

# Trends in Production and Export of Rose in India

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## Abstract

*Floriculture is the art and knowledge of growing flowers to perfection. It deals with the cultivation of flowers and ornamental crops from the time of planting to the time of harvesting. Over 140 countries are engaged in floriculture production. In India floriculture is considered as a sunrise industry and gives it 100 per cent export-oriented status. Total area under floriculture in India is the second largest in the world and only next to China. Rose has ever been the world's most beautiful nature's creation. Rose is symbol of love, adoration and innocence and friendship. Perfume industries and pharmaceutical sector depends upon it. A large quantity of rose is used for decoration purpose. This study aims to probe out the growth in production and export performance of rose from India and its trend over the years. It also estimates the future export and production for the next ten years. The data used for the analysis is fully based on secondary sources and the period selected for the present study was from 2011-2012 to 2020-2021. Major tools used were CGR, CAGR, Standard Deviation and Simple Linear Trend Equation. It turned out that the trend in rose production and export shows negative in India for the period 2011-12 to 2019-20.*

**Keywords:** Floriculture, Production, Rose, Export, Trend, Forecast

## Introduction

Floriculture is one of the main branches of horticulture, in addressing flower and ornamental plant cultivation and propagation of flowering plants for gardens, greenhouses, nurseries and landscapes comprising the floral industry. Floriculture crops include bedding plants, houseplants, flowering gardens and potted plants, cut cultivated greens, and cut flowers. Floriculture is the art and knowledge of growing flowers to perfection. It deals with the cultivation of flowers and ornamental crops from the time of planting to the time of harvesting. In worldwide almost 140 countries engaged with floriculture production. Floriculture is a highly competitive and fast-growing industry. Flowers are inseparable from the social fabric of human life. Flowers are beautiful God's creation suits all occasions, be it birth, marriage or death. Flowers used to be of little economic importance. With the constant introduction of new breeders and new plants, cultivation techniques are changing and therefore new products are being developed.

Ornamental crop growing technology is improving with the availability of equipment and there is a sea change in consumer trends. New generations of producers are leading the way, using modern technologies to maximize production and offer quality products that consumers accept, thus getting a better price. Karnataka, Tamil Nadu, Bihar, Uttar Pradesh, west Bengal, Maharashtra, Haryana, Gujarat, Punjab, Jammu and Kashmir, Madhya Pradesh and Andhra Pradesh are the major rose farming states.

India has known floriculture as a sunrise industry and accorded it 100 percent export-oriented status. According to horticulture crop 2018-2019, the total area under covered was 303 thousand hectares. Total area under floriculture in India is second largest in the world and only next to China. Production of flowers was estimated to be 2910 thousand MT of which loose flower accounted to 2263 thousand MT and cut flowers to 647 thousand MT. The Indian floriculture market was worth INR 157 billion in 2018. The market is further projected to reach INR 472 billion by 2024, growing at a CAGR of 20.1 % during 2019-2024.

Rose is the most preferred flower in the international market. India has very high potential for export of cut flowers. Rose has ever been the World's most favourite and unchallenged queen of flowers is undoubtedly one of the most beautiful nature's creations. Perfume industry and pharmaceutical sector depends upon it. A large quantity of rose is used for decoration purpose. A strong increase in the demand for cut and loose flowers has made floriculture as one of the important commercial trades in Indian agriculture. India ranks first by contributing 46.54 per cent area under the cut roses in the world. Rose is the largest trading flower all over the world. India ranked 16th position in the export of rose in 2006 with a sale of about 1.4 million US dollars accounting for 1.05 percent of world's trade. In India, rose is grown in open field conditions using traditional technologies and under greenhouse conditions using advanced technologies. In the traditional method of rose production, most of the single flowers were produced for local markets. These flowers were classified into stems based on the length of the stem.

**Review of Literature**

Bhagat et. al., (2019) in their study on the economic analysis for export of fresh cut rose flowers from India is undertaken to understand the pattern of export of cut roses in India and to ascertain the major cut roses producing, exporting and importing countries, growth in area, production and productivity of cut roses and to analyses the trends in country wise export of cut roses from India. Tanwar (2018) in his study was conducted in Pushkar Sub-Tehsil

of Ajmer, Rajasthan. This study was undertaken to examine the constraints to rose production and marketing. The finding of the study suggested some value chain activities as development of long stem, high price level, rose market in Pushkar is much unorganized, lack of new technologies, cheap loan facilities and create values in rose production.

**Objectives**

Following are the major objectives of the study;

- To analyze the trends in production and export performance of rose in India.
- To estimate the rose production and export from India for next 10 years.

**Scope for Study**

This study paves way to understand the progress of production as well as export of rose in India and its growth. Also, it helps us to estimate the future production and export for the upcoming years and to formulate effective plans.

**Methodology**

Secondary sources of data are used for the analysis for a period of 2011-12 to 2020-21 which was taken from various sources viz. published, unpublished and government websites. The tools used for analysis are CGR (Compound Growth Rate), CAGR (Compound Annual Growth Rate), Standard deviation, Range and Linear Trend Analysis.

