

**FRESH
PRODUCE
HANDLING
ESSENTIALS:
BEST PRACTICES
FOR RECEIVING,
SORTING,
AND STORAGE**



This guide is a practical reference for Feeding America network members—food banks, partner agencies, staff, and volunteers—who receive, store, sort, and distribute fresh produce. It brings together key handling and storage information, along with visual inspection guidance, to help users make consistent decisions about what can be accepted and distributed, what can be trimmed or culled (gleaned), and what should be rejected due to spoilage, quality concerns or food safety concerns.

Each commodity section includes quick cues for receiving and inspection, recommended storage temperature and humidity ranges, and notes on ethylene sensitivity or production and odor considerations.

Produce marked with an asterisk (*) in this guide is included in what is known across the Feeding America network as the **“Hard Seven” Produce Commodities**. These seven commodities, available year-round, are consistently supplied and cost-effective, making them ideal for Feeding America network members to consider as part of their sourcing plans. The Hard Seven includes apples, cabbage, carrots, onions, oranges, potatoes (white/gold/yellow/red) and sweet potatoes.

Resources:

- [International Fresh Produce Association](#)
 - [Fresh Produce Transportation Best Practices \(2022\)](#)
- [International Produce Training](#)
- [The Packer Produce EDU](#)
- [U.S. Department of Agriculture Agricultural Marketing Service](#)
- [U.S. Foods Produce Resources and Information](#)

Developed by the Feeding America Supply Chain Department, inspired by the Houston Food Bank Produce Guide (2021).

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Ethylene Use to Ripen Produce

Ethylene is a natural gas that many fruits give off as they ripen. Some shippers use small, controlled amounts after harvest to help certain fruits ripen evenly.

What it is: A naturally occurring ripening gas (a plant hormone).

What it is not: Not a spray, wash, or coating on the produce.

Safety: Ethylene does not leave a residue on food. It simply helps fruit ripen, similar to what happens naturally over time.

How to Handle Ethylene-Ripened Produce

Move it first: Ethylene-ripened items may be closer to “ready-to-eat” status, so they may not last as long. Use FEFO (First Expiring, First Out) in terms of storage and display.

Store smart when you can: Keep ripe/ethylene-producing fruits away from ethylene-sensitive produce to reduce unwanted softening or yellowing.

Check more often: Re-sort, repack, or redirect product quickly as it ripens.

When to Reject Ethylene-Treated Produce

Reject for the same reasons you would for any produce: active decay, significant mold, strong fermentation/off odors from breakdown, leakage, or other signs the product is not wholesome.

Reject if you have a credible concern about **illegal** ripening agents or other chemical issues unrelated to ethylene.

Key Takeaway:

Do not reject produce just because it was ethylene-ripened!

A supplier’s mention of ethylene alone should not affect your decision. Inspect the product and accept it if it meets standard receiving checks (proper temperature, safe handling, and no signs of spoilage). If acceptable, process it promptly for neighbor distribution.

Storage Information, At-a-Glance



Product	Storage Temp (°F)	Chill/Freezing Susceptibility Temp (°F)	Ethylene Sensitive	Ethylene Producer	Odor Sensitive	Odor Producer	Relative Humidity (%)
Apples*	32-36	29	No	Yes	Yes	Yes	85-95
Apricots	32-36	31	Yes	Yes	No	No	85-95
Asparagus	32-36	28	Yes	No	No	No	95-100
Avocados	45-50; Ripe: 32-36	30	No	Yes	Yes	Yes	85-95
Bananas	Warehouse: 56-58 Ripen at: 60-65	55	Yes	No	No	No	85-95
Beans, Green/Snap	40-45	32	Yes	No	Yes	No	95
Berries, Blackberries/ Blueberries/ Strawberries	32-36	30	No	Yes – Blackberries Yes – Blueberries No – Strawberries	No	No	90-98
Broccoli	32-36	32	Yes	No	No	No	90-98
Brussels Sprouts	32-36	N/A	Yes	No	No	No	90-98
Cabbage*	32-36	N/A	Yes	No	Yes	No	90-98
Cantaloupe	36-41	30	No	Yes	No	No	90-95
Carrots*	32-36	30	Yes	No	Yes	No	90-98
Cauliflower	32-36	31	Yes	No	No	No	90-98
Celery	32-36	31	No	No	Yes	No	90-98
Corn	32-36	32	Yes	No	Yes	No	95
Cucumbers	45-50	45	Yes	No	No	No	85-95

*Indicates a “Hard Seven” commodity. Refer to [Introduction](#) for more information.

