J Krishi Vigyan 2015, 4(1) : 37-40 DOI: 10.5958/2349-4433.2015.00056.2

Impact of Front Line Demonstration on Okra in Raigad District of Maharashtra

Manjarekar R G[1], P M Mandavkar[2], A A Hanmante[3] and MSTalathi[4]

Dr.BalasahebSawantKonkanKrishiVidyapeeth, Dapoli - 415712 (Maharashtra)

ABSTRACT

The main objective of Front Line Demonstrations (FLDs) is to demonstrate newly released crop production and protection technologies and its management practices at the farmer's field under different agro-climatic regions and farming situations.Realizing the importance of frontline demonstrations in transfer of okra production technologies, KrishiVigyan Kendra, Roha- Raigad conducted FLDs at farmers' field and accordingly study was conducted in Raigad district of Maharashtra state. The study revealed that majority (87.5%) of the respondents had adopted hybrid okra variety resistant to yellow mosaic virus disease.The important package of practices where more increase in adoption was found were use of recommended fertilizer dose (50.0%), timely irrigation (45.0%), use of high yielding varieties (35.0%) and use of proper seed rate and spacing (27.5%). There was significant difference observed in yield of okra before conductance of FLD and after FLD programme. B:C ratio of okra crop after FLD was higher than before FLD. It showed impact of FLD on adoption of okra production technologies. The factors responsible for low B:C ratio before FLD was less adoption of all the recommended package of practices for okra crop in the region.

KeyWords : Front Line Demonstration, Impact, Adoption, Okra .

INTRODUCTION

Front Line Demonstration (FLD) is an appropriate tool to demonstrate recommended technologies among the farmers. This new concept of field demonstration was evolved by the Indian Council of Agricultural Research. The technologies developed at the agricultural universities and research stations through research activities are demonstrated under actual field conditionsthrough FLDs as this is one of the most powerful tools of extension because farmers in general are driven by the perception that 'seeing is believing'. The main objective of FLDs is to demonstrate newly released crop production and protection technologies and its management practices at the farmer's field under different agro-climatic regions and farming situations.

The okra (*Abelmoschusesculentus* Moench) is available throughout the year at steady and stable market price and sometimes fetches higher price compared to other commonly available vegetables. Hence, mostly vegetable growers in Raigad district are always ready for okra cultivation alongwith other vegetable crops like chilli, brinjal, tomato, cucumber, bottle gourd and bitter gourd etc. This crop gives good returns to the farmers, hence emerged as important vegetable crop in Alibaug, Pen, Roha and Mangaon tehsil of Raigad district due to available irrigation facility. It is mainly because the technology development with regard to improved varieties and other inputs have played important role in raising productivity.

Realizing the importance of frontline demonstrations in transfer of okra production technologies, KrishiVigyan Kendra, Roha- Raigad conducted FLDs at farmers' field for last four years in different tahsils of Raigad district with the objectives of convincing farmers and extension functionaries together about the okra crop

1. Assistant Professor(Hort), College of Agriculture, DBSKKV, Dapoli,(M.S.)
2. Research Editor, Dr.BalasahebSawantKonkanKrishiVidyapeeth, Dapoli,(M.S.)
3. Subject Matter Specialist, KrishiVigyan Kendra, Killa-Roha, Dist. Raigad,(M.S.)
4. Programme Coordinator, KrishiVigyan Kendra, Roha-Raigad,(MS)
Corresponding Author's Email: mandavkarpm@rediffmail.com

production technologies for further wide scale diffusion. Keeping in view of an effective extension approach of FLDs for dissemination of okra technology, it was thought that impact of FLDs conducted by KVK, Rohais to be assessed. Therefore, the present study was conducted with the specific objectives to evaluate the FLD in terms of adoption of recommended okra production technology and to know the impact of FLD on okra growing farmers.

