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Saffron Cultivation

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Abstract

Recognized as "red gold," saffron is the most expensive spice in the world and is prized for its taste, hue, and therapeutic qualities. Saffron farming, which primarily relies on the *Crocus staves* flower, is extremely important both culturally and economically, particularly in areas like Kashmir, Iran, and portions of Spain. Saffron cultivation is labor-intensive and heavily reliant on environmental factors, in contrast to many other commercial crops. However, this heritage crop could be preserved and productivity increased with climate-smart practices and better irrigation systems. This research examines saffron historically and modern cultivation methods in detail, assessing its economic significance, problems, and solutions while through field survey data.

Introduction

Saffron has been a part of traditional agriculture for between the ages and serves as more beyond just a spice. Extracted from *Crocus sativus* stigmas, it takes precise growing, patience, and hard labour. The crop has exceptional economic value; depending on grade and purity, one kilo of it can cost up to ₹2,50,000.

1. The Value of Growing Saffron

Cultural heritage is essential to rituals, food, and health care.

Economic Contributor: Gives thousands of people in saffron-growing regions a means of subsistence.

Medicinal Properties: High in antioxidants, utilised in both contemporary and Ayurvedic medications.

A high-value crop that contributes to foreign exchange earnings is considered to have export potential.

2. Saffron Cultivation Conditions

Soil Requirements: sandy or loamy soils that drain well and have a lot of organic matter.

Climate: Prefers mild areas with cold winters and dry summers.

Elevation: 1,500–2,500 meters above sea level is ideal.

Irrigation: Waterlogging is a concern; little water is required after flowering.

3. Methods of Cultivation

3.1 Planting Methods and Season

Late summer (August–September) is when saffron corms are sown.

The ideal distance between rows and corms is 10–15 cm.

Raised beds improve drainage and lower the chance of rot.

3.2 Harvesting and Blooming

Blooming takes place between October and November.

Harvesting is done by hand, and in order to maintain the stigmas' effectiveness, it must be done early in the morning.

Only three red stigmas are present in each flower, which makes it extremely labour-intensive.

3.3 Processing After Harvest

Stigmas are meticulously dried in a controlled environment.

To preserve its colour and scent, dried saffron is kept in airtight containers.

Insights from Surveys

A field study of homes that cultivate saffron as part of my ongoing research found:

58% of farmers only use conventional techniques.

72% expressed interest in implementing automated drying systems and drip watering.

Climate change was mentioned by 84% as a significant factor influencing yield.

Sixty-six percent called for government subsidies and marketing assistance.

Economic Importance

High Market Demand: Incorporated into medicine, food, cosmetics, and rituals.

Employment Generator: Youth and women in rural areas might find work thanks to the labour-intensive character of the industry.

Export-focused: Indian saffron has a GI designation, which gives it access to a worldwide market.

Difficulties in Growing Saffron

Climate Vulnerability: Unpredictable temperature changes and rainfall lower yield.

Water Scarcity: Inadequate facilities for irrigation.

Labour Dependency: Harvesting by hand raises the cost of production.

Market Fluctuations: Because farmers do not have direct access to markets, prices are unstable.

Remedies and Contemporary Methods

Drip irrigation increases root zone hydration while conserving water.

Controlled Drying Chambers: Increase shelf life and standardise quality.

Cluster farming: Promotes farming in communities to improve resource sharing.

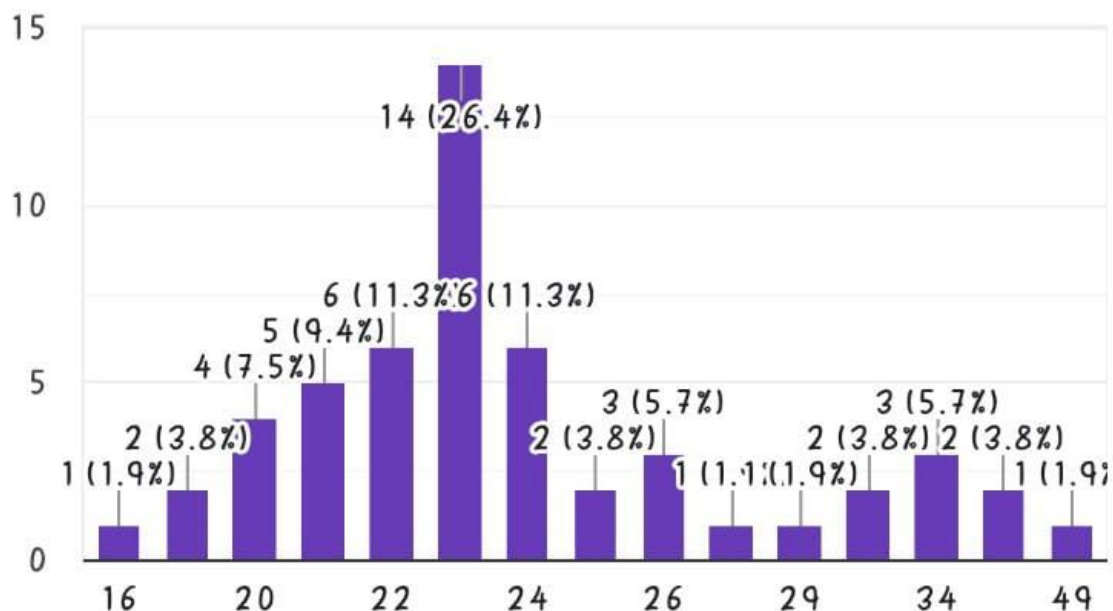
Saffron farmers are supported by government programs such as PMKSY and the Mission for Integrated Development of Horticulture.

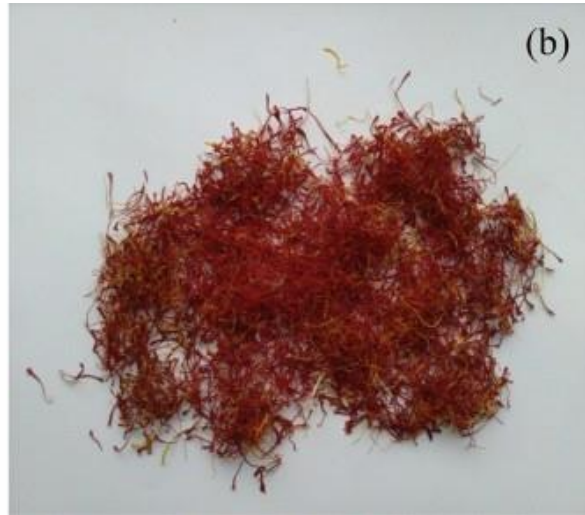
In conclusion

Despite being traditional, saffron cultivation has a lot of room to be modernised. India can conserve this precious commodity and increase its worldwide visibility by concentrating on climate adaptation, sustainable farming methods, and digital marketing. I became aware of the need for young leaders and academics like us to close the gap between agriculture's traditional practices and modern technologies through this study and direct conversations with farmers.

References

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