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Growth status and variability in production of major commercial flowers in Ratlam district of Madhya Pradesh

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Abstract

Floriculture is the study of growing and marketing flowers and foliage plants. Which includes farming of flowering and ornamental plants for sales or for use as raw materials in cosmetic, aroma industries and the pharmaceutical sector. Thus a commercial activity, the person associated with this field is called floriculturists. Floriculture has turned into a part of farmer's agriculture activity having massive potential for generating self-employment among small and marginal farmers (Bahirat & Jadav 2011). The result shows the trend was found positive for the area in aster and navranga flowers. It was found positive in production of aster and gladiolus. In regard to the productivity, it was found positive in rose and navranga flowers. SGR in the area was observed positive for tube-rose, aster and navranga flowers. For production, it was positive in only aster flower. In regard of the productivity, it was found positive for rose and navranga flowers. Regarding variability in area more variation was observed in chrysanthemum (CV=103%). In the case of production, it was more in gladiolus (CV=125.60%) and for productivity, it was found more in gladiolus (CV= 103.4%).

Keywords: Growth status, production, major commercial, Ratlam

Introduction

Floriculture is one of the important branch of Horticulture and it refers to the cultivation of flowers and ornamental plants for use as raw material or direct sale in the market. Floriculture is also called as farming of flowers, the person who is connected with this field is called floriculturist. Worldwide approx 140 countries are engaged with commercial floriculture. In India, total flower area was 733 thousand hectares with the production of 1659 thousand tones. India's total export of floriculture was INR 507.31 crores in 2017-18. The Indian floriculture market was INR 157 billion in 2018. The market in further projection to reach INR 472 billion by 2024. Now flowers are commercially cultivated in several states of India i.e. Tamil Nadu, Karnataka, West Bengal, Madhya Pradesh, Gujarat, Andhra Pradesh, Haryana, Assam and Chhattisgarh.

Floriculture can be a better source for doubling farmer's income especially small and marginal marigold flower growers with minimum resources. There is a wide gap between demand and supply of flowers in India. Flowers are very intimately associated with social and religious activities in India. Due to the enhanced demand of the loose flower, bouquet, garland and wreaths, the cultivation of flowers nowadays is a big concern. In Madhya Pradesh, the flowers are raised in various districts under the different agro-climatic zone. The importance of floriculture industries, growth status and variability in production of commercial flowers was estimated in Ratlam district of Madhya Pradesh.

Method and material

The major commercial flowers in Ratlam district are Rose, Tube Rose, Aster, Navranga, Gladiolus and Chrysanthemum. To get a comprehensive picture of growth status and variability in area, production and productivity of major commercial flowers, time series secondary data for the period of ten years were collected. The source of the data was secondary in nature and was mainly collected from the district horticulture department of Ratlam.

All the collected secondary data was related to the agriculture years from 2008-09 to 2017-18.

Analytical tools

Trend analysis and growth rate: To study the trend analysis of major commercial flowers in Ratlam district of Madhya Pradesh, the trend analysis was carried out using the least-square method. The following linear regression equation was used.

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$$Y = a + b_1x_1$$

Where,
 Y = Dependent Variable (Area, Production and Yield)
 a = Constant
 b₁ = Reg. Coefficient or Trend value
 X₁ = Independent Variable (year)

$$SGR = b/\bar{y} \times 100$$

Where,
 b = Reg. coefficient
 $\bar{Y} = \sum y/n$

Absolute Change: Y_{n0}-Y₀
Relative Change: Y_n-Y₀-Y_n X 100
 Where,
 Y_n= Average of the last three years

(Variate: area production / productivity)

Y₀= Average of the beginning (Base) three years of concerned variable.

Measure of variability

To measure the extent of variability in area, production and productivity of major commercial flower, the coefficient of variation were calculated by using the following formula.

$$C.V. = S.D. / \bar{x} * 100$$

Where,
 \bar{x} = Mean value of the variate
 S.D. = Standard deviation of the variate

Result and Discussion

Table 1: The flower wise absolute change, relative change and CV of area, production and productivity in Ratlam district of Madhya Pradesh.

