



DYNAMICS OF JASMINE CULTIVATION IN INDIA: A TREND AND GROWTH ANALYSIS

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ABSTRACT

Agriculture plays a vital role in the Indian economy, providing employment to nearly 46 per cent of the country's population. Jasmine is one of the most important commercial floriculture crops in India, contributing significantly to farm income, employment generation, and export earnings. This study examines the trends in area, production, and productivity of jasmine cultivation in India and analyses the performance of major jasmine-producing states using secondary data collected for the period 2015–2016 to 2024–2025. Compound Annual Growth Rate (CAGR) was employed to measure growth trends. The results revealed that the highest area under jasmine cultivation was 30.65 thousand hectares, the highest production was 318.53 thousand metric tonnes, and the highest productivity was 10.39 tonnes per hectare, all recorded in 2024–2025. Tamil Nadu emerged as the leading producer, recording the highest area, production, and yield, whereas Andhra Pradesh showed notable growth and Karnataka exhibited a declining trend. Overall, the study indicates a positive growth trend in jasmine cultivation in India

KEYWORDS: Jasmine, area, production, Productivity CGR

INTRODUCTION

Agriculture is the backbone of the Indian economy, providing employment to nearly 46 per cent of the country's population. The sector comprises several sub-sectors, including crop production, horticulture, fisheries, animal husbandry, forestry, and floriculture. Floriculture is the branch of horticulture that focuses on the large-scale cultivation of flowers and ornamental plants for commercial purposes, including production, processing, marketing, and distribution. It involves growing a wide variety of plants, from cut flowers and potted plants to seeds and foliage, for direct sale or as raw materials for industries like cosmetics, perfumes, and pharmaceuticals. In this, jasmine is an attractive and important commercial crop. With increasing demand, flower production, consumption, and trade have grown manifold. Jasmine holds a special place in Indian culture and economy. It is widely used for garlands, bouquets, hair adornments, religious ceremonies, and perfumed oils, attars, soaps, wines, and beverages.

India is one of the top producers and exporters of jasmine in the world such countries are Netherlands, USA, Japan, Germany, Italy, Denmark, Egypt, Singapore, Switzerland, and France. India's floriculture sector has witnessed steady growth in area and production over the years, with major jasmine producing states are Tamil Nadu, Karnataka, Andhra Pradesh, west Bengal etc. thereby strengthening the country's position in the global floriculture market. Growing demand for high-value flowers has encouraged more farmers to take up floriculture. More than 50 percent of India's floriculture units are concentrated in South India, primarily in Tamil Nadu, Karnataka, and Andhra Pradesh etc.

Tamil Nadu is the leading producer of jasmine in India, major districts are Tirunelveli, Erode, Madurai, Tiruvallur, Tiruchirappalli, Krishnagiri, Salem, Vellore, Tiruvannamalai, Coimbatore, Dindigul, and Dharmapuri. Tamil Nadu exports jasmine flowers to countries such as Sri Lanka, Malaysia, Singapore, and several Middle Eastern nations. Thus, the present study aims to analyses the production trends of jasmine in India.

OBJECTIVE OF THE STUDY

1. To examine the trends in area, production and productivity of jasmine in India
2. To analysis Important States of area, Production and productivity of Jasmine Cultivation

REVIEW OF LITERATURE

Tejasri et.al. (2020) had experimented the different linear and non-linear models were employed to study the trend in area and production of jasmine in Andhra Pradesh for the study period. The data regarding area (Hectare) and production (MT) of jasmine in Andhra Pradesh for a period of 20 years was collected from the Directorate of Economics and Statistics,

Government of Andhra Pradesh. The data was examined for the nature of change and degree of relationship in area and production of jasmine in Andhra Pradesh. Based on maximum R² and minimum RMSE values, inverse curve was suitable model for the data and projection of future values of area and production of jasmine in Andhra Pradesh.