Storage Information, At-a-Glance



Product	Storage Temp (°F)	Chill/Freezing Susceptibility Temp (°F)	Ethylene Sensitive	Ethylene Producer	Odor Sensitive	Odor Producer	Relative Humidity (%)
Eggplant	50-54	32	Yes	No	Yes	No	90-98
Grapes	32-36	32	No	No	Yes	Yes	90-95
Grapefruit	Arizona: 50-55 California: 54-57 Florida: 45-50 Texas: 50-60	32	Yes	No	Yes	No	85-95
Honeydew	40-45	32	No	Yes	No	Yes	85-95
Lemons/Limes	45-50	32	Yes	No	No	Yes	85-95
Lettuce, Whole/Leaf	32-36	31	Whole: Yes Leaf: No	No	No	No	90-98
Mangos	55-65	50	No	Yes	No	No	90-98
Mushrooms	32-36	32	Yes	No	Yes	No	90-98
Nectarines	32-36; Ripe: 57-77	31	Yes	Yes	Yes	No	90-98
Okra	40-45	32	Yes	No	No	No	90-95
Onions*, Bulb/Sweet, Green	- 45-55 (Bulb/Sweet) 32-36 (Green)	- 32 32	- Yes Yes	- No No	- Yes No	- Yes Yes	- 65-70 95-100
Oranges*	Arizona: 32-48 California: 40-45 Florida: 32-36 Texas: 50-60	32	No	Yes	Yes	Yes	85-95

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Storage Information, At-a-Glance



Product	Storage Temp (°F)	Chill/Freezing Susceptibility Temp (°F)	Ethylene Sensitive	Ethylene Producer	Odor Sensitive	Odor Producer	Relative Humidity (%)
Peaches	32-36; Ripe: 57-77	31	No	Yes	No	No	90-98
Pears	32-36; Ripe: 60-70	29	No	Yes	Yes	Yes	90-98
Peppers, Bell	45-50	42	Yes	No	No	Yes	85-95
Pineapples	Ripe: 50-55; Green: 45-50	42	No	Yes	Yes	No	85-95
Plums	32-36; Ripe: 51-77	31	Yes	Yes	Yes	Yes	90-98
Potatoes*, White/Yellow/ Gold/Red	Short storage: 45-50 Long storage: 40-45	42 28 (Red Only)	Yes	No	Yes	No	85-95
Potatoes, Sweet*	55-60	50	Yes	No	No	No	85-95
Radishes	32-36	28	No	No	Yes	No	90-100
Squash Soft/Hard	Hard: 50-55; Soft: 45-50	50 45	Yes	No	No	No	85-95
Tomatoes	To ripen: 62-68; When ripe: 55-60	50	No	Yes	No	No	85-95
Watermelons	45-50	41	No	Yes	No	No	85-95

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Produce Storage Temperature Zones

These categories provide general temperature ranges to help network members organize produce areas in terms of storage. These are not the recommended storage temperatures for individual crops.

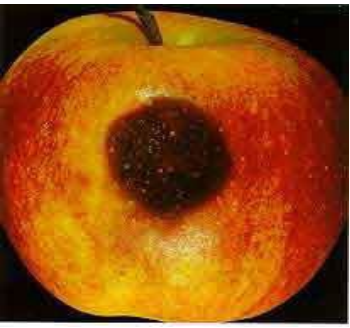
Temperature Group	Range (°F)	Produce Items
Very Cold Group	32-40°F	Apples* Apricots Asparagus Berries Broccoli Brussel Sprouts Cabbage* Cantaloupe Carrots* Cauliflower Celery Corn Grapes Lettuce Mushrooms Nectarines Onions (Green) Oranges (AZ & FL)* Peaches Pears Plums Radish
Cold Group	40-50°F	Avocado Beans (Green/Snap) Cucumbers Grapefruit (FL) Honeydew Lemons/Limes Okra Oranges (CA)* Peppers (Bell) Pineapples Potatoes* Squash (Summer/Soft) Watermelon
Cool Group	50-65°F	Bananas Eggplant Grapefruit (AZ, CA & TX) Mangos Onions (Bulb/Sweet)* Oranges (TX)* Sweet Potatoes* Squash (Winter/Hard)* Tomatoes

*Indicates a “Hard Seven” commodity. Refer to [Introduction](#) for more information

Produce Storage, Handling, and Visual Inspection Information

Transportation, Receiving and Inspecting:	Transport apples in refrigerated trucks at high humidity. Pack them in cushioned crates, tubs, or trays. Apples should be firm and have smooth skin.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	29°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	Yes

Acceptable:	Unacceptable:	
		
Bruising	Blue Mold	Gray Mold
		
Superficial Spot	Alternaria Rot	Bull's Eye Rot

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport apricots under strict temperature management and gentle handling to prevent bruising and spoilage. Pack in shallow, ventilated trays to prevent crushing and allow air circulation, avoiding plastic liners that trap moisture. Apricots should be firm to slightly soft (ripe), but not mushy (overripe).
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Sunburn



Surface Scarring, Mechanical Damage

Unacceptable:



Rot-mushy and Discolored



Split Skin

Transportation, Receiving and Inspecting:	Maintain a strict cold chain and high humidity to prevent asparagus dehydration and toughness. Pack spears upright in vented containers. Ripe, harvest-ready asparagus (typically 6–10 inches tall) should have firm, straight stalks with vibrant green color (sometimes with purple tips) and tightly closed, compact tips. Avoid spears with opened, fern-like heads or those that are limp which are overly mature and woody.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	28°F
Relative Humidity:	95-100%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Closed, compact tips

Unacceptable:



Wrinkled/limp



Moldy



Slimy

Transportation, Receiving and Inspecting:	Transport avocados in refrigerated containers under an uninterrupted cold chain. Pack them in ventilated, single-layer, or cushioned crates to prevent bruising and to allow air circulation. Hass variety avocados are more prevalent, but Florida avocados may also be offered. Florida avocados are ripe when they yield slightly to gentle, firm pressure in the palm of your hand, rather than relying on color changes. Unlike Hass avocados, most Florida varieties remain green, not black when ripe, so they should be eaten when they feel slightly soft.
Storage Temperature:	45-50°F Store ripe at: 32-36°F
Chill/Freeze Susceptibility:	30°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	Yes

Acceptable:



Hass variety vs. Florida variety

Unacceptable:



Mushy, dark sunken spots, or mold



Dark brown or black streaks or spots throughout.

Transportation, Receiving and Inspecting:	Ship bananas in temperature-controlled trucks to prevent premature ripening. Use corrugated, ventilated boxes. Bananas bruise easily; handle with care.
Storage Temperature:	Warehouse: 56-58°F Ripen green bananas: 60-65°F
Chill/Freeze Susceptibility:	55°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



A Few Bruises

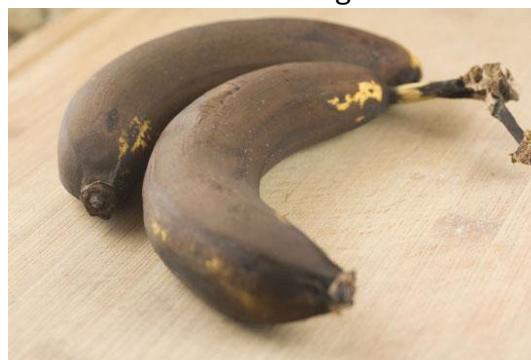


Slight Speckling

Unacceptable:



Chill Damage



Overripe

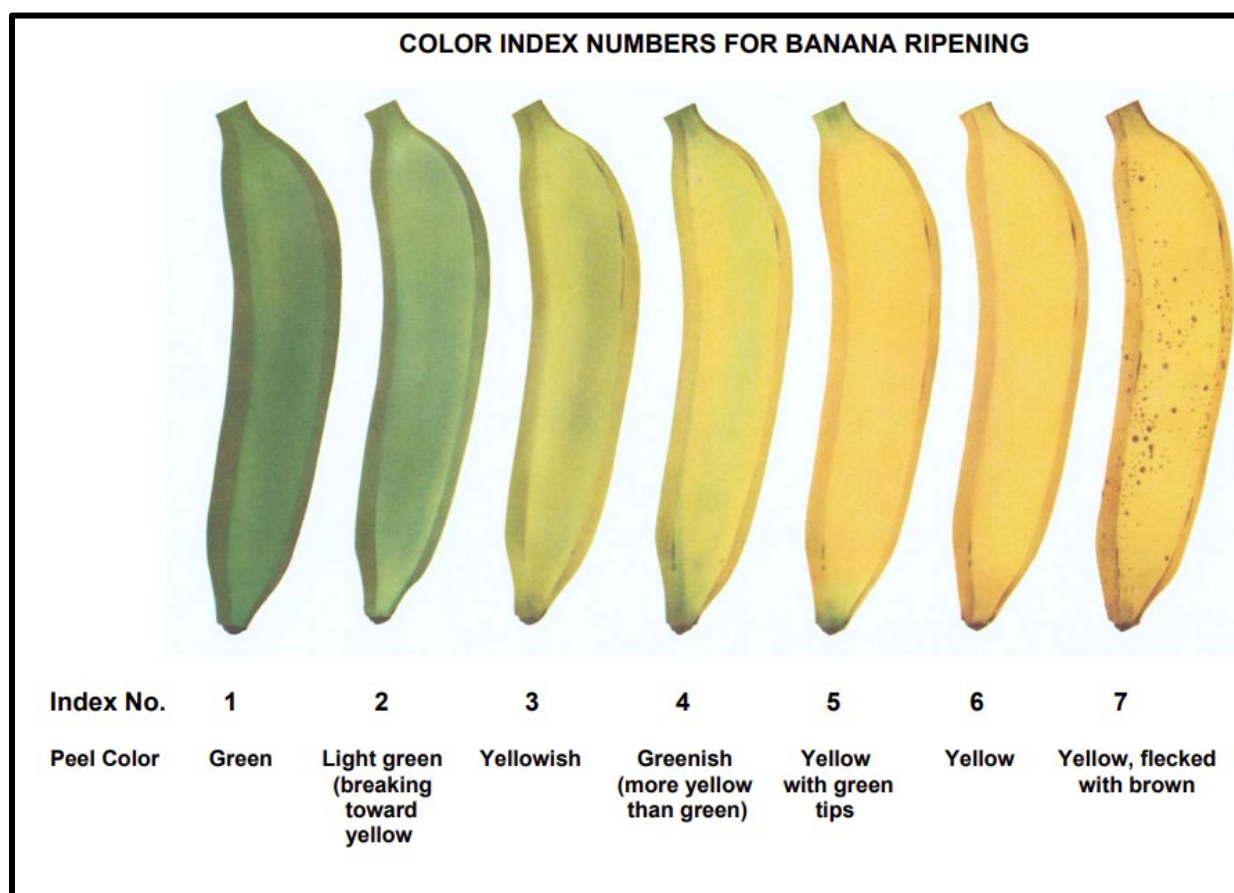
Proper temperature, humidity, time, air circulation, mature bananas and ethylene are required for ripening. For delayed shipment, hold at 58°F.