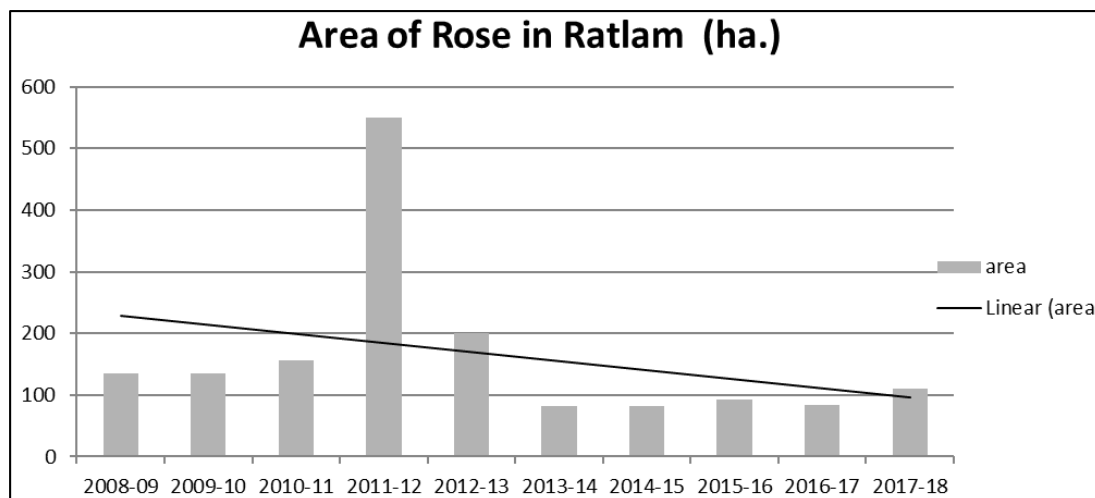
Name of flowers	Area			Production			Productivity		
	AC	RC (%)	CV (%)	AC	RC (%)	CV (%)	AC	RC (%)	CV (%)
Rose	-47	-33.1	87.06	-159	-28.94	87.02	385.47	10.35	4.38
Tube-rose	-57.3	-68.5	50.73	-775.3	-79.58	61.10	-4480.2	-38.47	24.86
Aster	91.33	125.11	39.46	1095	201.91	59.54	-980	-13.20	20.48
Chrysanthe- mum	-286	-86.40	103	-3221.6	-88.38	110.45	-933.53	-9.03	14.66
Navranga	33.67	64.74	30.17	-465	-36.83	51.39	12432	51.19	87.92
Gladiolus	-30	-64.29	48.38	-903.6	-89.77	125.69	-16146.3	-72.6	103.4

Area = Ha, Production = MT, Productivity = Kg/ha.

The disparities in area, production and productivity of commercial flowers are mainly determined by absolute, relative change and CV over a period of time. As observed, absolute change in area was found positive for aster and navranga. It was negative for rose, tube-rose, chrysanthemum and gladiolus. In the case of production, absolute change was found positive only in aster and for remaining all it was observed negative. For productivity, the absolute change was found positive in rose and aster while it was found negative for remaining all flowers. The same trend was observed in case of relative change.

For CV, the flower wise variability in area was found higher for chrysanthemum (C.V. = 103) followed by rose (C.V. =

87.06%), tube-rose (C.V. = 50.73%), gladiolus (C.V. = 48.38%), aster (C.V. =39.46 %) and navranga (C.V. = 30.17%) respectively. As observed, variability in production of commercial flowers found higher for gladiolus (C.V. =125.69) followed by chrysanthemum (C.V. = 110.45), rose (C.V. =87.02), tube-rose (C.V. =61.10), aster (C.V. = 59.54) and navranga (C.V. = 51.39) respectively. While, variability in productivity of commercial flowers was found higher for gladiolus (C.V. = 103.4) followed by navranga (C.V. = 87.92), tube-rose (C.V. = 24.86), aster (C.V. = 20.48), chrysanthemum (C.V. = 14.66) and rose (C.V. = 4.38) respectively.



