

Constraints of Sunflower Production in India

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ABSTRACT

Sunflower is an important oilseed crop grown in India, but its production faces several constraints that limit its potential for growth and profitability. This paper identifies and discusses some of the major constraints facing sunflower production in India, including the availability of suitable land, irrigation facilities, high-quality seeds, pest and diseases and post-harvest infrastructure. The paper also highlights various government initiatives and private sector investments aimed at addressing these constraints and promoting value addition in sunflower production. Collaborative efforts from various stakeholders, including government agencies, researchers, and farmers themselves, are necessary to overcome these constraints and improve sunflower productivity and profitability in India.

INTRODUCTION

The sunflower (*Helianthus annuus*) is an important oilseed crop grown in India. It is a crop that is extremely flexible and may be cultivated in a variety of agroclimatic situations. Sunflowers are widely cultivated in India for their edible oil, which is used in cooking and production of various food products. Sunflower production in India is faced with several constraints that limit its productivity and profitability. The availability of suitable land,

high-quality seeds and agrochemical inputs, irrigation facilities and post-harvest infrastructure are major challenges. Additionally, lack of knowledge on pests and diseases and their improper management practices pose a significant threat to sunflower crops.

This article will discuss the major constraints faced by sunflower farmers in India and the efforts made to address these challenges.

1. Availability of Suitable Land

Sunflowers require well-drained soils with good fertility and moisture retention capacity. Not all regions in India have such soil conditions, which limits the cultivation of sunflowers. For example, in states like Tamil Nadu and Kerala, sunflowers are not grown extensively due to the heavy rainfall and high humidity, which can lead to fungal diseases in the crop (Downey mildew, Alternaria leaf spot). Similarly, in the dry regions of Rajasthan and Gujarat, water availability is a major issue, making it difficult to grow sunflowers.

Moreover, land availability is also a constraint in some areas. According to a report by the Ministry of Agriculture and Farmers Welfare, the total area under sunflower cultivation in India decreased from 5.9 lakh hectares in 2014–15 to 2.26 lakh hectares in 2020–21, mainly due to the diversion of land for other crops and non-agricultural purposes.

2. Availability of High-Quality Seeds

For disease resistance and potential yield, sunflower requires seeds with high germination rates and favourable genetic features. However, the availability of high-quality sunflower seeds is limited in some regions of India. Farmers often use seeds saved from the previous harvest or purchase low-quality seeds from local markets, which can result in poor crop establishment and low yields.

To address this issue, the ICAR institutes have developed several high-yielding sunflower hybrids, such as DSFSH-3, KBSH-53 and KBSH-78 which have been released for commercial cultivation. These hybrids have improved agronomic traits, such as early maturity, disease resistance and high oil content and are widely adopted by farmers.

3. Irrigation Facilities

Sunflowers require adequate moisture during their growth period and the availability of irrigation facilities is limited in majority of areas in India. According to a report by the Ministry of Agriculture and Farmers Welfare, only 47% of the total cultivated area in India is irrigated, while the remaining 53% is rainfed. The lack of irrigation facilities can lead to moisture stress and reduced yields.

The Indian government has introduced a number of programmes to enhance irrigation infrastructure in order to address this problem, including the Pradhan Mantri Krishi Sinchai Yojana (PMKSY). The programme aims to increase the cultivable area under assured irrigation, establish convergence of irrigation investment at the field level, and boost water usage effectiveness. In accordance with this plan, the government gives farmers money to build new wells, borewells, and micro-irrigation systems.

4. Pests and diseases

Sunflowers are susceptible to a range of pests and diseases, such as stem rot, rust, and aphids, which can reduce yield and quality. The lack of knowledge and access to appropriate pest management practices exacerbates this problem.

The Indian government has started a number of programmes to educate farmers on the most recent methods of pest management in order to address this problem. For example, the Directorate of Oilseeds Development (DOD) conducts training programs on integrated pest management (IPM) for sunflowers. The programme focuses on the use of biopesticides, botanicals and cultural practices to manage pests and diseases.

5. Post-Harvest Infrastructure and Processing Facilities

The lack of post-harvest infrastructure and processing facilities is another constraint on sunflower production in India, limiting the marketscope for sunflower farmers and also reduce the quality and shelf life of the harvested crop. According to a report by the Ministry of Agriculture and Farmers Welfare, only 10–12% of sunflower seeds produced in India are processed for oil extraction, while the remaining are used for animal feed or sold as raw seeds in local markets.

To address this issue, the government of India has initiated several programs to improve post-harvest infrastructure and promote value addition in sunflower production. For example, the National Mission on Oilseeds and Oil Palm (NMOOP) provides financial assistance to farmers for setting up oilseed processing units, such as oil mills and oil refineries. The scheme also provides support for the development of storage and transportation facilities for oilseeds.

In addition to government initiatives, private players have also invested in the sunflower processing sector in India. Companies such as Adani Wilmar, Ruchi Soya and Cargill have set up sunflower oil processing units in different parts of the country.

CONCLUSION

India's potential to produce sunflowers faces a number of obstacles, including a lack of adequate acreage, high-quality seeds, irrigation systems, and post-harvest infrastructure. Collaboration between a number of stakeholders, including governmental organisations, researchers, and farmers themselves, will be necessary to address these obstacles. The PMKSY, NMOOP, and DOD's training programmes on IPM for sunflowers are just a few examples of government initiatives that have already produced encouraging results in raising sunflower production and profitability. Private sector investments in sunflower processing facilities also offer potential for value addition in sunflower production in India.

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