



# PERFORMANCE OF FLORIBUNDA ROSES FOR YIELD AND YIELD PARAMETERS UNDER NORTH EASTERN TRANSITIONAL ZONE OF KARNATAKA

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## Abstract

The field experiment was conducted at College of Horticulture Bidar, during the year 2015. Among the different genotypes, higher number of flowers per bunch was recorded (3.09, 4.06, 3.45, 7.14, 7.919 and 7.88 were recorded in V<sub>2</sub> (Cherishma). significantly longer duration and higher 100 flower weight, yield per plant and heacter of 11.68 days, 246.33 gm and 324.77 gm and 3.01 tonnes was recorded in V<sub>2</sub> (Cherishma). Whereas significantly shot duration of 9.00 days and 100 flower weight of 165.67 gm was noticed in V<sub>11</sub> (Yellow Babe) and significantly lower yield per plant and heacter of 164.27 gm and 1.52 tonnes was recorded in genotype V<sub>10</sub> (Vanish).

**Key words:** Floribunda roses, Genotypes and Yield parameters.

## Introduction

Roses belongs to the family *Rosaceae* and remains a major ornamental plant for cut flower trade all over the world. It is considered to be an ancient flower and scientists assume that the evolution of rose started 60 million years and originated in Asia. Rose is the most popular of all the flowers because of its beauty and fragrance and is called the “Queen of Flowers”. Roses are immensely important for landscaping and no garden is considered complete without roses. In India the total area under flower crops is estimated at 30.87 thousand ha for 2013-14 (NHB, 2014). Production of loose flowers is about 96.09 thousand tonnes and 166.47 thousand tonnes of cut flowers. In Karnataka the total area under flower crops is 27000 ha and production of cut flower was 50560 tonnes (NHB, 2014). Rose flowers without stalk and loose flower petals are used in traditional markets for making garlands, for offering in temple, while the cut roses with stalk mainly used for bouquets, interior decoration, religious and social functions and floral arrangement Beside floribunda rose stand to produce smaller flowers in clusters, although the individual flowers resemble the hybrid tea as in form. They are more often

used in beds for display than as cut flower. As the commercial cultivation of rose is gaining importance, introduction and identification of high yielding Floribunda roses genotypes is necessary. Hence, it is Urgent need to identify suitable Floribunda rose's genotypes for better quality under north eastern transitional zone of Karnataka

## Material and method

The experiment was conducted in the New College of Horticulture, Bidar which is situated in the north eastern transition zone i.e zone-II of region-I in Karnataka state. The location corresponds to 17°58'26" North latitude and 77°29'34" East longitude. The average annual rainfall is 722mm and is at an elevation of 389m above mean sea level (MSL). The experimental field was prepared to a fine tilth by deep ploughing and harrowing. The field was ploughed twice before one month of planting and farm yard manure was incorporated at the rate of @ 20 t ha<sup>-1</sup> at land harrowing and mixed well The experiment was laid out using RCBD with three replications and 11 genotypes, viz., V<sub>1</sub>- Aishwarya, V<sub>2</sub>- Cherishma, V<sub>3</sub>- Five Star, V<sub>4</sub>- Kelly, V<sub>5</sub>- Mirabel, V<sub>6</sub>- Orange Babe, V<sub>7</sub>- Palm D More, V<sub>8</sub>- Ruby Gon, V<sub>8</sub>- Ruby Gon, V<sub>9</sub>- Ruby Star, V<sub>10</sub>- Vanish and V<sub>11</sub>- Yellow Babe. The adopted spacing is 120 cm × 90 cm. The experimental plots were irrigated

immediately after the completion of transplanting. and gap filling operation was undertaken. All cultural practices have followed as per package of practices of UHS, Bagalkot. The observations *viz.*, Number of flowers per bunch, duration of flowering 100 flower weights, yield per plant and heacter. Were recorded and data was subjected for statistically analysis.

### Results and Discussion:

The data on the Number of flowers per bunch at different stages of crop growth (45, 105, 165, 225, 285 and 345 DAP) is presented in table 1.

Number of flowers per bunch differed significantly in different genotypes at various stages of growth. Among the different genotypes, higher number of flowers per bunch was recorded (3.09, 4.06, 3.45, 7.14, 7.919 and 7.88 were recorded in  $V_2$  (Cherishma) followed by  $V_5$  (Mirabel) 3.05, 3.13, 2.76, 6.86, 7.72 and 7.16 at 45, 105, 165, 225, 285 and 345 DAP respectively. Lower number of flowers per bunch was recorded in  $V_{10}$  (Vanish) of 32.38, 2.71, 2.14, 3.46, 4.19 and 4.62 at 45, 105, 165, 225, 285 and 345 DAP respectively. This result conforms the findings of Gharge *et al.* (2011) reported maximum number of shoots in carnation (*Dianthus caryophyllus* L.) Cv. Yellow Firato (7.64). Barooah and Talukdar (2009) observed maximum number of flowers per plant (26.00) in gerbera (*Gerbera jamesonii* Bolus ex Hooker F.) Cv. Red Gem followed by Cv. Popular (23.66) under open field conditions in Assam. Sloan and Harkness (2008) reported rose cultivars Funtasia mondiale, Masquerade and Penguin produced on an average 3-12 stems per plant per month. Fascella and Zizzo (2007) reported red rose Cv. Red France and Cv. Dallas gave the highest cut flower yield at 24.8 and 24.1 flowers per plant, respectively. Whereas, the rose Cv. Anastasia recorded higher number of stems (18.70 per plant) by Fascella and Zizzo (2005).

The data on the duration of flowering 100 flower weight, flower yield per plant and heacter are presented in table 2.

