

Donated Fruits and Vegetables

How to know when to accept them?



How long will it last?

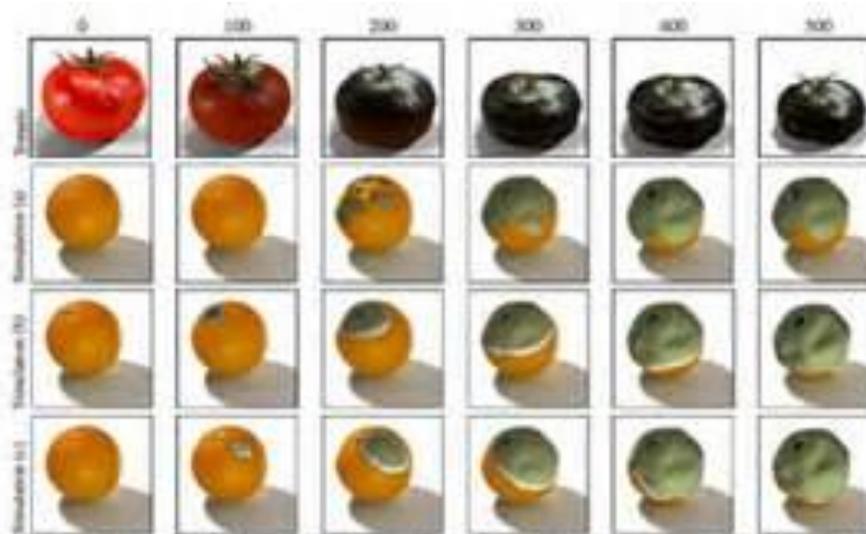


Figure 9. Simulation results of a tomato and an orange under three different parameter settings set by three users from our user interface. Simulation (a) and (b) set two different pressure points and produce different results. (c) changes parameters in the mold growth to simulate different growth rates.

Tomato Trivia

- According to the USDA, Americans eat 22-24 pounds of tomatoes per person, per year. About ? of that comes in the form of ketchup and tomato sauce.
 - A. One Third
 - B. One Fourth
 - C. One Half
 - D. Three Fourths

Tomato Trivia

- What state uses tomatoes as both the state fruit and the state vegetable?
 - A. Texas
 - B. Florida
 - C. Arkansas
 - D. California

COLOR CLASSIFICATION REQUIREMENTS IN

UNITED STATES STANDARDS FOR GRADES OF FRESH

TOMATOES

United Fresh Fruit and Vegetable Association
in cooperation with
U. S. Department of Agriculture
Agricultural Marketing Service
Fruit and Vegetable Division

U.S.D.A. Visual Aid TM-L-1; February '75
The John Henry Company
P.O. Box 1410, Lansing, Mich. 48904



(1) "Green" means that the surface of the tomato is completely green in color. The shade of green color may vary from light to dark;

(2) "Breakers" means that there is a definite break in color from green to tannish-yellow, pink or red on not more than 10 percent of the surface;

(3) "Turning" means that more than 10 percent but not more than 30 percent of the surface, in the aggregate, shows a definite change in color from green to tannish-yellow, pink, red, or a combination thereof;

(4) "Pink" means that more than 30 percent but not more than 60 percent of the surface, in the aggregate, shows pink or red color;

(5) "Light red" means that more than 60 percent of the surface, in the aggregate, shows pinkish-red or red; Provided, That not more than 90 percent of the surface is red color; and,

(6) "Red" means that more than 90 percent of the surface, in the aggregate, shows red color.

The above photographs are only guides illustrating the shade and percentage of surface color specified for each of the color terms. These photographs do not necessarily depict absolute limits of minimum or maximum shades and/or percentage of color required for each term.

Best Handling practices

- Storing Temperature – 55 to 65 degrees
- Ethylene producer
- Handle with care

Bruises (C)

Bruised tomatoes will usually appear as soft **areas**, slight or deep indentations, split walls or crushed fruit. Bruising can result from a tight pack, or by rough handling or transportation. Fruit with some percentage of color will bruise more readily than mature green fruit. Mature green tomatoes showing indentations usually fill out and ripen satisfactorily. However, mature green fruit can be bruised severely enough to score as a defect. When soft areas are encountered (resulting from bruising), they should be described and reported as bruises, not as soft. Flattened areas without underlying damage to the flesh shall be ignored.

