)

The general container condition of the lot should be observed and recorded. The presence, if any, of swells, "leakers," dented, rusty or broken containers should be duly noted and appraised.

The number of cases in the lot and the precise warehouse location should be recorded as a means of identification.

Inspection Equipment and Material.

The minimum items of equipment and material which would be needed for the inspection of canned pimientos include:

- 1) Weighing scales with 0.1 ounce graduations and appropriate tare containers.
- 2) Gram scales, with 0.1 gram graduations.
- 3) Appropriate grading trays.
- 4) Vacuum gauge.
- 5) Suitable container opener.
- 6) Headspace gauge.
- 7) Ruler or measuring aid.
- 8) U. S. Standard No. 8 screen of proper diameter for container size.
- 9) USDA Pimiento Red and USDA Pimiento Reddish-Yellow color standards.
- 10) An appropriate, suitable and acceptable light source and conditions.
- 11) U. S. Standards for Grades of Canned Pimientos.
- 12) Federal Specification for Canned Pimientos or applicable purchase specification, if needed.
- 13) Instructions for Inspection of Canned Pimientos and any supplemental material.
- 14) Sampling sheets.
- 15) Score Sheets.
- 16) Name of applicant, location and size of lot, contract instructions, and similar applicable data, such as application for inspection.
- 17) Hot and cold water.
- 18) Towels.
- 19) Marking materials for containers.

Inspection Equipment and Material (Continued)

- 20) Any needed or required stamps.

General Inspection Introduction.

Other determinations or information (for example; net weight, vacuum, headspace, drained weight or label declarations) should be carefully and completely recorded on the score sheets. Such data is then **summarized and** used in determining lot quality and condition.

Because the details for determining net weight, vacuum, headspace, etc., are presented in other instructional materials, they are not repeated here. Inspectors are advised to reference the appropriate materials for the proper procedures to apply in making these determinations.

Drained Weights.

The method for determining the drained weights of canned pimientos is given in the USDA grade standard and should be followed. Also, the recommended drained weights -- along with the compliance criteria -- are provided in the standard.

Appreciable or questionable variability in drained weight should be resolved by application of File Code 140-A-5 and Form FV-142.

Factors Not Rated by Score Points.

1) Varietal Characteristics.

A prerequisite to both U. S. Grade A or U. S. Grade C is that the pimientos possess similar varietal characteristics. This requirement helps to insure uniformity of appearance, thereby encouraging consumer acceptance. However, the use of pimientos of similar varieties does not -- nor is it intended to -- prevent normal variations of color and character. Different varieties are permitted within a lot, provided, that mixed varieties are not present in any one container -- mixed varieties within a sample unit will result in a "Substandard" evaluation for quality of the sample unit.

2) Flavor.

The standards provide for "normal flavor" which is a good, characteristic, mild but distinct flavor and odor, free from objectionable flavors and objectionable odors of any kind. The flavor of canned pimientos does not appear to be very greatly affected by the color of the product within the limits of color provided in the standard. Objectionable flavors and objectionable odors may be due to the addition of excessive amounts of citric acid or vinegar. "Off odors" may be considered presumptive evidence of bacterial spoilage of the product. When such spoilage occurs, the product should not be tasted in view of the possibility of the presence of toxic material. A "normal flavor" and odor is a requirement in both Grade A and Grade C

Flavor (Continued)

canned pimientos.

Factors Rated by Score Points.

- 1) Color.
 - i) General Discussion.

The color of canned pimientos may vary considerably from deep red to very light lemon yellow due to the growing condition and varietal characteristics.

Pimiento pods frequently ripen unevenly; the red color beginning at the blossom and continuing toward the stem end. The color of the pod is directly affected by the B.T.U.'s * and sunshine which are present during the growing season, in the presence of adequate moisture. Warm, long, sunny days provide conditions for developing the deepest, most uniform red color. During shorter fall days, when the sun's rays are not so intense, the pods are more likely to be of a yellowish-red color, although fully developed. Consideration is given under color requirements to the natural characteristics of the fruit, when ripening, to develop streaks which are noticeably lighter than the overall color of the pod.

