



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(11): 2151-2152
© 2022 TPI
www.thepharmajournal.com
Received: 01-08-2022
Accepted: 04-09-2022

RS Wankhade

Assistant Professor,
Horticulture, Agriculture
Research Station, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Achalpur, Maharashtra, India

YD Charjan

Associate Professor (Agronomy),
Agriculture Research Station,
Dr. Panjabrao Deshmukh Krishi
Vidyapeeth, Achalpur,
Maharashtra, India

NH Ramteke

Assistant Professor,
Horticulture, Agriculture
Research Station, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Achalpur, Maharashtra, India

HH Dikey

Associate Professor (Agronomy),
Agriculture Research Station,
Dr. Panjabrao Deshmukh Krishi
Vidyapeeth, Achalpur,
Maharashtra, India

Corresponding Author:

RS Wankhade

Assistant Professor,
Horticulture, Agriculture
Research Station, Dr. Panjabrao
Deshmukh Krishi Vidyapeeth,
Achalpur, Maharashtra, India

Varietal performance of arid fruit crop pomegranate under Vidarbha region of Maharashtra State

RS Wankhade, YD Charjan, NH Ramteke and HH Dikey

Abstract

An experiment was conducted at Agriculture Research Station, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Achalpur, (M.S.), India to select best suited variety of arid fruit crop pomegranate for commercial cultivation under Achalpur condition of Amravati district of Maharashtra state during 2015-16 to 2017-18. Maximum plant height, stem diameter, number of fruits plant⁻¹, fruit weight and yield ha⁻¹ was recorded in Bhagwa followed by Arakta cultivar of pomegranate. Whereas, significantly minimum plant height, stem diameter, number of fruits plant⁻¹, fruit weight (g) and yield ha⁻¹ was recorded with the Ganesh variety of pomegranate.

Keywords: Pomegranate, varietal performance, *Punica granatum* L.

Introduction

Pomegranate (*Punica granatum* L.) is an important arid zone fruit crop. It is being grown since ancient times for its fruit, ornamental and medicinal purpose and in recent times, it has emerged as a commercially important fruit crop. However, the performance of the plant will be excellent if maintenance is with protective irrigation. In the recent past, pomegranate has attained export potential and foreign exchange. Fruits are exported to Europe, Middle East, Africa, America and Asian countries. It is commercially cultivated in Maharashtra, Karnataka, Gujarat, Rajasthan, Uttar Pradesh, Andhra Pradesh, and Tamil Nadu. The major pomegranate growing area under rain shadow districts of Maharashtra regions particularly Solapur, Sangli, Nashik, Ahmednagar, Pune, Dhule, Aurangabad, Satara, Osmanabad and Latur.

In Vidarbha region pomegranate cultivation is at infant stage. Many varieties are under cultivation in this region but evaluation and recommendation regarding their suitability for this zone has not been done. In this regard, present work was carried out to know promising variety which is suitable to Vidarbha region of Maharashtra state.

Materials and Methods

Field 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. In this experiment three varieties which are planted in September-2015 at Agriculture Research Station, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Achalpur, (M.S.), farm was Ganesh, Bhagwa and Arakta were selected. The design of experimental plot was Randomized Block Design replicated seven times with two plants per replication. For observation of plant height (cm), diameter of stem (cm) and number of fruits plant⁻¹ were taken by selecting two plants. Five fruits from each variety were selected for taking observations of weight of fruit (g).

Results and Discussion

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

Tree characters

The data pertaining to tree and yield characters of three pomegranate cultivars is presented in Table 1. Plant height ranged between 175.11 cm in Ganesh to 222.86 cm in Bhagwa. Significantly highest plant height was recorded as 222.86 cm in Bhagwa followed by 202.57 cm in Arakta. The minimum plant height was recorded as 175.11 cm in Ganesh.

Significantly maximum diameter of stem 3.99 cm observed in Bhagwa followed by 3.44 cm in Arakta, whereas significantly minimum stem diameter recorded in Ganesh (3.16 cm). Similar type of variation in plant height has been reported in pomegranate (Sharma and Bist, 2005) [3]. The slight variations among different studies may be attributed to the genetic makeup of cultivars, agro-climatic conditions, nutritional status of soil and cultural practices.

