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Impact of Front Line Demonstration on Okra (*Abelmoschus esculentus* (L.)

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ABSTRCT

The major constraint on of low productivity of okra in the Janjgir-Champa District of Chhattisgarh was non adoption of recommended package of practices and lack of awareness for okra cultivation. To replace this old age technology Krishi Vigyan Kendra conducted front line demonstrations during *kharif* season 2013 and 2014. Cultivation practices comprised use of high yielding variety (*Arka anamica*) at proper spacing (60x30 cm) with recommended dose of organic as well as inorganic fertilizer and plant protection measures. Results showed that average yield obtained were 75 and 80q/ha under improved system, whereas, in local variety 62 and 65 q/ha yield was recorded during 2013 and 2014, respectively. The per cent increase in yield with high yielding over local variety was 20.9 to 23.1 per cent. The extension gap recorded was 13 and 15 per cent during 2013 and 2014, respectively.

Key Words: Extension gap, FLD, Okra, Technology gap, Technology index.

INTRODUCTION

Okra (*Abelmoschus esculentus* (L) Moench) is an annual vegetable crop belongs to the family Malvaceae. Okra was the most profitable rainy and summer vegetable in our country. India was the largest producer of okra in the world (Anonymous, 2013). Total area under okra cultivation in India was estimated to be 3.6 lakh ha with an annual production of 35 lakh metric tonnes (MT) (Shanmagasundaram, 2004).The area under okra cultivation in Chhattisgarh was 2.78 thousand ha with production of 43.06 thousand MT and Janjgir-champa district covering an area of 1161 ha, with the production of 11407 MT. To improve yield levels and make awareness to the okra growers, front line demonstrations (FLD) were conducted. In the present study, performance of okra variety *Arka anamika* against local check was evaluated in front line demonstrations conducted at farmers field during *kharif* seasons 2013 and 2014.

MATERIALS AND METHODS

The study was carried out by the Krishi Vigyan Kendra Janjgir-Champa. FLD's were conducted with the selected 10 farmers of adopted village covering an area of 0.4 ha each. Planting was done during 1st fortnight of July. FLD's were conducted to study the gap between potential yield (120 q/ha), demonstration yield, extension gap and technology index. The data on output of improved and local okra plots were recorded. The farmers were guided by KVK scientists in respect of package of practices to be followed during the crop season. Technology gap, extension gap and technology index were calculated using following formula as suggested by Samui *et al* (2000).

$$\text{Percent increase yield} = \frac{\text{Demonstration yield - farmers yield}}{\text{Farmers yield}} \times 100$$

Technology gap = Potential yield - Demonstration yield

Extension gap = Demonstration yield- yield under existing practice

$$\text{Technology index (\%)} = \frac{\text{Potential yield- Demonstration yield}}{\text{Potential yield}} \times 100$$

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RESULTS AND DISCUSSION

Yield performance

The results of front line demonstration revealed that average yield of 75 and 80q/ha was obtained during 2013 and 2014, respectively, which were found 20.9 and 23.1 percent consequently, increased over local check. Data further showed that the yield of okra in the year 2014 was increased successively which clearly speaks of the positive impact of front line demonstration over local variety of okra (Table1).

Technology gap

The technological gap (45 and 40 q/ha) in the year 2013 and 2014, respectively reflected the farmer's cooperation, in carrying out such demonstrations (Table 1). The technology gap observed may be attributed to variability in the soil fertility and climatic conditions. The extension gaps were 13 to 15q/ha during the period of study, emphasized the need to educate the farmers through various means for the adoption of improved agricultural technologies. More adoption of recent production technologies with high yielding varieties would subsequently change this alarming trend galloping the extension gap.

Technology index

The technology index showed the feasibility of the evolved technology at the farmer's field. The lowest values of technology index indicate the more feasibility of the technology. As such, decreased the technology index from 37.1 to 33.3 per cent indicated that the demonstrated technology was feasible (Table 1).

Benefit: Cost Ratio

Benefit to cost ratio from recommended practice were comparatively higher than the local check during both the years of the demonstration (Table 2).The average net return/ha from the demonstration was Rs. 46,500/- and Rs.59,100/-ha while from the local check Rs.35,300/- and Rs. 43,700/-ha in during the 2013 and 2014, respectively. The benefit cost ratio of demonstration and local check were observed to be 2.6, 3.0 and 2.3, 2.6 during 2013 and 2014, respectively.

CONCLUSION

The present study produced a significant positive result and give researchers an opportunity to demonstrate the productivity potential and profitability of the recent developed technology under real farming situation, which they had

Table1. Productivity, technology gap, technology index, and extension gap of okra grown under FLD and local check.

Year	Average yield (q/ha) in FLD	Yield of local check (q/ha)	Increase over local check (%)	Extension gap (q/ha)	Technology gap (q/ha)	Technology index (%)
2013	75	62.1	20.9	13	45	37.1
2014	80	65.0	23.1	15	40	33.3

Table 2. Economic Impact of Okra under FLD with traditional package of practices.

Year	Cost of Cultivation (Rs/ha)		Gross Return (Rs/ha)		Net Return (Rs /ha)		B:C ratio	
	Demo	Local check	Demo	Local check	Demo	Local check	Demo	Local check
2013	28,500/-	26,700/-	75,000/-	62,000/-	46,500/-	35,300/-	2.6	2.3
2014	28,900/-	27,800/-	88,000/-	71,500/-	59,100/-	43,700/-	3.0	2.6

advocating for long time. The results of front line demonstrations convincingly brought out that the yield of okra could be increased by 20.9 per cent to 23.1 per cent with intervention on high yielding varieties. From the above findings, it could also be concluded that use of high yielding variety of okra cultivation reduced the extension and technology gap to a great extent. This would sustainably increase the income as well as the livelihood of the farmers of this district.

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