



# PERFORMANCE OF DIFFERENT FLORIBUNDA ROSE GENOTYPES FOR GROWTH PARAMETERS

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## Abstract

The field experiment was conducted at College of Horticulture Bidar, during the year 2015 to know Performance of Different Floribunda roses genotypes for growth parameters under North Eastern Transitional Zone of Karnataka Form the data, it was revealed that the significantly higher plant height (43.10, 52.70, 54.64, 55.56, 67.97 and 71.41 cm at 45, 105, 165,225, 285 and 345 DAP respectively) was observed in V<sub>6</sub> (Orange Babe). Whereas significantly lower plant height of 25.50, 30.77, 31.76, 34.35, 34.66 and 35.99 cm at 45, 105, 165,225, 285 and 345 DAP recorded in V<sub>10</sub> (Vanish). The significantly higher number of branches of 3.67, 5.00, 7.22, 7.79, 8.04 and 8.13 at 45, 105, 165,225, 285 and 345 DAP respectively was observed in V<sub>2</sub> (Cherishma).

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

## Introduction

Rose is one of the nature's beautiful creations, most popular cut flower and is universally acclaimed as the queen of flowers by Sappho, a poetess more than 2500 years ago. In India, the rose was referred in old Sanskrit literature as Tarunipushpa, Atimanjula, Simantika *etc* and was adorning not only the royal palaces but also the ashramas of saints. Rose flower crop is grown for varied uses like cut flowers and loose flower production, garden display as flower beds, standards, half standards and pot plants in landscaping, extraction of fragrances, perfumes and allied products from flowers.

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). So far, there was no research work done on the evaluation of Floribunda rose cultivars in this trace. Considering the importance and popularity of rose flowers both in domestic as well as international markets it is important to study the performance of Floribunda rose cultivars for their performance in North Eastern transition zone of Karnataka.

## Material and method

Field experiment was conducted during 2015 at College of Horticulture, Bidar. Light digging operation was done to loosen the soil for better aeration. 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>9</sub>-Ruby Star, V<sub>10</sub>-Vanish, 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.*, Plant height and Number of branches at different growth stages was recorded.

## Results and Discussion

### Plant height (cm) and Number of branches:

The data on the Plant height (cm) at different stages of crop growth *viz.*, 45, 105, 165,225, 285 and 345 DAP is presented in table 1.

The present investigation revealed that the significant variation among the 11 rose genotypes under NE Transition zone of Karnataka, which indicated the presence of significant genetic variability for plant height and number of branches are shown in Table 1 and 2 respectively.

Plant height of rose influenced significantly due to different genotypes at all the stages of growth (45, 105, 165, 225, 285 and 345 DAP). The significantly higher plant height (43.10, 52.70, 54.64, 55.56, 67.97 and 71.41 cm at 45, 105, 165, 225, 285 and 345 DAP respectively) was observed in V<sub>6</sub> (Orange Babe), followed by Genotypes V<sub>7</sub> (Palm D More) of 40.83, 50.33, 51.66, 52.88 and 61.89 cm at 45, 105, 165, 225 and 285 DAP. Whereas significantly lower plant height of 25.50, 30.77, 31.76, 34.35, 34.66 and 35.99 cm at 45, 105, 165, 225, 285 and 345 DAP recorded in V<sub>10</sub> (Vanish). These results were in accordance with Danyaei *et al.* (2012), Panwar *et al.* (2012), Zeinali *et al.* (2009) and Manjula (2005) in rose; Namitha *et al.* (2009) and Singh and Saha (2009) in marigold; Raghava *et al.* (1992) in chrysanthemum; Jhon *et al.* (2002), Misra and Saini (1990), Gowda (1989) and Lal *et al.* (1985) in *Gladiolus*. The increase in plant height could be due to rapid meristematic activity, probably due to rapid cell division and elongation during the tender growth stage (Sharova *et al.*, 1977). Variations for plant height was the varietal character (Kanamadi and Patil, 1993 and Behera *et al.* 2002) and higher nutrient uptake, especially nitrogen an important constituent of protoplasm and its favourable effect on chlorophyll content of leaves might have increased the synthesis of carbohydrates, amino acids etc from which phytohormones such as auxins, gibberellins, cytokinins and ethylene have been synthesized resulting in increased plant height (Maynard and David, 1987).

