

Avocado

Carrier Transicold's EverFRESH® active controlled atmosphere (CA) system for refrigerated containers now offers a new carbon dioxide (CO₂) injection option to better preserve the full range of perishable cargo, including low-respiring cargo. The new option allows the container to be pre-charged with CO₂ at the start of a voyage and automatically adds more as needed over the course of the trip.

Optimum Temperature: 5.0-8.0 °C
Optimum CA levels: O₂: 2.0-5.0%, CO₂: 4.0-10.0%
Weeks in Air: 2-4
Weeks in CA: 4-6
Relative Humidity: 85-90%

Benefits of CA:

Low O₂ and elevated CO₂ can delay ripening, softening and decay. Elevated CO₂ can reduce the symptoms of chilling injury and may allow shipping at lower temperatures.

Maturity Index:

Percent (%) Dry Matter (DM) is highly correlated with oil content and is used as maturity index criteria at harvest. For Hass avocado which amounts for most of the of global export volumes, minimum % DM is 20.8% although it fluctuates between 18-30% depending on production area/country so index needs to be adjusted. The higher the DM the lower the transit life potential* and therefore CA levels need to be adjusted accordingly.

Ethylene:

Avocados produce moderate to large amounts of ethylene and are quite sensitive to it. Ethylene accelerates ripening and softening, and increases sensitivity to chilling. Avoiding ethylene in transit can help extend transit life potential*.



Varietal Differences:

Cultivars of avocado differ in their chilling sensitivity and in low O₂ and high CO₂ tolerance. Hass, Fuerte, and Booth 7 are chilling sensitive <7°C. However, they may be held in CA at temperatures as low as 5°C. Fuchs, Pollock cultivars are very sensitive to chilling <12°C. Lula, Booth 1, Booth 8, Taylor cultivars are sensitive to chilling <5°C.

Mixed Loads:

Should not be shipped with ethylene producing or ethylene sensitive commodities. Pineapples may absorb aromas from avocados.

Cautions:

O₂ <1% and/or CO₂ > 10% can cause off-flavors and flesh (O₂) or skin (CO₂) browning.