Number of Days to Ripening

Ethylene introduce Day 1; Amount of time depending on starting pulp temperature (°F)

Day Ethylene Introduced	1	2	3	4	5	6	7	8
4 Day Schedule	64	64	62	60				
5 Day Schedule	62	62	62	62	60			
6 Day Schedule	62	62	60	60	60	58		
7 Day Schedule	60	60	60	60	60	58	58	
8 Day Schedule	58	58	58	58	58	58	58	58

Reference:



Reference: [USDA Agricultural Marketing Service](#)

Transportation, Receiving and Inspecting:	Maintain a cool, high-humidity cold chain via refrigerated truck to prevent wilting and dehydration. Pack in ventilated crates or boxes and pre-cool to remove field heat. Beans should be vibrant, uniform green, firm to the touch, and snap easily when bent. They should be free from brown spots, rust, or large, bulging seeds, which indicate over-maturity and a tough texture. Green beans can develop mold when stored in warmer temperatures or when not consistently kept cold.
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Yellowing



Slight bruising,
no rot



Color variations

Unacceptable:



Bruising and decay



Rusting



Mold

Berries

(Blueberries, Blackberries, Strawberries)

Transportation, Receiving and Inspecting:	Immediately remove field heat via forced-air cooling, then transport in refrigerated vehicles, using ventilated containers (e.g. clamshells) to prevent condensation and moisture buildup. Berries should be firm and fairly dry. They do not ripen after harvest; discard any green berries. Blackberries are very perishable, so handle with care and use soon after receipt.
Storage Temperature:	32-36°F Temperatures above 36°F will accelerate the gray mold growth.
Chill/Freeze Susceptibility:	30°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes: Black/Blue No: Strawberries	Odor-Producing:	No

Acceptable:



Color variations



Surface cracks, blemishes or slight puckering

Unacceptable:



Mold



Decay, heavy puckering or rotting

Transportation, Receiving and Inspecting:	Broccoli is usually shipped on ice, so receiving food banks should have drains to remove ice melt. Overtime, broccoli heads will become less compact, fanning out from the center stem. Once you see visible space between the heads, move broccoli quickly to avoid further deterioration.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Some Yellowing



Multi-color Varieties



Hollow Stem:
No Decay

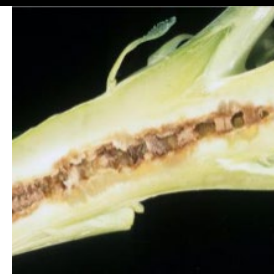


Loose/Separate
Heads

Unacceptable:



Mold on
Outer Branches



Hollow Stem:
Inner Decay



Bacterial Soft Rot

Transportation, Receiving and Inspecting:	Transport brussels sprouts in a refrigerated truck. Brussels sprouts stored in warm temperatures may develop internal rot or browning.
Storage Temperature:	32-36°F.
Chill/Freeze Susceptibility:	N/A
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Internal yellowing without decay



External rot that can be peeled off



White internal core

Unacceptable:



Internal browning due to age or decay



Large, internal black spots with rot

Transportation, Receiving and Inspecting:	Transport cabbage in refrigerated trucks. Temperature changes may lead to wilted, discolored leaves. Cabbage should be fairly even colored and heavy for its size. Remove superficial outer leaf damage to improve acceptability.
Storage Temperature:	32-36°F.
Chill/Freeze Susceptibility:	N/A
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Some small spots on outer leaves



Yellow outer layer



Brown, wilted outer leaves

Unacceptable:



Black or white rot and/or mildew



Shredded or decaying inner leaves

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport cantaloupe in a refrigerated truck with ventilated cardboard cartons or crates to prevent damage and allow airflow. Fruit should be round with good netting or webbing over creamy-colored rind. They have a distinctive aroma and the blossom end will yield to gentle pressure when ripe.
Storage Temperature:	36-41°F
Chill/Freeze Susceptibility:	30°F
Relative Humidity:	90-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Slight discoloration