MATERIALS AND METHODS

The present study was conducted in Raigad district of Maharashtra state where during 2008-09 to 2011-12, total 150 farmers demonstrated the okra production technologies through FLDs. For this study, the four tehsils viz. Alibaug, Pen, Roha and Mangaon selected purposively in which okra FLDs had been given by KVK, Roha during *rabi* season of the year 2011-2012. For selection of respondents, a list of farmers to whom FLD okra had been allotted and also who had actually undertaken demonstration with control trial were selected for the study. Randomly, ten farmers from each tehsil were selected making a total sample size of forty. Basic data of the respondents was collected from KVK.

The data were collected after FLD by personal interview technique with the help of interview schedule developed for the study.The interview schedule was developed through discussion with experts, scientist and extension officers working in the district. Under these FLDs at 40 farmer's field, an area of 8.0 ha was covered. The information on demonstrated package of practices and farmers' practice followed were mentioned in Table 1.The data were analysed with appropriate statistical procedures.

RESULTS AND DISCUSSION

Adoption of recommended package of practices

The data presented in Table 2 indicated that majority (87.5%) of the respondents had adopted hybrid okra variety resistant to YMV disease followed by use of proper seed rate and spacing (75.0%), application of recommended fertilizer dose (75.0%), line sowing on ridges and furrows (70.0%) and timely irrigation (70.0%).

Table 1.Demonstrated package of practices and farmers' practice for Okra cultivation.

articular	Okra	
	Demonstrated package	**Farmers' practice**
Hybrid variety resistant to Yellow Mosaic Virus (YMV)	Mahyco No.10	Local variety
Sowing time for okra	October- 2nd fortnight	October-November
Seed treatment	Seed treated with fungicide Captan	Not followed
Seed rate and spacing	15 Kg /ha sown at 45 x 20 cm	20 to 22 kg/ha sown at 30 x 20 cm
Line sowing on ridges and furrows	Followed	Not always followed
Recommended Fertilizer dose	100 kg N + 50 kg P_2O_5 + 25kg K_2O per ha(1/3 rd N + Full dose of P_2O_5&K_2O at the time of sowing and remaining 2/3 rdN equally distributed at 30 and 60 DAS	Used mixed chemical fertilizers (Approx. 20 to 30 g/ plant) 3 to 4 times during crop period
Plant protection measures to control pest and diseases	Need based applicationControl of Hoppers-Phoret 10G@10kg/ha (soil application),Stem and fruit borer-Cypermethrin 0.20ml/lit of water (spraying), Aphids- Diamethoate 1ml/lit (spraying).Powdery mildew – Hexaconazol @ 0.5ml/lit of water	Not followed
Irrigation	Once in a week	Once/twice in a week
Weed management	Pre-emergence Herbicide Basalin @ 3.5 ml per lit used before sowing	Hand weeding 3 to 4times
Harvesting at proper stage	Demonstrated use of c*utter* for picking of fruits at proper stage	Used local knife and stages were improper

Table 2.Extent of adoption of recommended package of practices of okra crop before and after FLD. (n=40)

Sr. No.	Package of practice	Adoption (Before FLD)		Adoption (After FLD)		Increase in Adoption	
		No.	Per cent	No.	Per cent	No.	Per cent
1	Use of high yielding hybrid variety resistant to YMV	21	52.5	35	87.5	14	35.0
2	Sowing time for okra	18	45.0	25	62.5	7	17.5
3	Seed treatment	14	35.0	20	50.0	6	15.0
4	Use of proper seed rate and spacing	19	47.5	30	75.0	11	27.5
5	Line sowing on ridges and furrows	22	55.0	28	70.0	6	15.0
6	Recommended Fertilizer dose	10	25.0	30	75.0	20	50.0
7	Plant protection measures to control pest and diseases	18	45.0	27	67.5	9	22.5
8	Timely irrigation	10	25.0	28	70.0	18	45.0
9	Weed management	7	17.5	14	35.0	7	17.5
10	Harvesting at proper stage	14	35.0	20	50.0	6	15.0

The important package of practices where more increase in adoption was found were use of recommended fertilizer dose (50.0%), timely irrigation (45.0%), use of high yielding varieties (35.0%) and use of proper seed rate and spacing (27.5%) whereas, the package of practices viz., sowing time for okra, seed treatment, line sowing on ridges and furrows, plant protection measures, weed management and harvesting at proper stage had found less increase in adoption after FLD. These findings are in conformity with the results reported by Thakor and Patel (2006).