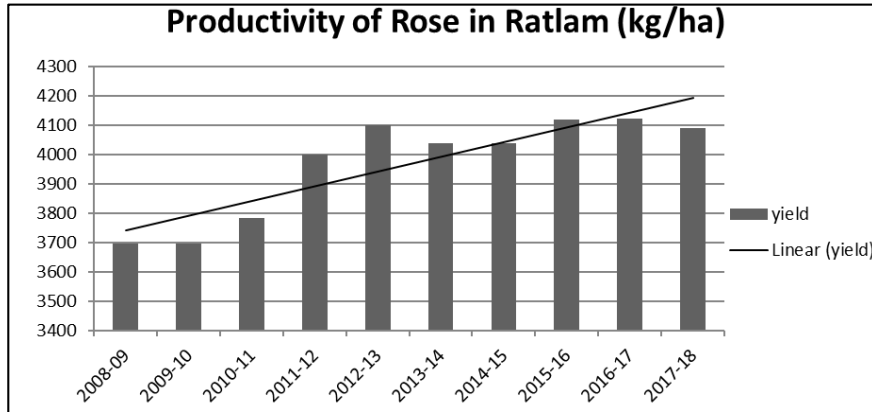
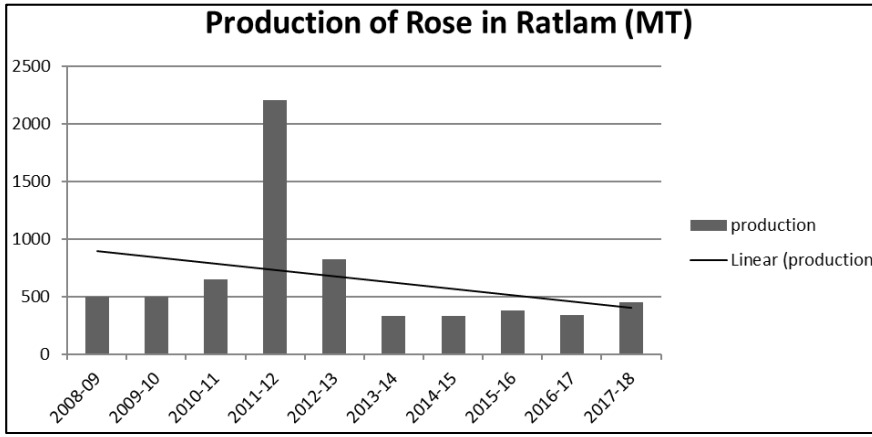
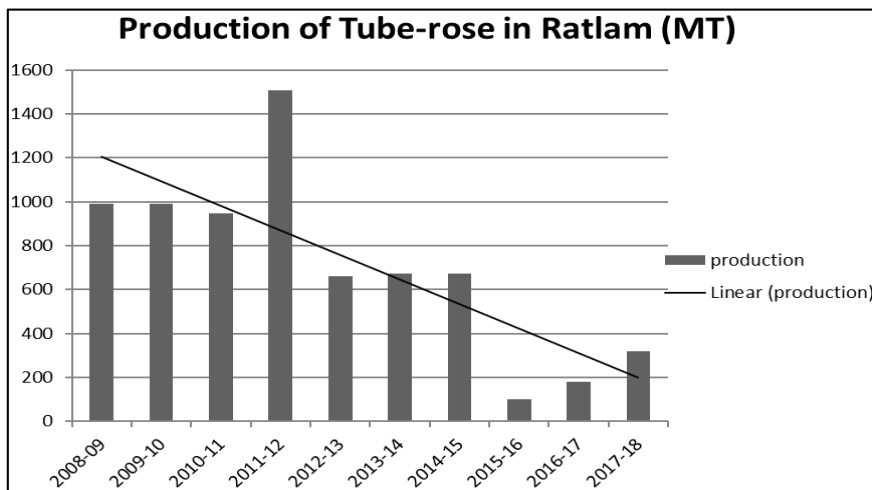
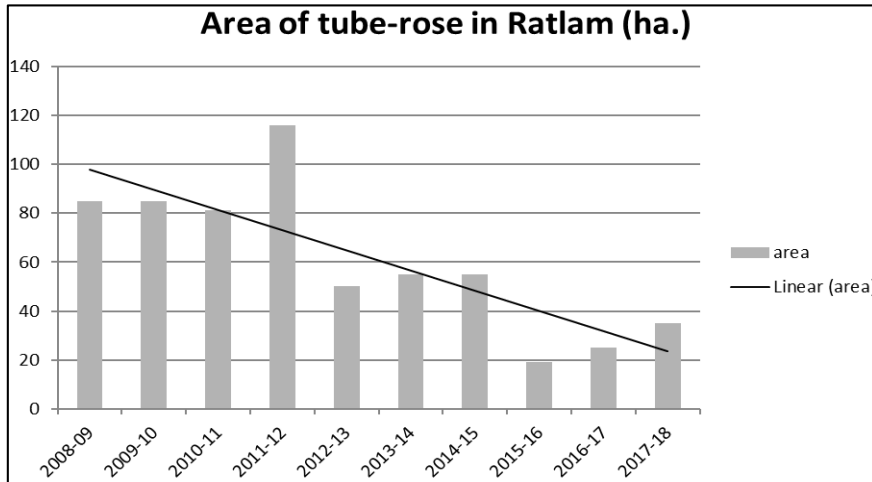


Fig 1: Trend analysis of Rose in Ratlam.