The number of branches rose influenced significantly due to different genotypes at all the stages of growth (45, 105, 165, 225, 285 and 345 DAP). The significantly higher Number of branches of 3.67, 5.00, 7.22, 7.79, 8.04 and 8.13 at 45, 105, 165, 225, 285 and 345 DAP respectively were observed in V<sub>2</sub> (Cherishma), followed by Genotypes V<sub>7</sub> (Palm D More) of 2.33, 3.87, 3.89, 5.63 and 6.69 at 45, 105, 165, 225, 285 and 345 DAP. Whereas significantly lower number of branches (2.33, 2.66, 3.00, 3.57, 4.05 and 4.37 at 45, 105,

**Table 1:** Performance of Floribunda roses for plant height under north eastern transitional zone of Karnataka.

Varieties	45 DAP	105 DAP	165 DAP	225 DAP	285 DAP	345 DAP
V <sub>1</sub> - Aishwarya	29.67	30.78	37.66	37.77	38.38	39.66
V <sub>2</sub> - Cherishma	29.72	41.22	41.66	42.22	43.00	44.11
V <sub>3</sub> - Five Star	34.78	48.44	57.89	63.88	65.00	<b>69.15</b>
V <sub>4</sub> - Kelly	34.77	35.88	40.44	41.77	43.33	52.44
V <sub>5</sub> - Mirabel	31.05	43.44	39.89	44.94	44.67	49.89
V <sub>6</sub> - Orange Babe	43.10	52.70	54.65	55.56	67.97	<b>71.41</b>
V <sub>7</sub> - Palm D More	40.83	50.33	51.66	52.88	61.89	<b>67.52</b>
V <sub>8</sub> - Ruby Gon	27.94	38.88	42.50	43.88	44.22	44.55
V <sub>9</sub> - Ruby Star	30.00	38.78	45.44	49.22	47.95	51.22
V <sub>10</sub> - Vanish	25.50	30.77	31.76	34.35	34.66	35.99
V <sub>11</sub> - Yellow Babe	36.77	40.89	41.77	43.11	45.00	48.11
<b>Mean</b>	<b>29.75</b>	<b>37.42</b>	<b>40.59</b>	<b>42.20</b>	<b>44.58</b>	<b>47.75</b>
<b>S.Em±</b>	2.00	2.13	2.81	3.93	2.29	4.42
<b>C. D. at (5%)</b>	5.92	6.30	8.31	11.60	6.77	13.06

**Table 2:** Performance of Floribunda roses for Number of primary branches under north eastern transitional zone of Karnataka.

Varieties	45 DAP	105 DAP	165 DAP	225 DAP	285 DAP	345 DAP
V <sub>1</sub> - Aishwarya	2.55	3.33	4.33	4.91	5.38	5.71
V <sub>2</sub> - Cherishma	3.67	5.00	7.22	7.79	8.04	<b>8.13</b>
V <sub>3</sub> - Five Star	2.33	3.33	3.88	4.46	4.94	5.26
V <sub>4</sub> - Kelly	2.42	3.11	3.33	3.91	4.38	4.71
V <sub>5</sub> - Mirabel	2.78	3.00	3.55	4.13	4.60	4.93
V <sub>6</sub> - Orange Babe	3.22	3.44	4.11	4.68	5.16	5.48
V <sub>7</sub> - Palm D More	2.33	3.87	3.89	5.63	6.37	<b>6.69</b>
V <sub>8</sub> - Ruby Gone	2.22	3.11	3.77	4.35	4.83	5.15
V <sub>9</sub> - Ruby Star	1.88	3.00	3.44	4.02	4.49	4.82
V <sub>10</sub> - Vanish	2.33	2.66	3.00	3.57	4.05	<b>4.37</b>
V <sub>11</sub> - Yellow Babe	2.44	3.22	3.66	4.24	4.72	5.04
<b>Mean</b>	<b>2.33</b>	<b>3.07</b>	<b>3.68</b>	<b>4.31</b>	<b>4.74</b>	<b>5.02</b>
<b>S.Em±</b>	0.20	0.29	0.35	0.39	0.396	0.382
<b>C. D. at (5%)</b>	0.60	0.88	1.04	1.16	1.17	1.12

165, 225, 285 and 345 DAP) recorded in V<sub>10</sub> (Vanish). the result conforms the findings of Tabassum *et al.*, 2002; Manjula, 2005; in rose, Gharge *et al.*, 2011; Singh *et al.*, 2013; in china aster.

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