POMEGRANATE FARMING

Complete Guide on pomegranate cultivation

Introduction

Pomegranate cultivation is an important agricultural activity in India, and the country is among the leading producers of pomegranates in the world. The major pomegranate-producing states in India are Maharashtra, Karnataka, Andhra Pradesh, Gujarat, and Tamil Nadu.

The climate in India is ideal for pomegranate cultivation, as the fruit thrives in areas with hot summers and cool winters. Pomegranate trees are grown in both irrigated and rain-fed conditions, with the former being more common. The cultivation of pomegranates in India is mostly done on small farms, with an average landholding size of 1-2 hectares.

Pomegranate cultivation in India is done using both traditional and modern methods. Traditional methods involve planting trees in pits filled with farmyard manure and other organic materials, while modern methods involve the use of drip irrigation and fertigation. Pomegranate trees are also susceptible to several pests and diseases, so farmers use a range of techniques to manage these, including the use of pesticides, biocontrol agents, and cultural practices.

Guide to Pomegranate Cultivation

- Climate

Pomegranates can grow in a range of climatic conditions, but they do best in areas with hot summers and cool winters. Pomegranate cultivation requires a warm, dry climate with hot summers and cool winters. They are adapted to a Mediterranean climate and prefer temperatures between 15-32°C (59-90°F). They are also drought-tolerant but require some irrigation during dry periods to ensure proper growth and fruit development.

- Soil Type

Pomegranates can grow in a range of soil types, but they do best in well-draining soils that are rich in organic matter. The soil pH should be between 5.5 and 7.5, and the soil should have good fertility. Pomegranates can tolerate some soil salinity, but high levels can reduce plant growth and fruit quality.

- Propagation of Pomegranates Plants

The development of another plant from the parent plant is called Propagation. It can be done through two methods seed propagation and the second is cutting propagation. Pomegranates can be propagated through both seeds and hardwood cutting methods. But they are commonly propagated through hardwood cuttings. If you do choose to propagate through seeds, sow the seeds in a well-draining soil mix, and keep them in a warm and bright location until they germinate. To propagate through hardwood cuttings, take cuttings about 8-12 inches long and plant them in a well-draining soil mix. Keep the soil moist but not waterlogged and place them in a bright location until they start to develop roots.

- Commercial Pomegranate Varieties

Bhagwa, Wonderful, Hicaz, Eversweet, Red Silk, Angel Red, Ruby, Prfianka, and Mollar De Elche are a few varieties of pomegranate that are grown around the world. Each variety has its own unique flavor and characteristics, making them popular for a variety of uses, including eating fresh, juicing, and cooking. Bhagwa is the most popular variety of pomegranate in India, known for its sweet and juicy arils and bright red color. Mridula, Ganesh, Jyothi, Jalore Seedless, Kandhari, Phule Arakta, Phule Bhagwa Super, and BhagwaSindoor have commercially grown a variety of pomegranates grown in India.

- Preparation of Land

Sol testing, clearing the land of weeds, and applying organic matter and fertilizers are some common steps for preparing the land. In the cultivation of pomegranates, beds, and rows are needed to prepare. Other land preparation is done through plowing, harrowing, and leveling.

- Best Planting time

Planting of pomegranates is generally done in the spring season (February to march) in tropical regions. And in sub-tropical regions, it is done between July and August. Air layering is mostly done in the rainy season or between November to December.

- Pomegranate Plant Spacing

In pomegranate planting, 5 to 6 m of spacing is maintained in northern India and the plains of the Deccan Plateau. High-density planting with a spacing of higher than 5 x 5 is adopted by some farmers that give a high yield.

- Fertilizer Management

The dose of fertilizers should be incorporated according to the variety of soil fertility and region. Pomegranates are even grown in less fertile soil, but the recommended dose should be applied for better production and quality produce.

- Irrigation

Pomegranate is a drought-tolerant crop that can grow in water scarcity to some extent. But regular irrigation is needed to avoid fruit splitting. Irrigation frequencies vary in different seasons. During winter irrigation should be done on a gap of 10 to 12 days whereas in summer it should be done in intervals of 4 to 5 days.

- Training & Pruning

Training of plants in Pomegranate crops is done through both single and multi-step systems. Training is a promising method to control vegetative growth. It is also important for maintaining the shape and size of trees to enable proper light penetration and ease farming operations and harvesting. Pruning is not much required, only a little thinning and pruning of old spurs are required to encourage the growth of new plants.

- Harvesting

Pomegranate harvesting is done after the flowers become ready as mature fruits. Flowers take 5 to 6 months to become mature in fruits. They should be harvested mature and recognized by their color for harvesting.

- **Yield**

A proper healthy pomegranate tree produces approx. 12 to 15 kg of plant yield in the first year. After one year the yield per plant will increase to 15 to 20 kg per plant.

Plant-Protection

Pests :

1) Pomegranate butterfly (or) Fruit borer. (Deudorix Isocrates**)**

It is a major pest that bore into the developing fruits, feeds inside, and makes fruit susceptible to fungal and bacterial infection.

Control
It can be controlled by bagging young fruits at the early stage with polyethylene bags, spray phosphamidon 0.03 %, or sevin @4 gm.

2) Caterpillar
It makes holes in the main trunk and forms networks of tunnels inside it. Feeding on bark during nights and fill it with excreta.

control
It can be effectively managed by plugging the hole with cotton dipped in petrol or kerosene, chloroform, carbon bisulphide, followed by covering it with mud.

Nowadays, the bagging of fruits is also practiced by the farmers. This helps up to a certain extent and also improves fruit quality.

Diseases

1) Bacterial leaf spot or oily spot (Xanthomonas axonopodis pv. punicae):
It is characterized by the formation of small-dark brown water-soaked spots on the leaf, twig, stem, and fruits. Cracking can be observed with the shining appearance at a severe stage of infection. It is most severe in the rainy season

Control
It can be measured to some extent by spraying of streptocycline at the rate of 0.5 g/ liter and mixing with copperoxychloride at the rate of 2 g/ liter on three consecutive days.

2) Fruit cracking or fruit splitting
it is one of the most severe disorders due to irregular irrigation, boron deficiency, and sudden fluctuation in nocturnal and diurnal temperatures; fruits are cracked, which is a common problem in pomegranate.

Control
Spraying of boron at the rate of 0.1% and GA3atthe rate of 250 ppm disease can be minimized to some extent.
Besides, maintaining proper soil moisture levels; selecting cracking tolerant variety are some preventive measures.

3) Sunburn

It is also a major problem if fruits are not harvested at the proper stage. A blackish round spot appears
on the upper surface of fruits. It reduces the cosmetic appeal of fruits.

Control

Bagging of fruits maintains colour and attack of fruit flies.