

Mixed Commodities Guide

COMMODITY	NON-COMPATIBLE PRODUCTS
Apple (all varieties)	Apples generate ethylene and so should not be shipped with ethylene-sensitive commodities such as kiwifruit, persimmon, carrots, celery, cabbage, lettuce and some flowers and nursery plants. Apples may absorb aromas from onions, garlic and potatoes.
Apricot	Do not ship with ethylene-producing commodities.
Artichoke	Artichokes can be shipped in mixed loads at 32°F to 41°F. Buds freeze at 34°F.
Asparagus	Asparagus is sensitive to ethylene-induced toughening and so should not be shipped with commodities that produce ethylene.
Avocado	Do not ship with ethylene-producing commodities. Do not ship avocados with pineapples because avocados produce an odor that is absorbed by pineapples.
Banana	Do not ship with ethylene-producing commodities.
Bean, Snap	Snap beans are sensitive to ethylene and so should not be shipped with commodities that produce ethylene. They are chilling sensitive and should not be shipped at temperatures less than 39.2°F.
Blackberry	Keep cold. Not known to adversely affect other commodities.
Blueberry	Keep cold. Can be shipped in mixed loads.
Broccoli	Broccoli should not be shipped with commodities that emit ethylene, such as apples or pears.
Brussels Sprouts	Brussels sprouts are sensitive to ethylene and so should not be shipped with commodities that produce ethylene.
Cabbage	Cabbage is sensitive to ethylene and so should not be shipped with commodities that produce ethylene.
Cantaloupe	Cantaloupes are sensitive to ethylene and so should not be shipped with commodities that produce ethylene. They produce substantial amounts of ethylene and so should not be shipped with ethylene-sensitive commodities.
Cauliflower	Cauliflower is sensitive to ethylene and so should not be shipped with commodities that produce ethylene.
Celery	Celery is sensitive to ethylene and so should not be shipped with commodities that produce ethylene.
Cherimoya	Cherimoyas are sensitive to ethylene and also produce large quantities of ethylene. Ethylene removal may, in some cases, retard ripening and reduce respiration.
Cherry, Sweet	Keep cold. Can be shipped in mixed loads.
Chili Pepper (Fresh)	Pineapples absorb chili pepper odors so the two should not be shipped together.
Corn, Sweet	Corn will absorb odors from green onions.
Cranberry	Keep cold. Can be shipped in mixed loads.
Cucumber	Cucumbers are sensitive to ethylene and so should not be shipped with commodities that produce ethylene. Symptoms of chilling injury are water-soaked spots, pitting or tissue collapse. Rapid ethylene production and onset of decay will develop in chilled cucumbers after they have been removed from low-temperature conditions.
Durian	Durian produce a sulfurous odor as they ripen that will be absorbed by other commodities. They should not be shipped in mixed loads. CA can reduce production of sulfurous odor.
Eggplant	Eggplant is chilling sensitive and so should not be shipped with commodities requiring temperatures less than 50°F. Eggplant should not be shipped with ethylene producing commodities.
Fig	Keep cold. Can be shipped in mixed loads. However, figs can absorb odors produced by apples and by garlic, onions and leeks so they should not be shipped with these commodities.



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FLOWERS	
Carnation (Cut)	Do not ship with ethylene-producing commodities.
Chrysanthemum (Cut)	Do not ship with ethylene-producing commodities.
Gladiolus (Cut)	Gladiolus may be shipped with other commodities at low temperature.
Other Flowers (Cut)	Do not ship flowers with ethylene-producing commodities.
Rose (Cut)	Do not ship with ethylene-producing commodities.
Flowering Bulb	Do not ship with ethylene-producing commodities.
Flowering Potted Plant	Do not ship with ethylene-producing commodities.
Foliage Plant	Do not ship with ethylene-producing commodities.
Garlic	Garlic should be kept with other products that tend to absorb odors, particularly apples, pears and celery. Garlic may be kept with onions.
Grape	Keep cold. If grapes have SO ₂ packets, they should not be mixed with other produce. The SO ₂ can damage many kinds of produce. Otherwise, grapes can be shipped in mixed loads. However, they should not be shipped with leeks, garlic or onions to avoid odor transfer.
Grapefruit	Grapefruits can be shipped in mixed loads, but they are chilling sensitive and so should not be kept at less than 53.6°F for long shipments.
Kiwifruit	Kiwifruit should never be shipped with ethylene-emitting produce.
Lemon	Lemons should not be mixed with ethylene-producing commodities. Lemons are chilling sensitive and should not be kept at less than 53.6°F. Lemons absorb odors from some strongly scented vegetables and so should not be mixed with such commodities. In addition, odors, from lemons are absorbed by meat, eggs and dairy products.
Lettuce, Crisphead	Lettuce is sensitive to ethylene and so should not be shipped with commodities that produce ethylene.
Lime	Limes should not be mixed with ethylene-producing commodities. Limes are chilling sensitive and should not be kept at less than 50°F. Limes absorb odors from some strongly scented vegetables and so should not be mixed with many vegetables. In addition, odors from limes are absorbed by meat, eggs and dairy products.
Lychee	Unknown.
Mango	Do not ship with ethylene producing commodities.
Mushroom	Mushrooms absorb odors from green onions so they should not be shipped together.
Nashi (Asian Pear)	Nashi generate ethylene and so should not be shipped with ethylene-sensitive commodities such as kiwifruit, persimmon, carrots, celery, cabbage, lettuce and some flowers and nursery plants. Nashi pears may absorb odors from onions, garlic and potatoes.
Nectarine	Nectarines should not be shipped with ethylene-generating or ethylene-sensitive commodities.
Okra	Okra may be loaded with other chilling-sensitive commodities. Ethylene-producing commodities should be avoided.
Olive	Olives can be shipped in mixed loads with temperature-compatible commodities.
Onion (Bulb)	Onions should not be kept with other products that tend to absorb odors, particularly apples, pears and celery. Garlic may be kept with onions.
Orange	Oranges should not be shipped with apples, eggs, cheese or butter due to migration of odors. Oranges should not be shipped with ethylene-emitting products that might promote decay.



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Papaya	Do not ship with ethylene-producing or ethylene-sensitive commodities.
Pea, Sugar	Ethylene-producing commodities should be avoided.
Peach (Clingstone & Freestone)	Peaches should not be shipped with ethylene-generating or ethylene-sensitive commodities.
Pear (Anjou, Bartlett, Bosc, Comice, Conference, Packham's Triumph)	Pears generate ethylene and so should not be shipped with ethylene-sensitive commodities, such as kiwifruit, persimmons, carrots, celery, cabbage, lettuce and some flowers and nursery plants.
Pepper, Bell	Pineapples absorb bell pepper odors so the two should not be shipped together.
Persimmon	Persimmons should not be shipped with ethylene-generating commodities.
Pineapple	Pineapples readily absorb off-odors from avocados and green peppers. They are sensitive to ethylene nor great producers of ethylene. Avoid chilling temperatures.
Plum	Plums should not be shipped with ethylene-generating commodities.
Potato	Potatoes will confer an earthy flavor to apples and pears, so they should not be shipped together.
Rambutan	Unknown.
Raspberry	Raspberries can be shipped in mixed loads.
Strawberry	Strawberries can be shipped in mixed loads.
Sweetsop (Sugar Apple, Custard Apple)	Sweetsop are sensitive to ethylene. Do not ship with other ethylene-producing commodities. Avoid chilling temperatures (less than 53.6°F).
Tomato	Tomatoes produce ethylene and so should not be shipped with ethylene-sensitive products.

