

Mixed Commodities Guide

| COMMODITY | NON-COMPATIBLE PRODUCTS |
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| 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. |