- ii) Color Standards

Color is classified by comparing the external surfaces of the pimientos against approved USDA plastic color standards for canned pimientos.

(Information regarding these color standards may be obtained from: Processed Products Standardization and Inspection Branch, Fruit and Vegetable Division, Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C. 20250)

These are two approved color standards, designated as follows:

- 1) USDA "Pimiento Red" which means a red color equal to or more red than USDA Pimiento Red Color Standard.
- 2) USDA "Pimiento Reddish-Yellow" which means a reddish yellow color equal to or more red than USDA Pimiento Reddish-Yellow but less red than USDA Pimiento Red.

* B.T.U. - (British Thermal Unit.) The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit (usually from 39 to 40° F.)

Color Standards (Continued)

These color comparators should be handled carefully to avoid scratching. After use, they should be cleaned by wiping the surface with a soft wet cloth or sponge. Avoid abrasive cleaning agents or coarse material which may scratch the surface of the comparators. The comparators should be protected from the light when not in use.

iii) Color Classifications.

The color of canned pimientos is determined immediately after the determination of the drained weight which should be done as rapidly as possible after opening the container. The color of processed canned pimientos is based upon the degree of brightness and uniformity of the red to reddish-yellow color on the external surface of the units. The presence of other color (such as green, reddish-brown,) dullness or oxidation is also evaluated under this factor. Any condition which may be present and which adversely affects the color of the product to a noticeable degree may be scored, whether on internal or external surfaces.

Color Classification of Canned Pimientos is given in Table II of the grade standard.

iv) Color classification.

a) Whole, Halves, whole and pieces, and pieces.

In evaluating the color of canned pimientos, compliance with the overall color requirements for the respective grade must be determined. Check the color against the USDA Pimiento Red and the USDA Pimiento Reddish-Yellow plastic color standards as may be required. The percent of the exterior surface area which may be lighter than USDA Pimiento Red can usually be estimated closely enough (after some practice) to judge whether Grade A color classification is warranted. The greater the color variability of a sample unit within the limits for a specified grade, the lower the color score evaluation of that sample unit for that grade.

To score in the A classification, at least 90 percent, by count, of whole, halves, or whole and pieces have at least 90 percent of the exterior surface areas equal to or redder than the USDA Pimiento Red plastic color standard. The remaining 10 percent of the units may be as light, in color, as the USDA Pimiento Reddish-Yellow plastic color standard but none may be lighter. One unit is permitted in a sample unit of less than 10 units which is no less red than USDA Pimiento Reddish-Yellow and the sample unit could still qualify for Grade A color classification; provided, that the average of the sample does not exceed 10 percent, by count.

Color classification (Continued)

When scoring pieces, 90 percent, by weight, of the individual pieces in a sample unit shall have not less than 90 percent of their exterior surface areas equal to or redder than USDA Pimiento Red; 10 percent of the pieces, by weight, may be lighter, in color, than USDA Pimiento Red, but may not be less red than USDA Pimiento Reddish-Yellow.

(b) Sliced, diced or chopped.

Grade A color for these styles require that not less than 90 percent, by weight of the units possess color equal to or redder than USDA Pimiento Red over 3/4ths or more of the surface area of each unit. The remaining 10 percent, by weight, of the units may be no less red than USDA Pimiento Reddish-Yellow.

(c) Grade C Color.

Identical provisions and allowances as those given under Grade A color classification are specified for Grade C color, except that the classifying is done on the basis of the USDA Pimiento Reddish-Yellow plastic color comparator.

There is no plastic color comparator for Canned Pimientos which designates a pimiento color less than USDA Pimiento Reddish-Yellow.

2) Uniformity of Size and Shape.

(a) Definitions of Terms.

The terms used in determining uniformity of size and shape are provided in the grade standard and are to be applied as appropriate. However, to provide for uniformity of interpretation, the following additional definitions may be applied:

(1) Other shapes and sizes in a diced style means units with maximum measurements in excess of one-half (1/2) inch or units smaller than one-half (1/2) the volume of the predominant individual size in a sample unit. (For practical purposes of application, volume may be approximated by determining area; this assumes that the thicknesses of the pimiento pods are constant. Precise volume determinations, if needed, would require displacement comparisons.)