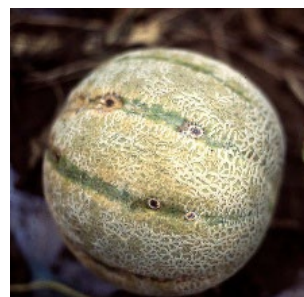


Shape variation

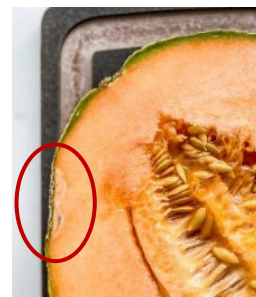
Unacceptable:



Mold



Anthrachnose (a fungal disease)



Decay

Transportation, Receiving and Inspecting:	Carrots should have firm, smooth exteriors (i.e., should snap when bent far enough). Color should be vibrant orange to orange-red. The most important quality check for carrots is to identify rot that penetrates the center of the vegetable.
Storage Temperature:	32-36°F.
Chill/Freeze Susceptibility:	30°
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Minor cavity spots



Various Colors



Odd Shapes

Unacceptable:



Mold



Rot

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport cauliflower in a refrigerated truck. It should have a firm texture. As the shelf life of the cauliflower decreases in storage, the heads of the cauliflower will become less compact as branches spread apart from the center.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Small brown spots on firm surface.



Color variations



Yellowing but firm surface

Unacceptable:



Blackened surface/
mushy texture



Soft rot
(slimy, mushy surface)

Transportation, Receiving and Inspecting:	Transport celery in refrigerated trucks. Be aware that it often receives mechanical damage during harvesting and transport. Celery may turn yellow as it ages or when it is stored with other ripening (ethylene-producing) fruits and vegetables.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Surface yellowing without decay



Browning stem

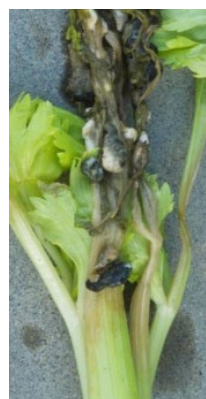


Hollowing (pithing)

Unacceptable:



Internal soft rot



Unremovable internal mold

Transportation, Receiving and Inspecting:	Transport corn in a refrigerated truck; however, it is not as sensitive to fluctuations in temperature as other vegetables. Kernels should be firm but not hard and dry like feed corn. It should have fresh green husks with silk ends that are free of decay or worms.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Varied colors and odd shaped or missing kernels



Dark silks can be ok (check kernels for moisture)

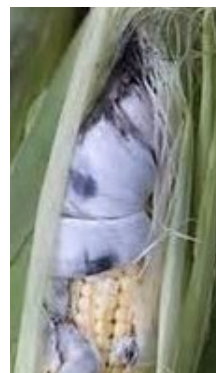
Unacceptable:



Corn worm



Insect infestation



Corn smut mold



Kernel decay

Transportation, Receiving and Inspecting:	If stored in temperatures below 45°F for 3 days, cucumbers will lose their firmness, their outer skin will become puckered due to chill injury, and they will become more susceptible to decay. They have a firm texture and be green (or mostly green).
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	45°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Outer blemishes



Slight yellowing

Unacceptable:



Puckering



Mold

Transportation, Receiving and Inspecting:	Eggplants should be transported in a refrigerated truck using waxed fiberboard boxes and maintaining a temperature. Fluctuations in temperature may cause rot and mold to develop in external scars.
Storage Temperature:	50-54°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Odd shapes



Sunscald discoloration



Exterior scarring

Unacceptable:



Worm hole



Brown spot with inner rot



Mold

Transportation, Receiving and Inspecting:	Transport grapes in a refrigerated truck using waxed fiberboard boxes, maintaining strict cold chain temps and high humidity. Pack grapes in ventilated, sturdy containers to prevent crushing. Grapes should appear plump, firm, and tightly attached to green, flexible stems, often with a powdery, white coating called "bloom" that signifies freshness.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	90-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	Yes

Acceptable:



Various colors



Slight speckling

Unacceptable:



Brown spot with inner rot



Mold



Shriveling



Splitting

Transportation, Receiving and Inspecting:	Transport grapefruit in a refrigerated trucks. Oil from the hands of processors can create oilspots on the grapefruit that might lead to rot and mold; however oil spots are acceptable as long as the inside of the grapefruit is not rotten. Exterior mold can be removed when the grapefruit is peeled; however, any decay or mold that enters the interior should be rejected. Rot near the stem usually penetrates the central core of the grapefruit and should be rejected.
Storage Temperature:	Arizona: 50-55°F California: 54-57°F Florida: 45-50°F Texas: 50-60°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Green-orange skin