Yield Impact

The information regarding the impact of FLD in terms of increase in yield have been presented in Table 3.

The data in Table 3 revealed that the yield of okra per hectare increased by 47.8 percent in FLD plats. The t test also indicates the significant difference in yield before FLD and after FLD. It means that even after one year of FLD there was wider adoption of technologies demonstrated by the scientist during FLD programme.

Economic Impact

In this study, the economic impact of demonstrated okra crop technology was worked out by calculating total cost, gross return, net return and B:C Ratio (BCR) of before FLD plot and after FLD plot. Total cost was calculated by total sum of expenditure of land preparation, seed, manure and fertilizers, plant protection measures, irrigation and labour component.

The data in Table 4 revealed that before FLD the yield of okra was 70.6 q/ha while after FLD the yield was 104.4 q/ha. The prevailing market price was Rs. 4000/- q and on that base

Table 3.Yield of okra before FLD and after FLD. (n= 40)

Sr. No.	Average yield of okra crop (q./ha)		Percent increase in Yield
	Before FLD	After FLD	
1	70.6	104.4	47.8

t= 9.36(Calculated t) t=1.92 (Table t at 0.05 per cent) **(H.S.)

Table 4.Profitability of okra before and after FLD.

Sr. No.	Item	Before FLD	After FLD
1	Cost of cultivation (Rs/ha)	1,38,927	1,46,315
2	Yield of okra (q/ha)	70.6	104.4
3	Gross Return (Rs/ha)	2,82,480	4,17,400
4	Net Return (Rs/ha)	1,43,553	2,71,085
5	B:C ratio	2.03	2.85

profitability was calculated which showed that net returns from okra crop before FLD was Rs. 1,43,553/-ha while the net returns from okra crop after FLD was Rs. 2,71,085/-/ha. The B:C ratio for before FLD was 2.03 increased from after FLD to 2.85.

It was evident from the results that, B:C ratio of okra crop in FLD was higher than before FLD. The factors responsible for low B:C ratio before FLD was less adoption of all the package of practices recommended for okra crop in the region. However, increase in B:C ratio after FLD plot was due to the adoption of 50 per cent to 87.5 per cent adoption of different package of practices even one year after FLD programme. Similar results were reported by Sharma and Sharma (2004) and Patel and Patel (2014).The other reasons may be good extension contact by FLD farmers with the scientist and extension workers.

CONCLUSION

On the set of technologies of okra crop before FLD, the adoption was very less but after conducting the FLD programme on farmers field most of the farmers became aware about recommended production technologies of okra crop. The important package of practices where more increase in adoption was found were use of recommended fertilizer dose, timely irrigation, use of high yielding hybrid variety and use of proper seed rate and spacing after FLD as compare to before FLD. Increase in B:C ratio after FLD plot was due to the adoption of 50 percent to 87.5 percent adoption of different package of practices even one year after FLD programme which shows positive impact of FLD on adoption of demonstrated technology.

REFERENCES

Sharma, R N and Sharma, K C (2004) **"**Evaluation of Front Line Demonstration trials on oilseeds in barren district of Rajasthan" *Madhya J of Extn Edn* **VII** :72-75

Thakor R F and Patel AR (2006).Usefulness of KrishiVigyan Kendra as perceived by the sugarcane growers.*Guj J ExtnEdu* **XVI-XVII**:51-54.

Patel R N and Patel J R (2014).Impact of Front Line Demonstration on Mustard Growers. *Guj J ExtnEdu* **XXV**:91-92.

Received on 29/5/2015 Accepted on 25/6/2015