(2) Well trimmed in whole style means that the stem end must be neatly trimmed. The blossom end may or may not be trimmed; however, in either case, the normal size and shape must be substantially preserved. If the blossom end is trimmed, the maximum diameter of the opening into the pod cavity should not exceed one-half (1/2) inch.

Definitions of Terms (Continued)

(3) Fairly well trimmed in whole style means that the ends may be trimmed, but the pod is not mutilated to the extent that the appearance is seriously affected. If the blossom end is trimmed, the maximum diameter of the opening into the pod cavity should not exceed one (1) inch.

(b) Classifications for Uniformity of Size and Shape

Inspectors shall apply the appropriate sections of Table III in the grade standards to aid in their evaluation of Uniformity of Size and Shape.

i) Whole or Halved.

The typical shape of the pimiento is the familiar conical or heart-shaped pod, which slopes from a rounded point at the blossom end to a rather broad base at the stem. Recently, shape variations are becoming evident, the pod losing -- to some extent -- its conical shape with a tendency to develop a longer pod. Such an elongated pod is not to be considered an objectionable feature when scoring the factor of uniformity of size and shape. However, the variations in dimensions should fall within the limits provided in Table III.

When measuring individual whole or halved pimientos, the pod should be flattened to its maximum dimensions. The lengths and widths are measured. These measurements should not be less than 1-1/2 inches in any dimension for Grade A classification, or 1-1/4 inches for Grade C classification. In addition, the size variability of units shall be in accordance with Table III for the respective Grades.

ii) Whole and Pieces.

The whole pods in whole and pieces style should meet the minimum size requirements prescribed in Table III. The pieces may be variable in size and shape; however, not more than 5 percent, by weight, of the pieces may be less than 1 square inch to score in the A classification and not more than 10 percent, by weight, for C classification. Also, the permitted size variation between whole pods should be in accordance with the provisions given in Table III.

iii) Pieces.

Pieces may be variable in size and shape. The minimum area measurement for pieces is 1 square inch. However, when classifying, 5 percent, by weight, of the pieces may be less than 1 square inch in Grade A while 10 percent, by weight, of such pieces is permitted in Grade C.

Classifications for Uniformity of Size and Shape (Continued)iv) Sliced.

In sliced style, the strips are usually cut approximately 3/16 inch in width and should be at least 1-1/4 inches in length. The slices should be practically uniform in size and shape to meet Grade requirements. Furthermore, the weight of all strips less than 1 1/4 inches should not exceed 35 percent, by weight, of the drained weight of the sample unit and/or the amount of very small pieces (less than 1/2 inch in length) that may be present does not materially affect the appearance of the product.

For Grade C, not more than 35 percent, by weight, of the units in the sample unit may be less than 1 1/4 inches in length; provided, that the very small pieces (less than 1/2 inch in length) do not exceed 25 percent, by weight. These percentages are based on drained weights.

For containers of No. 2 1/2 and larger, a representative 10 - ounce subsample may be used to determine the percent, by weight, of units less than 1 1/4 inch in length and for very small pieces.

v) Diced.

Diced pimientos are often cut into approximate 1/4 inch squares. Frequently, the pod thickness is less than 1/4 inch and the units may resemble more flat squares than 3-dimensional cubes. However, since such units approximate cubes, they are classified as a diced style; provided, that the maximum single measurement of the predominant size does not exceed 1/2 inch.

Grade A size uniformity provides that not more than 15 percent, by weight, of the drained weight of the sample unit may be of "other shapes and sizes" as defined in the grade standard. Grade C permits a maximum of 25 percent, by weight, of such "other shapes and sizes."

vi) Chopped.

Chopped pimientos may be pieces or cut units of pimiento pods less than 1 square inch. The units may be quite variable in size; there is no minimum size requirements for individual pieces, nor are small pieces considered except as to how they may affect the overall appearance.