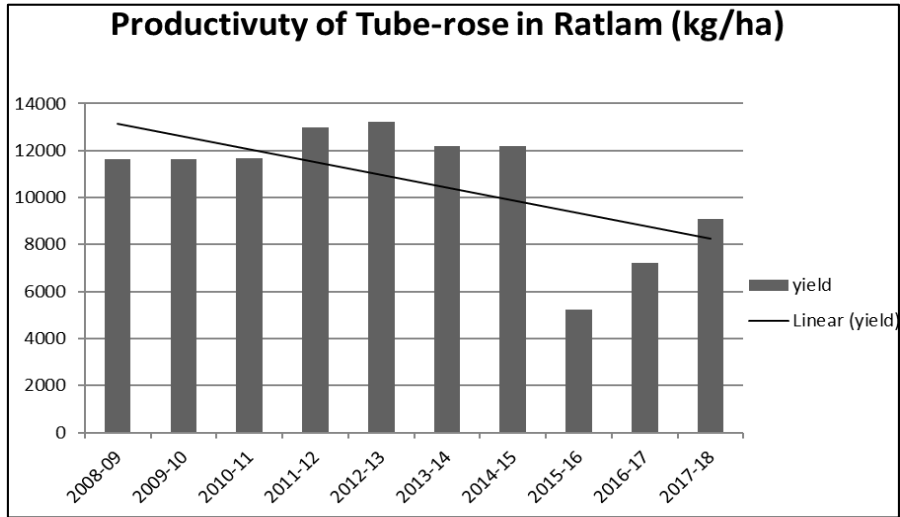


Fig 2: Trend analysis of Tube-rose in Ratlam

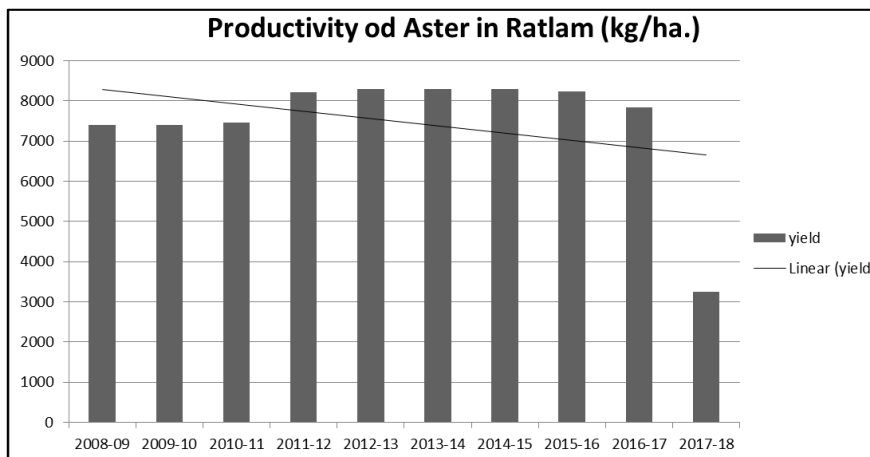
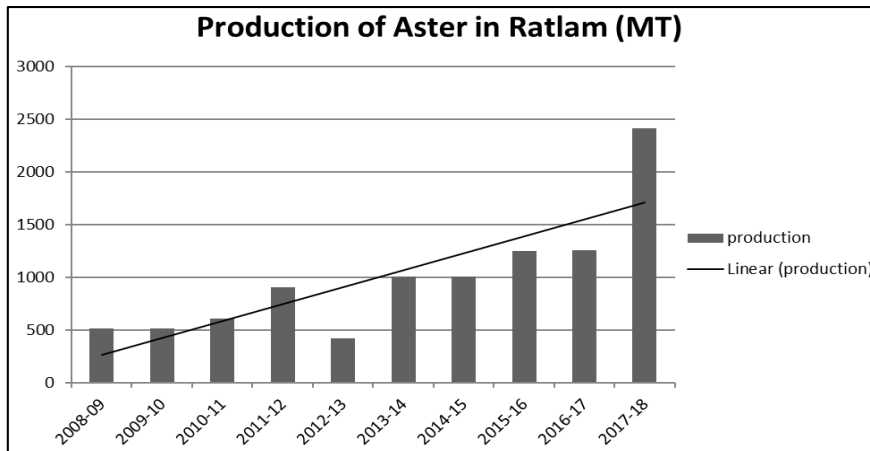
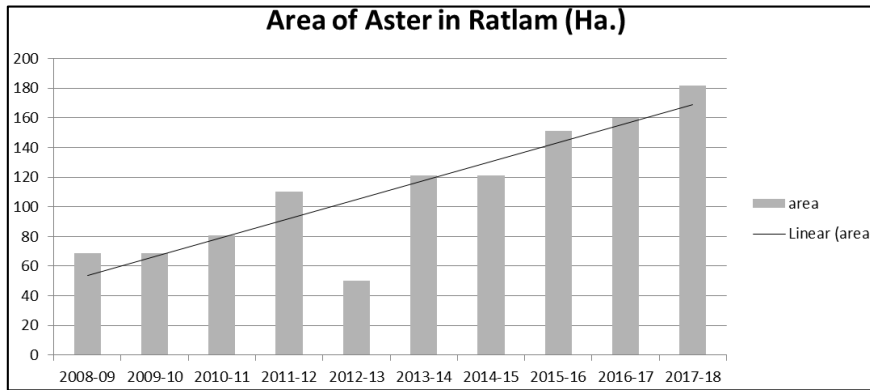