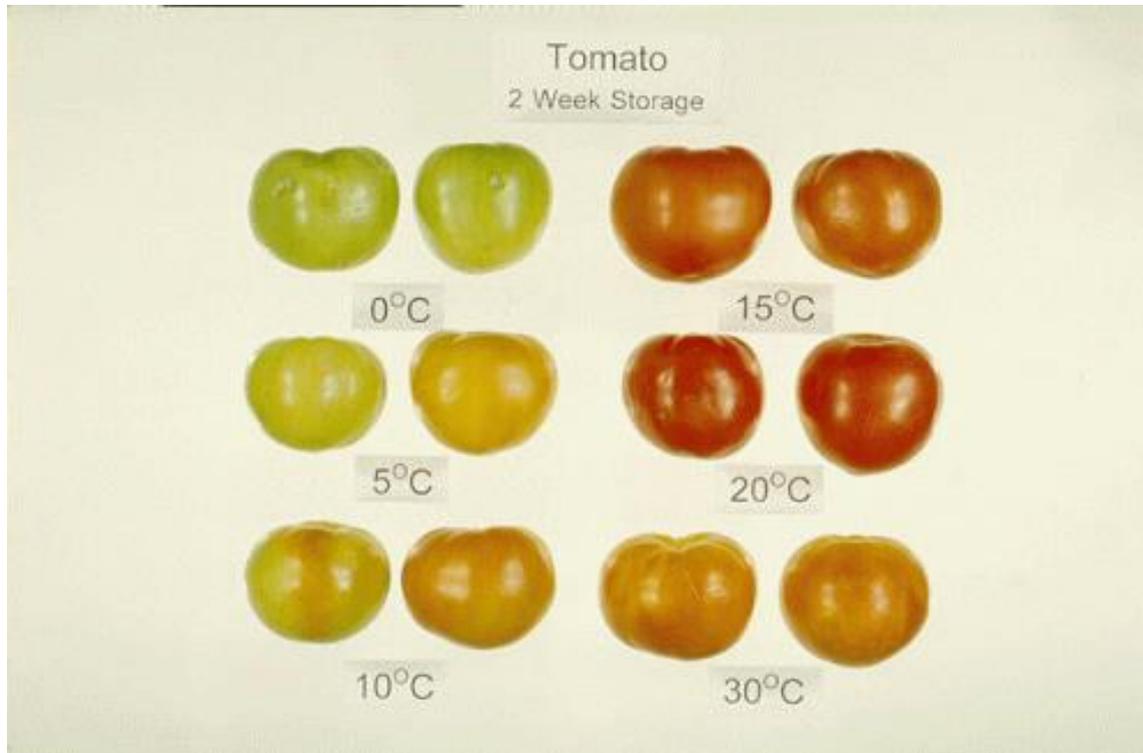
Chilling Injury (C)

Chilling injury is caused by exposure to low temperatures, usually below 50° F. for an extended period of time. Mature green tomatoes are more susceptible to chilling injury than tomatoes with some break in color. Chilling injury can occur in the field, during transit, or after they reach the market if held at low temperatures. The symptoms or affects of chilling injury usually will not become apparent until a few days after the injury occurs. In general, chilling injury will appear as some other defect. For this reason, **do not use the phrase “chilling injury” on the certificate.** Describe affected tomatoes using either other defect names or descriptions (such as sunken discolored areas, discolored areas around stem scar, etc.), according to the facts. Additionally, it is distinct in appearance from freezing injury. (See section on freezing injury.)

The symptoms and indications of chilling injury vary depending on the severity. It may be severe enough to kill cells in the fruit, leading to slow or abnormal ripening. Indications of chilling injury may include:

- Dullness or lack of sheen to the surface of the fruit.
- Slightly rough or coarse feel to the surface.
- Possible pattern of occurrence in containers or load (similar to freezing injury pattern).
- Alternaria Rot around the stem scar or numerous lesions elsewhere on the fruit.
- Abnormal coloring.