Rakshitha (2022) had analysed the major influence of jasmine cultivation on the growth of the Shirva region is the main topic of the study. The research study gathered both primary and secondary data. The primary data has been collected with the help of



interviews with the 14 cultivators and vendors of jasmine growers. Secondary data is gathered from various research publications on jasmine production. Yields peak in the summer and fall in the winter and rainy seasons, but the cultivation process is labour intensive. Concluded that simultaneous methods can aid in resolving labour issues and the influence of intermediaries and traders makes jasmine marketing difficult.

METHODOLOGY

The study used secondary data on the area, production and productivity of jasmine and the data collected period from 2015–16 to 2024–2025. The data were collected from various secondary sources, including the *Agricultural Statistics at a Glance* report and India Stat etc

Tools of analysis

Compound Growth Rate (CGR) were used for examine the area production and productivity of jasmine
 Compound growth rate is estimated by fitting exponential trend equation of the following type:

$$Y = a + bt \dots\dots\dots (1)$$

Were,

Y= Production of jasmine

T=time variable in years

α =Constant $b=(1+i)$ (i=Compound Growth Rate)

The equation (1) takes the following linear form by taking logarithms of both sides of the equation

$$\log y = \log a + t \log b$$

Compound growth rate is computed using the following formulas: - Compound Growth Rate

$$(CGR) = (\text{Antilog}(\log b - 1)) * 100.$$

RESULT AND DISCUSSION

Table 1 :Area, Production and Productivity of Jasmine in India from 2015-2016 to 2024-2025

Year	Area	Production	Productivity (tonnes / Hectare)
	(In Hectare)	(In metric tonne)	
2015-2016	22.86	188.55	8.25
2016-2017	24.35	194.88	8
2017-2018	25.53	192.63	7.55
2018-2019	22.97	180.32	7.85
2019-2020	22.04	174.14	7.9
2020-2021	26.15	237.74	9.09
2021-2022	25.85	218.49	8.45
2022-2023	23.4	199.78	8.54
2023-2024	27.49	272.8	9.92
2024-2025	30.65	318.53	10.39
CGR	2.19	5.05	2.8

Source: www.indiastat.com

Table 1 represents the area, production, and productivity of jasmine in India from 2015–2016 to 2024–2025. The area under jasmine cultivation showed considerable variation over the years. It was 28.86 thousand hectares in 2015–2016 and gradually increased, with some fluctuations, reaching 30.65 thousand hectares in 2024–2025, which was the highest area recorded during the study period. The production of jasmine was 188.55 thousand metric tonnes in 2015–2016 and rose steadily to reach the highest production of 318.53 thousand metric tonnes in 2024–2025. The productivity of jasmine also showed steady improvement during the study period, increasing from 8.25 metric tonnes per hectare in 2015–2016 to 10.39 metric tonnes per hectare in 2024–2025. Overall, the table indicates that the area, production, and productivity of jasmine showed a gradual improvement during the study period.



Table.2 Area under jasmine in important states in India from 2015-2016 to 2024-2025

											(In hectare)
State / Union Territory	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	CGR
Tamil Nadu	12.59	13.74	13.61	14.07	13.4	17.26	17.11	16.04	17.1	17.17	3.69
Karnataka	5.79	6.2	5.53	3.12	2.99	3.13	2.81	1.63	1.62	0.57	-19.9
Andhra Pradesh	2.71	3.06	4	3.67	3.69	3.71	3.85	3.85	7.81	11.25	12.4
Chhattisgarh	0.05	0.04	0.04	0.04	0.02	0.02	0.03	0.03	0.03	0.04	-3.75
Telangana	0.34	0.15	0.21	0.3	0.25	0.19	0.19	0.05	0.08	0.02	-20.9
West Bengal	0.46	0.46	0.5	0.52	0.52	0.53	0.53	0.52	0.68	0.68	4.03

