

Grapes

Post Harvest Technology

Grading

The harvested bunches are graded as per their size of the berries and their colour. Before packing, the broken, decayed, deformed, undersized, and discoloured berries are removed by their pedicels from the selected bunches, using a long nosed scissors. While cleaning, harvesting or trimming bunches should be held by their stalk, preferably by wearing rubber gloves. This care is taken not to erase the fine waxy coating called 'bloom' from the berry surface. Otherwise it leads to rapid loss of water through the skin of berries and they shrivel during storage.

Packing

The grapes sent to the local market are packed in ventilated corrugated boxes accommodating 2-4 kg of grapes. These boxes are lined with newsprint paper. Fine paper shred or fine hay is spread at the bottom and top of the box for cushioning. The open flaps of the box are secured firmly by an adhesive tape. Table grapes for overseas market are packed in 5 ply corrugated boxes of size 500x300mm accommodating 5 kg of grapes. The graded bunches are weighed into 5 kg lots in plastic trays. One or two bunches weighing between 350-650 g are placed in small and thin polythene pouches. Before placing the pouches in the carton, bubble sheet is spread with its rough surface facing towards the base of the box. A white and soft polythene liner is spread over the top of the bubble sheet. These pouches are arranged in a single layer in a slanting fashion in the carton. The flaps at the open end of the carton are folded before precooling. After precooling, dual purpose SO₂ releasing pads are placed over the pouches and the polythene liner is folded in.

Storage

The grapes should be pre-cooled promptly after harvest in separate rooms with large refrigeration capacity, high air velocity and high relative humidity. They are normally pre-cooled at 1-2°C within 6 hours of harvest. After pre-cooling, the dual releasing Sulphur dioxide pads (Grape guard) are placed with their coated surfaces downwards on the filled plastic pouches and covered with the polythene liner. The boxes are closed and shifted to cold storage rooms where the temperature and humidity are maintained at 0-2°C and 95% respectively. The arrangement of boxes in the cold storage to ensure uniform cooling of all berries in a box and all boxes is very important.

Cool Chain

Cool chain is essential during the transport of export quality commodity all the way from the farm to the customer. This helps in maintaining the temperature inside the box at the same low level as in the cold storage.

The various stages of the cool chain are:

1. Coldstore at the farm.
2. Refrigerated truck from farm to the airport
3. Coldstore at the airport.
4. Building up of the pallet in a coldstore at the airport.
5. Loading the aircrafts directly from the coldstore in a short time.
6. Cargo aircraft maintains coldstore temperature in hold.
7. Off loading direct into a coldstore in the receiving country.
8. Refrigerated truck to the customers.