# TRAINING AND PRUNING

### **TRAINING**

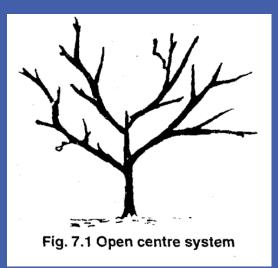
### **Definition:**

Physical techniques that control the shape, size and direction of plant growth are known as training **or** in other words training in effect is orientation of plant in space through techniques like tying, fastening, staking, supporting over a trellis or pergola in a certain fashion or pruning of some parts.

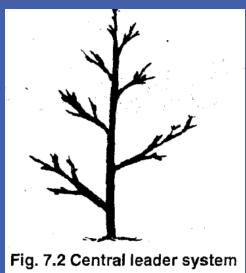
### **Objectives:**

- · To improve appearance and usefulness of plant/tree through providing different shapes and securing balanced distribution.
- · To ease cultural practices including inter cultivation, plant protection and harvesting.
- · To improve performance like planting at an angle of 45° and horizontal orientation of branches make them fruiting better.

(i) Open centre system (Vase shaped): In this system the main stem is allowed to grow to a certain height and the leader is cut to encourage lateral scaffold from near the ground giving a vase shaped plant. This is common in peaches, apricots and ber (Fig. 7.1).

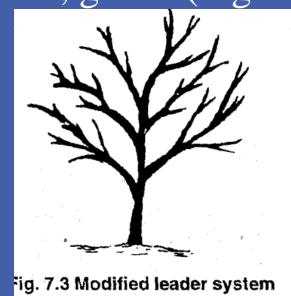


(ii) Central leader system (closed centre): In this system the central axis of plant is allowed to grow unhindered permitting branches all around. This system is also known as **closed centre system** and common in use in apple, pear, mango and sapota (Fig.7.2).

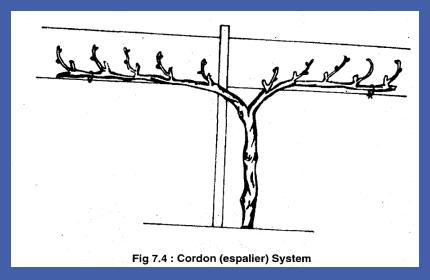


## (iii) Modified leader system

This system is in between open centre and central leader system wherein central axis is allowed to grow unhindered upto 4—5 years and then the central stem is headed back and laterals are permitted. It is common in apple, pear, cherry, plum, guava (Fig.7.3).



(v) **Cordon system:** This is a system wherein espalier is allowed with the help of training on wires. This system is followed in vines incapable of standing on their stem. This can be trained in single cordon or double cordon and commonly followed in crops like grape and passion fruit (Fig. 7.4).



- (v) **Training on pergola:** To support perennial vine crops pergola is developed by a network of criss-cross wires supported by RCC/angle iron poles on which vines are trained. This is common for crops like grape, passion fruit, small gourd, pointed gourd and even peaches.
- (vi) Training in different shapes: Generally ornamental bushes are trained in different shapes for the purpose of enhancing beauty of places. These shapes could be vase, cone, cylindrical and rectangular box, flat and trapezoid. Presently for the convenience of mechanization these shapes are being utilized in fruit trees. Such shapes are given to adjust the geometry of plantation like hedge row system, box, unclipped natural in fruits like guava, mango, sapota and citrus.

## PRUNING IN HORTICULTURAL CROPS

### **Definition:**

- It refers to removal of plant part like bud, shoot, root etc.. to strike a
  balance between vegetative growth and production. This may also be
  done to adjust fruit load on the tree.
- Objectives:
- (i) To control plant size and form.
- (ii) For plant performance like
- (a) Establishment of transplant where leaves/shoots are pruned to strike a balance between root and shoot so that plants lose less water against restricted root system lost during lifting of plants.
- (b) Improvement in productivity and quality by regulating the load of the crop and extent of flowering.
- (c) For flower and fruit quality.
- (d) Elimination of non-productive vegetative growth like water sprouts, suckers, dead and diseased wood.
- (e) In case of forest trees production of knot free timber.

### **Principles of pruning:**

- 1. Excessive pruning should be avoided as it affects the growth of the plant by dwarfening and may induce more of water suckers, fasciations (union of a number of parts side by side in a flat plane) and thus affect the bearing potential.
- 2. In pruning, only that wood which is not necessary for the tree should be removed.
- 3. Pruning of larger limbs should be avoided as far as possible.
- 4. Pruning of young trees should be done more carefully than the yielding trees, since severe pruning of young trees delays the cropping and much more of yield area will be removed than what is desired.

# Types of pruning:

Basically there are three types of pruning with definite purposes.

- (i) Frame pruning.
- (ii) Maintenance pruning.
- (iii) Renewal pruning.

# **THANKYOU**