

Produce

Specification Guide

Produce Specifications

Fresh Fruit

Fruits That **RIPEN** After Harvest

Apricots	Honeydew	Pears
Avocados	Kiwifruit	Plantains
Bananas	Nectarines	Plums
Cantaloupe	Papaya	Tomatoes
Carambola	Peaches	

Fruits That **DON'T RIPEN** After Harvest

Apples	Lemons	Pineapple
Berries	Limes	Strawberries
Cherries	Mandarins	Watermelon
Grapes	Oranges	

Ripening guide

Some fresh fruits continue to ripen after they have been harvested while others do not. Whether or not a fruit continues to ripen is a key factor in determining its storage and shelf life. Fruits that require additional ripening should be stored at room temperature until they become ripe. For an overview of ideal storage temperatures for specific fruits, please refer to the "Temperature" page of this booklet.



Ethylene Gas:

Benefits And Effects Of Harmful Exposure

Ethylene is one of the most active hormones known. Fruit can be ripened quickly by introducing ethylene gas into a controlled environment. For example, it is often used to ripen bananas, tomatoes, and avocados. By placing peaches in a closed bag, you're taking advantage of the fruit's natural ethylene to speed softening.

While ethylene is great for ripening some fruits, it can cause premature decay of other fruits and vegetables that are sensitive to it. To avoid deterioration or rapid ripening of sensitive commodities, you should avoid holding them in the same storage room or refrigerator compartment with products that emit a great deal of ethylene gas. Diseased or injured fruits generate substantially increased levels of ethylene, so remove injured produce right away. If you have only one cooler, keep lids on storage boxes, store sensitive commodities as far away as possible from ethylene producers, and rotate product properly. If your inventory turns quickly, ethylene should not cause quality problems.

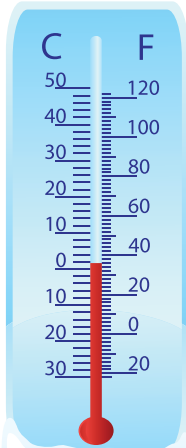
Fruits That **RELEASE** Large Quantities of **ETHYLENE**

Apples	Cantaloupe	Papayas	Plums
Apricots	Honeydew	Peaches	Tomatoes
Avocados	Kiwifruit (<i>ripe</i>)	Pears	
Bananas	Mangos		

Produce That Is **SENSITIVE TO ETHYLENE**

Asparagus	Cauliflower	Okra
Bananas	Celery	Peas
Beans	Citrus	Peppers, All
Broccoli	Cucumber	Spinach
Brussels	Eggplant	Squash
Sprouts	Kiwifruit (<i>unripe</i>)	Sweet Potatoes
Cabbage	Lettuce, All	Watermelon
Carrots	Nectarines	

Produce Specifications



Specifically for fresh-cut vegetables, the correct temperature is between **32°- 38° F**

Temperature

Effect On Produce

Temperature is the single most important factor in maximizing produce quality. Temperature abuse is the cause of most produce claims and losses.

Control

Every foodservice operator must be aware of temperature in their receiving, storage and prep areas before they can effectively manage produce handling. These temperatures must be checked on a regular basis to ensure optimal product life.

Rotation

Proper rotation practices must be followed in order to keep produce fresh. Simply write the delivery date on the outside of every carton received and store the cartons so the date can be easily read. The oldest product should be used first, according to the FIFO method (First-In, First-Out)

Storage Hints To Prolong Life Of Fresh Fruit & Vegetables

The temperature fluctuates from the front to the back of the cooler due to the location of the cooling unit and frequency of the door being opened. To protect the produce, the cooler should be divided as follows:

BACK (1)	Artichokes Asparagus Beets Berries	Broccoli Cauliflower Cabbage Carrots	Celery Corn Cut Items Fennel	Grapes Herbs Lettuce, All Mushrooms	Pears Peas Sprouts Turnips
MIDDLE (2)	Beans Citrus	Cucumber Eggplant	Okra Oregano	Peppers, All Pineapple	Squash (<i>summer</i>)
FRONT (3)	Apples Avocados	Basil Onion, Dry	Jicama Melons	Squash (<i>winter</i>) Stone Fruit	



FRUIT: Pineapple, bananas, papayas, pears, mangos, and avocados should be used upon arrival, but if additional ripening is needed, store at room temperature. Once ripe, all but bananas can be held in refrigerator for a short period of time.

DRY STORAGE: Recommended for potatoes, garlic, ginger root, rutabagas, and sweet potatoes. Do not refrigerate these items. Onions can be stored unrefrigerated for short time periods. The ideal temperature for tomatoes is 55° F.

