



Grapes

Quality Care During Handling

Bunches should be harvested early morning hours before the berry temperature rises above 20°C. It is advisable to close harvest by 10 a.m. Otherwise, the berry's temperature cannot be brought down to 4°C by pre-cooling within the stipulated time of six hours. The Harvested bunches are placed gently in clean perforated plastic crates and left in the shade of the vines for subsequent transfer to the pack-house.

The crates should be lined with clean bubble sheets for cushioning and kept over newspapers spread on the ground to avoid contamination with vineyard dust. The bunches are kept so that their stalks should not injure berries from other bunches.

Grapes to be packed in layers inside crate by segregating through butter paper to make layers. The grapes are then pre-cooled to a temperature of 4°C, and a Sulphur dioxide generating pad enclosed in absorbent tissue paper is placed over the grapes. This is then also covered with the polyethylene lining, and the box is closed. Small-sized, one-time use crates have made the grape supply chain easier and minimize the loss.

Being very delicate to the outer environment, it should be immediately shifted to a shaded, cool place for packing in the field. In recent years, small pouches and punnets have also played a role in improving the packing and minimizing fruit drops. Stackable corrugated boxes with 6-8 packs of pouches are prevalent in the retail trade. Wholesale trade prefers small crate packs.

Freshness Facts



OPTIMUM CARRYING TEMPERATURE
-1,0°C to 0°C



HIGHEST FREEZING POINT
-2,7°C



ACCEPTABLE PRODUCT TEMP. AT LOADING INTO CONTAINERS

Max. 2°C above carrying temperature



OPTIMUM HUMIDITY
90% to 95%

Ventilation setting for containers	0 m ³ /hr
Storage life	2-6 months, dependent upon variety
Climacteric / non-climacteric	Non-Climacteric
Ethylene production	Very low
Ethylene sensitivity	Moderate
Modified / controlled atmosphere	1%-5% CO ₂ ; 2%-5% O ₂
Potential benefits	Increased CO ₂ - slight; reduced O ₂ - moderate

Product	Size Range / Sugars	Categories	Packaging
Thompson Seedless Grapes and round seedless grapes	Berry Size 16mm+ S u g a r Min 18 brix	XL -18 mm+ L - 16mm - 18mm	<ul style="list-style-type: none"> • Pouches of approx. 500g • Nett wt per box 4.5 kg • Punnets of 500g with Barcode, 10 * 500g, Net Wt. of Box 5 Kgs
Sonaka and other Long Grape varieties			<ul style="list-style-type: none"> • Bunches/Bag - 1/2 Bunches/ Punnet - 2 plus 1 • Grapes are packed with sulphur pads
Black Seedless Grapes			<ul style="list-style-type: none"> • Outer Package - CFB Boxes • Load ability in 40 ft RF Container: 3400 boxes of 4.5kg / 2500 boxes of 5 kgs

The following factors should be considered during transportation of grapes:

Transportation should be quick in order to minimize losses in transit. The real time transit can be monitored by using GPS tracking system -wherever is possible.

The trucks are to have standard fsai licenses & container pre inspection check list are to be prepared factoring to ensure that containers are having even floor, free from off odour, adequate ventilations system prior to the loading.

Rough handling of boxes/cartons during loading/unloading should be avoided.

Over loading by using tier system should be avoided. Maximum stacking norms and orientation of the boxed in right directions are to be defined considering the transport trucks/container/train container dimensions.

Low temperature should be maintained during transportation. The temperature variation strips are recommended to monitor the impact of the cold chain aspects during transit.

To reduce bruising, good shock absorbers should be used on rough roads. If any challenges, adequate measures to use rubber mats / bubble wraps/ thermocol can be used as part of container dressings.

Use of pallets be made to avoid handling losses. If not, we need to define the stacking / container dressing considering the load ability aspect of the various container dimensions /volumes.

Rail reefer container should be preferred over road transport.

No mixing of grape packs with the packs of other commodities. Colour coding on the boxes / colour markings are recommended to distinguish the different types of the grapes.

Excessive rough roads should be avoided.

Use of reefer containers should be encouraged.

Transportation

Table grapes are mostly transported via surface transportation for local, short distance or long-distance markets. About 5 % of the produce is transported by rail and the quality of produce transported through air cargo is almost negligible. The cold chain for export of grapes is maintained meticulously right from pre-cooling state to selling of the same. The produce for international market is sent through refrigerated vans by road up to the seaport and then again by sea in refrigerated containers in the ships to their respective destination. The major countries for export market of Indian grapes are Netherlands, Bangladesh, Russia followed by UK. The grapes harvested from various districts in Maharashtra such as Sangli and Nashik as are transported in reefer containers to North Europe with a remote container management solution that monitors atmospheric conditions inside the container and provides visibility of the same to the buyers.

