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SAFFRON- GOLD OF THE SPICES

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Saffron cultivation in India is mainly done in the states of Himachal Pradesh and Jammu and Kashmir, However, it can grow in almost anywhere in the world. Harvesting is the most difficult part in Saffron farming. Saffron plant needs extreme heat and dryness in summer and extreme cold during winter. Being the most expensive spice in the world it is nicknamed as 'Red Gold'. It is a costly spice owing to the fact that it is extremely difficult to harvest the crop. Wild saffron is botanically known as *Crocus cartwrightianus*. The commercially cultivated saffron is botanically called *Crocus sativus*. It can grow upto 20 cm in height and is a bulbous perennial plant with globular corms. It is the corm that is planted for saffron cultivation. The saffron or kesar flowers vary in color from lilac to purple. The style is yellow in color while the stigmata are bright red. Kesar flowers are divided into 3 branches. The red colored stigma of the flowers are harvested and used for spice purposes.

In milk and milk desserts, saffron is used as a flavour and coloring component, It's used as season cheese, mayonnaise, and meat, among other things. In Mughlai cuisine, they

are utilized as a flavoring and seasoning agent. It is used to treat arthritis, infertility, liver enlargement, and fever in Ayurveda. It's a common ingredient in perfumes and cosmetics.

Ideal Conditions for Saffron Cultivation



The most basic condition for commercial saffron production is fertile soil. The second major factor is the climate. It necessitates a long photoperiod and a dry, moist soil. Saffron is grown primarily in sunken and dry places with elevations ranging from 1500 to 2500 metres above sea level. It requires a 12-hour photoperiod, which has several advantages but also slows down the flowering process. Saffron Corms are grown in India between the months of June and July, as well as August and September in some areas. In October, it begins to flower. nIn the summer, it requires intense heat and dryness, while in the winter, it requires extreme cold. Winters in areas of Karnataka, Himachal Pradesh, and Jammu & Kashmir provide the best conditions for development. One of the most important aspects of saffron growing is the soil. It thrives on loamy, sandy, and calcareous soils. A gravelly soil is also excellent for saffron farming, however a heavy, clayey soil is not. Saffron grows best on acidic soil. It thrives well when pH of soil is around 5.5 to 8.5.

Cultivation practices

Saffron cultivation is done through corms that are underground compressed stems. 25-30quintal saffron corm of 2.5cm diameter is required per hectare area. Make the soil brittle before ploughing or planting saffron seeds by ploughing the land thoroughly. Put 20 tonnes of cow dung, 90 kg of nitrogen, 60 kg phosphorus, and 60 kg of potassium per hectare on your field before final ploughing and plough it thoroughly.



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Pits of 12-15 cm depth are dug. Saffron corms are planted straight into the dug trenches at a spacing of 14×14cm. The soil is then applied loosely on the surface. If you do not pack compactly, air circulation may be restricted. Irrigation is not required after sowing the corms, however irrigation may be required if there is extended drought throughout the hot season. Planting at the appropriate time is an important agronomic input. Mid may-early in june is the best time for planting corms.

Saffron requires less water than other spices. The soil should be slightly damp but not completely dry. Three irrigation at an interval of 15 days during August September help in accelerating early blooming and yield increment. Saffron is a summer dormant (June to August) and winter active perennial crop, which provides an opportunity to cultivate short duration varieties of other crops. Saffron can be inter-cropped with Rose and kala zeera. Saffron cultivation can also be taken up successfully under almond or apricot plantation. In Kashmir, India, rotation of saffron with cereals like wheat and mustard is generally followed by cultivators. Saffron is grown for 8 –10 years continuously in the same field then followed by wheat-barley-oilseeds-wheat- saffron (i.e., saffron brought in again after a lapse of 4 year).

Harvest and Post harvest handling



It is the harvest process that makes saffron a costly spice. It starts flowering within three to four months of planting. If planted in June, ideally they would start flowering by October. Harvesting of flowers must be done at the first appearance of light in the sky before sunrise, It is said that the flowers must be plucked between sunrise and 10 AM. The stigma strands are dried under the sun for five to six days until the moisture content reduces to 8-10% and then it is packed in air-tight containers. In case of solar driers, it needs 7-8 hours of drying. After fully drying, the saffron must be stored immediately, preferably in tightly covered or sealed containers and protected from light to avoid bleaching. True saffron has a pleasantly spicy, pungent, bitter taste, and a tenacious odor. Saffron is available both in filaments and powder form though the long deep red filaments are usually preferable to the powder as the latter can be easily adulterated. The quality of saffron depends on its color, taste and odour. Saffron is glossy and greasy to touch when freshly dried, turning dull and brittle with age. It gets easily bleached if not stored in the dark and also stores better under conditions of low temperature and low relative humidity.

The high price of this spice gives rise to frequent adulterations. Water is said to be very often added in order to increase its weight. Oil or glycerin is also added for the same purpose or to improve the appearance. Sometimes the flowers of other plants, viz., *Carthamus tinctorius*, *Calendula officinalis* and *arnica* are fraudulently mixed with the genuine stigmas.

Saffron cultivation in south india

Saffron can be cultivated in our area only in cold storage room where all environmental parameters are under our control. This method of growing saffron in a controlled atmosphere is called aeroponics. It is a process of growing plants in an air or humid mist environment without using soil or any aggregate medium. Low temperature and high humidity are required. Flowers don't bloom if the temperature goes above 18 degrees Celsius. Saffron plant start blooming 45 days after sowing. An investment of `30 lakh is needed to build a cold storage area which would grow one tonne of saffron bulbs. Peripherals like racks and artificial lighting would cost another Rs 3 lakh.