Fig 3: Trend analysis of Aster in Ratlam

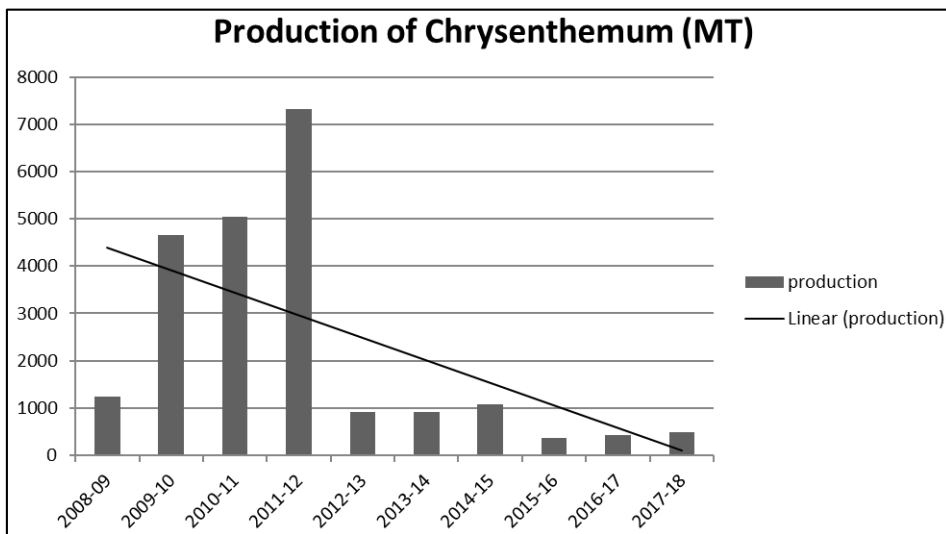
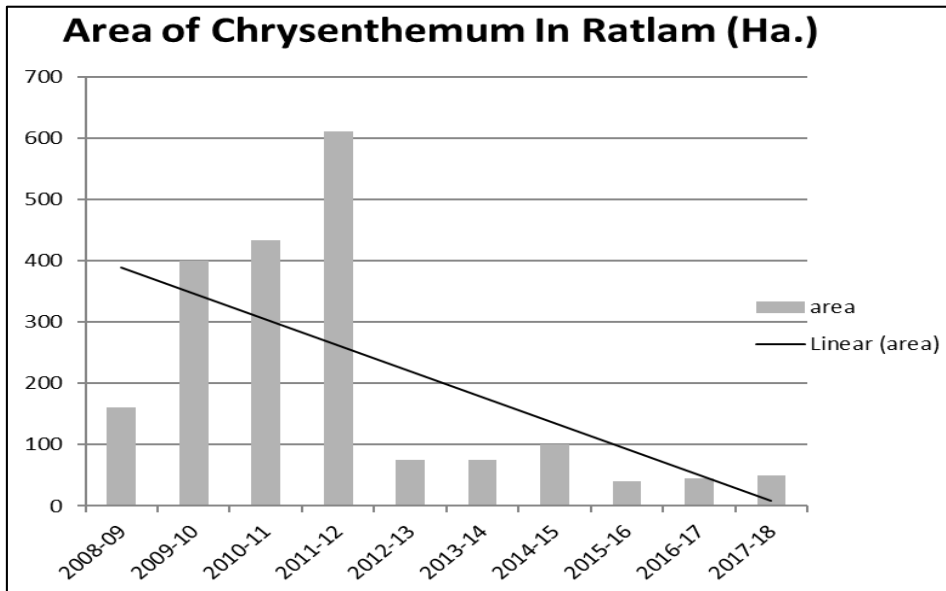
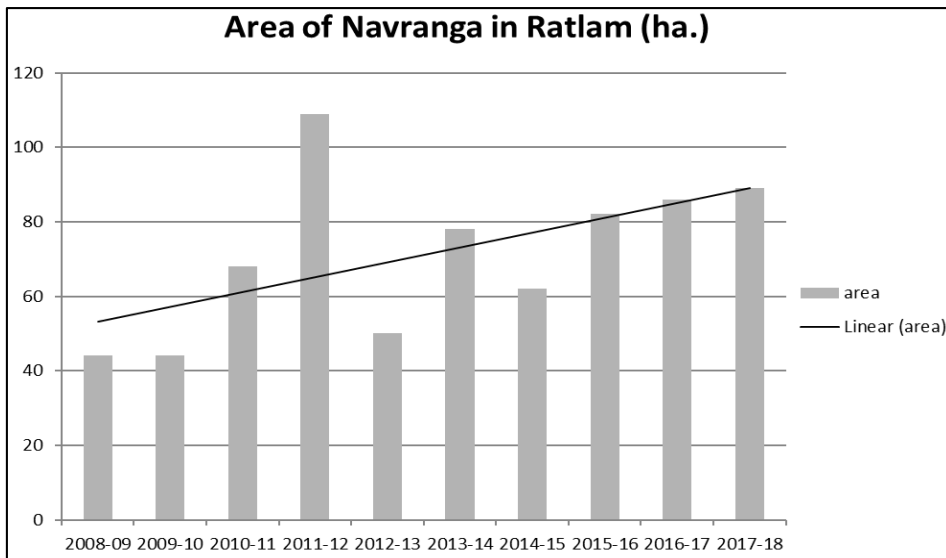


