

Fresh Produce Storage and Handling Guide

Commodity	Optimal Storage Temperature		Chill Point Temperature		Optimal Humidity %	Top Ice	Water Sprinkle	Produces Ethylene	Sensitive to Ethylene	Remarks
	F °	C °	F °	C °						
48-70° F 9-22° C										
BANANAS <i>mature green</i>	62-70	17-21	56	13	85-95	No	No	Yes-Low	Yes	
<i>ripe</i>	56-60	13-16	54	12	85-95	No	No	Yes-Medium	No	
COCONUTS	55-60	13-16	-----	-----	80-85	No	No	No	No	For extended storage or transit, store at 32-35Deg. F (0-2Deg. C).
EGGPLANT	50-55	10-13	45	7	85-95	No	No	No	Yes	
GINGER ROOT	60-65	16-18	55	13	65-70	No	No	No	No	
GRAPEFRUIT	55-60	13-16	50	10	90-95	No	No	Yes-Very Low	No	
LEMONS	52-55	11-13	50	10	90-95	No	No	Yes-Very Low	No	
LIMES	48-55	9-13	45	7	90-95	No	No	Yes-Very Low	No	
MANGOES	50-55	10-13	50	10	85-95	No	No	Yes-Medium	Yes	
MELONS <i>Casaba/Persian</i>	50-55	10-13	45	7	85-95	No	No	Yes-Very Low	Yes	Riper melons may be stored at 45-50Deg. F (7-10Deg. C).
<i>Crenshaw</i>	50-55	10-13	45	7	85-95	No	No	Yes-Low	Yes	Riper melons may be stored at 45-50Deg. F (7-10Deg. C).
<i>Honeydew</i>	50-55	10-13	41	5	85-95	No	No	Yes-Medium	Yes	Riper melons may be stored at 45-50Deg. F (7-10Deg. C).
OKRA	50-55	10-13	45	7	90-95	No	No	Yes-Very Low	Yes	
PAPAYAS	50-55	10-13	45	7	85-95	No	No	Yes-Medium	Yes	
PINEAPPLES	50-55	10-13	45	7	85-95	No	No	Yes-Very Low	No	Odor may pass to avocados; keep separated.
PUMPKINS	55-59	13-15	50	10	65-70	No	No	No	Yes	
SQUASH <i>hard shell</i>	55-59	13-15	50	10	65-70	No	No	No	Yes	
SWEET POTATOES	58-65	14-18	54	12	85-90	No	No	No	Yes	
TOMATOES <i>mature green</i>	65-72	18-22	55	13	85-95	No	No	Yes-Low	Yes	To delay ripening, store at 55-60Deg. F (13-16Deg. C).
<i>ripe</i>	55-60	13-16	50	10	85-95	No	No	Yes-Medium	No	Always display at room temperature.
WATERMELON	55-70	13-21	50	10	85-95	No	No	No	Yes	Extremely sensitive to ethylene; exposure will cause softening of flesh. Keep away from ethylene-producing fruits and ripening rooms.
36-50° F 2-10° C										
AVOCADOS <i>unripe</i>	45-50	7-10	45	7	85-95	No	No	Yes-Low	Yes	Extremely sensitive to ethylene; exposure may increase symptoms of chill damage.
<i>ripe</i>	38-45	3-7	36	2	85-95	No	No	Yes-High	Yes	
CRANBERRIES	38-42	3-6	36	2	90-95	No	No	No	No	



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CANTALOUPE	36-38	2-3	34	1	90-95	OK	No	Yes-Medium	Yes	
CUCUMBERS	45-50	7-10	40	4	90-95	No	No	Yes-Very Low	Yes	
GREEN BEANS	40-45	4-7	38	3	90-95	No	No	No	Yes	Water may promote russetting/spotting.
GUAVAS	45-50	7-10	40	4	85-95	No	No	Yes-Medium	Yes	
LYCHEES	40-45	4-7	36	2	90-95	No	No	Yes-Very Low	No	
ORANGES CA / AZ	40-44	4-7	38	3	90-95	No	No	Yes-Very Low	No	
PEPPERS hot / chili	45-50	7-10	42	6	90-95	No	No	No	Yes	Exposure to ethylene gas will increase color change in hot peppers.
sweet	45-50	7-10	42	6	90-95	No	No	No	No	
POMEGRANATES	41-50	5-10	41	5	90-95	No	No	No	No	
POTATOES	45-50	7-10	38	3	85-90	No	No	No	Yes	
SQUASH soft shell	45-50	7-10	40	4	90-95	No	No	No	Yes	
TANGERINES CA / AZ	40-44	4-7	38	3	90-95	No	No	Yes-Very Low	No	
32-36° F 0-2° C										
APPLES	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	Some varieties (McIntosh & Yellow Newton) are chill sensitive; store at 35-40Deg. F (2-4Deg. C).
APRICOTS	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	
ARTICHOKES <i>Globe</i>	32-35	0-2	-----	-----	90-95	OK	OK	No	No	
ASPARAGUS	34-36	1-2	-----	-----	90-95	No	OK	No	Yes	
BLUEBERRIES	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
BOK CHOY	32-35	0-2	-----	-----	90-95	No	OK	No	Yes	
BROCCOLI	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	
BRUSSELS SPROUTS	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	
BUNCHED GREENS <i>beets, chard, green onions, mustard, parsley, radish, spinach, turnip</i>	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	Green onion odor may pass to figs, grapes, mushrooms, rhubarb, and sweet corn; keep separated.
CABBAGE whole head	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	
CARROTS topped	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	Exposure to ethylene may cause bitter flavor.
CAULIFLOWER	32-35	0-2	-----	-----	90-95	No	No	No	Yes	
CELERY	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	
CHERRIES	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
CHINESE PEA PODS	32-35	0-2	-----	-----	90-95	No	No	No	No	
CORN, SWEET	32-35	0-2	-----	-----	90-95	OK	OK	No	No	May pick up odor from green onions; keep