The requirement for Grade A classification is that any variability does not materially affect the appearance of the product and not more than 5 percent, by weight, of the units of the drained weight of the sample unit do not exceed 1 square inch. Grade C permits a maximum of 10 percent, by weight, of such units.

3) Defects.a) General.

Defects in canned pimientos denote specific items - enumerated in the

Defects (Continued)

grade standard - and which are further discussed in this section. They also include any abnormalities or conditions which are not specifically defined or described but can adversely affect -- to varying degrees - the appearance or edibility of the product. All sample units of canned pimientos are evaluated on the basis of all defects that are present and how (to what degree) defects affect the appearance of the product in each sample unit. Sample averages (average of all sample units) are also applied for certain specified defects.

b) Core or stem material.

Usually, this material is completely removed during preparation; however, vestiges may remain as a result of poor or inadequate trimming. There is no specific allowance for core or stem material in the grade standard. The presence of such material is judged subjectively and the sample unit is evaluated on the basis of how much the core and stem material detract from the appearance or edibility of the product.

c) Seeds and Peel.

The maximum allowances for peel and seeds in canned pimientos are set forth in Table IV of the grade standard. The allowances provided apply to the sample average (average of all the sample units.)

i) Peel.

Although peeling of pimientos are usually quite complete, occasions do arise when not all of the peel is removed. This peel, usually, is very evident because of its dark brown or black color (due to charring) which sets it apart from the red or reddish-yellow color of the pod flesh. Occasionally, uncharred peel may be present. In either instances, such peel is considered a defect.

However, small, insignificant pieces of charred peel at the stem and/or blossom ends of the pod are not scoreable as defects. To be deemed insignificant, such pieces shall not exceed the area of a circle $3/16$ inch in diameter. Charred peel on the ends of pimiento pods in excess of a $3/16$ inch circle or any peel present on any other portion of the unit is scoreable as a defect and the allowances given in Table IV apply, as appropriate.

Since both attached and/or loose peel is scoreable, the allowances provided in Table IV are based upon the net weight of the total sample and the average amount of peel (per 5 ounces) that may be present.

There is no limit for the amount of peel which may be present in a sample unit except in relation to how it may affect the appearance or edibility of the product.

ii) Seeds and undeveloped seeds.

When inspecting whole, halved, or whole and pieces, the total number of seeds in the pods, together with the loose seeds in the container, should be recorded and the average per pod -- or the approximate equivalent thereof -- calculated. When the pods are cored by mechanical means, an occasional pod may be found which has not been properly cored. This may result in a large number of seeds remaining in a single pod; however, there is no limit to the number of seeds which may be present in an individual pod except in relation to how the seeds may affect the appearance or edibility of the product. Table IV should be used and the average number of seeds present -- as appropriate -- shall be applied. The seeds in pieces, sliced, diced, or chopped is calculated on the basis of the net weight in the container.

Undeveloped or immature seeds are not counted in application of Table IV, but may be considered -- if present in significant number -- in relation to how the appearance or edibility of the product is affected.

If the seeds are the only defect(s) present in the sample, the following guide may be used for the allocating of score points for the factor of defects -- each sample unit being given the same score for defects, depending on the calculated average number of seeds that are present in the sample.

Guide for Evaluating Seeds in Canned Pimientos
- Whole, Halved, and Whole and Pieces Styles -

Grade A		Grade C	
Score Points	Average number of seeds per pod (or approximate equivalents thereof)	Score Points	Average number of seeds per pod (or approximate equivalents thereof)
Per Sample Average		Per Sample Average	
40	None - 0.4	35	6.5 - 7.4
39	0.5 - 1.4	34	7.5 - 8.4
38	1.5 - 2.9	33	8.5 - 10.4
37	3.0 - 4.4	32	10.5 - 12.4
36	4.5 - 6.4		

Guide for Evaluating Seeds in Canned Pimientos
- Pieces, Sliced, Diced, and Chopped Styles -

Grade A		Grade C	
Score Points	Average number of seeds per ounce (or portion thereof) of net contents	Score Points	Average number of seeds per ounce (or portion thereof) of net contents
Per Sample Average		Per Sample Average	
40	None - 0.4	35	5.5 - 6.0
39	0.5 - 1.4	34	6.1 - 6.4
38	1.5 - 2.4	33	6.5 - 7.4
37	2.5 - 4.0	32	7.5 - 8.4
36	4.1 - 5.4		

d) Pitted or Perforated units.