Fig 4: Trend analysis of Chrysanthemum in Ratlam.



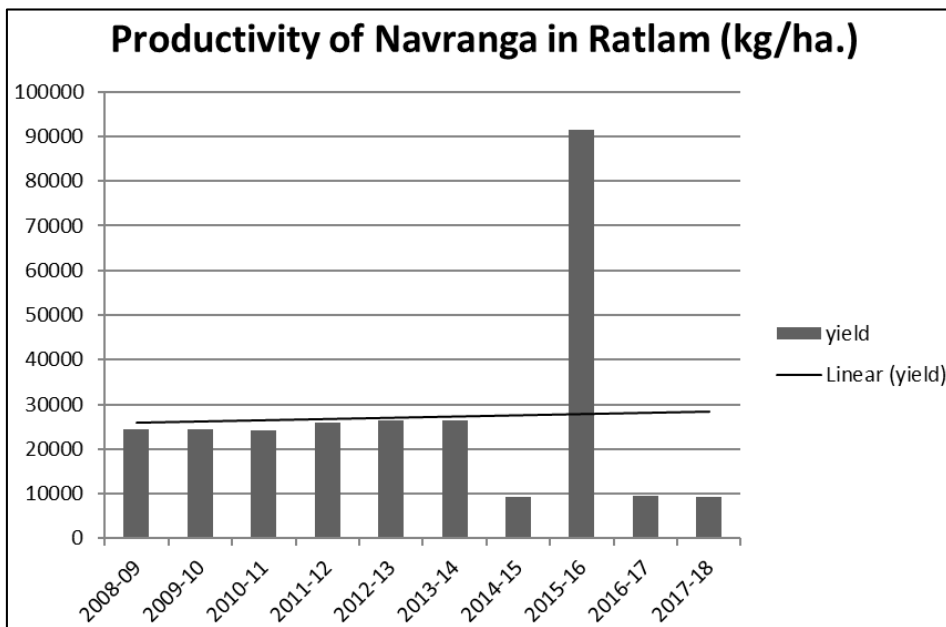