Oil spots without mold or decay

Unacceptable:



Interior decay



Rot near the stem

Transportation, Receiving and Inspecting:	Transport melon in refrigerated trucks in fiberboard cartons, crates, or flats. The blossom end (opposite the stem) should have a slight "give" or be slightly soft, with a sweet aroma.
Storage Temperature:	40-45°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	Yes

Acceptable:



Creamy yellow to creamy white rind, not white-green

Unacceptable:



Sunken spots, discoloration



Mold

Transportation, Receiving and Inspecting:	Lemons and limes should be firm in texture. Lemons and limes should be transported on a refrigerated truck. Oil from the hands of processors can create oil spots on the lemons and limes that might develop rot and mold; however, oil spots are acceptable as long as the inside of the lemons and limes is not rotten.
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	Yes

Acceptable:



Color variations



Stem browning,
no decay

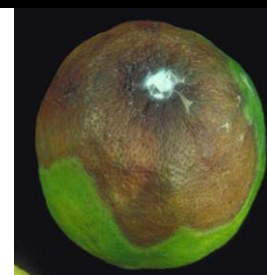


Oil spots, no decay

Unacceptable:



Mold



Stem browning
with decay



Brown over ½ the fruit



Transportation, Receiving and Inspecting:	Lettuce should be transported in a refrigerated truck. Storing lettuce in a below-freezing environment can lead to a chill injury. When a chill injury occurs, lettuce leaves will lose their taste and become translucent. Check if the inner leaves are wilted or decaying. For iceberg lettuce, some browning at the core ends is natural and occurs from oxidation after lettuce has been harvested and trimmed.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Whole: Yes Leaf: No	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Brown core



Brown stain on leaves and stem

Unacceptable:



Wilted inner leaves



Mildew/mold on core stem



Slime/mold

Transportation, Receiving and Inspecting:	Mangos should be transported on a refrigerated truck to avoid development of internal and external decay. Mangos are highly susceptible to chill injury.
Storage Temperature:	55-65°F
Chill/Freeze Susceptibility:	50°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Discoloration without internal decay



Small brown spots/no internal decay

Unacceptable:



Large sunken brown spots or soft outer skin signaling internal decay



Black, spongy interior

Transportation, Receiving and Inspecting:	Transport mushrooms using refrigerated trucks. Keep them dry and protected from bruising. Use breathable packaging like cardboard or paper to prevent moisture buildup. Use shallow, stackable containers to avoid crushing, keep them out of direct sunlight. Mushrooms should be firm and free of dark spots. Open veils (the tops) are not a sign of poor quality. Size and color do not affect quality. Common varieties: portabella, cremini, white/button, and oyster.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Irregular shapes and/or dirt

Unacceptable:



Moldy



Shriveled



Slimy dark spots

Transportation, Receiving and Inspecting:	Transport in refrigerated trucks. Use single-layer wooden crates or ventilated, high-strength cardboard boxes. Nectarines should be firm to slightly soft (ripe), but not overripe (mushy).
Storage Temperature:	32-36°F To ripen: 57-77°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Slight pitting

Unacceptable:



Shriveling



Rot/mold

Transportation, Receiving and Inspecting:	Transport in refrigerated trucks. Okra has a very short shelf life. Do not wash okra before transport as moisture causes mold, slime and mushy pods. Use perforated plastic bags or ventilated cardboard boxes to reduce humidity build-up. Ridges and tips can turn black if bruised. Pods should be firm yet slightly tender, with minimal blemishes, brown spots, or soft, rubbery areas.
Storage Temperature:	40-45°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	90-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:

Slight color variation and small speckles that do not indicate decay.



Minimal bruising

Unacceptable:

Spots/mold/decay



Extra large, rubbery or fibrous.

Transportation, Receiving and Inspecting:	Bulb and Sweet: Should be firm and hard with short, tight necks and dry papery skin. Slightly loose outer skin is common and should not affect quality. Onions should be transported in a vented van or refrigerated truck to avoid temperature fluctuations that could shorten their shelf life. Bulb and sweet onions are more susceptible to decay compared to other root vegetables, and a strong sour odor will result from decay. Green Onions: Maintain high humidity and cool temperatures to prevent wilting and spoilage. Pack in waxed, water-resistant, corrugated cardboard cartons or wire-bound wood crates. May use ice packing. Should be bright green and crisp, especially near the bottom white part. Slight limpness at the top is ok.
Storage Temperature:	Bulb and Sweet: 45-55°F Green: 32-36°F
Chill/Freeze Susceptibility:	32°F (all)
Relative Humidity:	Bulb and Sweet: 65-70% Green: 95-100%

Sensitive to Ethylene:	Yes (all types)	Odor-Sensitive:	Yes (Bulb & Sweet only)
Produces Ethylene:	No (all types)	Odor-Producing:	Yes (all types)

Acceptable:



Limited spouting



Unusual shapes



Loose outer skin



Yellowing or dried leaves, not slimy

Unacceptable:



Bulb/neck rot



Soft rot



Deep sunscald (into onion center)



Brown & slimy

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport oranges in a refrigerated truck. Oil from the processor hands can create oil spots that might develop rot and mold; however fruit are acceptable as long as the inside of the orange has not rotted. Oranges should be firm, heavy for size, and have fine-textured skin ranging in color from orange to greenish-orange. Many oranges go through a regreening process on the tree where the skin turns from orange back to green again. Regreening is a natural occurrence and does not affect the flavor quality.
Storage Temperature:	Arizona Oranges: 32-48°F California Oranges: 40-45°F Florida Oranges: 32-36°F Texas Oranges: 50-60°F
Chill/Freeze Susceptibility:	32°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	Yes

Acceptable:		Unacceptable:	
			
Green-orange skin	Oil surface spots	Mold	Navel mold
			
	Small pock marks without decay	Interior decay	Stem end decay

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Use refrigerated trucks to transport, maintaining high humidity. Peaches are best transported in single-layer trays, corrugated boxes with dividers, or specialized foam packaging to minimize pressure. Peaches should be firm to slightly soft (ripe), but not overripe (mushy).
Storage Temperature:	To prevent ripening: 32-36°F Ripen at 57-77°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Skin discoloration or surface scarring



Skin puckering

Unacceptable:



Bruising



Rot/mold

Transportation, Receiving and Inspecting:	Transport pears in refrigerated trucks at high humidity to slow ripening and maximize shelf life. P pears are highly susceptible to pressure damage, so pack them in cushioned crates, tubs, or trays. Pears should have a firm texture.
Storage Temperature:	Unripe: 32-36°F Ripen at 60-70°F
Chill/Freeze Susceptibility:	29°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	Yes

Acceptable:



Color variation



Surface marks,
no decay

Unacceptable:



Bruising or decay

Transportation, Receiving and Inspecting:	Transport bell peppers in a refrigerated truck maintaining high humidity to prevent dehydration, bruising, and spoilage. Pack them in ventilated, stackable wax-coated cartons or bags to protect the thin skin and facilitate airflow. Bell peppers should have a firm texture.
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	42°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	Yes

Acceptable:



Variations in Color



Surface cracks, blemishes or slight puckering

Unacceptable:



Mold



Decay, heavy puckering or rotting

Transportation, Receiving and Inspecting:	Pineapples should be transported on a refrigerated truck. If pineapples begin to develop liquid oozing from its surface during storage, it should be checked for internal rot.
Storage Temperature:	Green: 45-50°F Ripe: 50-55°F
Chill/Freeze Susceptibility:	42°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Color variation



Exterior mold without interior decay

Unacceptable:



Interior soft rot



Interior mold



Excessive external decay



Transportation, Receiving and Inspecting:	Use refrigerated trucks to transport, maintaining high humidity. Plums are best transported in single-layer trays, corrugated boxes with dividers, or specialized foam packaging to minimize pressure. Plums should be firm to slightly soft (ripe), but not overripe (mushy).
Storage Temperature:	32-36°F Ripen at: 51-71°F
Chill/Freeze Susceptibility:	31°F
Relative Humidity:	90-98%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Color variation



Minor shriveling

Unacceptable:



Mold/decay



Excessive shriveling

Transportation, Receiving and Inspecting:	Transport potatoes in a refrigerated truck. Storing potatoes in too cold an environment may accelerate soft rot development, leaving the interior inedible. All potato varieties should be fairly clean, firm, and smooth. Avoid potatoes with wrinkled skin, soft dark spots, or green appearance.
Storage Temperature:	Short Storage (all): 45-50°F Long Storage (all): 40-45°F
Chill/Freeze Susceptibility:	42°F (White/Yellow/Gold) 28 (Red Only)
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

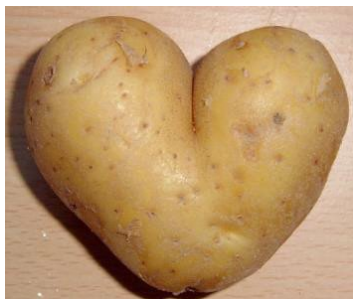
Acceptable:



Sprouting



Greenish color



Odd shapes/lumps

Unacceptable:



Mold in cuts



Scabs affecting the interior



Soft outer surface/rot

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport sweet potatoes in a refrigerated truck. Quality sweet potatoes should be firm with smooth skins. Storing sweet potatoes in too cold an environment may accelerate the development of soft rot, leaving the interior of the potato inedible.
Storage Temperature:	55-60°F
Chill/Freeze Susceptibility:	55°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Small sprouts

