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## Performance of kharif onion cultivar on yield and cost benefit ratio through oft in northern Chotanagpur plateau of Jharkhand

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### Abstract

The experiment was conducted on suitability of cultivar for cultivation in kharif onion at Koderma district. We select the three cultivar (Arka Niketan, Arka Kalyan and Agrifound Dark Red). The experiment conducted at farmer field of Koderma district. We select ten farmers location and three replication. Data were collected in three parameter viz. Total Yield in q /hectare, performance of cultivar and economies. The present study revealed that Arka Niketan relished by IIHR Bangalore recorded the highest yield (27.2 t/ha.) which was at par with Agrifound Dark Red (25.8 t/ha.) and followed by Arka Kalyan (26.4 t/ha.). The bulb size was recorded was 20% larger than other cultivars but Agrifound Dark Red were showed at par with Arka Niketan. The B:C ratio was recorded 19% maximum with other selected cultivar.

**Keywords:** Khariff onion, Cultivar, BC ratio and production

### Introduction

Onion is one of the most popular vegetable that form of daily diet. In India, onion an important commercial crop. It is widely grown in different parts of the country. At present, India stands second larger producer of onion in the world, next only to China (FAO, Production Year Book). Indian onions are famous for their pungency and are available round the year. At least 175 countries grow onions. According to the United Nations Food and Agricultural Organizations. There are estimated 6.7 million acres of onion is an indispensable item in every kitchen as condiment and vegetable.

Koderma district is situated at an altitude of 397 meters above sea level, between 24.15° - 24.49° latitude and between 85.26° - 85.54° longitude. The average rain fall is 1192 mm and the temperature ranges from 4 °C in winter to 42 °C in summer. In Jharkhand, Rice which is the most important Kharif crop, but immense scope of cultivation of khariff onion due to the food habit of the state. The heavy rain and surplus moisture in the climate are main causes to loss of storage yield of this crop. Major source of supply in this state belong to Maharashtra which is another reason to increase the prices in the local market and farmers are not aware also about the cultivation of khariff onion and suitability of variety. During this season cultivation of khariff onion will give more remunerative price.

### Materials and Methods

On farm trials (OFT) was conducted two years 2014 to 2015 and 2015-2016 at the farmer's field in Koderma district of Jharkhand. Data were recorded from farmers field in selected 3 tagged plants of each plot per replication on bulb/plant, diameter of bulb (cm), weight of bulb (kg/plant) and recorded incidence of diseases, mortality, crop duration recorded in last harvesting of bulb as plot wise and calculated in percent. The cost of cultivation Rs/m<sup>2</sup> was cultivated item wise and presented in table. The yield (kg/m<sup>2</sup>), gross income/m<sup>2</sup>, net income/m<sup>2</sup>, and benefit cost: ratio were presented in table.

## Results and Discussion

The maximum yield q/h (272q/ha) was recorded in technology option second (B) Cv. Arka Niketan followed by technology option third (C) with 264 q/ha Cv. Agri found Dark Red. The maximum yield increase in percentage (49.45) in technology option second (B) Cv.Arka Niketan was followed by technology

option third (C) with 45.05 in Cv. Agri found Dark Red. The maximum cost benefit ratio in technology option second (B) (3.90) was recorded in Cv.Arka Niketan followed by technology option third (C) with 3.89 in Cv. Agri found Dark Red. cost benefit ratio.

Technology options	Av. yield (q/ha)	% increase	Cost of cultivation (Rs. / ha)	Gross return (Rs/ ha)	Net return (Rs/ ha)	BC ratio
A. Farmer's practice (FP) (Local cultivar).	182	-	16,400	48000	36000	2.92
B. Cv. Arka Niketan	272	49.45	21,000	82000	61000	3.90
C. Cv. Agri Found Dark Red.	264	45.05	19,000	74000	55000	3.89
D. Cv. Arka Kalyan	258	41.74	20,000	72000	52000	3.60

## Conclusion

All most farmers of Koderma Jharkhand poor production due to unfavorable climatic condition, transplanting time low rate and quality of marketing due to use of local cultivar. Farmers are unaware about the importance of Khariff onion sowing, HYV and transplanting time. The recommendation of transplanting time in month of last week of July with Cv. Arka Niketan for good quality, production and productivity in khariff onion.

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