Ideal Storage Temperatures

32° - 40° F

Apples	Brussels Sprouts	Fennel	Kiwifruit	Radishes
Artichokes	Cabbage	Garlic	Lettuce, All	Spinach
Asparagus	Carrots	Grapes	Mushrooms	Sprouts
Beets	Cauliflower	Herbs (<i>other than Basil and Oregano</i>)	Onions, Dry	Stone Fruit
Berries	Celery	Kale	Pears (<i>ripe</i>)	Turnips
Broccoli	Corn		Peas	Watercress

40° - 50° F

Avocado (<i>ripe</i>)	Citrus	Ginger Root	Okra	Pineapples
Basil	Cucumber	Jicama	Oregano	Squash
Beans	Eggplant	Melons	Peppers, All	Tomatoes (<i>ripe</i>)* (<i>ideal temp is 55°F</i>)

Leave Out of Cooler Room

Avocados (<i>unripe</i>)	Mangos	Pumpkins	Sweet Potatoes
Bananas	Pears (<i>unripe</i>)	Shallots	Tomatoes (<i>green</i>)
Grapefruit	Plantains	Squash (<i>winter</i>)	Watermelons (<i>whole</i>)
Limes			

*will lose flavor at this temperature during prolonged storage.

Source: PMA Foodservice Produce Reference Manual,
Postharvest Technology- University of California- 1992

Fresh-Cut Lettuce

Handling Overview

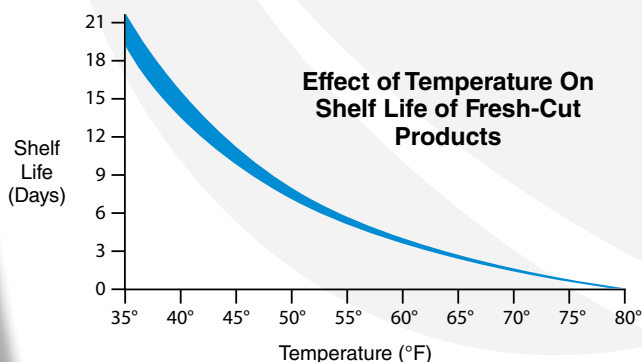
- Store at 32-38° F
- Maximize shelf life with proper refrigeration
- Keep time out of refrigeration to a minimum
- Store product in original bags, or shipping cartons
- Never store vegetables next to ethylene producing items such as avocados and tomatoes

Quality Issues to Watch For

The following quality issues affect fresh-cut lettuce. Finding defective pieces in a bag doesn't mean the entire bag is unusable. Use your best judgment in evaluating to what degree the product is affected. Eliminate objectionable pieces when necessary. Our strict processing standards and customized breathable packaging films work together to minimize the risk and maximize the shelf life of fresh-cut product quality.

Wetness in the Bag

Excessive moisture is linked to temperature abuse, which causes the product to respire and deteriorate faster.



*Microbiological growth greatly increases at temperatures over 41°F



Pink/Brown discoloration

A pink (and eventually brown) discoloration along the cut edges of the lettuce is generally caused by too much oxygen in the bag. Typically this is caused by a hole in the bag. To avoid this problem, keep the product in the original box until ready to use.

Brown Pieces

Small brown pieces are often caused by a quality defect in the raw product called tip burn. Lettuce needs to be grown in cool, mild climates. When temperatures increase above normal, the heat can burn the tips of the leaves. This defect is primarily inside the head and it is difficult to eliminate 100% of the affected area before processing.

Off Smell

A sweet smell occurs when a film (bag) starves the product of oxygen which disrupts normal lettuce metabolism. The resulting oxygen/carbon dioxide mix leads to a "fruity" aroma and a bitter taste. Lower respiration (through proper temperature control) will minimize this problem. The best way to eliminate these problems is to purchase from a fresh-cut supplier who uses the best packaging technology available.

Ripening Guides

Tomato

Green - stage 1 Breakers - stage 2 Turning - stage 3 Pink - stage 4 Light Red - stage 5 Red - stage 6



Avocado

Use in 3 - 5 Days Use in 2 - 3 Days Ready To Eat

Firm Breaking Ripe*



*A ripe avocado will be soft to the touch

Banana

Deep Green Light Green Equally Green & Yellow More Yellow than Green



Yellow with Green Tips All Yellow Yellow with Brown Spots



Sources: FreshPoint Vendor and Industry Partners – listed at www.freshpoint.com