Source: www.indiastat.com

Table 2 explain the state-wise area under jasmine cultivation from 2015–2016 to 2024–2025 exhibited varying trends across the major jasmine-producing states in India. Tamil Nadu remained the leading state throughout the study period. The area under cultivation increased from 12.59 thousand hectares in 2015–2016 to 17.17 thousand hectares in 2024–2025, despite minor fluctuations during the intervening years. Karnataka with an area of 5.79 thousand hectares in 2015–2016. However, the cultivated area declined continuously over the years, reaching 0.57 thousand hectares in 2024–2025. In Andhra Pradesh, the area under jasmine cultivation increased from 2.71 thousand hectares in 2015–2016 to 11.25 thousand hectares in 2024–2025. Although slight fluctuations were observed during the middle years. Chhattisgarh maintained a very small area under jasmine cultivation throughout the study period. In Chhattisgarh, the area under jasmine cultivation was 0.05 thousand hectares in 2015–2016, further declined, and reached 0.04 thousand hectares in 2024–2025. The area under jasmine cultivation in Telangana showed a declining trend during the study period. It decreased from 0.34 thousand hectares in 2015–2016 to 0.02 thousand hectares in 2024–2025, despite minor fluctuations in some years. In West Bengal, the area under jasmine cultivation remained relatively stable throughout the study period. It increased marginally from 0.46 thousand hectares in 2015–2016 to 0.68 thousand hectares in 2024–2025. Based on the Compound Growth Rate (CGR), Andhra Pradesh recorded the highest positive growth in the area (12.40 per cent), followed by West Bengal (4.03 per cent) and Tamil Nadu (3.69 per cent), indicating an increasing trend in the cultivated area during the study period.



Table 3 Production of jasmine in important states in India from 2015-2016 to 2024-2025

State / Union Territory	(In metric tonnes)										CGR
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	
Tamil Nadu	130.07	131.25	120.59	126.21	121.01	180.67	177.73	167.19	172.05	175.75	4.75
Karnataka	36.92	39.03	36.32	20	20.05	23.18	18.93	10.9	12.95	3.84	-18.68
Andhra Pradesh	15.13	20.28	22.71	22.04	22.15	22.24	9.62	9.62	85.86	129.33	14.7
Chhattisgarh	0.08	0.07	0.07	0.07	0.03	0.04	0.09	0.1	0.11	0.12	6.01
Telangana	1.12	0.43	0.99	1.24	0.5	0.62	0.45	0.15	0.33	0.05	-22.51
West Bengal	0.63	0.63	0.65	0.7	0.56	0.52	0.55	0.54	0.68	0.68	-0.304

Source: www.indiastat.com

Table 3 show the state-wise production of jasmine from 2015–2016 to 2024–2025. Tamil Nadu remained the leading producer throughout the study period. The production increased from 130.07 thousand metric tonnes in 2015–2016 to 175.75 thousand metric tonnes in 2024–2025, despite minor fluctuations during the years. Karnataka recorded a production of 36.92 thousand metric tonnes in 2015–2016. However, production declined continuously over the years, reaching 3.84 thousand metric tonnes in 2024–2025. In Andhra Pradesh, jasmine production increased from 15.13 thousand metric tonnes in 2015–2016 to 129.33 thousand metric tonnes in 2024–2025, although slight fluctuations were observed during the middle years. Chhattisgarh maintained a very low level of jasmine production throughout the study period. The production increased from 0.08 thousand metric tonnes in 2015–2016 to 0.12 thousand metric tonnes in 2024–2025. The production of jasmine in Telangana showed a declining trend during the study period. It decreased from 1.12 thousand metric tonnes in 2015–2016 to 0.05 thousand metric tonnes in 2024–2025, despite minor fluctuations in some years. In West Bengal, jasmine production remained relatively stable throughout the study period. It increased marginally from 0.63 thousand metric tonnes in 2015–2016 to 0.68 thousand metric tonnes in 2024–2025. Based on the Compound Growth Rate (CGR), Andhra Pradesh recorded the highest positive growth in production (14.70 per cent), followed by Chhattisgarh (6.01 per cent) and Tamil Nadu (4.75 per cent), indicating an increasing trend in jasmine production during the study period.



