

Original Research Article

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Varietal performance of Banana under Achalpur condition of Amravati district of Maharashtra State, India

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ABSTRACT

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An experiment was conducted at Agriculture Research Station, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Achalpur (M.S.) India to select best suited variety for commercial cultivation under Achalpur condition of Amravati district of Maharashtra state during 2015-16 to 2017-18. Maximum plant height, stem girth, total number of leaves, length of fruit, girth of fruit, number of fruits per bunch, fruit weight, bunch weight and per hectare yield was recorded in Grand naine followed by Shreemanti and Basrai cultivar. Whereas, significantly minimum plant height, stem girth, number of leaves, length of fruit, girth of fruit, fruit weight, bunch weight and yield per hectare was recorded with the variety Pandhari Local.

Introduction

Banana is one of the most important fruit crops majorly grown in India. It is considered as “poor man’s apple”. In India, major producing states are Tamil Nadu, Maharashtra, Karnataka, Gujarat, Andhra Pradesh, Assam and Madhya Pradesh. Maharashtra being one of the important states in India growing banana particularly in Jalgaon district. Grand naine is the major variety under cultivation in Maharashtra state.

The area of Banana cash crop is increasing in Achalpur and Anjangaon Surji taluka of Amravati district of Maharashtra State. The choice of suitable variety is of paramount importance for successful commercial cultivation of banana. Some farmers also growing local variety in this area. Hence, with a view to find out suitable variety of banana under this condition, the present experiment was undertaken.

Materials and Methods

The experiment was conducted during 2015-16 to 2017-18 at Agriculture Research Station, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Achalpur on four varieties viz., Grand Naine, Shrimanti, Basrai and Pandhari Local which were planted in randomized block design (RBD) and replicated five times.

Uniform suckers of all the cultivars were planted during July, 2015-16 to 2017-18 at 1.5 x 1.5 m spacing and all plants received uniform dose of NPK (200:40:200g/plant). Observations were recorded on growth and yield regularly and statistically analysed as per the methods given by Panse and Sukhatme (1967).

Results and Discussion

It is evident from the data presented in Table 1, that there were significant varietal differences in respect of growth and yield attributes.

Growth attributes

The pooled data of three years presented in Table 1 indicated that, the different varieties of banana had recorded significant differences in respect of plant height, stem girth and number of leaves.

Significantly the maximum plant height, girth of stem and number of leaves was noticed in banana varieties viz., Grand Naine (237.33 cm, 48.78 cm and 17.80), followed by Shreemanti (221.95 cm, 45.05 cm and 16.95) and Basrai (182.85 cm, 44.65 cm and 15.90). However, significantly minimum plant height was recorded with the variety Pandhari Local (168.35 cm, 38.03 cm and 15.25).

Such type of varietal variation in banana have been reported by Ahmed *et al.*, (1974),

Shaikh *et al.*, (1985), Medhi (1994), Deshmukh *et al.*, (2004) and Behara *et al.*, (2018).

Yield attributes

The pooled data presented in Table 1 indicated that, the different varieties of banana had recorded significant differences in respect of fruit length, girth of fruit, number of fruits per bunch, fruit weight, bunch weight and yield per hectare.

Significantly the maximum fruit length, girth of fruit, number of fruits per bunch, fruit weight, bunch weight and yield per hectare was noticed in banana varieties viz. Grand Naine (20.56 cm, 12.65 cm, 160.06, 183.31 g, 29.34 kg and 129.11 t/ha) followed by Sheemanti (20.33 cm, 12.31 cm, 144.75, 171.94 g, 24.89 kg and 109.51 t/ha) and Basrai (19.23 cm, 11.63 cm, 128.50, 157.11 gm, 20.19 kg and 88.84 t/ha).

However, significantly minimum fruit weight was recorded with the variety Pandhari Local (17.06 cm, 11.13 cm, 125.50, 132.25 gm, 16.60 kg and 73.04 t/ha).

The results obtained in respect of yield and yield attributes are in agreement with the results of Syamal and Mishra (1989), Upadhyay and Tripathi (1985), Sharma (1976), Chattopadhyay and Rana (1986), Deshmukh *et al.*, (2004) and Behara *et al.*, (2018).

Keeping the significantly the maximum plant height, stem girth, number of leaves, length of fruit, girth of fruit, fruit weight, bunch weight and yield per hectare were noticed in banana varieties viz. Grand Naine in view, banana cv. Grand Naine can be recommended for commercial cultivation in Vidharbha region of Maharashtra state.

Table.1 Growth and yield attributes as influenced by different varieties (2015 -16 to 2017-18)

Sr. No.	Name of Genotype	Plant Height (cm)				Stem Girth (cm)				Number of leaves			
		2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled	2015-16	2016-17	2017-18	Pooled
1	Grand Naine	243.60	244.80	246.40	237.33	43.60	56.25	57.25	48.78	13.20	21.60	24.00	17.80
2	Shreemanti	224.40	225.60	227.20	221.95	40.80	51.75	52.75	45.05	12.60	20.60	23.20	16.95
3	Basrai	152.20	196.40	198.00	182.85	40.00	51.00	52.00	44.65	11.60	19.60	22.00	15.90
4	Pandhari Local	182.40	183.20	184.20	168.35	32.20	46.75	47.75	38.03	11.00	19.00	21.40	15.25
	F test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
	SE m ±	4.236	4.189	4.117	7.322	0.941	0.717	0.717	0.602	0.379	0.362	0.356	0.060
	C.D. 5%	13.050	12.906	12.685	22.559	2.899	2.210	2.210	1.854	1.168	1.116	1.098	0.184
		Length of fruit (cm)				Girth of fruit (cm)				Number of fruits per bunch			
1	Grand Naine	20.25	20.50	21.50	20.56	12.50	12.75	13.10	12.65	158.29	161.75	160.20	160.06
2	Shreemanti	20.00	20.25	21.25	20.33	12.00	12.25	12.75	12.31	145.75	143.50	142.75	144.75
3	Basrai	19.00	19.00	20.00	19.23	11.50	11.25	12.00	11.63	129.20	128.75	127.5	128.50
4	Pandhari Local	17.00	18.00	16.00	17.06	11.00	11.00	11.50	11.13	130.50	135.25	122.75	125.50
	F test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
	SE m ±	0.525	0.371	0.371	0.304	0.183	0.192	0.150	0.077	0.536	0.458	0.281	3.646
	C.D. 5%	1.622	1.142	1.142	0.936	0.562	0.592	0.461	0.238	1.651	1.411	0.867	11.231
		Fruit weight (g)				Bunch weight (kg)				Fruit yield of Banana (t/ ha)			
1	Grand Naine	182.75	184.00	183.50	183.31	28.93	29.75	29.40	29.34	127.28	130.94	129.35	129.11
2	Shreemanti	172.75	170.20	171.75	171.94	25.18	24.43	24.52	24.89	110.78	107.47	107.88	109.51
3	Basrai	157.50	157.5	154.20	157.11	20.38	20.28	19.64	20.19	89.67	89.22	86.40	88.84
4	Pandhari Local	132.50	132.00	131.25	132.25	17.33	17.80	16.11	16.60	76.22	78.58	70.88	73.04
	F test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
	SE m ±	0.657	0.857	0.490	0.544	0.119	0.112	0.087	0.584	0.522	0.495	0.381	2.572
	C.D. 5%	2.024	2.642	1.508	1.677	0.366	0.347	0.267	1.801	1.608	1.526	1.174	7.923

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