

**THE FINEST DEGREE IN
REEFER EXPERTISE
GRAPEFRUIT**



RECOMMENDED REEFER TRANSPORT PARAMETERS GRAPEFRUIT

DID YOU KNOW?

As you might have guessed, grapes didn't go into the making of grapefruit! The name "grapefruit" was inspired by how the fruit looks while growing on a tree – in bunches, like grapes (though much larger, of course). A grapefruit cluster can have as many as 25 fruits!

Grapefruit is believed to have originated in the 1700s in the West Indies. In those days the fruit was referred to as "forbidden fruit." It later came to Florida in the 1800s, where it was mostly grown as a novelty for tourists.

There are more than twenty varieties of grapefruit available, and the flesh can be white, pink or red. The taste varies from sweet to sour depending on the variety – white and pink varieties tend to be acidulous, while the red varieties are much sweeter.

MATURITY INDICES

- Color: more than 2/3 of fruit surface showing yellow color
- SSC: A minimum soluble solids/acid ratio, as taste indicator
- Grapefruit do not continue to ripen after harvest so they should be harvested fully ripe (with good flavor).

QUALITY INDICES

- Color intensity and uniformity
- Firmness
- Size
- Shape
- Peel thickness; smoothness
- Freedom from decay and defects, such as freezing injury, rind staining, pitting, scars, and insect damage
- Flavor: related to soluble solids/acid ratio and concentration of compounds that affect bitter flavor (limonin and naringin)

OPTIMUM TRANSPORT PARAMETERS

Grapefruit is a non-climacteric fruit and does not show a classic ripening pattern of increased respiration and ethylene production.

Coating grapefruit with high shine water waxes reduces the incidence of chilling injury and may allow slightly lower carrying temperatures (approx. 8°C) to reduce fruit respiration and minimize postharvest pitting which is a peel disorder that affects waxed grapefruit stored at higher temperatures.

Grapefruit might need Cold Treatment quarantine, which involves transporting it at a significantly lower temperature than usually advised. To meet quarantine rules, grapefruit must be preconditioned at 10 to 15 °C for a week to boost chilling injury resistance. Then, reduce the temperature to -0.6 to 2.2 °C for 2-3 weeks. For longer shipments, gradually increase the temperature once the quarantine is over.

SUGGESTED PARAMETERS TO BE SET ON REEFER

- Temperature: +5°C to +10°C
- Fresh Air exchange: 10 to 20 CMH
- Dehumidification: No dehumidification needed
- Storage life: Up to 8 weeks
- Commercial use of CA on citrus during storage and transport is very limited.

NOTE: Above general recommendations are provided only for the sake of assisting our customers. They are non-binding as the parameters may vary depending on the cargo variety and its maturity. CMA CGM cannot be held accountable for the information and contents provided herein.

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