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										separated.
ENDIVE, ESCAROLE, CHICORY	32-35	0-2	-----	-----	90-95	OK	OK	No	No	
FIGS	32-35	0-2	-----	-----	90-95	No	No	Yes-Low	No	
GARLIC	32-35	0-2	-----	-----	65-75	No	No	No	No	May store at 55-70Deg. F (13-21Deg. C) for short period time.
GRAPES	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	Yes	Keep away from other commodities if grapes are packed in containers with sulfur dioxide pads.
GREEN PEAS	32-35	0-2	-----	-----	90-95	No	No	No	Yes	
HERBS <i>all except basil</i>	32-35	0-2	-----	-----	90-95	No	OK	No	Yes	
<i>basil only</i>	52-59	11-15	50	10	90-95	No	OK	No	Yes	
JERUSALEM ARTICHOKE	32-35	0-2	-----	-----	90-95	No	No	No	No	
KIWIFRUIT <i>unripe</i>	32-35	0-2	-----	-----	90-95	No	No	Yes-Low	Yes	Extremely sensitive to ethylene; exposure will accelerate ripening.
<i>ripe</i>	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	
KOHLRABI	32-35	0-2	-----	-----	90-95	OK	OK	No	No	
LEEKS	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	Odor may pass to figs and grapes; keep separated.
LETTUCE <i>all types</i>	32-35	0-2	-----	-----	90-95	No	OK	No	Yes	
MUSHROOMS	32-35	0-2	-----	-----	90-95	No	No	No	No	May pick up odor from green onions; keep separated.
NAPA/CHINESE CABBAGE	32-35	0-2	-----	-----	90-95	No	OK	No	Yes	
NECTARINES	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	Unripe fruit produces less ethylene.
ONIONS, DRY	32-35	0-2	-----	-----	65-75	No	No	No	No	May store at 55-70Deg. F (13-21Deg. C) for short period.
ORANGES <i>FL / TX</i>	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
PEACHES	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	Unripe fruit produces less ethylene.
PEARS	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	Unripe fruit produces less ethylene.
PERSIMMONS	32-35	0-2	-----	-----	90-95	No	No	No	Yes	Extremely sensitive to ethylene; exposure will accelerate softening of flesh
PLUMS / PRUNES	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	Unripe fruit produces less ethylene.
PRECUT FRUIT <i>pineapple</i>	32-36	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
PRECUT VEGETABLES	32-36	0-2	-----	-----	90-95	No	No	No	Yes	
<i>carrots, celery, broccoli</i>										
<i>mushroom</i>	32-35	0-2	-----	-----	90-95	No	No	No	No	



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QUINCES	32-35	0-2	-----	-----	90-95	No	No	Yes-High	Yes	
RHUBARB	32-35	0-2	-----	-----	90-95	No	OK	No	No	May pick up odor from green onions; keep separated.
RASPBERRIES / BLACKBERRIES	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
SALAD MIXES	32-36	0-2	-----	-----	90-95	No	OK for Bulk	No	Yes	
STRAWBERRIES	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
SPROUTS <i>alfalfa, bean</i>	32-35	0-2	-----	-----	90-95	No	No	No	Yes	
TANGERINES FL / TX	32-35	0-2	-----	-----	90-95	No	No	Yes-Very Low	No	
TOPPED VEGETABLES <i>beets, celeriac, parsnips, radishes, rutabagas, turnips</i>	32-35	0-2	-----	-----	90-95	OK	OK	No	Yes	

<p>Optimal Storage Temperature: Ranges given are the optimal temperatures at which fruits and vegetables should be stored. Temperature ranges are given in both Fahrenheit and Celsius Degrees.</p>	<p>Top Ice: Top icing is designed to enhance the freshness and shelf life of certain commodities. Items designated with OK will benefit from top icing; however, it is not critical during short storage periods. Items designated with No should never be top iced.</p>	<p>Optimal Humidity: It is important to store and display fruits and vegetables within their optimal humidity ranges to ensure product freshness and to prevent wilting or deterioration. Most items stored at 45Deg F(7Deg C) or above require 85-95% humidity. Most items stored below 45Deg F(7Deg C) require 90-98% humidity.</p>
<p>Chill Point: Many fruits and vegetables are susceptible to damage if stored or displayed below their chill points (34-56Deg F / 1-13Deg C). To avoid chill damage, do not store fruits and vegetables below their designated chill point.</p>	<p>Water Sprinkle: Water sprinkling is designed to enhance the freshness and shelf life of certain commodities. Items designated with OK will benefit from sprinkling; however, it is not critical during short storage periods. Items designated with No should never be sprinkled.</p>	<p>Sensitive to Ethylene: Some fruits and vegetables are sensitive to ethylene. Exposure to ethylene may cause accelerated ripening, discoloration, and in some cases, product deterioration. Commodities that are sensitive to ethylene should be stored away from commodities that produce medium to high amounts of ethylene.</p>
	<p>Produces Ethylene: Many fruits give off ethylene, a natural, colorless, and odorless gas that promotes ripening. Because different fruits give off varying amounts of ethylene, they have been designated very low, low, medium, or high producers. Commodities that produce medium to high amounts of ethylene should be stored away from items that are sensitive to ethylene and may be damaged as a result of exposure to the gas.</p>	

