

# Grapes

## Propagation

### Hardwood Cuttings

For obtaining hardwood cuttings, 3-4 year old disease free vigorously growing mature vines, which has produced a good crop in the previous year should be selected after October pruning. Cuttings from very young and very old vines or those subjected to heavy fruiting during the previous year should be avoided. Medium-size canes having internodal length of 8-10 cm are desirable. 30-45 cm long cuttings of pencil size thickness with atleast 3-4 nodes are cut from the middle portion of the selected canes. A cut should be made straight across 1cm below the node at the lower end of the cuttings, while slanted cut at the top is taken 2-3 cm above the bud. The cuttings are then immediately planted in bed or in polythene bags in the nursery. In case of delay in planting, the cuttings are stored by burying in moist sand or sawdust at 5 -7.5°C.

In nursery, the cuttings are planted in well-prepared flat beds of 1.2m width of convenient length. A mixture of Leaf mould, FYM, Sand and Super phosphate is thoroughly mixed in the soil before forming the bed. Cuttings are planted 20 cm apart in lines. While planting the cuttings at least two nodes should be inside the soil with one bud above the soil. Care should be taken to maintain the polarity while planting the cuttings, since grape cuttings planted upside down do not grow. Soil is pushed back into the furrows and pressed firmly around each cutting.

Cuttings can also be planted in polythene bags. Polybags (25x15 cm and 150-200 gauge) are filled with a mixture of soil, sand and FYM in equal proportion along with Superphosphate. One or two cuttings may be planted in each bag. Preventive sprays to control common diseases are given during the growing period.

### Chip Budding

Chip budding is the best method for propagating vines on rootstocks. In this method a wedge-shaped piece containing the bud (chip) along with a portion of wood is removed from the desired variety. The scion buds should be plump and taken from well-mature healthy canes, equal in maturity level and thickness to that of the rootstock.

A notch, sufficient to accommodate the chip, is made on the rootstock 10-15cm above the ground. The chip is placed in this notch and wrapped with a polythene strip exposing the bud.

Normally two budding are done on every mature stem 15 cm apart. When these buds sprout and grows to about 15 cm, the rootstock portion above it is cut off. The sprouts on the rootstock below the bud joint are removed regularly.

## Rootstocks

Of late due to some soil borne problems such as nematodes, soil salinity and drought, use of rootstock has been felt essential. The following rootstocks have been identified for combating the soil/ climate related problems and also as a potential tool for manipulating the vine growth and productivity -

<b>Purpose/Rootstock</b>	<b>Name of the rootstock</b>
Drought tolerant	110 Richter, 140 Ruggeri, 1103 Panlsen, SO 4 and St. George.
Salinity tolerant	Dogridge, 1613, Ramsey and 140 Ruggeri.
Nematode resistant	1613, Dogridge, Salt Creek (Ramsey), Harmony and Freedom.