

PEAR

(*Pyrus communis* L.)

Pear is grown in temperate and subtropical condition because of its wider climatic and soil adaptation. Scattered plantations of pear are found growing right from the temperate hilly region to warm subtropical valley areas of the region. However, inspite of having very favourable conditions for pear growing in the north eastern region particularly Sikkim, Meghalaya and Arunachal Pradesh, its extensive cultivation has been rather limited.



Cultivars

High Hills: Bartlett, Red Bartlett, Flemish Beauty, Max Red Bartlett, Starkrimson, Conference, Clapp's Favourite

Mid, Low hills and Valley areas: Patharnakh, Kieffer, William, Lagoon, Fertility, Baggugosha, Punjab Beauty, Punjab Gold

Soil and Climate

The highly fertile soils rich in nitrogen are not very suitable for pear growing as the incidence of pear psylla and fire blight is more in these soils. Pear grows best in deep, medium textured and well drained soils.

Pear can be grown from foothills to high hills (600-2700 msl) experiencing 500-1500 chilling hours. It can tolerate as low as -26°C temperature when dormant and as high as 45°C during growing period. Spring frost is detrimental to pear production and temperature at 3.3°C or below kills the open blossom.

Propagation

Pear is normally grown on seedling rootstock of kainth (*Pyruspashia*) or shiara (*Pyrusserotina*). Seeds of kainth are collected locally and sown in the field without stratification during December-January. For better germination, seeds of kainth can be stratified in moist sand for 35-45 days at $2-5^{\circ}\text{C}$. One-year old seedlings are used for grafting or budding. Pear plant is commonly propagated by T - budding during April- September or tongue grafting during January-March.

Planting

In hilly areas, the trees on seedling rootstock are planted at a distance of 5m but for clonal rootstock, distance can be reduced to 3m. In plains, the planting distance of 6m and 8m is recommended for pear. The planting can be done any time from December to mid February in plains. However in hills, late fall or early spring are the common planting periods.

Training and pruning

Pear trees are usually trained according to modified central leader method. Pear bears fruit on spurs of 2-year-old wood and a spur continues to bear for more than 6 years, so limbs with spurs, 6-8 years old need to be removed.

Manure and Fertilizer

A 10-year-old plant requires 60-100 kg FYM, 700g N, 350g P₂O₅ and 700g K₂O. The FYM, P and K are applied in December. Half of N is added 3 weeks before flowering and the rest half just after fruit set. Pears are sensitive to boron deficiency. Cracking of young fruits and pitting of older fruits are common symptoms of boron deficiency, therefore, spray of Boric acid @ 0.1 per cent is recommended.

Insect/Pests

Pear psylla: The aphid-like insects suck the sap from the leaves and produce large, sticky drops of honeydew that can coat the tree and fruit. Heavy infestations can cause premature leaf drop, weaken fruit buds and reduce shoot growth. One can reduce excessive tree vigour by limiting nitrogen applications and reduce psylla numbers by summer pruning.

To control this pest spraying of Endosulphan@ 0.2% or Methyl Demeton@0.25% about three weeks after petal fall is recommended, in severe infestation repeat spray is essential.

Diseases

Fire blight: This is a common and very destructive bacterial disease of pears. Twig blight starts at the growing tips of shoots and moves down into older portions of the twig. Blighted twigs first appear water-soaked and then turn dark brown or black.

Pruning of fire blight cankers and blighted twigs should be done during dormant season. Avoid use of excessive nitrogen fertilizer, heavy pruning and irrigation during bloom. Spraying of Bordeaux mixture or other copper fungicide several times as blossoms open can reduce new infections.

Harvesting and yield

Change in external fruit colour, decrease in firmness of the fruit flesh and increase in the total soluble solids content are some of the criteria for harvest maturity of pear fruits. As soon as the initial symptoms appear, the fruits should be harvested and handled normally. A yield of 40-50 kg fruits is optimum from a tree each year.