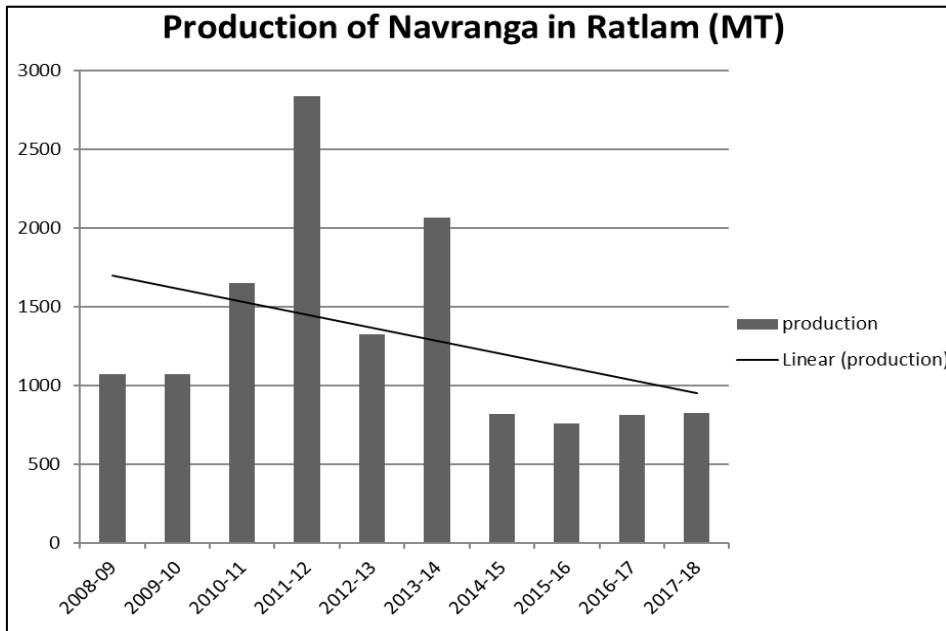
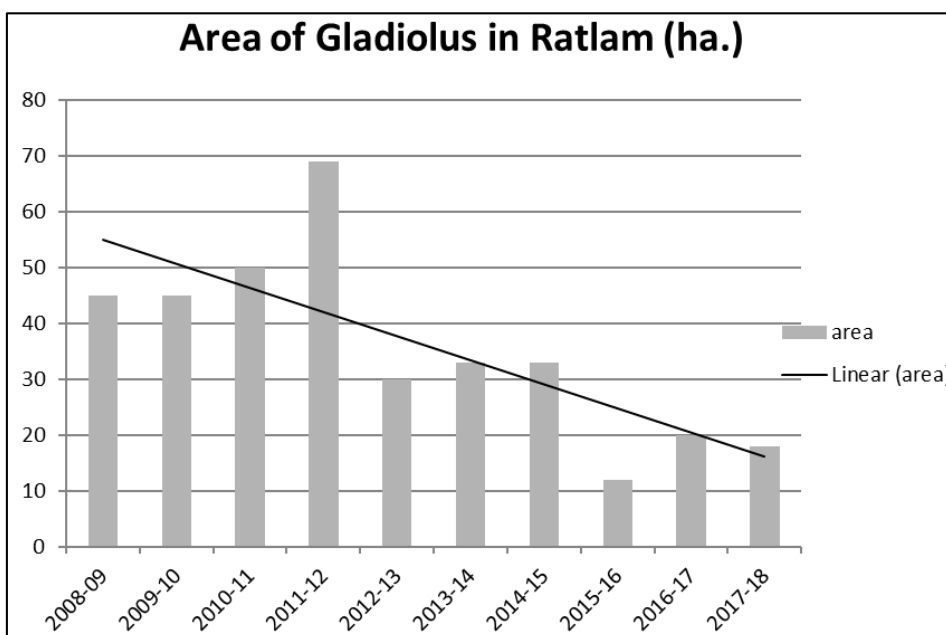