Among the different genotypes significantly longer duration and higher 100 flower weight, yield per plant and heacter of 11.68 days, 246.33 gm and 324.77 gm and 3.01 tonnes was recorded in  $V_2$  (Cherishma). Whereas significantly shot duration of 9.00 days and 100 flower weight of

**Table 1:** Performance of Floribunda roses for No. flowers/bunch under north eastern transitional zone of Karnataka.

Varieties	No. flowers/bunch					
	45 DAP	105 DAP	165 DAP	225 DAP	285 DAP	345 DAP
$V_1$ - Aishwarya	2.00	2.50	2.43	4.68	5.62	5.84
$V_2$ - Cherishma	3.09	4.06	3.45	7.14	7.91	7.88
$V_3$ - Five Star	2.00	2.73	2.33	5.38	6.32	6.54
$V_4$ - Kelly	2.85	3.11	2.00	5.50	6.44	6.65
$V_5$ - Mirabel	3.05	3.13	2.76	6.86	7.72	7.61
$V_6$ - Orange Babe	2.51	2.84	2.60	5.16	5.47	6.32
$V_7$ - Palm D More	2.94	3.44	2.72	4.08	5.02	5.24
$V_8$ - Ruby Gone	2.78	3.03	2.79	4.42	5.36	5.58
$V_9$ - Ruby Star	2.50	3.29	2.27	4.01	4.95	5.17
$V_{10}$ - Vanish	2.38	2.71	2.14	3.46	4.19	4.62
$V_{11}$ - Yellow Babe	2.74	3.67	2.93	3.53	4.47	4.68
<b>MEAN</b>	<b>2.37</b>	<b>2.80</b>	<b>2.31</b>	<b>4.60</b>	<b>5.36</b>	<b>5.58</b>
<b>SEm±</b>	0.32	0.40	0.33	0.36	0.40	0.39
<b>CD(0.05)</b>	0.95	1.18	0.99	1.07	1.19	1.15

**Table 2:** Performance of Floribunda roses for Yield and Yield parameters north eastern transitional zone of Karnataka.

Varieties	Duration of flowering (days)	100 flower weight (gm)	Total Yield of flowers per plants (gm)	Flower yield per ha (tonnes)
$V_1$ - Aishwarya	8.87	176.67	206.44	1.91
$V_2$ - Cherishma	11.68	246.33	324.77	3.01
$V_3$ - Five Star	10.73	235.08	283.60	2.63
$V_4$ - Kelly	9.87	181.33	241.60	2.24
$V_5$ - Mirabel	11.20	185.12	259.99	2.41
$V_6$ - Orange Babe	11.20	177.08	234.61	2.17
$V_7$ - Palm D More	8.33	240.75	322.72	2.99
$V_8$ - Ruby Gon	11.67	171.75	172.05	1.59
$V_9$ - Ruby Star	12.87	155.53	217.77	2.02
$V_{10}$ - Vanish	10.80	168.67	164.27	1.52
$V_{11}$ - Yellow Babe	9.00	165.67	219.16	2.03
<b>MEAN</b>	<b>9.74</b>	<b>176.21</b>	<b>220.71</b>	<b>2.04</b>
<b>SEm±</b>	0.74	11.92	20.81	0.19
<b>CD(0.05)</b>	2.21	35.16	61.39	0.56

165.67 gm was noticed in  $V_{11}$  (Yellow Babe) and significantly lower yield per plant and heacter of 164.27 gm and 1.52 tonnes was recorded in genotype  $V_{10}$  (Vanish). Similar results has been reported by Mahawer *et al.* (2010) observed minimum number of days for complete flower opening (6.30 DAB) in dahlia Cv. Korean Yellow. Shruti *et al.* (2004) recorded lowest number of days for floral development under shade net for gerbera Cv. Savannah., Nadeem *et al.* (2011) observed evaluated nine

cultivars and reported that maximum number of flowers (40) in *Rosa hybrida* Cv. Ice berg followed by Cv. Angel Face (31) and minimum number of flowers (9) in Cv. Autumn sunset. The maximum number of flowers per plant in dahlia Cv. NT pompon (60.40) was reported by Mahawer *et al.* (2010). Anil (2009) reported significant increase in number of flowers per plant per year was noticed with retaining 9 basal shoots in a plant followed by 7 basal shoots per plant in rose. Adnan and Atif (2005) reported the number of flowers produced per plant were 4.2, 3.0 and 2.7 in rose Cv. Gold Medal, Cv. Whisky Mac and Cv. Kardinal respectively. Shruti *et al.* (2004) observed the highest number of flowers per plant (12.11) in gerbera Cv. Savannah under shade net. Singh *et al.*, (1994) who observed that hybrid tea rose cv. Nurjehan produced maximum flowers per plant (58.8) and Mohanty *et al.* (2011) conducted an experiment in Orissa during 2006-2007 to study the comparative performance of rose varieties viz, Gladiator, largest flower bud (3.54 cm) and number of petals per plant (44.37). Mahawer *et al.* (2010) observed maximum flowering duration (90.73 days) and maximum freshness of flower (7.73 days) on plant under open field conditions in dahlia Cv. NT Pompon. Barooah and Talukdar (2009) reported maximum flowering duration in gerbera (*Gerbera jamesonii* Bolus ex Hooker F.) Cv. Red Gem (104.56 days) under open field conditions in Assam. Poornima *et al.* (2006) recorded the highest flower yield in China aster (*Callistephus chinensis* (L.) Ness) Cv. Shashank (9.51 tonne per ha) and least flower yield (5.03 tonnes per ha) produced in Cv. Poornima followed by Local type under hill zone of Karnataka. Peddilaxmi *et al.* (2008) observed maximum flower yield per plant with yellow coloured chrysanthemum Cv. Raichur (230.40 g) followed by Silper (146 g).

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