Temperature is key



Sunburn (C)

Sunburn is characterized by discoloration of tissue, usually over the shoulders or upper half of the tomato. Sunburn on green tomatoes appears as dark-green, yellow or tan areas on the shoulders and/or sides of the tomatoes which have been exposed to the sun. As the tomato ripens and turns from green to red the affected tissue turns yellow. The affected areas may be confined to the skin which may become thickened or leathery. In more severe cases the flesh is also discolored and sunken. If sunburn does affect the flesh of tomatoes, it will appear as a yellow ring over the shoulders contrasting sharply with the lower part of the tomato.

Sunburn is reported as a condition factor because the appearance changes as the tomato ripens. If the affected area contrasts with the remainder of the surface, score on an appearance basis using the general definitions of damage, serious damage and very serious damage.



Concentric circles



Bananas



Banana Trivia

- Americans consume an average of 26.2 pounds of bananas a year. Uganda has the highest average per person consumption per year. It is
 - A. 54 pounds per year
 - B. 83 pounds per year
 - C. 150 pounds per year
 - D. 500 pounds per year

Banana Trivia

- A single banana is known as a _____?_____ and the bunch of bananas is know as a _____?_____.
- A. banana/ bunch
- B. finger/ hand
- C. single/ cluster
- D. uno / muchos

Best Handling practices

- Storing Temperature – 55 to 65 degrees
- Ethylene sensitive

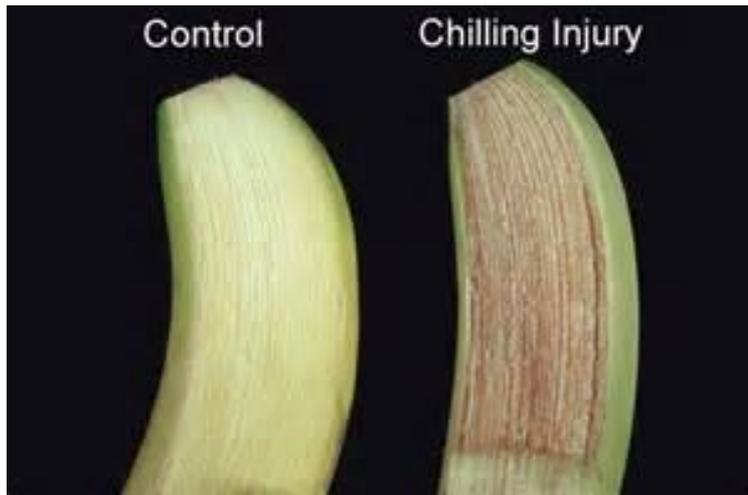


Bruising (C)



Bruising is usually not a problem with green fruit but as ripening advances bananas become progressively softer and will readily bruise if handled improperly. Bruising of turning or ripe fruit may result in discolored pulp without any visible peel injury.

Note any bruising which affects the appearance, shipping or edible quality of the bananas. When reporting bruising, the inspector should also mention the ripeness of affected fruit, location in container and location of containers in the shipment.



Chilling of green fruit: On breaking the fruit the latex (vascular bundle juices) exudes reluctantly, if at all, and has a tendency to be clear rather than milky or cloudy in appearance. This condition of the latex is not, however, brought about solely by chilling. At slightly advanced stages of ripening, even before yellow color appears, the latex also becomes clear and no longer flows freely. In the case of severely chilled bananas, dark green water-soaked areas, varying in size from small spots to the entire surface of fruit, are readily noticed on the peel before darkening sets in.

Chilling of turning and ripe fruit: On turning and ripe fruit the effect of chilling is not immediately apparent. The characteristic dull color does not appear until after the fruit is exposed to warmer temperatures. Chilling causes a dullness of the peel and also increases sensitivity to handling. Chilled bananas will often show finger marks and develop discolored areas where fruit has come into contact with packing material or other objects.