Yield Characters

Highest number of fruits plant⁻¹, weight of fruit and yield were recorded (38.57, 123.43 g and 61.67 q ha⁻¹) in cultivar Bhagwa which was statistically higher than rest of the cultivar followed by Arakta (33.43, 118.71 g and 59.36 q ha⁻¹) and Ganesh (30.00, 108.86 g and 54.43 q ha⁻¹). Similar result reported by Sharma and Dillion (2002) [2] and Rao and Subramanyam (2010) [1].

Table 1: Growth and yield performance of different varieties of pomegranate (2017-2018)

Sr. No.	Name of cultivar	Plant Height (cm)	Diameter of Stem (cm)	No. of fruits plant ⁻¹	Fruit weight (g)	Yield (q ha ⁻¹)
1	Bhagwa	222.86	3.99	38.57	123.43	61.67
2	Arakta	202.57	3.44	33.43	118.71	59.36
3	Ganesh	175.11	3.16	30.00	108.86	54.43
	F test	Sig.	Sig.	Sig.	Sig.	Sig.
	SE m ±	2.36	0.10	0.61	0.58	0.29
	C.D. 5 %	7.26	0.29	1.88	1.78	0.89

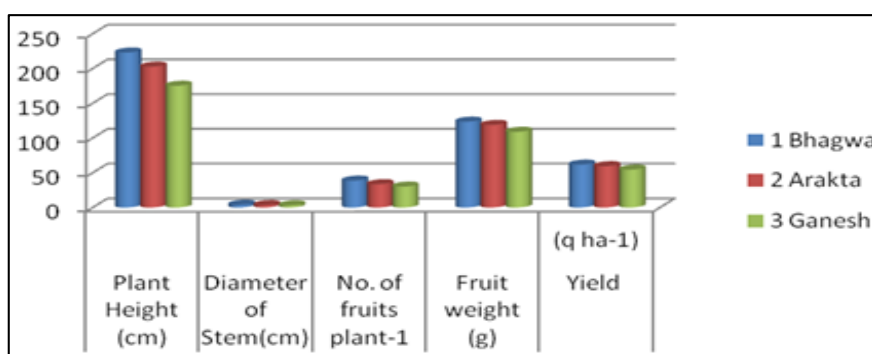


Fig 1: Growth and yield performance of different varieties of pomegranate (2017-2018)

Conclusion

Keeping in above view, the significantly the maximum plant height, diameter of stem, number of fruit plant⁻¹, fruit weight and yield hectare⁻¹ were noticed in pomegranate variety viz. Bhagwa. Hence, Bhagwa variety of pomegranate found to be best under Achalpur condition of Amravati district of Maharashtra state.

Horticulture. 2005;696:103-105.

References

1. Anonymous. National Horticulture Board Database; c2019 [http://nhb.gov.in/statistics/State_Level/2017-18-\(Final\).pdf](http://nhb.gov.in/statistics/State_Level/2017-18-(Final).pdf)
2. Bhat Deep Ji, Wali VK, Nirmal Sharma, Parshant Bakshi, Mahital Jamwal, Rajesh Kumar. Performance of Pomegranate (*Punica granatum* L.) Cultivars under Subtropical Conditions of Jammu, India. Int. J Curr. Microbiol. App. Sci. 2019;8(7):2788-2793.
3. Rao KD, Subramanyam K. Growth and yield performance of pomegranate varieties under scarce rainfall zone. Agriculture Science Digest. 2010;30(1)71-72.
4. Sinha S, Aman A, Kumari J, Kiran K, Rani R. Evaluation of Vegetative Parameters of Exotic Pomegranate (*Punica granatum* L.) Germplasm under Mid-Hill Zones of Himachal Pradesh, India. International Journal of Current Microbiology and Applied Sciences. 2018;7(4):3079-3083.
5. Sharma KK, Dillion WS. Evaluation of evergreen varieties of under Punjab conditions. Agriculture Science Digest. 2002;22(1)42-44.
6. Sharma N, Bist HS. Evaluation of some pomegranate cultivars under mid hills of Himachal Pradesh. Acta