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On behalf of: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany

Cold Chain Logistics Resource Centre

Confederation of Indian Industry

Post-Harvest Management Protocols

KIWI

Kiwi is mostly grown in the mid hills of Himachal Pradesh, Uttar Pradesh, J & K, Sikkim, Meghalaya, Arunachal Pradesh and Kerala. The fruit has high nutritive and medicinal value. It is a rich source of vitamin B & C and minerals like phosphorus, potassium & calcium. Fruits are consumed fresh or combined with other fruits in salads and desserts. It is also used for preparation of squash and wine. **Total Production for the year 2019-20 was 13 ('000 MT).**

Important kiwi varieties cultivated in India are

- Abbott
- Allison
- Bruno
- Hayward
- Monty
- Tomuri

MATURITY INDICES OF KIWI

Kiwifruit should be harvested when it reaches 6.5 percent soluble solids concentration (SSC) measured by refractometer in the vineyard. Maximum maturity is reached when flesh firmness is equal to or higher than 14 pounds-force measured with the penetrometer (8-mm tip).

STORAGE

Kiwifruit should be stored as near to 0°C as possible and under 90 to 95 percent relative humidity. Care should be taken to assure than the storage temperature is not lower than 0°C. The freezing point of kiwifruit is difficult to predict. A freshly harvested fruit at 6.5 percent SSC may have a freezing point near 0.5°C, especially in the stem end of the fruit where the lowest SSC is found. During storage, when starch is hydrolyzed and SSC levels reach at least 13 percent, the freezing point declines to about -1.5°C, although even at this point a lower storage temperature is not recommended. All potential sources of ethylene contamination should be eliminated in the storage and handling area (ideally less than 10 ppb). For long-term storage, use 4 of controlled atmospheres (CA) has been shown to be effective provided that both 0oC and ethylene less than 50 ppb are maintained.

STORAGE PROTOCOLS

Recommended Temperature (degree Celcius)

0

Recommended Relative Humidity (%)

90-95

Shelf Life

3-5 Months

Product Loading Density (in Pound/cu.ft)	-
Initial Freezing Point (in degree Celsius)	**-1.7**
Specific Heat Above Freezing Point in (kJ/Kg.K)	**3.58**
Specific Heat Below Freezing Point (in kJ/Kg.K)	**1.87**
Latent Heat of Fusion (in kJ/Kg)	**273**
Thermal properties of Kiwi	
Initial Freezing Point (in degree celcius)	**-1.1**
Specific Heat Above Freezing Point in (kJ/Kg.K)	**3.65**
Specific Heat Below Freezing Point (in kJ/Kg.K)	**1.89**
Latent Heat of Fusion (in kJ/Kg)	**278**