Raw pimientos may be affected with rot. This decay may disintegrate during processing preparations such as peeling and washing. This could result in a pitted surface where the affected tissue has been washed away by high pressure sprays. Occasionally, the decay will extend completely through the pod wall, and, after removal, a hole remains which affects the appearance of the product. However, not all holes in pimientos are the result of decay (which has been removed.) Trimming, mechanical injury, and so on could be other possible causes.

For purposes of this instruction "pitted areas" shall be regarded as external surface areas which are hollowed or pockmarked but do not penetrate through the pod wall.

"Perforated areas" are holes extending completely through a pod wall.

These abnormalities are regarded as "other defects" and are classified in relation to how they affect the product and in accordance with the following table:

Classification of Pitted and/or Perforated Areas in Canned Pimientos

Defect	Grade A Classification (Per Sample Average)	Grade C Classification (Per Sample Average)
Pitted Areas - All Styles *	Average - 1/4 square inch per 5 ounces net weight (or portion thereof.)	Average - 1/2 square inch per 5 ounces net weight (or portion thereof.)
Perforated Areas - All Styles *	Average - 1/8 square inch per 5 ounces net weight (or portion thereof.)	Average - 1/4 square inch per 5 ounces net weight (or portion thereof.)
Pitted and Per- forated Areas - All Styles *	Average - 1/4 square inch per 5 ounces net weight; <u>provided</u> , perforated area does not exceed 1/8 square inch.	Average - 1/2 square inch per 5 ounces net weight; <u>provided</u> , perforated area does not exceed 1/4 square inch.

* Also, the appearance of individual sample units of the product should not be more than slightly affected to score in the Grade A classification and should not be seriously affected to score in the Grade C classification.

e) Rot or decay.

No tolerance is provided in the grade standards for the presence of anthracnose rot or other types of rot or decay. Both the external and internal surface of the pimiento unit should be examined carefully for the presence of such material.

f) Internal and/or External Discoloration.

Dark brown or black discolorations may be observed on either the exterior or interior surface of the pod wall. These colorations may be caused by severe bruising, growing or climate conditions, and so on. Often, when present, each discoloration is most evident after the pod is opened, exposing the interior surface. The intensity and extent of the discoloration is considered. No specific area tolerance is provided for discoloration. The appearance or edibility should not be materially or seriously affected to score in the Grade A or Grade C classification, respectively.

g) Pathological or Insect Injury.

Pathological injury -- aside from rot or decay -- and insect injury are infrequent occurrences in canned pimientos, the degree and occasions being a reflection of incoming raw product quality and effectiveness of preparation.

Pathological or Insect Injury. (Continued)

The evaluation of units affected by pathological or insect injury is a subjective determination; no specific tolerance(s) are provided.

The overall effect upon the product's appearance and edibility is gauged.

However, since the presence of pathologically or insect-injured units is considered quite objectionable, it is suggested that all such obviously affected units be regarded as seriously damaged. The evaluation of pathological or insect injury is applied to sample units -- no sample average is provided.

4) Character.

When evaluating character, the pimientos should be examined for any evidence of shredding or disintegration. Over processing may result in excessive softening. In such cases, the packing media may contain excessive amount(s) of small particles.

To score in the Grade A classification, the units should be firm, full-fleshed, and tender -- without apparent disintegration. The pods should be of such texture that they may be handled while being inspected without tearing or breaking up, and the texture should be practically uniform.

A score in the Grade C classification should be given if the units show up to moderate degrees of disintegration; the units may be somewhat lacking in firmness or fleshiness.