Table.4 Productivity of jasmine in important states in India from 2013-2014 to 2023-2024

(Tonnes /hectare)

State's / Union Territory	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	CGR Value
Tamil Nadu	10.33	9.55	8.86	8.97	9.03	10.47	10.39	10.42	10.06	10.23	1.02
Karnataka	6.38	6.3	6.57	6.41	6.71	7.41	6.74	6.69	7.99	6.73	1.51
Andhra Pradesh	5.53	6.56	5.68	6.01	6	5.99	2.5	2.5	10.99	11.49	2.11
Chhattisgarh	1.6	1.75	1.75	1.75	1.5	2	3	3.33	3.67	3	10.15
Telangana	3.29	2.87	4.71	4.13	2	3.26	2.37	3	4.13	2.5	-2.01
West Bengal	1.37	1.37	1.3	1.35	1.08	0.98	1.04	1.04	1	1	-4.17

Source: www.indiastat.com

The state-wise productivity of jasmine from 2015–2016 to 2024–2025 showed varying trends among the major jasmine-producing states in India. Tamil Nadu recorded the highest productivity throughout the study period, with productivity changing from 10.33 metric tonnes per hectare in 2015–2016 to 10.23 metric tonnes per hectare in 2024–2025. Karnataka recorded a marginal increase from 6.38 to 6.73 metric tonnes per hectare, while Andhra Pradesh showed a substantial increase from 5.53 to 11.49 metric tonnes per hectare. Chhattisgarh also improved from 1.60 to 3.00 metric tonnes per hectare, whereas Telangana and West Bengal recorded declining productivity during the study period. Based on the Compound Growth Rate (CGR), Chhattisgarh recorded the highest positive growth (10.15 per cent), followed by Andhra Pradesh (2.11 per cent), Karnataka (1.51 per cent), and Tamil Nadu (1.02 per cent), indicating an overall improvement in productivity in these states.



Table 5 Area, Production and Productivity of Jasmine in Tamil Nadu from 2015-2016 to 2024-2025

Year	Area (in 000 hectare)	Production (in 000 tonnes)	Productivity (tonnes/hectare)
2015-2016	12.59	130.07	10.33
2016-2017	13.74	131.25	9.55
2017-2018	13.61	120.59	8.86
2018-2019	14.07	126.21	8.97
2019-2020	13.4	121.01	9.03
2020-2021	16.26	180.67	11.11
2021-2022	17.11	177.73	10.39
2022-2023	16.04	167.19	10.42
2023-2024	17.1	172.05	10.06
2024-2025	17.17	175.75	10.23
CGR	1.71	2.32	0.61

Source: www.indiastat.com

Table 5 presents the area, production, and productivity of jasmine in Tamil Nadu from 2015–2016 to 2024–2025. The area under jasmine cultivation increased from 12.59 thousand hectares in 2015–2016 to 17.17 thousand hectares in 2024–2025, despite minor fluctuations. Similarly, production increased from 130.07 thousand tonnes to 175.75 thousand tonnes during the study period. Productivity also showed slight improvement, increasing from 10.33 tonnes per hectare in 2015–2016 to 10.23 tonnes per hectare in 2024–2025, with fluctuations in the intervening years. The Compound Growth Rate (CGR) was positive for area (1.71 per cent), production (2.32 per cent), and productivity (0.61 per cent), indicating an overall increasing trend in jasmine cultivation in Tamil Nadu.

CONCLUSION

The study revealed that jasmine cultivation in India had fluctuations in area and production during the study period, while productivity showed a consistent improvement. Tamil Nadu remained the leading producer of jasmine due to climatic condition, recording the highest area, production, and yield, whereas Andhra Pradesh showed notable growth and Karnataka experienced a declining trend. The positive growth in jasmine cultivation highlights its economic importance and emphasizes the need for government policy support to ensure sustainable growth and enhance farmers' income.

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