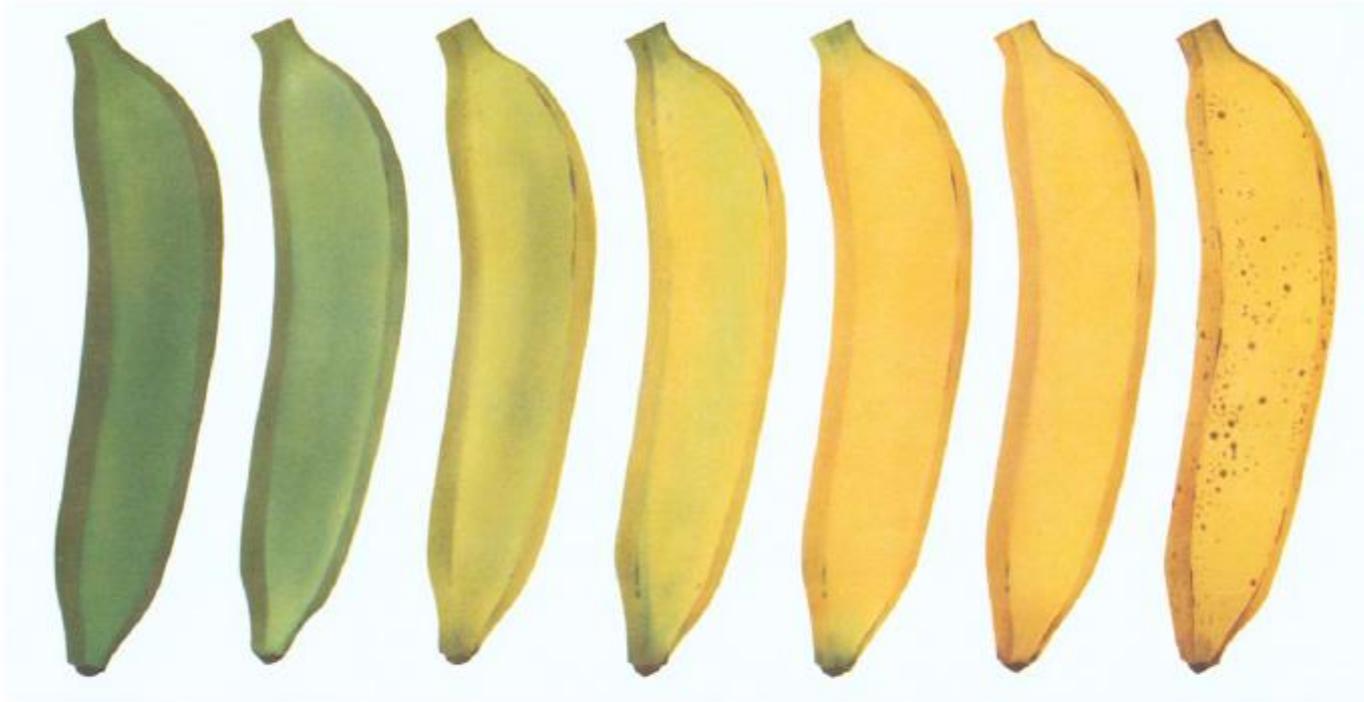
Overheating (C)

Bananas that have been overheated or “cooked” (trade term) are drastically reduced in market value and must be disposed of promptly. Overheated bananas will not develop the desired bright color and good flavor. Instead the fruit has a flat flavor and deteriorates rapidly. Usually overheated fruit will become abnormally soft while turning from green to yellow and will show a characteristic dull grayish tint, with the skin becoming excessively brittle, causing the fingers to separate easily from the cut stalk. These conditions are soon followed by the appearance of numerous brown spots resembling those present on soft ripe fruit. To help distinguish discoloration from overheating from other causes, it is recommended to cut the affected banana lengthwise to examine the internal pulp. Bananas affected by overheating often show a brownish to grayish discoloration emanating from the center of the pulp outward. The actual degree of overheating injury will depend upon the conditions to which the fruit has been subjected.

