



Advanced cultivation of Pomegranate

Jaipal

Department of Horticulture,
CCSHAU, HISAR



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*Corresponding Author

Jaipal*

Article History

Received: 1. 2.2026

Revised: 5. 2.2026

Accepted: 10. 2.2026

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INTRODUCTION

Pomegranate is a popular fruit full of nutrients with taste and medicinal properties. Fruit is consumed fresh or in the form of juice, jam, squash, canned slices and syrup. It is liked for the cool refreshing juice and valued for its medicinal properties. It is very nutritive and favourite table fruit. It is a rich source of vitamins and minerals. Pomegranate is a subtropical fruit that is grown in semi-arid climates. The main points of pomegranate cultivation are as follows:

1. **Climate:** Pomegranate grows well under semi-arid conditions. It can be grown up to an altitude of 500 m. A temperature of 18-25 degree Celsius is considered optimum for plant growth.
2. **Soil:** It prefers sandy loam to deep loamy, or alluvial soil with an ideal pH of 5.0-7.5.
3. **Popular Varieties:**
 - **Ganesh:** This is a selection of the Alandi variety. It is a high-yielding variety with soft seeds.
 - **Bhagwa:** A high-yielding variety with large-sized fruits.
 - **Mridula:** Variety with soft seeds, total soluble solids, and 0.47% acidity.
 - **Jyoti:** Total soluble solids and 0.5% acidity.
 - **Kandhari:** Fruits are large, deep red in colour, and have hard seeds.
 - **Paper Shel:** A variety with medium-sized fruits and soft seeds.
 - **Other popular cultivar:** Co 1, YCD 1, Araktha, Rudhra, Ruby, Alandi, Jalore seedless, Dholka, Kabul, Muskati Red, Ruby, G-137,

1. **Planting time:** Pomegranate saplings are prepared through cuttings in January-February with plant-to-plant distance of 5 x 5 meters. Square system of planting is mostly adopted.
2. **Irrigation:** Pomegranate plants require regular irrigation from flowering until the fruits ripen to prevent flower drop and fruit cracking. Drip irrigation method is the best for this.
3. **Fertilizer and Manure:** For 4-6-year-old plants, it is recommended to use 25 kg of cow dung manure, 1 kg of urea, 1.5 kg of single superphosphate, and 400 grams of potash per plant.
4. **Intercropping:** Inter-cropping with low growing vegetables, pulses or green manure crops is beneficial. In arid regions, inter-cropping is possible only during the rainy season, whereas winter vegetables are feasible in irrigated areas.
5. **Pruning:** Pomegranate plants are allowed to grow in a bush-like shape. 3-4 main stems are allowed to grow from the ground level. Pomegranate does not require regular pruning. Pruning is done only to remove dead and diseased branches.
6. **Physiological disorder:**
 - Fruit Cracking:** This disorder occurs due to boron and calcium deficiency. There is a higher chance of cracking during the 'Mrig Bahar' season. To control fruit cracking, irrigate regularly and spray borax 0.3%.
7. **Fruit Harvesting:** The tree starts bearing fruits from 3-4th year and continues for about 25 to 30 years. Economic yield is generally obtained from 6th or 7th year onwards. Fruiting starts 5-7 months after flowering. Fruits should only be harvested when their colour turns slightly yellow. On an average yield of pomegranate is 20-25 t/ha/year. Fruits can be stored at 4-5°C and 80-85% relative humidity.
8. **Pest Control:**
 - **Pomegranate Butterfly:** This is a serious pest of pomegranate, whose larvae bore into the fruits and eat the pulp. Tie the fruits with muslin cloth and destroy affected fruits.
 - **Bark-eating caterpillar:** This insect goes inside the bark of the tree and causes damage. The tree becomes weak. Clean the holes with wire, then soak cotton wool in an emulsion of kerosene and put it in the holes, and cover from above with soil.
 - **Sap-sucking insects:** Mealybugs, scale insects, thrips, and mites gather on flowers and fruits in their juvenile stages and suck sap. For controlling mealybugs, use alkathin sheet. For controlling thrips and mites, mix 500 ml of Rogor 30 EC (Dimethoate) in 500 liters of water and spray.
9. **Disease control:**
 - **Bacterial leaf spot:** Irregular water-soaked spots ranging from light brown to dark brown appear on the leaves. Young fruits drop prematurely. For disease prevention, spray Streptocycline 200 ppm and 0.1% Copper Oxychloride, and repeat after 15 days.
 - **Alternaria leaf spot:** Small light-brown spots appear on the leaves. Sometimes these spots are surrounded by yellow halos. Spray 0.2% solution of Mancozeb (Indofil M-45) at 15-day intervals.
 - **Fruit rot:** This disease affects flowers and fruits both. Yellow or black spots appear on the fruits. The fruits begin to rot. To prevent the disease, spray a 0.2% solution of copper oxychloride and, if necessary, repeat at intervals of 15 days.