



## VARIETAL PERFORMANCE OF ONION VARIETIES IN KHARIF

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### ABSTRACT

Research experiment was carried out during 17-18 at KVK Shajapur, in order to evaluate the performance of Onion varieties in kharif season the experiment was laid out in R.B.D. with ten varieties which were replication three items. Results obtained showed that varieties were significantly different when it comes to the plant and bulb morphological characteristics. The variety Bsant produced the maximum plant height (68.14 cm) while local Agrifound dark red and Bheema super at par for plant height while Bheema red and Bheema raj in terms of number of leaves per plant (13.8 and 13.4), neck thickness of bulb (1.05 cm and 1.03), fresh weight of bulb (104.3 gm and 99.3 gm) and cured weight of bulb in (94.3 gm and 88.4 gm). The cultivar Bheema raj recorded maximum yield 514 q/ha which was followed by Bheema supper (510 q/ha) and Bheema red (509 q/ha). The cultivar Beema raj and Bheema super were performed well for kharif season.



**KEYWORDS:** Onion varieties, morphological characteristics, Phosphorus.

### INTRODUCTION

Onion (*Allium cepa* L.) belong to the Alliaceae family and has origin in central Asia. Onion is used as vegetable in every house hold in India and has an important role in our daily diet. It is best and cheapest source of minerals, Carbohydrates, Sulphur, Phosphorus, Calcium, Proteins and Vitamin c (Sharma 1979). It is commercially by far the most important crop as compared to other spices bulb crops. The annual average India production to Onion is estimated at around 20991.34 tones 2015-16 Madhya Pradesh is Onion growing state accounting 118.20 thousands hectare area with 2848.00 thousands million tones production and 24.09 tons per hectare production.

Successful Onion production depends on the selection of varieties that are adapted to different condition imposed by specific environment. The adaptability of varieties difference from place to place. Hence, for increase production of Onion knowledge about, the performance of varieties of specific agro climatic condition is essential. Kharif Onion is an off season cultivation of crop for which standardization of varieties is of inane utility. Hence, the present experiment was conducted to study the performance of onion varieties in kharif season.

### MATERIAL AND METHOD

The experiment was conducted at Krishi vigyan Kendra shajapur during kharif 2015-16. The between consisted ten varieties a Agrifound dark red, N-53, Bheema super, Bheema raj, Bheema red,

Bheema shakrti, Pusa red, Phule Samarth, Basant 780, and local. The experiment was laid down RBD with three replication. Eight week old healthy seedling of each variety were transplanted on the beds at a spacing 15x10 cm in a plot at 2.40x1.30 m. Recommended cultural practices were followed to raise the crops successfully. Five plants were selected at random in each plot to record the observation on plant height (cm), leaves per plant, days to maturity, neck thickness of bulb (cm), fresh weight of bulb (gm) Bolting (%), and marketable yield q/ha. The mean data were subjected to statistically analyzed as per the methods suggested by Panse et al. (1967)

## RESULT AND DISCUSSION

The present investigation revealed that the significant variation among the ten Onion varieties in kharif season, which indicated the presence of significant genetic variability for all the traits and are shown in Table -1. The variety Basant 780 showed maximum plant height (68.14 cm), in the variety local (66.30 cm) which was at par with Agrifound dark red (65.18 cm) and Bheema super (64.11 cm) while minimum was Bheema raj (58.1 cm). The number of leaves at 90 DAT were maximum (14.1) Agrifound dark red followed by bheema red (13.8) Phule Samarth (13.6) and N-53 (12.9), similar result were reported by Mohanty et al (2002), Sarada et al (2009) and Dwivedi et al. (2012).

The Basant 780 (117 days) required maximum days for maturity which was at par with Local (115 days) and Pusa red (112 days) while, Bheema shakti (103 days) and Bheema red recorded minimum (104). These difference in maturity period of bulb were recorded due to the different genetic constitution of onion varieties Patil et al (2003) and Ijoyah et al (2008) also reported the influence at days to maturity.

The variety Bheema shakti recorded minimum (0.91 cm) neck thickness which was at par with Pusa red (0.94 cm), Basant 780 (0.98 cm), N-53 (0.98 cm) however Agrifound dark red recorded the maximum thickness (1.85 cm) which has at par with Bheema raj (1.05 cm), Bheema red (1.03 cm) and Bheema super (1.01 cm).

The neck thickness of the bulb correlated with diameter, number of leaves, thus increase the size exerts similar increase in neck thickness. These differences in the neck thickness are due to the different varietal character of Onion. These result are in close agreement with the finding of Dwivedi et al (2012)

The maximum average fresh weight of bulb (104.3 gm) and cured weight of bulb (94.3 gm) were recorded with variety Bheema red while, the variety Bheema raj at par for fresh bulb weight (99.3 gm) and for cured weight of bulb (88.4 gm) where as local variety recorded minimum (79.6 gm) fresh bulb weight and cured weight (79.6 gm). Similar finding were reported by Sardar et al (2009).

The variety Bheema red recorded minimum (0.0%) bolting of bulb which was found to be at par with variety Bheema Super (0.37%), Bheema shakti (0.59%), Bheema raj (0.65%) and Agree found dark red (1.0%), where as maximum (2.13%) bolting of bulb was recorded in the variety N-53. It may be due to high temperature prevalence throughout the crop period and varietal characters. These result are in conformity with findings of Warade et al. (1996).

Onion variety Bheema raj recorded significantly the highest marketable yield (514 q/ha) and found to be at par with Bheema super (500 q/ha) and Bheema red with (509 q/ha). Similar results under different climatic condition as different variety of Onion variety were reported by Mohanthy et al. (2002).

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**Table 1-Morphological and yield contribution characteristics of Onion variety grown at Shajapur**

S.No.	Varieties	Plant height cm 90DAT	Num. of leaves/plant 90 DAT	DAYS of required for maturity	Neck thickness of bulb (cm)	Fresh weight of bulb (gm)	Cured weight of bulb (gm)	Bolting %	Marketable yield q/ha
1	Agri found dark red	65.18	14.1	102	1.85	80.18	70.9	1.0(0.8)	485
2	N-53	61.6	12.9	110	0.98	89.3	60.3	2.13(1.4)	450
3	Bheema super	64.1	12.6	101	1.01	94.01	85.01	0.37(0.3)	510
4	Bheema raj	58.1	13.4	108	1.05	99.3	88.4	0.65(0.7)	514
5	Bheema red	60.3	13.8	104	1.03	104.3	94.3	0.00(0)	509
6	Bheema shakti	60.8	12.6	103	0.91	95.4	88.4	0.59(0.65)	501
7	pusa red	60.3	11.9	112	0.94	80.6	70.3	1.65(1.3)	441
8	Phule samarth	58.4	13.6	110	1.11	94.3	90.6	1.31(1.1)	414
9	Basant 780	68.14	11.6	117	0.98	85.6	71.4	2.1(1.4)	366
10	local	66.3	11.3	115	0.99	79.6	69.4	1.67(1.4)	257
	SE	1.79	0.39	3.16	0.04	2.83	2.69	0.38	18.68
	CD	5.41	1.16	9.61	0.13	8.64	8.13	1.12	60.14