Overheating injury shall be reported by the individual finger, and each defect shall be reported separately. **Do not use the term “overheating” on the certificate.**

BANANA RIPENING GUIDE

COLOR INDEX NUMBERS FOR BANANA RIPENING

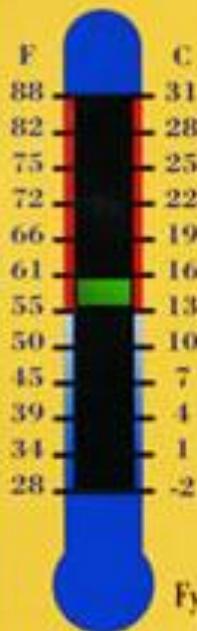


Index No.	1	2	3	4	5	6	7
Peel Color	Green	Light green (breaking toward yellow)	Yellowish	Greenish (more yellow than green)	Yellow with green tips	Yellow	Yellow, flecked with brown



FYFFES BANANAMOMETER

A Guide To Storage And Display
Conditions For Ripened Fyffes Bananas



TOO HOT

Disastros

HOT

Above 22°C shelf life is very limited,
bananas turn spotty very quickly

**TOO
WARM**

Bananas ripen very quickly

IDEAL

14°C is ideal, maximising shelf life

**TOO
COLD**

The skins of bananas
stored at 12°C or below
will go black and the
bananas will be unsaleable

Fyffe Times Better Than Your Average Banana



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Apples



Apple Trivia

- **In ancient Greece**, they used this tradition to propose marriage to a girl.
 - A. Baked her an apple pie
 - B. Tossed her an apple
 - C. Offered her family a bushel of apples
 - D. Offered her a apple tree

Apple Trivia

- If you ate one apple variety each day, it would take ? years to eat one of every type of apple grown in the world!
 - A. 1.4
 - B. 14.6
 - C. 21.2
 - D. 27.3

Best Handling practices

- Storing Temperature – 55 to 65 degrees
- Ethylene producer



Bruises (C)

Bruising may be caused by rough handling, or by the pack being too loose or too tight. The variety, stage of firmness, and type of pack can influence the amount of bruising found. Small bruises, which are slight and incident to proper handling and packing, should be disregarded unless excessively numerous. Do not hold fruit at angles to the light to search for bruising.

Freezing and Freezing Injury (C)

- Freezing injury may occur when temperatures drop below the freezing point of
- the fruits. The freezing points for all major apple varieties range from 27.3 to 29.4° F.
- and average 28.4° F. Inspectors must always clearly distinguish between fruit in a
- frozen condition and those affected by freezing injury. The term “frozen” should only be
- used when ice crystals are present. “Freezing injury” is the term that should be used
- when it is evident that the apple has been frozen but is not in a frozen condition at the
- time of inspection. It may be difficult to distinguish between bruising, freezing injury and
- internal breakdown.
- The following four conditions may indicate freezing injury:
 - 1. Few to all of the vascular bundles around the core may demonstrate
 - various degrees of browning.
 - 2. Extensive browning of the flesh and of both large and small vascular
 - bundles. The affected flesh is watery and soft. (If it is mealy and rather
 - firm and the flesh is affected mostly at the blossom end of the fruit, this
 - indicates internal breakdown not freezing injury.)
 - 3. Large (2 inches in diameter or larger) flattened areas in apples from the
 - lower layer of bottom containers, the central portion of the areas being
 - more sunken and rather soft.
 - 4. Shriveling.

Freezing and Freezing Injury (C)



Table 1. Ethylene Producers

Apples	Melons
Apricots	Nectarines
Avocados	Papayas
Bananas	Peaches
Cantaloupe	Pears
Kiwifruit	Plums
Mangos	Tomatoes

Table 2. Ethylene-Sensitive Produce

Apples	Lettuce
Apricots	Nectarines
Asparagus	Okra
Avocados	Parsley
Bananas	Peaches
Broccoli	Pears
Brussels Sprouts	Peas
Cabbage	Peppers
Carrots	Spinach
Cauliflower	Sweet Potatoes/Yams
Eggplant	Tomatoes
Green Beans	Watermelon
Leafy Greens (such as spinach and kale)	

Basic rules

- No more than 10% decay
- Temperature, Temperature, Temperature
- If the product is full of mold and you know it is not good, do not pick it up (but please let Hugh or myself know)
- When inspecting produce, please look at as many pallets as you can
- When in doubt, give me a call