When the units are soft, mushy or evidence noticeable disintegration, the factor of character should be scored in the Substandard classification; (this is a limiting rule).

VI CERTIFICATION.

A) General.

Certification and other inspection reports on canned pimientos should be in accordance with applicable general instructions. (See File Code 165-A-1).

B) Required Information.

The following information relative to canned pimientos should appear in the body of the certificate:

- 1) Net Weight
- 2) Vacuum Readings
- 3) Drained Weights
- 4) Style (as would be appropriate)

July 1973

VII IN-PLANT INSPECTION.A) Packing Operations.1) General.

The following areas, conditions, and procedures -- carefully observed and controlled -- will aid significantly in achieving proper use of raw product, good preparation and processing procedures, acceptable sanitation and, most important to the packers, production of every marketable finished item.

2) Raw Product.

a) The raw product, as delivered to the receiving dock, should be observed for color, condition, and size of pods. Customarily, the size of the pods and percent of culls provides the basis of payment to the grower. Pods less than a specified size requirement are classified as culls, as are badly misshapen pods and those damaged by decay or mechanical injury. Pods may also be classified as culls when the color is below the minimum for Grade C pimientos.

b) The pimientos, as received, are often dumped into piles onto the receiving platform and held for one or more days in order to develop the color more fully and uniformly. The receiving platform should be kept as clean as practical. The pods should be properly ventilated to prevent creation of conditions favorable for development of mold; that is, heat, moisture, and lack of sunlight and air.

c) Excessive wilting before processing should be avoided. Salt or wilted pods increase the difficulty of removing stems and cores by mechanical means. Wilting also adversely affects subsequent pimiento character.

d) The pimiento pods should be examined at the stem end for possible infestation by corn borer or other larvae or other evidences of insect damage.

3) Preparation and workmanship.

a) Observe pods as they come from the flame peeling process for efficiency of operation. The peel should be uniformly charred over the surface without undue softening or other excessive damage to the pod. Observe pods after they pass through the spray washers following the flame peeler. Examine stem end of pods for presence of any uncharred peel. Peeling may not be complete if the flame or speed of rotation is not properly adjusted or if the peeler is overloaded.

b) Observe effectiveness of coring and trimming of the pods. If coring is a hand operation, workers should be well-trained and provided with proper equipment. When pods are mechanically cored, observe operation of machine for proper adjustment.

Preparation and workmanship (Continued)

c) The washing operation for removal of seeds following coring should be thorough. Effective washing will minimize the number of seeds which may remain.

d) Pods receive an additional hot water wash in the wilter or blancher. Check time and temperature of blancher. Pods should be sufficiently softened to pack easily into the containers. Report overblanching or other conditions which may adversely affect any steps in preparation or quality of the finished items.

e) Observe any cutting, dicing, or slicing procedures for efficiency of operation. Note appearance and size of individual units for concurrence with requirements for various styles.

f) Note adequacy of fill of the containers and selection of pimientos for color which will meet color requirements for intended grade. For adequate "fill of container" the pimientos, together with the packing medium, should occupy not less than 90 percent of the capacity of the sealed container.

4) Processing.

Observe processing practices. The pH of the product should be checked as may be necessary for the control of processing. If the pH is above 4.7, it may be necessary to acidify the product or increase the time or temperature of processing to avoid under-sterilization. The temperature of the fill and the time and temperature of processing have a direct effect on the quality and condition of the product as well as on the sterilizing value of the cook. Overprocessing may result in excessive softening or mushiness.

5) Drained Weight.

To determine recommended drained weight compliance, a rate no less than the single sample rate as given in the Rules and Regulations for the appropriate number of cases shall be applied.

B) Sanitation.

It is the plant personnel's responsibility -- counseled by the inspector -- to see that an acceptable standard of sanitation is maintained. Insanitary conditions can be minimized by daily cleaning of equipment, keeping floors free of trash and waste materials, proper screening and rest room facilities, good personal hygiene, and other related sanitary practices as enumerated in the Rules and Regulations and in File Code 159-A-1.