Fig 5: Trend analysis of Navranga in Ratlam



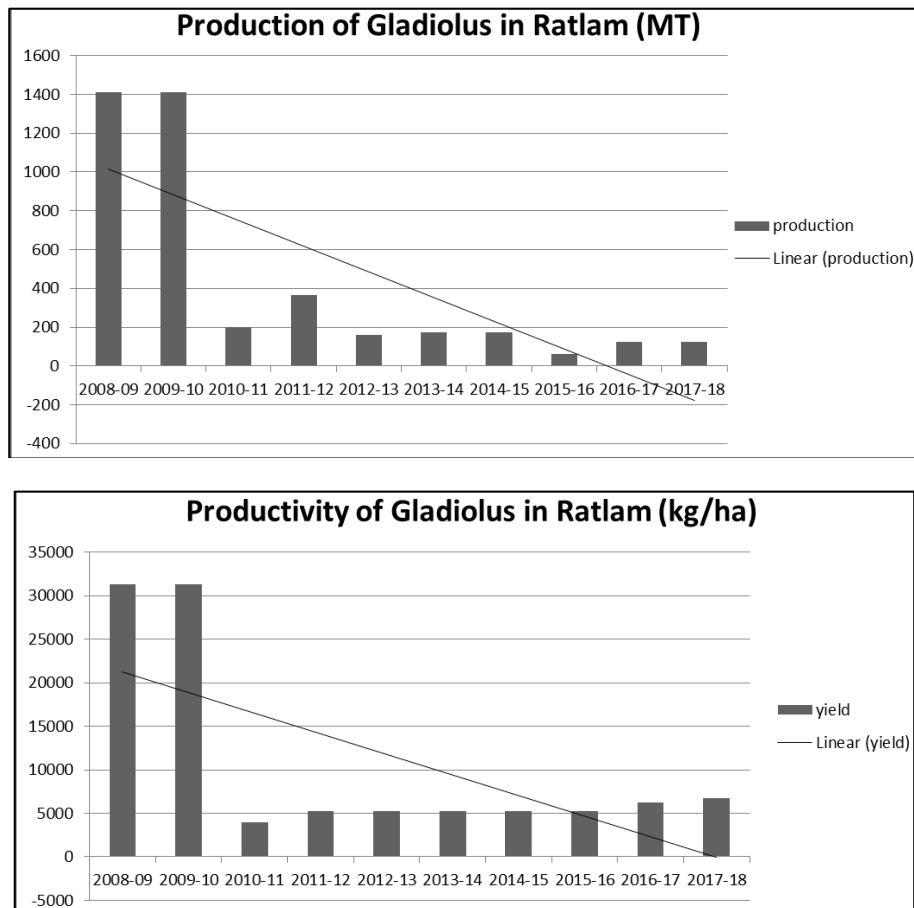


Fig 6: Trend analysis of Gladiolus in Ratlam

Table 2: The flower wise trend and simple growth rate of area, production and productivity of marigold flower are presented in below tables.

Name of flowers	Area			Production			Productivity		
	Constant (a)	Reg. coefficient (b)	SGR (%)	Constant (a)	Reg. coefficient (b)	SGR (%)	Constant (a)	Reg. coefficient (b)	SGR (%)
Rose	243.53	-14.73	-9.07	1019.6	-57.65	-8.86	3623.35	53.84***	1.36
Tube-rose	105.87	-8.23	13.58	1462.6	-118.70	-16.88	14421	-580.8	-5.43
Aster	41.13	12.78***	11.47	-26.92	158.35***	16.05	8406.3	-145.9	-1.95
Chrysanthemum	431.13	-42.24	-21.25	5470.5	-504.19	-22.47	11188.3	-85.32	-0.80
Navranga	49.33	3.98	5.58	1872.	-85.90	-6.50	23594.1	551.31	2.03
Gladiolus	59.27	-4.32	-12.17	1333.5	-142.77	-34.01	27076.2	-2575.5	-24.31

Area = Ha. Production = MT, Productivity = Kg/ha.

*** denote 1 percent level of significance.

Table 2 shows the trend value and SGR of area, production and productivity of commercial flowers in Ratlam district. The slope value (b) of the area was found positive for aster (highly significance) and navranga. A negative slope was observed for remaining commercial flowers. Regarding the production, the slope value (b) was found positive for aster with high significance and the negative slope was observed for all remaining flowers. While in the case of productivity, the trend value was found positive for rose (highly significant) and navranga. A negative slope was found for all remaining commercial flowers.

SGR for the area was found positive for tube-rose, aster and navranga. Production was observed positive only for aster. While productivity was found positive for rose and navranga. Remaining all flowers in area, production and productivity was found negative growth rate.

References

1. Bahirat JB, Jadav HG. Identifying channels of marketing and price spread for rose in Satara district, Maharashtra.

International Research Journal of Agricultural Economics and Statistics. 2011; 2(2):219-222.

2. Patel, Vimal. Economic Analysis of Commercial Flower Cultivation in, 2017.
3. Khandwa district of Madhya Pradesh” Thesis of M.Sc. (Ag), RVSKVV.
4. <https://www.imarcgroup.com>
5. Visgwakarma, Rajeshwari. Study on Growth Rates, Profitability and Marketing Pattern of Marigold Flower in Chhindwara District of Madhya Pradesh Thesis of M.Sc. (Ag), JNKVV, 2013.
6. www.apeda.gov.com
7. www.vikaspedia.in