**Result and Discussion**

**Table 1 Rose Production in India during 2011-12 to 2020-21**

Year	Production
2011-2012	19822.52
2012-2013	19822.52
2013-2014	262.55
2014-2015	212.67
2015-2016	301.95
2016-2017	377.21
2017-2018	368.55
2018-2019	382.62
2019-2020	430.46
2020-2021	498.23

CGR	-28.87
CAGR	-34%
SD	8208.93
MEAN	4247.93
CV	193.25

Source: Computed Data

Table 1 shows the rose production in India during 2011-12 to 2020-21. The production of rose showed a decreasing trend from 19822.52 million tonnes in 2011-12 to 498.23 million tonnes. The Compound Growth Rate of the rose production was negative at -28.87 per cent.

**Table 2 Export of Rose from India during 2011-12 to 2020-21**

Year	Quantity (in Metric Tonnes)	Value Rs. in Lakhs)
2011-2012	596.97	805.25
2012-2013	461.74	1712.36
2013-2014	211.63	724.96
2014-2015	34.7	178.95
2015-2016	23.6	117.7
2016-2017	29.15	141.45
2017-2018	41	219.36
2018-2019	45.89	329.93
2019-2020	17.05	365.88
2020-2021	22.92	97.03
CGR	-30.22	
CAGR	-30%	
SD	211.124	
MEAN	148.47	
CV	142.20	

Source: Computed Data

Table 2 shows the export of rose from India during 2011-12 to 2020-21. The export of rose from India shows a negative growth rate during the reference period of the study. The export was lowest in the year 2019-20. While in 2011-12, it was relatively highest. The Compound Growth Rate of rose export from the country was negative at -30.22.

**Table 3 Forecast of Rose Production in India from 2021-22 to 2030-31**

Year	Actual Production	Trend
2011-2012	19822.52	12662.10
2012-2013	19822.52	10792.29
2013-2014	262.55	8922.47
2014-2015	212.67	7052.65
2015-2016	301.95	5182.84
2016-2017	377.21	3313.02
2017-2018	368.55	1443.20
2018-2019	382.62	-426.61
2019-2020	430.46	-2296.43
2020-2021	498.23	-4166.25
2021-2022		-6036.06
2022-2023		-7905.88
2023-2024		-9775.70
2024-2025		-11645.52
2025-2026		-13515.33
2026-2027		-15385.15
2027-2028		-17254.97
2028-2029		-19124.78
2029-2030		-20994.60
2030-2031		-22864.42

Source: Computed Data

It is evident from table 3 that the rose production in India has been forecasted shows a decreasing trend in production of rose for the next 10 years from 2021-22 to 2030-31 i.e., -6036.06 million tonnes to -22864.42 million tonnes respectively. The movement of trend for the rose production has depicted in the figure 1 clearly.

$$\text{Production} = 14531.92 + -1869.82(t1 \dots n) + i$$

$$R2 = 0.47$$

Where, t = time

n = No. of years

i = error term

**Table 4 Forecast of Rose Export from India during 2020-21 to 2029-30**

Year	Actual Export	Trend
2011-2012	596.97	396.20
2012-2013	461.74	341.15

2013-2014	211.63	286.09
2014-2015	34.7	231.04
2015-2016	23.6	175.99
2016-2017	29.15	120.94
2017-2018	41	65.89
2018-2019	45.89	10.84
2019-2020	17.05	-44.22
2020-2021	22.92	-99.27
2021-2022		-154.32
2022-2023		-209.37
2023-2024		-264.42
2024-2025		-319.47
2025-2026		-374.53
2026-2027		-429.58
2027-2028		-484.63
2028-2029		-539.68
2029-2030		-594.73
2030-2031		-649.78

**Source:** Computed Data

Table 4 showing the forecast of rose export from India during 2021-22 to 2030-31 has a decreasing trend in the export of rose from India for the next 10years from 2021-22 to 2030-31 i.e., -154.32 million tonnes to -649.78 respectively. This has been clearly depicted in the figure 2.

$$\text{Export} = 451.2493 + -55.0517 (t1 \dots n) + i$$

$$R^2 = 0.62$$

Where, t = time

n = No. of years

i = error term

### Conculsion

India has a protracted floriculture records and flower developing is an age antique enterprise. In which it has inadequacy of commercialism. 45 per cent of world's cut rose production is from India. Major production of cut roses in India are West Bengal, Karnataka, Gujarat, Chhattisgarh, Maharashtra, Uttar Pradesh, Tamil Nadu, Madhya Pradesh, Andhra Pradesh and Orissa. The production of rose showed a decreasing trend from 1982.52 million tonnes in 2011-12 to 498.23 million tonnes in 2020-21. The export of rose from India shows a negative growth rate during the reference period of

the study. The rose production in India has been forecasted shows a decreasing trend in production of rose for the next 10 years from 2021-22 to 2030-31.

India has exported the bigger portions of cut roses to the international locations wherein minimal charge is fetched and on the different hand the international locations wherein maximum fees had been fetched, the cut rose's exports had been marginal in these international locations. Thus, there may be a want to divert the cut rose's exports to different international locations paying extra charge. Hence, right marketplace intelligence on floriculture trade must be undertaken at domestic and international stage to sustain rose manufacturing and exports in the long-run.

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