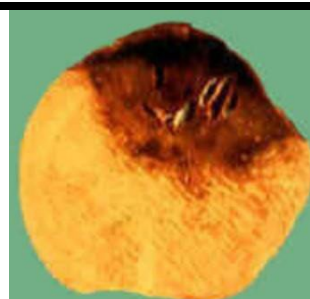


Odd shapes

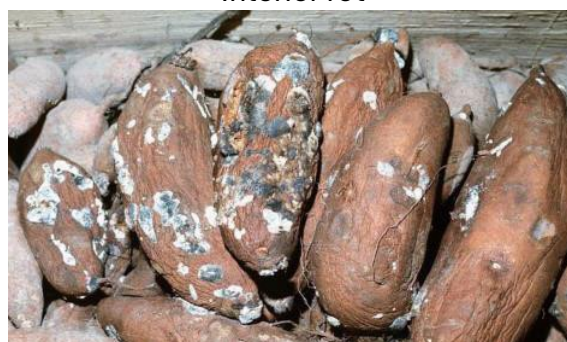


Pits with minimal mold, if any

Unacceptable:



Interior rot



Excessive surface mold



Chill damage soft spots

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport radishes in a refrigerated truck and consider top-icing them to maintain crispness. If they go soft, soak them in water to firm them up again. Use plastic bags, preferably with ventilation holes (perforated), to maintain humidity while allowing some airflow.
Storage Temperature:	32-36°F
Chill/Freeze Susceptibility:	28°F
Relative Humidity:	90-100%

Sensitive to Ethylene:	No	Odor-Sensitive:	Yes
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Various colors and types



Crisp and firm,
rehydrate by soaking in cool water

Unacceptable:



Uneven/too much moisture



Mold



Pest bites

Transportation, Receiving and Inspecting:	Transport squash in ventilated containers to allow good airflow to prevent premature decay. Squash should be firm with a tough outer rind. Varieties include, but are not limited to acorn squash, butternut squash, pumpkin or spaghetti squash.
Storage Temperature:	50-55°F
Chill/Freeze Susceptibility:	50°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Various colors and squash types



Skin color variation

Unacceptable:



Initial decay



Mold/decay

*Indicates a "Hard Seven" commodity. Refer to [Introduction](#) for more information.

Transportation, Receiving and Inspecting:	Transport squash in a refrigerated truck. Summer squash is sensitive to changes in temperature and mechanical scarring—its exterior is not as tough as winter squash rind. Squash should be firm in texture with shiny, tender rinds.
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	45°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	Yes	Odor-Sensitive:	No
Produces Ethylene:	No	Odor-Producing:	No

Acceptable:



Odd shape/flowering



Color variation



Bumps/scars on surface

Unacceptable:



Initial decay



Blossom end rot



Mold/decay

Transportation, Receiving and Inspecting:	Tomatoes are very sensitive to temperature changes, and any major temperature fluctuation will greatly decrease the commodity's shelf life; therefore, transport them in a refrigerated truck. Good quality tomatoes should have bright, shiny skin, and firm flesh.
Storage Temperature:	Ripe: 62-68°F Unripe: 55-60°F
Chill/Freeze Susceptibility:	50°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Cracks with little to no mold



Color variations



Small rot spots that do not affect interior

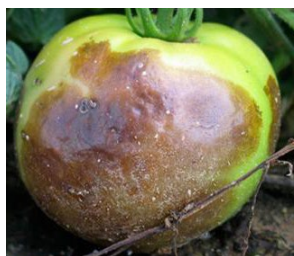
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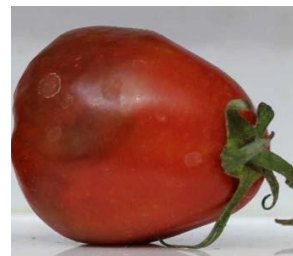
Excessive exterior rot



Internal rot



Brusing



Transportation, Receiving and Inspecting:	Transport watermelon in a refrigerated truck. Store at a constant temperature, away from direct sunlight to prevent decay or mold. Watermelons do not ripen after harvesting; a ripe watermelon will produce a distinct hollow sound when thumped.
Storage Temperature:	45-50°F
Chill/Freeze Susceptibility:	41°F
Relative Humidity:	85-95%

Sensitive to Ethylene:	No	Odor-Sensitive:	No
Produces Ethylene:	Yes	Odor-Producing:	No

Acceptable:



Hollow center



Minor spots on outer surface



Yellow/white patches

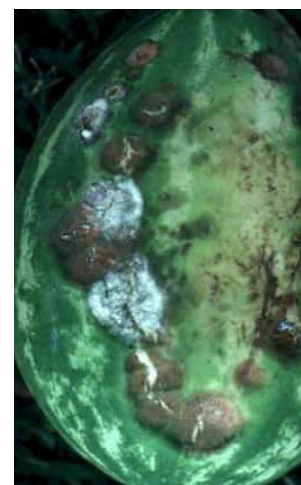
Unacceptable:



Rot



Deep sunscald



Mold



Fruit blotch